



AN AUSTRALIAN STUDY OF ALCOHOL DEPENDENCE IN WOMEN:
THE SIGNIFICANCE OF SEX ROLE IDENTITY, LIFE EVENT STRESS,
SOCIAL SUPPORT, AND OTHER FACTORS

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SUMMARY

In Australia, current knowledge about the social and psychological aspects of alcohol dependence in women is derived almost entirely from overseas research; the present study examines the problem from a local perspective by comparing a sample of inpatient alcohol dependent women with two samples of non-alcohol-dependent women, drawn from the general population and from women engaged in full-time careers. Comparisons are also made between these and other research findings.

Both the demographic characteristics and drinking patterns of the alcohol dependent women were similar to those reported by overseas studies; the differences between the alcohol dependent and non-alcohol-dependent women were also generally consistent with previous reports. There was little evidence to suggest a higher incidence of obstetric or gynaecological problems among alcohol dependent rather than non-alcohol-dependent women, but mental health problems such as depression and attempted suicide were more apparent among the former.

The prevalence of parental drinking problems was similar to that indicated in overseas studies; however, contrary to popular belief, the alcohol dependent women and women drawn from the general population did not differ markedly in this regard. Although family and relationship problems were frequently reported as precipitants of problem drinking by the alcohol dependent women, the objective determination of life event stress did not support the notion that the development of heavy drinking is a consequence of life event stress; however, there were some indications that the transition between heavy and problematic drinking was accompanied by an increase in life event stress, although the direction of causality remains uncertain.

The present sample of alcohol dependent women exhibited aspects of sex role identity that were similar to those identified by overseas research; comparisons with non-alcohol-dependent women suggested the lack of integration of masculine and feminine characteristics as well as a greater degree of sex-role-related conflict.

The alcohol dependent and non-alcohol-dependent women differed markedly in their use of alcohol in conjunction with various emotional states, and also in their perception of the benefits of social support and in its availability. These findings suggest that the alcohol dependent women either do not have or do not activate systems of social support, and instead, use alcohol as a coping mechanism.

Multivariate analyses added further support to the above findings.

STATEMENT

This thesis contains no material which has been accepted for the award of any other degree or diploma in any University and to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Signed _____

O.T. Holubowycz

January 1988

STATEMENT

I am willing to make this thesis available for loan and photocopying if it is accepted for the award of the degree.

Signed _____

O.T. Holubowycz

January 1988

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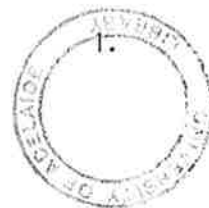
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CHAPTER ONE

1.1 INTRODUCTION

Australia holds the dubious honour of leading the English-speaking world in annual per capita consumption of alcohol. Statistics reveal that in this country the estimated annual consumption per person aged 15 years and over was 11.9 L of absolute alcohol in 1985 (Commonwealth Department of Health, 1986). Alcohol has played a major part throughout Australia's history. It is interesting to note - and paradoxical in the light of today's knowledge of the medical consequences of excessive alcohol consumption - that the builders of the colony's first major hospital were granted a monopoly of the rum trade as payment. And today, alcohol still maintains its status as an integral part of Australian society, often being linked with that other important aspect of Australian life, namely sport, as exemplified by the support of the Melbourne Cup and the 1986 and 1987 Formula One Grand Prix by a major brewing company.

Today, however, the abuse of alcohol and its consequences is also widely recognized as being one of the major public health problems confronting society. In recent years, a growing recognition of women's particular vulnerability to the effects of alcohol has precipitated an increase in the literature focussing specifically on women's use and abuse of alcohol. Unfortunately however, Australian researchers have lagged behind their American, British, and European colleagues and to date, little has been reported in the scientific literature on the Australian woman's experience of alcohol-related problems. A recent article has however highlighted the significant increase over the last decade in alcohol consumption by women in South Australia (Bungey & Winter, 1986).

This causes concern from both a medical and social perspective, given the abundance of overseas research which has highlighted the psychological, physiological, and social costs and consequences of women's excessive drinking. A cross-national comparison into the antecedents and consequences of alcohol dependence in women can elucidate the similarities and differences evident in those geographically distant populations. It is with this goal in mind that this thesis focusses upon the characteristics of a sample of alcohol dependent women resident in Australia. In particular, an awareness of the extent to which the Australian client resembles for example her American counterpart can expedite the implementation of appropriate strategies developed overseas for changes in drinking behaviour as well as the development of new strategies tailored to the specific needs of the Australian woman. The accumulation and dissemination of this knowledge will hopefully add to the information necessary for the improved recognition and treatment of alcohol dependence in women.

1.2 STRUCTURE OF THE THESIS

1.2.1 Introduction

The following sections provide an overview of the contents of the thesis. The first sections address the structure of the literature review, describing, in general, the nature of the literature on alcohol dependent women, the format of the four chapters of the literature review including a brief summary of the specific topics which are considered in each chapter, and finally a statement of the nature of studies which are excluded from the review.

The contents of Chapter Six, namely methodology, and Chapter Seven, the measures review, are then described, followed by a description of the nature of the presentation of the results and discussion.

1.2.2 Nature of the Literature on Alcohol Dependent Women

Studies of alcohol dependent women can be broadly classified into five types. The first category comprises studies that have examined samples of alcohol dependent women, with no attempts being made to compare the characteristics of these women with those of other women or men. These studies are therefore purely descriptive in nature. In the second series of studies the focus has been on comparisons between samples of alcohol dependent women and men. Thirdly, other studies have compared alcohol dependent women with women having no alcohol-related or psychiatric problems, that is, women drawn from the normal population. Generally, these studies have attempted to match the two samples of women on certain characteristics, such as age or education, before examining how other factors may differ between the samples. Comparisons between alcohol dependent women and women in treatment for other psychiatric problems make up the fourth type of study. Finally, some studies have compared subgroups of alcohol dependent women differing with respect to certain characteristics, such as psychiatric diagnoses, type of treatment, or marital status.

Throughout the following chapters an attempt has been made to present the findings in a format which differentiates between these five types of studies.

The findings reported in the literature review of this thesis are derived from the original published materials, not from secondary reviews. However, it is interesting to note the preponderance of review articles in existence, relative to the essentially small number of published empirical studies.

1.2.3 Format of the Literature Review

The literature review of this thesis comprises four chapters. The first chapter describes various aspects of alcohol dependence in women. It begins with a presentation of the demographic characteristics of alcohol dependent women, encompassing age, religion, marital status, education, and occupation. In this and other sections of the review, the results of studies are frequently presented in tabular form, often with separate tables describing the findings of each of the five types of studies mentioned earlier. In this manner, a large amount of information can be presented in an easily interpretable fashion, whereas the associated text summarizes the main trends apparent in the data.

The next section addresses the familial relationships of these women including parental deprivation, parental personality, birth order, and marital relationships. Following this is a section on the findings of studies focussing upon the prevalence of alcohol dependence and psychiatric illness in the families of alcohol dependent women.

Four aspects of the mental health of the alcohol dependent women are then addressed, namely depression, other psychiatric disorders, attempted suicide, and the use and abuse of other substances. This is followed by a description of the incidence among alcohol dependent women of various obstetric and gynaecological disorders.

The final two sections examine the drinking practices of women. The first of these focusses upon alcohol dependent women, and addresses issues such as the quantity and frequency of drinking, drinking company and location of drinking, the type of alcohol consumed, the drinking history of the women, and indications of the severity of their dependence. The final section of the chapter describes the drinking behaviours of women in the

general population, with specific emphasis on studies of women resident in Australia.

Whereas the first chapter of the literature review is primarily descriptive in nature and focusses almost exclusively on studies of alcohol dependent women, the following three chapters attempt to incorporate some of the theoretical notions surrounding their respective subject areas. At this point it must be emphasized that although the literature pertaining specifically to alcohol dependent women is thoroughly reviewed, the theoretical literature is dealt with in a much more selective manner. Given the abundance of research into these areas, and the constraints of the thesis, realistically this review can only attempt to present a very general overview of the related material.

The first of these chapters, namely that on sex roles, begins with a résumé of the concept of sex roles and their measurement, as well as a summary of the dependency, power, and womanliness theories of drinking. The relationships between sex role identity and drinking among adolescent females and between social roles and drinking among both alcohol dependent and non-alcohol-dependent women are then examined. Finally, studies concerning sex role identification in alcohol dependent women are extensively reviewed.

The following chapter concentrates upon the relationship between stress and alcohol. The initial discussion centres on the tension reduction hypothesis and presents the findings of human empirical studies which have addressed the notion that alcohol serves to reduce tension and that tension relief in turn reinforces further drinking. The limitations and problems of the tension reduction hypothesis are also considered.

The focus then changes from primarily laboratory-based research into the tension-reducing mechanisms of alcohol to research dealing with the association between the experience of stressful life events and alcohol consumption. The concept of stress underlying the experience of life events, and its measurement, is introduced, and methodological issues in life event research are discussed. The findings of studies investigating the link between stressful life events and drinking are then presented, with particular emphasis on the research pertaining to the experience of stressful life events by alcohol dependent women.

Stressful life events are often objectively defined, with little consideration being given to the subjective impact of an event on any particular individual. Consequently, the review of stress and alcohol also attempts to incorporate the notion of individual impact, and a final section addresses the psychological or mood-related reasons for drinking cited by alcohol dependent women.

It is obvious that many women experience high levels of distress and life change without subsequently progressing to a state of excessive drinking. Consequently it can be assumed that while some factors may predispose a woman to the development of alcohol dependence, other factors may counteract this. Social support has been recognized as one such mitigating factor, and this concept is the focus of the final chapter of the literature review.

The nature of social support and its definition are addressed, before proceeding to an examination of the relationship between social support and health. Three pathways between social support and health are considered in turn, including, first, the notion that social support may buffer the effects of stressful life events; secondly, that social support may have direct effects

on health; and thirdly, that social support can reduce the likelihood of the occurrence of stressful life events. Examples of research findings pertaining to each of these relationships are presented. Finally, the discussion again focusses upon the literature dealing with alcohol dependent women. The review examines the evidence from such studies which indicate the presence or absence of various factors of social support among alcohol dependent women.

1.2.4 Limitations of the Literature Review

The major focus of the literature review is of course on those areas that will be investigated in the current research study. Although a comprehensive review of relevant studies has been attempted, some exclusions will nevertheless become apparent. In particular, reports that have been published in foreign languages have not been considered. Furthermore, the sample studied in the course of this research comprised only Caucasian women, and therefore studies which have used predominantly non-Caucasian samples, such as Blacks, American Indians, or Australian Aborigines have been excluded from the review.

Obviously, not every aspect of alcohol dependence among women can be considered in any one work. It was decided not to address the concepts of, for example, self-esteem, locus of control, and personality of alcohol dependent women, nor their sexual, intellectual, or neuropsychological functioning. Similarly, little mention is made of follow-up studies and research focussing upon treatment issues.

In more recent years, the emphasis of research on alcohol dependent women has reflected an increasing medical orientation. In particular, there has been a burgeoning of research literature concentrating on the teratogenic

effects of alcohol upon the offspring of alcohol dependent women (e.g. Rosett et al., 1983; Streissguth, 1976). Possibly because of the alcohol dependent woman's apparent particular vulnerability to the medical consequences of excessive alcohol consumption, increased emphasis has also been placed on research dealing with the morbidity and mortality of these women (for a review, see e.g. Hill, 1984). Given the primarily psychological, sociological, and to some extent epidemiological orientation of this thesis, the studies focussing upon these latter medically oriented issues again fall outside the scope of the current work and are not considered.

1.2.5 Methodology

Chapter Six gives a description of the methodology of the present research study. The rationale for, and method of, selecting particular types of women for inclusion in the various samples are discussed. Details of the interview procedure are then provided. Finally, attention is drawn to specific methodological issues, such as the utilization of additional interviewers and the payment of subjects. Modifications to test materials are also explained, and where appropriate, scoring procedures are elaborated upon.

1.2.6 Measures Review

Chapter Seven presents a description and review of each of the eight questionnaires that were used in the course of the research. Of these eight measures, seven constitute inventories which have been utilized in previous research: the Social Environment Questionnaire (Winfield, 1979b), the revised Michigan Alcoholism Screening Test (Selzer, Vinokur & van Rooijen, 1975), the Alcadd Test (Manson, 1949), the Franck Drawing Completion Test (Franck & Rosen, 1949), Zung's (1965) Self-Rating Depression Scale, the Bem Sex-Role

Inventory (Bem, 1974), and Tennant and Andrews' (1976) Life Events Inventory.

One section is devoted to each measure and describes the questionnaire's format and scoring, followed by a discussion of its development, validity, reliability, and response set. Finally, information pertaining to the instrument's previous utilization with both female and alcohol dependent samples is presented.

The amount of research material relevant to each instrument varies greatly, with several instruments possessing a vast bibliography. A detailed review of such material lies outside the scope of this thesis and the selection of references has been governed primarily by two factors. First, references pertaining to the instrument were reviewed and reported generally only if they were available prior to the commencement of the thesis. Secondly, greater emphasis was placed upon research material which utilized Australian samples, and in this context, more recent material has been included.

The eighth measure pertains to the association between emotions and the frequency of drinking. This measure was developed specifically for use within this thesis. Its development is described in Section 7.4.

1.2.7 Univariate Analyses

The results of comparisons between samples of alcohol dependent women, women drawn from the general population, and women engaged in full-time professional careers are presented in Chapter Eight. The following general topics are incorporated in these comparisons: demographic characteristics, family relationships, familial alcohol dependence and psychiatric illness, mental health, obstetric and gynaecological histories, drinking practices, sex role identification, stress, and social support.

The subsequent chapter provides a discussion of these results, as well as a comparison with previously reported findings. When appropriate, methodological insufficiencies, implications for treatment, and indications for further research are also discussed.

1.2.8 Multivariate Analyses

The final chapter addresses the issue of the prediction of alcohol dependence in women. Logistic regression analyses were used to identify those factors which provided the best differentiation between alcohol dependent and general population women. The results pertaining to these analyses are presented, and subsequently discussed.

CHAPTER TWO

2.1 DEMOGRAPHIC CHARACTERISTICS OF ALCOHOL DEPENDENT WOMEN

2.1.1 Introduction

A description of the demographic characteristics of samples of alcohol dependent women appearing in the literature is important from several perspectives.

First, it shows that the alcohol dependent women who have been studied are by no means a homogeneous group. They are identified from vastly different treatment facilities, ranging in the spectrum from private long-term residential programmes to public hospital outpatient clinics. The women's choices of treatment facilities no doubt reflect differences in their demographic make-up, and possibly also the nature of predisposing and precipitating factors of dependence, as well as the psychological, social, and medical consequences of excessive drinking.

Therefore, a recognition of the characteristics of the samples described in the literature, in terms of their source and demography, will aid the understanding of how these factors may serve to influence other factors that are studied, and which will be addressed at later stages of this work. Such an understanding will also emphasize the limitations of our knowledge, and the extent to which this knowledge can or cannot be generalized.

Thus, the major aims of this section, which describes the sample characteristics of the alcohol dependent women, are as follows:

- (1) to illustrate the diversity of samples of alcohol dependent women described in the literature,
- (2) to establish a reference point to which the reader can return in order to clarify the nature of the samples used to generate findings presented

in later sections, and therefore

- (3) to aid in subsequently evaluating whether any discrepancies described in these later sections may be attributed to differences in demography and/or treatment source of the samples under examination.

The sample characteristics are presented in five tables, namely Tables 1 to 5 (see pages 25 to 45), which group together each of the five types of studies of alcohol dependent women described earlier in Section 1.2.2.

2.1.2 Age

The mean ages of the samples of alcohol dependent women range from 34.9 to 49 years, with the majority of studies reporting a mean age of between 40 and 46.

The differences in the mean ages of alcohol dependent women and men are shown in Table 2. All the studies which have reported the significance of the difference in mean ages have found that they are statistically not significant, with the exception of that by Hoffmann and Noem (1975b) who reported that significantly more women than men fell into a younger age group, namely that between 25 and 44 years.

The majority of comparisons between alcohol dependent and normal women have used age as a matching variable, whereas those that did not, similarly found no significant age differences between the samples (Table 3).

The studies presented in Table 4 have compared alcohol dependent with treatment control women. The average age of the drug dependent women in Driscoll and Barr's (1972) study was more than 15 years below that of the alcohol dependent women. Of the remaining studies, only the study by Beckman (1978a) reported a significant age difference, with women undergoing

treatment for emotional or psychiatric problems having a mean age of almost 10 years below that of the alcohol dependent women, whereas the alcohol-abusing women in Vaglum and Vaglum's (1985) study were somewhat younger than the psychiatric patients.

However, more differences are apparent among the studies comparing subgroups of alcohol dependent women. Women with a primary diagnosis of alcohol dependence (i.e. no pre-existing psychiatric disorders before the onset of alcoholism) were significantly older than those with secondary alcohol dependence, as defined by the prior existence of other psychiatric illnesses (Morrissey & Schuckit, 1978; Schuckit & Morrissey, 1979b; Schuckit, Pitts, Reich, King & Winokur, 1969), although Rimmer, Reich and Winokur (1972) found no significant age difference between their samples of primary and depressive alcoholics. Schuckit and Morrissey (1979a) found that among their sample of detoxification centre clients, women abusing drugs were significantly younger than those not abusing drugs, and furthermore, that those abusing "street" drugs (which although not explicitly defined by the authors, are presumed by this writer to include illicitly obtained drugs) were significantly younger than those abusing prescription drugs. This finding is supported by Carroll, Malloy, Roscioli and Godard (1981) who reported that patients misusing only alcohol were older than those misusing only drugs, or both alcohol and drugs. These researchers additionally noted that among the former group, White patients were significantly older than their Black counterparts, whereas the reverse trend was evident among the other user categories.

Other studies have reported significant age differences between groups varying with respect to treatment facility (Lisansky, 1957) and parity (Hollstedt, Dahlgren & Rydberg, 1983a), and apparent differences with respect to marital

status (Bromet & Moos, 1976), although no significant age difference was found between home-making and working alcohol dependent women (Herr & Pettinati, 1984).

2.1.3 Religion

The religious adherence of the samples shows some variation, with between 18% and 75% of the alcohol dependent women professing to be of the Catholic faith. However, the overall lack of significant differences between the alcohol dependent women and other samples suggests that factors unrelated to drinking, such as race or regional variations in religious affiliation, may account for a large part of the differences in religion evident between samples of alcohol dependent women.

Nevertheless, the only two studies which have examined how religion varies between subgroups of alcohol dependent women both found significant differences. Lisansky (1957) found that significantly more alcoholics from a penal institution than those from an outpatient clinic were Catholic, whereas Schuckit and Morrissey (1979b) showed that significantly fewer women with primary alcohol dependence than those with primary drug abuse or antisocial personality reported no religious preference.

2.1.4 Marital Status

A large majority of the studies reflect a high degree of marital instability among the alcohol dependent women. The total proportions of alcohol dependent women who were divorced, separated, or widowed range from 20% to 65%, with more than half of the reviewed studies which reported these data on marital status indicating that between approximately one third and one half of the women fell into this category.

A few studies have shown that at least two thirds of the women were married at the time of investigation (Herr & Pettinati, 1984; Muchowski-Conley, 1982; Seelye, 1979; Senseman, 1966; Winokur & Clayton, 1968; Wood & Duffy, 1966), but when other characteristics of these women are examined, it becomes evident that they were from more privileged backgrounds in terms of socio-economic status. This observation leads to the question of whether marital instability is in fact a characteristic of most alcohol dependent women, or only of those from less privileged strata of society, from which the majority of samples of alcohol dependent women have been drawn.

Comparisons between alcohol dependent women and men do not provide any overwhelming indications of major differences in the marital status of these subjects. Of the studies that have provided information regarding the significance of the differences between samples, about one half reported no statistically significant differences (Beckman, 1978a; Bromet & Moos, 1976; Dahlgren & Myrhed, 1977a; Hesselbrock, Meyer & Keener, 1985; Hoffmann & Noem, 1975c; Lisansky, 1957; Pemberton, 1967; Rathod & Thomson, 1971; Sclare, 1970; Winokur & Clayton, 1968).

The studies reporting significant differences have varied in their findings. No significant differences in the percentages of married women and men but significantly higher proportions of never-married men than women were reported by Rimmer et al. (1972) and Mulford (1977). Rimmer, Pitts, Reich and Winokur (1971) and Hendtlass (1979) similarly found that more men than women had never married, whereas Lindelius, Salum and Ågren (1974) reported the opposite. Hoffmann and Noem's (1975b) study recorded a significantly higher proportion of married women, compared with men, but no significant sex differences with respect to the number who were divorced or separated. The latter finding was supported by Mulford (1977), who additionally noted that significantly

more women than men were widowed. Glatt (1961a) indicated that divorce, separation, and widowhood, as a combined category, was significantly more prevalent among the women, and significantly more women than men in Smart's (1979) sample were either divorced or widowed.

Apparent differences with respect to marital status are also evident among those studies that have not reported the statistical significance of their findings. Fewer women than men were married within the samples studied by Scott and Manaugh (1976), Waller and Lorch (1978), and Eshbaugh, Tosi and Hoyt (1980). However, the reverse trend was evident in Reich and Thompson's (1985) non-treatment-seeking sample which included drug as well as alcohol abusers. Higher rates among women than men were evident with respect to widowhood (Mantek, 1977; Wilkinson, Santamaria, Rankin & Martin, 1969), divorce or separation (Eshbaugh et al., 1980), and divorce alone (Wall, 1937). Findings with respect to single status were again contradictory, with Wilkinson and colleagues and Reich and Thompson reporting more men than women who have never married, and Scott and Manaugh, the reverse.

With the exception of the studies that specifically matched their samples on marital status, only Hoar's (1983) study was able to provide evidence indicative of no significant differences in marital status between alcohol dependent women and women drawn from the general population. As evident from Table 3, alcohol dependent women in all other studies were considerably less likely to be married, and conversely, more likely to be divorced or separated than the normal control women. Mulford's (1977) comparison with the Iowa adult female population showed that fewer alcohol dependent women were widowed, although the significance was not reported. However, it is likely that this finding is accounted for by the relatively large proportion of elderly widowed women in the general population. The other studies reflected

somewhat larger percentages of widowed women among the alcohol dependent samples, compared with the control samples (Karp, Poster & Goodman, 1963; Kinsey, 1966; Mantek, 1977; Wilsnack, 1973), although the significance levels were not reported. Findings with respect to the proportions of women who had never married were mixed, and once again, levels of significance were not stated. Some studies found no differences (Kinsey, 1966; Mantek, 1977), others showed that compared with normal women, alcohol dependent women were more likely to have never married (Anderson, 1980; Karp et al., 1963; Mulford, 1977), and one indicated the reverse (Wilsnack, 1973).

Beckman (1978a) and Bark (1979) noted that alcohol dependent women and women being treated for psychiatric disorders did not differ significantly with regard to marital status. On the other hand, and although significance levels were not reported, Pishkin and Thorne (1977) found that alcohol dependent women were more likely to be single and less likely to be divorced than the schizophrenic women in their sample. However, conflicting results were found by Reich and Thompson (1985), who recently examined the marital status of psychiatrically ill women who were not seeking treatment. Although based on small samples with no indications of significant differences between groups, their results showed a trend towards substance-abusing (i.e. alcohol and/or drugs) women being relatively more likely to be married and less likely to have never married than schizophrenic women, whereas rates of divorce were similar in the two groups. Both MacAndrew (1978) and Vaglum and Vaglum (1985) found that fewer alcoholics were married, and more were divorced or separated, compared with their respective control groups of psychiatric patients. Finally, three times as many drug dependent women as alcohol dependent women studied by Driscoll and Barr (1972) were single, although the younger age of the former may have contributed to this finding.

The final series of comparisons with respect to marital status were those between subgroups of alcohol dependent women. Lisansky's (1957) comparison between alcohol dependent women from an outpatient clinic and those from a penal institution reflected a greater degree of marital breakdown among the latter. Rimmer et al. (1971) found that for both White and Black women, private hospital patients were more likely to be married than public hospital patients, although the statistical significance of this finding was not given.

Morrissey and Schuckit's (1978) results indicate that the overall significant difference in the marital status of primary and secondary alcoholics and problem drinkers (i.e. those who did not meet the criteria for a diagnosis of alcoholism) was due to the larger proportions of separated or divorced, and lower proportions of single, alcoholics as opposed to problem drinkers, and the decreased relative likelihood of secondary alcoholics being married. Comparisons on the basis of the drug abuse patterns of these detoxification centre clients indicated that the two drug-abusing samples, and in particular the sample abusing street drugs, were least likely to be married and most likely to have never married (Schuckit & Morrissey, 1979a). When they classified the clients with respect to primary diagnosis, Schuckit and Morrissey (1979b) found that the marital status of the primary alcoholism and affective disorder groups were similar, as were those of the drug abuse and antisocial personality samples. However, each of the two former groups differed significantly from each of the two latter groups. Furthermore, the women with no primary diagnosis differed significantly from each of the other four groups, being the most likely to be married and least likely to be separated or divorced. Earlier, Schuckit et al. (1969) had also noted that the proportion of divorced or separated women did not differ significantly between primary and affective disorder alcoholics,

whereas Rimmer et al. (1972) found that primary and depressive alcoholics did not differ significantly with respect to the proportions of married and single women.

Hollstedt et al.'s (1983a) comparison between probands with and without children showed that the mothers were more likely to be divorced or widowed, and less likely to have never married than the childless women, whereas Herr and Pettinati (1984) noted that alcohol dependent women who were homemakers were significantly more likely to be married and less likely to be divorced or separated than their working counterparts.

In summary, the studies have generally shown that a significant proportion of alcohol dependent women have experienced the breakdown of marriage, particularly through divorce or separation. However, the results of several studies point to the possibility that marital disruption is less likely to be a characteristic of alcohol dependent women drawn from the higher socio-economic strata of society, than of the less affluent women, generally seeking treatment in a public facility. The majority of reports in the literature are based on this latter group of women, and therefore the prevalence of marital disruption in the overall population of alcohol dependent women may in fact be less than that suggested in the literature.

Comparisons between alcohol dependent women and men have shown that where differences in their marital status exist, they are due primarily to the greater relative proportions of never-married men and divorced, separated, or widowed women. The overall indications from comparisons between alcohol dependent and normal women are that the former are less likely to be married, and conversely, more likely to be divorced or separated and somewhat more likely to be widowed than the latter. Comparative studies of alcohol dependent

women and women under psychiatric treatment are too few in number and lacking in consensus to suggest any strong trends. The final series of comparisons, namely those between subgroups of alcohol dependent women, again reflected the heterogeneity of these women, particularly with respect to the variations in marital status according to the primary diagnostic category of the women.

2.1.5 Education

With the exceptions of the earlier studies by Curran (1937), Rosenbaum (1958), and Kinsey (1966), and two Australian studies (Bartnik & Smith, 1979; Warmington, 1977), other studies have shown that relatively large proportions of alcohol dependent women, ranging from about 30% to 70%, have received at least some tertiary education.

Comparisons between alcohol dependent women and men, as depicted in Table 2, have indicated either no significant differences with respect to education (e.g. Beckman, 1978a; Bromet & Moos, 1976; Dahlgren & Myrhed, 1977a; Filstead, Anderson & McElfresh, 1979; M.N. Hesselbrock et al., 1985; Lisansky, 1957), or significantly higher levels among the women (Hoffmann & Noem, 1975b; Jansen & Hoffmann, 1973; Mulford, 1977; Smart, 1979). Similar patterns were also evident among the studies that did not report the statistical significance of their findings.

Most studies comparing alcohol dependent and normal women matched their samples with respect to education. Nevertheless, some other studies demonstrated a lack of significant difference in the women's educational levels (Anderson, 1980; Jones, Jones & Hatcher, 1980; Obitz & Swanson, 1976) and although Kinsey (1966) and Navarro (1979) did not report significance

levels, the differences in their studies were also only marginal. In contrast, however, Mulford (1977) reported that the women in his sample were almost twice as likely to have dropped out of high school, compared with the women in the Iowa adult population.

As reflected in Table 4, comparisons between alcohol dependent women and women receiving other psychiatric treatment failed to show any consistent differences with respect to education.

Levels of education among alcohol dependent women differed significantly with respect to several other characteristics of these women. For example, Lisansky (1957) found that her sample of outpatients had a higher level of education than the women from a penal institution. Schuckit and Morrissey (1979b) reported variations depending on the specific primary diagnosis of detoxification clients, with women having a diagnosis of affective disorder being the most educated, and those with antisocial personality, the least. Earlier however, Morrissey and Schuckit (1978) had found no significant differences when this sample was categorized on merely the existence of a primary or secondary diagnosis of alcoholism, or problem drinking. Although the statistical significance was not reported, Bromet and Moos' (1976) results indicated that a larger proportion of unmarried women than the currently married women in their sample had at least some college education. Finally, Beckman (1978b) found no significant difference on education between women who did and did not manifest sex role identity conflict.

2.1.6 Occupation and Employment

The samples of alcohol dependent women described in the tables reflect a diversity of occupations, in accordance with their socio-economic status.

For example, the women in Curran's (1937) sample, who were generally of low socio-economic status, were predominantly involved in domestic or factory work, whereas the majority of the patients of middle socio-economic status recently studied by Hoar (1983) had managerial or professional occupational backgrounds. In general, however, the women were engaged in occupations beneath the levels that would be expected, given their relatively high educational achievements, as described in the previous section.

Dahlgren and Myrhed (1977a), Filstead et al. (1979) and Smart (1979) all found that significantly fewer alcohol dependent women than men were employed. Lisansky's (1957) and Glatt's (1961a) results indicated that women were more likely than men to be involved in occupations of lower status, although the studies by Sclare (1970) and Waller and Lorch (1978) showed no major gender differences. The Australian study by Wilkinson et al. (1969) examined both the "best" and current occupations of the alcohol dependent women and men in their sample. Their results indicated that although approximately one half of both the women and men reported "best" occupations of at least a skilled manual nature, fewer patients of both sexes were employed at or above that level at the time of study. This downward move with respect to occupational status appeared to be more pronounced among the women, although the data did not define the proportion of housewives. In contrast however, Kinsey (1966) reported that although the excessive drinking of his sample of women appeared to result in job instability, job changes were usually within a particular classification, rather than from higher to lower occupational levels.

In comparison with overseas studies, the Australian studies reported that relatively higher percentages of women were housewives, ranging from 45% to 65% (Bartnik & Smith, 1979; Hendtlass, 1979; Warmington, 1977, 1981).

Each of the studies comparing alcohol dependent and normal women found that more of the latter than the former were housewives, although statistically significant differences were either absent (Anderson, 1980) or not reported (Mulford, 1977; Wilsnack, 1973). Both Kinsey's (1966) and Wilsnack's results showed a relative overrepresentation of alcohol dependent women, compared with normal women, involved in service or unskilled jobs, whereas Anderson's sibling samples did not differ significantly with respect to type of occupation.

Both MacAndrew's (1978) and Vaglum and Vaglum's (1985) comparisons between alcoholic and psychiatric treatment samples showed little differences in the occupations of the respective groups of women, as did Driscoll and Barr's (1972) comparison between alcohol and drug dependent women.

Studies have also compared the employment and occupations of subgroups of alcohol dependent women. Lisansky (1957) found that alcoholic women from a penal institution were significantly more likely to be working in lower status jobs than were women from an outpatient clinic. The percentages of employed women differed in accordance with private or public hospital status (Rimmer et al., 1971) and whether or not women had children (Hollstedt et al., 1983a). However, no significant differences were reported by Morrissey and Schuckit, first between primary and secondary alcoholics and problem drinkers with respect to either the proportion of housewives within each group or the types of occupations of the employed women (Morrissey & Schuckit, 1978), and secondly, in the percentages of employed women among samples with differing primary diagnoses (Schuckit & Morrissey, 1979b).

2.1.7 Summary

This review has highlighted the heterogeneity of the samples of women that serve as the basis of our current knowledge of alcohol dependence in women. The samples were drawn from a wide variety of treatment facilities including both general and psychiatric private and public hospitals, residential treatment programmes, day centres, detoxification centres, halfway houses, and Alcoholics Anonymous (AA). Similarly, both inpatients and outpatients were represented.

Furthermore, the entire spectrum of socio-economic classes was represented. All the other demographic variables examined in the preceding pages also varied across studies, as well as within particular studies in accordance with factors such as, for example, psychiatric diagnoses and source of subjects. With the exception of the study by Fine, Richman and Teichman (1979), the majority of subjects in each of the reviewed studies were Caucasian.

The single most common type of study involved comparisons between alcohol dependent women and men, followed by descriptive studies and comparisons between alcohol dependent women and women drawn from the general population. Relatively few studies compared alcohol dependent women with women undergoing treatment for other psychiatric disorders. The vast majority of studies used samples of 100 women or less, although sample sizes did range from 20 to 395 women.

Finally, most if not all studies reported in the English literature featured American women. The question arises of whether their findings can be generalized to populations of alcohol dependent women receiving treatment in other countries.

TABLE 1. Demographic Characteristics of Alcohol Dependent Women
- Clinical/Descriptive Studies

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
CURRAN (1937)	SAMPLE:	50 inpatients of low SES; predominantly psychotic; 16% Coloured
	COUNTRY:	U.S.A.
	AGE:	39.9
	RELIGION:	66% Catholic, 32% Protestant
	MARITAL STATUS:	42% married, 6% de facto, 44% divorced/separated/widowed, 8% single
	EDUCATION:	34% some high school, 8% high school graduates, 2% some college
	OCCUPATION:	30% housewives, 50% domestic/factory, 14% unemployed
WALL (1937)	SAMPLE:	50 private hospital inpatients of middle and upper SES
	COUNTRY:	U.S.A.
	AGE:	41
	RELIGION:	24% Catholic, 76% Protestant
	MARITAL STATUS:	40% divorced, "fully as many" estranged, 4% single
	EDUCATION:	14% college graduates
VAN AMBERG (1943)	SAMPLE:	50 private hospital inpatients of middle and upper SES
	COUNTRY:	U.S.A.
	AGE:	40
	RELIGION:	18% Catholic, 82% Protestant
	MARITAL STATUS:	10% unmarried
	OCCUPATION:	66% housewives, 10% business, 14% actresses, 10% unemployed
ROSENBAUM (1958)	SAMPLE:	200 inpatients and outpatients
	COUNTRY:	U.S.A.
	RELIGION:	(N=100 married) 64% Catholic, 33% Protestant
	MARITAL STATUS:	49% married, 13% divorced, 10% separated, 13% widowed, 15% single
	EDUCATION:	(N=73 married) 43% some high school, 41% high school graduates, 11% some college, 1% college graduates
	OCCUPATION:	(N=95 married) 39% employed
FORT & PORTERFIELD (1961)	SAMPLE:	34 AA members; 100% native-born Whites
	COUNTRY:	U.S.A.
	AGE:	42
	MARITAL STATUS:	62% married, 38% divorced
	SES OF ORIGIN:	32% upper-lower to lower-middle, 41% lower-middle to upper-middle, 15% upper-middle, 12% upper-middle to upper

TABLE 1 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
JOHNSON, DE VRIES & HOUGHTON (1966)	SAMPLE:	35 AA volunteers or nominated by physicians
	COUNTRY:	U.S.A.
	MARITAL STATUS:	49% married, 23% divorced, 6% separated, 17% widowed, 6% single
	EDUCATION:	29% high school graduates, 29% some college or college graduates
SENSEMAN (1966)	SAMPLE:	166 private hospital inpatients of middle SES
	COUNTRY:	U.S.A.
	AGE:	46.2
	RELIGION:	54% Catholic, 44% Protestant
	MARITAL STATUS:	70% married, 9% divorced, 5% separated, 13% widowed, 4% single
WOOD & DUFFY (1966)	SAMPLE:	69 outpatients of middle to upper SES; 100% White
	COUNTRY:	U.S.A.
	AGE:	40
	RELIGION:	40% Catholic, 60% Protestant
	MARITAL STATUS:	75% married, 10% divorced, 3% widowed, 12% single
	EDUCATION:	33% high school graduates, 67% some college or college graduates
DOYLE (1967)	SAMPLE:	60 alcoholism clinic clients
	COUNTRY:	Australia
	AGE:	45
	MARITAL STATUS	12% widowed, 13% single
	COUNTRY OF BIRTH:	82% Australia
	SES OF AREA OF RESIDENCE:	63% low
BELFER, SHADER, CARROLL & HARMATZ (1971)	SAMPLE:	34 alcoholism clinic clients; 97% White
	COUNTRY:	U.S.A.
	AGE:	45.4
	MARITAL STATUS:	47% married, 26% divorced, 6% separated, 9% widowed, 12% single
JAMES (1975)	SAMPLE:	89 AA members responding to questionnaires (response rate : 15%)
	COUNTRY:	U.S.A.
	AGE:	45
	MARITAL STATUS:	92% ever married

TABLE 1 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
BROWNE-MAYERS, SEELYE & SILLMAN (1976)	SAMPLE:	62 private hospital inpatients predominantly of middle SES
	COUNTRY:	U.S.A.
	AGE:	46
	RELIGION:	42% Catholic, 47% Protestant
	MARITAL STATUS:	58% married, 24% divorced, 7% widowed, 11% single
	EDUCATION:	60% some college or college graduates
	OCCUPATION:	(N=43) 47% "high achievers"
WARMINGTON (1977)	SAMPLE:	20 inpatients or outpatients
	COUNTRY:	Australia
	AGE:	43.7
	MARITAL STATUS:	50% married, 30% divorced/separated, 10% widowed, 10% single
	EDUCATION:	15% high school graduates, 15% some college, 5% college graduates
	OCCUPATION:	65% housewives, 0% unemployed
	NATIONALITY:	70% Australian of Anglo-Saxon origin, 10% British
BARTNIK & SMITH (1979)	SAMPLE:	20 former inpatients
	COUNTRY:	Australia
	AGE:	45.3
	MARITAL STATUS:	40% married, 5% de facto, 20% divorced, 20% separated, 10% widowed, 5% single
	EDUCATION:	45% <9 years, 15% tertiary
	OCCUPATION:	45% housewives, 10% clerical/sales, 15% semi-/unskilled, 10% pensioners, 20% unemployed
	COUNTRY OF BIRTH:	85% Australia
FINE, RICHMAN & TEICHMAN (1979)	SAMPLE:	28 inpatients; 68% Black
	COUNTRY:	U.S.A.
	AGE:	40.1
	MARITAL STATUS:	10% married, 16% divorced, 32% separated, 16% widowed, 26% single
	EDUCATION:	\bar{X} = 7.9 years
SCHULTE & BLUME (1979)	SAMPLE:	40 day centre clients; approx. 50% receiving "public assistance"; 93% Caucasian, 7% Black
	COUNTRY:	U.S.A.
	AGE:	40.3
	MARITAL STATUS:	35% married, 33% divorced, 20% separated, 7% widowed, 5% single
	EDUCATION:	78% high school diplomas

TABLE 1 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
MURPHY, COLEMAN, HOON & SCOTT (1980)	SAMPLE:	74 inpatients or halfway house residents of lower-middle SES; 77% White
	COUNTRY:	U.S.A.
	AGE:	37.9
	MARITAL STATUS:	18% married, 51% divorced/separated, 7% widowed, 24% single
	EDUCATION:	30% some college or college graduates
HALIKAS, HERZOG, MIRASSOU & LYTTLE (1981)	SAMPLE:	71 private hospital inpatients; 83% White
	COUNTRY:	U.S.A.
	AGE:	37
	RELIGION:	38% Catholic, 56% Protestant
	OCCUPATION:	79% sales/teaching/nursing
WARMINGTON (1981)	SAMPLE:	300
	COUNTRY:	Australia
	MARITAL STATUS:	54% married
	OCCUPATION:	62% housewives
	NATIONALITY:	73% Australian
MUCHOWSKI-CONLEY (1982)	SAMPLE:	25 inpatients
	COUNTRY:	U.S.A.
	AGE:	47
	MARITAL STATUS:	68% married, 8% divorced, 16% separated, 8% single
	OCCUPATION:	56% housewives, 40% employed, 4% unemployed
FORTIN & EVANS (1983)	SAMPLE:	50 AA members; 100% Caucasian
	COUNTRY:	U.S.A.
	AGE:	42
	MARITAL STATUS:	28% married, 44% divorced, 6% separated, 2% widowed, 20% single
	EDUCATION:	72% some college or college graduates
OCCUPATION:	"many" business or professional	
HERR & PETTINATI (1984)	SAMPLE:	72 private psychiatric hospital inpatients; all but one Caucasian
	COUNTRY:	U.S.A.
	AGE:	43
	MARITAL STATUS:	68% married, 20% divorced/separated
	OCCUPATION:	67% housewives, 33% employed

Note: Unless specified otherwise, values represent mean values.

TABLE 2. Demographic Characteristics of Alcohol Dependent Women
- Comparisons between Alcohol Dependent Women (F) and Men (M)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
WALL (1937)	SAMPLE:	50F, 100M inpatients; 26%F, 55%M without psychoses
	COUNTRY:	U.S.A.
	AGE:	41, 38
	MARITAL STATUS:	40%, 14% divorced
LISANSKY (1957)	SAMPLE:	46F, 55M outpatients; all non-Black
	COUNTRY:	U.S.A.
	AGE:	41.3, 39.8
	RELIGION:	40%, 47% Catholic; 53%, 41% Protestant
	MARITAL STATUS:	57%, 56% married; 20%, 13% divorced; 7%, 9% separated; 4%, 2% widowed; 13%, 20% single
	EDUCATION:	31%, 31% some high school; 33%, 31% high school graduates; 26%, 20% some college; 11%, 18% college graduates \bar{X} = 12.0, 12.3 years
	OCCUPATION:	39%, - housewives; 9%, 18% business; 13%, 9% professional; 24%, 22% public service/clerical/sales; 0%, 22% skilled; 15%, 29% semi-/unskilled
GLATT (1961a)	SAMPLE:	68F, 200M inpatients of middle SES
	COUNTRY:	U.K.
	AGE:	48.2, 44.7
	MARITAL STATUS:	31%, 42% married; 24%, 11% divorced; 19%, 21% separated; 18%, 3% widowed; 9%, 24% single
	OCCUPATION:	F - chiefly Classes II to IV M - 28% Class I (highest); 21% Class II; 33% Class III; 9% Class IV; 9% Class V
FITZGERALD, PASEWARK & TANNER (1967)	SAMPLE:	100F, 350M state hospital inpatients
	COUNTRY:	U.S.A.
	AGE:	42.0, 43.4
	EDUCATION:	11.2, 10.4 years
PEMBERTON (1967)	SAMPLE:	50F, 50M inpatients of higher SES
	COUNTRY:	Scotland/North England
	AGE:	49, 49
	MARITAL STATUS:	54%, 62% married; 2%, 0% divorced; 12%, 10% separated; 20%, 4% widowed; 12%, 24% single
WINOKUR & CLAYTON (1968)	SAMPLE:	45F, 69M private or part-pay inpatients; all primary alcoholics
	COUNTRY:	U.S.A.
	AGE:	46, 48
	MARITAL STATUS:	76%, 84% married

TABLE 2 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION		
WILKINSON, SANTAMARIA, RANKIN & MARTIN (1969)	SAMPLE:	41F, 179M outpatients of all SES		
	COUNTRY:	Australia		
	AGE:	46.9, 45.3		
	RELIGION:	predominantly Catholic		
	MARITAL STATUS:	46%, 50% married; 29%, 24% divorced/separated; 17%, 0% widowed; 7%, 26% single		
	OCCUPATION:	current	"best" ^a	
		5%, 3%	7%, 6%	professional
		5%, 4%	2%, 12%	self-employed
		7%, 9%	22%, 12%	clerical/sales
		0%, 11%	10%, 20%	skilled/manual
34%, 33%		44%, 45%	semi-/unskilled ^b	
42%, 34%		0%, 0%	unemployed ^b	
5%, 6%	0%, 0%	pensioners		
2%, 0%	15%, 5%	not known		
COUNTRY OF BIRTH:	88%, 74% Australia			
CURLEE (1970)	SAMPLE:	100F, 100M private hospital inpatients predominantly of middle and upper-middle SES		
	COUNTRY:	U.S.A.		
	AGE:	46.8, 47.7		
	MARITAL STATUS:	54%, 69% married (first marriage); 20%, 14% divorced; 6%, 7% separated		
	EDUCATION:	14%, 17% <8 years; 63%, 62% some college or college graduates		
SCLARE (1970)	SAMPLE:	50F, 50M patients of lower-middle and middle SES		
	COUNTRY:	Scotland		
	AGE:	41.2, 40.5		
	RELIGION:	44%, 42% Catholic; 56%, 58% Protestant		
	MARITAL STATUS:	64%, 54% married; 14%, 16% divorced/separated; 6%, 6% widowed; 16%, 24% single		
OCCUPATION:	2%, 2% Class I (highest); 6%, 6% Class II; 42%, 58% Class III; 14%, 8% Class IV; 20%, 18% Class V; 8%, 8% unemployed; 8%, 0% not known			
RATHOD & THOMSON (1971)	SAMPLE:	30F, 30M inpatients predominantly of middle and upper SES; all married at least once		
	COUNTRY:	England		
	AGE:	(matched) 44.8, 46.8		
	MARITAL STATUS:	(matched on duration of marriage) 43%, 27% multiple marriages (except through death) 60%, 50% previously divorced/separated		

TABLE 2 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
HOFFMANN & WEFRING (1972)	SAMPLE: COUNTRY: AGE: EDUCATION:	69F, 376M state hospital inpatients U.S.A. (median) 44, 47 (median) 10.0, 9.6 years
RIMMER, REICH & WINOKUR (1972)	SAMPLE: COUNTRY: AGE: MARITAL STATUS:	61F, 112M private or public hospital inpatients; all primary alcoholics U.S.A. 43.0, 44.9 51%, 43% married; 3%, 18% single
JANSEN & HOFFMANN (1973)	SAMPLE: COUNTRY: AGE: EDUCATION:	404F, 975M state hospital inpatients U.S.A. 42.5, 43.2 11.3, 10.7 years
CLARKE (1974)	SAMPLE: COUNTRY: AGE: EDUCATION:	15F, 15M outpatients and 5F, 5M AA members U.S.A. (matched) 37.2, 40.7 (matched) 11.9, 11.9 years
LINDELIUS, SALUM & ÅGREN (1974)	SAMPLE: COUNTRY: AGE: MARITAL STATUS:	118F, 139M voluntarily admitted inpatients; no history of alcohol-related crime Sweden 32%, 28% <40 years old; 55%, 55% 40-59; 13%, 17% ≥60 F - married underrepresented; divorced overrepresented; single overrepresented M - married underrepresented; divorced overrepresented
HOFFMANN & NOEM (1975b)	SAMPLE: COUNTRY: AGE: MARITAL STATUS: EDUCATION:	194F, 2077M state hospital inpatients; rural U.S.A. 46%, 33% 25-44 55%, 47% married; 25%, 24% divorced/separated 68%, 43% high school
HOFFMANN & NOEM (1975c)	SAMPLE: COUNTRY: AGE: RELIGION: MARITAL STATUS: OCCUPATION:	74F, 650M state hospital inpatients; rural; all Caucasian U.S.A. 44, 46 regular church attendance - 86%, 74% at best; 30%, 19% prior to treatment 33%, 27% divorced/separated/widowed 38%, 48% continuous employment; 25%, 24% poor job performance

TABLE 2 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
BROMET & MOOS (1976)	SAMPLE:	82F, 310M residential alcoholism programme inpatients
	COUNTRY:	U.S.A.
	AGE:	37%, 36% <40 years old; 27%, 29% 40-49; 36%, 35% ≥50
	MARITAL STATUS:	44%, 40% married; 45%, 44% divorced/separated/widowed; 11%, 16% single
	EDUCATION:	40%, 45% high school; 40%, 36% some college; 20%, 19% college graduates
SCOTT & MANAUGH (1976)	SAMPLE:	20F, 20M outpatients
	COUNTRY:	U.S.A.
	AGE:	34.9, 37.0
	MARITAL STATUS:	45%, 65% married; 35%, 35% divorced/separated; 20%, 0% single
DAHLGREN & MYRHED (1977a)	SAMPLE:	100F, 100M inpatients
	COUNTRY:	Sweden
	AGE:	(matched) 40.5, 41.0
	MARITAL STATUS:	46%, 42% married/remarried; 9%, 4% de facto; 20%, 25% divorced; 3%, 5% widowed; 22%, 24% single
	EDUCATION: OCCUPATION:	relatively high 20% - housewives; 63%, 81% employed; 14%, 13% unemployed; of employed 70%, 75% same employment for >3 years
MANTEK (1977)	SAMPLE:	166F patients predominantly of lower-middle and middle-middle SES 203M patients predominantly of low to middle-middle SES
	COUNTRY:	West Germany
	MARITAL STATUS:	42%, 49% married; 21.5%, 23% divorced; 4%, 3% separated; 11%, 1% widowed; 21.5%, 24% single
MULFORD (1977)	SAMPLE:	395F, 3132M first admissions to community alcoholism service centres; approx. 14% of both sexes within "incipient or non-alcoholic" category
	COUNTRY:	U.S.A.
	AGE:	38.4, 39.0
	MARITAL STATUS:	45%, 43% married; 30%, 30% divorced/separated; 9%, 3% widowed; 16%, 23% single
	EDUCATION: OCCUPATION:	11.3, 10.9 years (females only) 31% housewives; 23% full-time employment; 7% part-time employment; 25% seeking employment

TABLE 2 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
BECKMAN (1978a)	SAMPLE:	120F, 120M private or public hospital inpatients or outpatients
	COUNTRY:	U.S.A.
	AGE:	43.6, 44.6
	RELIGION:	27%, 32% Catholic; 64%, 63% Protestant
	MARITAL STATUS:	38%, 35% married; 36%, 41% divorced; 26%, 24% separated/widowed/single
	EDUCATION:	53%, 56% some college or college graduates
WALLER & LORCH (1978)	SAMPLE:	36F, 101M inpatients of low and lower-middle SES
	COUNTRY:	U.S.A.
	AGE:	41.0, 42.7
	RELIGION:	"not strongly religious"
	MARITAL STATUS:	33%, >50% married; 70%, 50% ≥1 divorce
	EDUCATION:	infrequently educated beyond high school
DAHLGREN & IDESTRÖM (1979)	SAMPLE:	66F, 68M inpatients; not eligible for old age pension within six years
	COUNTRY:	Sweden
	AGE:	42.1, 40.3
	MARITAL STATUS:	50%, 43% married/de facto; 23%, 34% divorced/separated; 4%, 1%, widowed; 23%, 22% single
	EDUCATION:	relatively high
	OCCUPATION:	24%, - housewives; 26%, 31% officials; 5%, 13% self-employed; 27%, 9% clerical/nursing/sales; 0%, 29% craftsmen; 3%, 6% unskilled; 12%, 10% unemployed; 3%, 2% pension
FILSTEAD, ANDERSON & MCELFRISH (1979)	SAMPLE:	50F, 123M inpatients; all married; all White; alcoholics and/or polydrug abusers
	COUNTRY:	U.S.A.
	AGE:	44.6, 45.8
	RELIGION:	36%, 45% Catholic; 54%, 45% Protestant; 28%, 35% regular church attendance
	EDUCATION:	36%, 27% high school graduates; 32%, 25% some college; 18%, 24% college graduates
	OCCUPATION:	M > F full-time employment

TABLE 2 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
HENDTLASS (1979)	SAMPLE:	85F, 285M private or public facility inpatients or outpatients
	COUNTRY:	Australia
	AGE:	44.6, 41.7
	MARITAL STATUS:	10%, 23% single
	OCCUPATION:	approx. 50%, - housewives
SEELYE (1979)	SAMPLE:	45F, 55M inpatients predominantly of middle and upper-middle SES
	COUNTRY:	U.S.A.
	AGE:	47.8, 46.8
	MARITAL STATUS:	67%, 73% married; 20%, 13% divorced; 13%, 14% single
	EDUCATION:	31%, 40% <12 years; 69%, 60% some college or college graduates
SMART (1979)	SAMPLE:	157F, 157M inpatients or outpatients
	COUNTRY:	Canada
	AGE:	no significant difference
	RELIGION:	no significant difference
	MARITAL STATUS:	F > M divorced/widowed
	EDUCATION:	F > M
	OCCUPATION:	M > F employed
ESHBAUGH, TOSI & HOYT (1980)	SAMPLE:	183F, 208M inpatients; 96% of each sex, White
	COUNTRY:	U.S.A.
	AGE:	47.2, 49.0
	MARITAL STATUS:	52%, 67% married; 26%, 12% divorced; 11%, 3% separated; 4%, 9% widowed; 8%, 9% single
	EDUCATION:	16%, 26% some high school or less; 40%, 26% high school graduates; 44%, 48% some college or college graduates
MCKENNA & PICKENS (1981)	SAMPLE:	410F, 1520M rehabilitation centre inpatients categorized as "chronic alcoholics"; higher than average SES; predominantly White; all reared by both biological parents
	COUNTRY:	U.S.A.
	AGE:	41.0, 40.6
	EDUCATION:	28%, 35% college graduates

TABLE 2 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
HESSELBROCK, MEYER & KEENER (1985)	SAMPLE:	90F, 231M inpatients from an alcoholism treatment unit in a university-affiliated medical centre (55%), Veterans Administration Medical Centre (21%) or a public treatment facility (24%); 87%, 82% White; broad range of SES
	COUNTRY:	U.S.A.
	AGE:	37.3, 39.5
	MARITAL STATUS:	34%, 27% married; 43%, 43% divorced/separated/widowed; 22%, 30% single
	EDUCATION:	24%, 34% some high school; 41%, 34% high school graduates; 24%, 22% some college; 10%, 10% college graduates

Note: The first value represents alcohol dependent women, whereas the second represents alcohol dependent men. Unless specified otherwise, values represent mean values.

^a Most skilled or most remunerative occupation ever engaged in.

^b Women engaged in home duties have been included with semi- and unskilled workers if able to cope at home; with unemployed if not managing home duties.

TABLE 3. Demographic Characteristics of Alcohol Dependent Women
- Comparisons between Alcohol Dependent (A) and Normal (N) Women

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
KARP, POSTER & GOODMAN (1963)	SAMPLE:	A - 24 hospital or clinic patients N - 24 non-abstaining, non-problem-drinking volunteers from lower- and middle-income housing projects
	COUNTRY:	U.S.A.
	AGE:	(matched) 38.6, 38.6
	RELIGION:	(matched) 75%, 67% Catholic; 21%, 25% Protestant
	MARITAL STATUS:	54%, 88% married; 17%, 0% divorced/separated; 17%, 8% widowed; 12%, 4% single
	EDUCATION:	(matched) 10.2, 10.8 years
KINSEY (1966)	SAMPLE:	A - 46 state hospital inpatients N - Minnesota adult female population
	COUNTRY:	U.S.A.
	AGE:	A - 42.9
	RELIGION: ^a	33%, 44% Catholic; 59%, 54% Protestant; A - 36% regular church attendance prior to treatment
	MARITAL STATUS: ^b	31%, 80% married; 28%, 2% divorced; 11%, 1% separated; 17%, 4% widowed; 13%, 13% single
	EDUCATION: ^c	52%, 59% some high school or less; 28%, 24% high school graduates; 13%, 10% some college; 2%, 5% college graduates; 4%, 2% not known A - X = 10.8 years
OCCUPATION: ^d	10%, 14% professional; 0%, 4% managerial/self-employed; 23%, 38% clerical/sales; 17%, 13% skilled; 50%, 21% service/unskilled; 0%, 8% farm; 0%, 2% not known	
PARKER (1972)	SAMPLE:	A - 56 patients from a variety of facilities; all White N - 56 moderate drinkers recruited from among author's acquaintances; all White
	COUNTRY:	U.S.A.
	AGE:	(matched) 43.6, 41.5
	MARITAL STATUS:	43%, 11% divorced/separated/single
	EDUCATION:	(matched) 13.5, 13.9 years
WILSNACK (1973)	SAMPLE:	A - 16 inpatients and 12 outpatients N - 28 volunteers recruited by letter (19) or newspaper advertisements (9)
	COUNTRY:	U.S.A.
	AGE:	(matched) 44.3, 44.3
	MARITAL STATUS:	25%, 71% married; 29%, 4% divorced; 25%, 4% separated; 11%, 4% widowed; 11%, 18% single
	EDUCATION	(matched) 12.4, 13.0 years
	OCCUPATION:	7%, 14% professional/managerial; 29%, 25% clerical/sales/skilled/operative; 36%, 4% service/unskilled; 29%, 57% housewives
	ADDITIONAL MATCHING VARIABLES:	SES; national background

TABLE 3 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
OBITZ & SWANSON (1976)	SAMPLE:	A - 50 halfway house residents N - 40 social drinkers recruited from an association or from industry
	COUNTRY:	U.S.A.
	AGE:	no significant difference
	EDUCATION:	11.4, 12.1 years
MANTEK (1977)	SAMPLE:	A - 166 patients predominantly of lower-middle and middle-middle SES N - 94 volunteers recruited from women's organizations or from place of employment; predominantly of middle-middle and upper-middle SES
	COUNTRY:	West Germany
	MARITAL STATUS:	42%, 63% married; 22%, 6% divorced; 4%, 2% separated; 11%, 7% widowed; 21%, 20% single
MULFORD (1977)	SAMPLE:	A - 395 first admissions to community alcoholism service centres; approx. 14% within "incipient or non-alcoholic" category N - Iowa adult (>20 year olds) female population
	MARITAL STATUS:	45%, 69% married; 30%, 6% divorced/separated; 9%, 15% widowed; 16%, 10% single
	EDUCATION:	29%, 15% high schools "dropouts"
	OCCUPATION:	A - 31% housewives, 23% permanent full-time employment, 7% part-time employment, 25% seeking employment N - 44% housewives 55%, 40% employed/seeking employment
BECKMAN (1978a)	SAMPLE:	A - 120 private or public hospital inpatients or outpatients N - 119 volunteers with no history of substance misuse or psychiatric illness; recruited from time-shared survey (25%), reverse telephone directories (32%) or community groups (43%) A, N - all White; aged 20-59
	COUNTRY:	U.S.A.
	AGE:	(matched) 43.6, 42.1
	RELIGION:	(matched) 27%, 25% Catholic; 64%, 57% Protestant
	MARITAL STATUS:	(matched) 38%, 36% married; 36%, 41% divorced; 26%, 23% separated/widowed/single
	EDUCATION:	(matched) 53%, 56% some college or college graduates
	ADDITIONAL MATCHING VARIABLES:	whether had children

TABLE 3 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
MCLACHLAN, WALDERMAN, BIRCHMORE & MARSDEN (1979)	SAMPLE:	A - 63 inpatients and 37 day patients N - 100 volunteers recruited from YWCA or church groups, or among hospital staff or students
	COUNTRY:	Canada
	AGE:	(matched) 45.3, 44.2
	MARITAL STATUS:	(matched) 51%, 52% married; 4%, 3% de facto; 20%, 21% divorced/separated; 9%, 8% widowed; 16%, 16% single
	EDUCATION:	(matched) 13.2, 13.5 years
	OCCUPATION:	(matched) 44%, 44% housewives; 36%, 45% full-time employment; 11%, 11% part-time employment; 9%, 0% unemployed (matched) Hollingshead Occupational Index: X = 3.6, 3.7 by training; 3.3, 3.4 among working or unemployed women
	NAVARRO (1979)	SAMPLE:
COUNTRY:		U.S.A.
AGE:		35, 34
EDUCATION:		11, 12 years
ANDERSON (1980)	SAMPLE:	A - 30 private or public hospital inpatients or outpatients, and AA members N - 30 non-alcoholic sisters of alcoholic sample A, N - predominantly of middle and upper SES
	COUNTRY:	U.S.A.
	AGE:	39.6, 39.3
	RELIGION:	40%, 40% Catholic; 57%, 57% Protestant
	MARITAL STATUS:	33%, 70% married; 30%, 3% divorced; 10%, 10% separated/widowed; 27%, 17% single
	EDUCATION:	13.3, 12.2 years
	OCCUPATION:	33%, 32% professional/managerial; 40%, 43% clerical/sales/skilled/operative; 20%, 18% service/unskilled; 7%, 7% never worked 33%, 40% not in labour force 37%, 53% employed 30%, 7% unemployed
JONES, JONES & HATCHER (1980)	SAMPLE:	A - 40 residential treatment centre inpatients N - 34 abstainers or light social drinkers recruited from church or social groups, or from a junior college
	COUNTRY:	U.S.A.
	AGE:	44.0, 42.7
	EDUCATION:	13.0, 13.7 years

TABLE 3 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
JONES-SAUMTY, FABIAN & PARSONS (1981)	SAMPLE:	A - 100 residential treatment programme inpatients N - 100 volunteers recruited by newspaper advertisements or from church or social groups A, N - no current illness; no current drug addiction or habitual use; no severe depression or other psychiatric problems; no severe head injury; no medical conditions affecting neuropsychological performance
	COUNTRY:	U.S.A.
	AGE:	(matched) 42.3, 41.6
	EDUCATION:	(matched) 12.8, 12.8 years
SCHWAB-BAKMAN, APPELT & RIST (1981)	SAMPLE:	A - 21 inpatients; all primary alcoholics with no other psychiatric disorder N - 21 volunteers comprising university employees, saleswomen and housewives
	COUNTRY:	West Germany
	AGE:	(matched) 36.2, 32.4
	MARITAL STATUS:	(matched) 62%, 62% married or stable relationship; 38%, 38% no partner
	EDUCATION	(matched) 10.5, 11.4 years
HOAR (1983)	SAMPLE:	A - 37 inpatients or outpatients N - 37 volunteers with no alcohol problems and no history of psychiatric hospitalization A, N - all urban; predominantly middle SES; 1 Black subject per group
	COUNTRY:	U.S.A.
	AGE:	(matched) median = 42.5, 42.5
	MARITAL STATUS:	49%, 51% married; 24%, 19% divorced; 5%, 8% separated; 8%, 8% widowed; 14%, 14% single
	EDUCATION:	(matched) 5%, 5% some high school; 32%, 32% high school graduates; 43%, 43% some college; 19%, 19% college graduates
	OCCUPATION:	(matched) 62%, 62% professional/managerial; 27%, 27% sales/clerical/craftsmen/operative; 11%, 11% labourers/service 43%, 65% employed; 57%, 35% unemployed
	ADDITIONAL MATCHING VARIABLES:	SES

Note: The first value represents alcohol dependent women, whereas the second represents normal women. Unless specified otherwise, values represent mean values.

^a Comparison group includes males

^b Comparison group includes only females aged 25-65

^c Comparison group includes only females aged 25 and over

^d N of alcohol sample = 30

TABLE 4. Demographic Characteristics of Alcohol Dependent Women
- Comparisons between Alcohol Dependent (A) and Treatment (T) Women

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
DRISCOLL & BARR (1972)	SAMPLE:	A - 100; 64% White T - 100 drug dependent women; 74% White A, T - all private facility inpatients; predominantly of lower-middle and low SES
	COUNTRY:	U.S.A.
	AGE:	42, 25
	RELIGION:	33%, 43% Catholic; 59%, 40% Protestant
	MARITAL STATUS:	28%, 19% married; 45%, 33% divorced/separated; 12%, 2% widowed; 15%, 46% single
	EDUCATION:	47%, 55% some high school or less; 23%, 26% high school graduates; 29%, 18% some college or college graduates
	OCCUPATION:	5%, 5% housewives; 15%, 4% administrative/managerial/executive; 20%, 23% clerical; 55%, 52% skilled/semi-/unskilled
PISHKIN & THORNE (1977)	SAMPLE:	A - 31 alcoholics committed to a state hospital T - 152 schizophrenic inpatients
	COUNTRY:	U.S.A.
	AGE:	44.6, 42.6
	RELIGION:	40%, 29% Catholic; 60%, 71% Protestant
	MARITAL STATUS:	60%, 68% married; 0%, 14% divorced; 40%, 18% single
	EDUCATION:	12.1, 11.8 years
BECKMAN (1978a)	SAMPLE:	A - 120 T - 118 patients being treated for emotional and psychiatric problems other than substance abuse A, T - all private or public hospital inpatients or outpatients
	COUNTRY:	U.S.A.
	AGE:	43.6, 34.3
	RELIGION:	27%, 33% Catholic; 64%, 47% Protestant
	MARITAL STATUS:	38%, 30% married; 36%, 28% divorced; 26%, 42% separated/widowed/single
	EDUCATION:	53%, 59% some college or college graduates
MACANDREW (1978)	SAMPLE:	A - 195 T - 195 psychiatric outpatients with no history of substance abuse A, T - all >21 years old
	COUNTRY:	U.S.A.
	AGE:	(matched) 40.8, 40.3
	MARITAL STATUS:	30%, 56% married; 33%, 18% divorced; 22%, 8% separated; 7%, 6% widowed; 8%, 12% single
	EDUCATION:	approx. 33%, 24% some high school; approx. 33%, 32% high school graduates; approx. 33%, 41% some college or college graduates
	OCCUPATION:	51%, 42% housewives; 35%, 38% clerical/sales; 7%, 11% teaching/nursing; 7%, 6% factory/waitressing; 0%, 3% students

TABLE 4 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
BARK (1979)	SAMPLE:	A - 40 inpatients; all primary alcoholics T - 40 inpatients with endogenous depression and with no diagnosis of alcoholism A, T - all married at least once; predominantly of middle SES
	COUNTRY:	Eire
	AGE:	47.7, 47.8
	MARITAL STATUS:	83%, 80% married; 2%, 2% divorced/separated; 15%, 18% widowed
NAVARRO (1979)	SAMPLE:	A - 20 AA members with no psychiatric history T - 20 psychiatric inpatients with no history of alcohol misuse; predominantly schizophrenics A, T - all White; middle SES
	COUNTRY:	U.S.A.
	AGE:	35, 35
	EDUCATION:	11, 11 years
SCHWAB-BAKMAN et al. (1981)	SAMPLE:	A - 21 inpatients; all primary alcoholics with no other psychiatric disorder T - 21 depressive inpatients
	COUNTRY:	West Germany
	AGE:	(matched) 36.2, 36.1
	MARITAL STATUS:	(matched) 62%, 62% married or stable relationship; 38%, 38% no partner
	EDUCATION:	(matched) 10.5, 10.3 years
VAGLUM & VAGLUM (1985)	SAMPLE:	A - 64 patients; 80% alcohol dependent, 18% alcohol abusers T - 65 patients with no alcohol problems A, T - 40, 40 outpatients; 9, 10 day patients; 15, 15 inpatients. All from psychiatric services.
	COUNTRY:	Norway
	AGE:	37.0, 41.6
	MARITAL STATUS:	35%, 49% married or de facto; 67%, 40% ever divorced
	OCCUPATION:	8%, 9% housewives; 11%, 8% "white collar" workers; 17%, 15% skilled workers; 22%, 28% unskilled workers; 2%, 5% students; 31%, 35% invalid insurance; 9%, 9% unemployed

Note: The first value represents alcohol dependent women, whereas the second represents treatment women. Unless specified otherwise, values represent mean values.

TABLE 5. Demographic Characteristics of Alcohol Dependent Women
- Comparisons between Subgroups of Alcohol Dependent Women

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION	
LISANSKY (1957)	SAMPLE:	I - 46 outpatients; all White II - 37 alcoholics committed to a penal institution; all White	
	COUNTRY:	U.S.A.	
	AGE:	41.3, 37.5	
	RELIGION:	40%, 73% Catholic; 53%, 24% Protestant	
	MARITAL STATUS:	57%, 38% married; 20%, 24% divorced; 7%, 14% separated; 4%, 11% widowed; 13%, 14% single	
	EDUCATION:	0%, 16% <8 years; 31%, 41% some high school; 33%, 32% high school graduates; 26%, 11% some college; 11%, 0% college graduates X = 12.0, 10.2 years	
	OCCUPATION:	39%, 30% housewives; 9%, 0% business; 13%, 0% professional; 24%, 11% public service/clerical/sales; 0%, 5% skilled; 15%, 46% semi-/unskilled; 0%, 8% prostitutes	
	CRAMER & BLACKER (1963)	SAMPLE:	I - 28 young problem drinkers, first intoxicated at an early age; parents' occupations of predominantly lower status II - 20 older problem drinkers, first intoxicated at an early age; parents' occupations of either lower or higher status III - 24 problem drinkers, first intoxicated at a later age; parents' occupations of either lower or higher status I, II, III - all White inmates at a state reformatory
		COUNTRY:	U.S.A.
		AGE:	24.4, 45.5, 49.2
SCHUCKIT, PITTS, REICH, KING & WINOKUR (1969)	SAMPLE:	I - 39 primary alcoholics; 21% Black II - 19 affective disorder alcoholics; 21% Black I, II - all private or public facility inpatients	
	COUNTRY:	U.S.A.	
	AGE:	46.0, 40.2	
	MARITAL STATUS:	44%, 47% divorced/separated	
RIMMER, PITTS, REICH & WINOKUR (1971)	SAMPLE:	I - 59 private hospital inpatients; all White II - 20 public hospital inpatients; all White III - 8 private hospital inpatients; all Black IV - 16 public hospital inpatients; all Black	
	COUNTRY:	U.S.A.	
	AGE:	43.5, 39.0, 34.5, 40.8	
	MARITAL STATUS:	47%, 25%, 75%, 31% married; 8%, 5%, 12%, 0% single	
	OCCUPATION:	(excluding housewives) 81% of private patients, 64% of public patients employed	

TABLE 5 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
RIMMER et al. (1972)	SAMPLE:	I - 61 primary alcoholics II - 26 depressive alcoholics I, II - all private or public hospital inpatients
	COUNTRY:	U.S.A.
	AGE:	43.0, 41.4
	MARITAL STATUS:	51%, 42% married; 3%, 12% single
BROMET & MOOS (1976)	SAMPLE:	I - 36 married residential alcoholism programme inpatients II - 46 unmarried residential alcoholism programme inpatients
	COUNTRY:	U.S.A.
	AGE:	22%, 47% <40; 33%, 22% 40-49; 44%, 31% ≥50
	MARITAL STATUS:	100%, 0% married; 0%, 80% divorced/separated/widowed; 0%, 20% single
	EDUCATION:	47%, 35% some high school or high school graduates; 33%, 46% some college; 20%, 20% college graduates
BECKMAN (1978b)	SAMPLE:	I - 28 alcoholics displaying "conscious femininity - unconscious masculinity" II - 74 alcoholics displaying "conscious femininity - unconscious femininity" I, II - all private or public hospital inpatients or outpatients
	COUNTRY:	U.S.A.
	AGE:	no significant difference
	EDUCATION:	no significant difference
MORRISSEY & SCHUCKIT (1978)	SAMPLE:	I - 154 primary alcoholics; 70% White, 23% American Indian, 42% Black II - 58 secondary alcoholics; 78% White, 19% American Indian, 0% Black III - 81 problem drinkers; 77% White, 15% American Indian, 7% Black I, II, III - all detoxification centre inpatients; predominantly of low and lower-middle SES
	COUNTRY:	U.S.A.
	AGE:	45.4, 37.4, 38.1
	MARITAL STATUS:	25%, 14%, 32% married; 14%, 19%, 9% de facto; 48%, 50%, 27% divorced/separated; 9%, 10%, 11% widowed; 4%, 7%, 21% single
	EDUCATION:	10.8, 10.9, 11.0 years
OCCUPATION:	16%, 21%, 19% housewives; 10%, 7%, 8% professional/executive; 23%, 19%, 18% clerical; 50%, 53%, 54% blue-collar	

TABLE 5 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION	
SCHUCKIT & MORRISSEY (1979a)	SAMPLE:	I - 95 prescription drug abusers; 82% White, 13% American Indian, 1% Black	
		II - 17 street drug abusers; 59% White, 35% American Indian, 6% Black	
		III - 108 nonabusers who had received prescriptions; 75% White, 18% American Indian, 6% Black	
		IV - 73 nonabusers who had not received prescriptions; 60% White, 29% American Indians, 7% Black	
		I, II, III, IV - all detoxification centre inpatients; predominantly of low and lower-middle SES	
	COUNTRY:	U.S.A.	
	AGE:	36.8, 25.9, 45.9, 45.9	
	MARITAL STATUS:	20%, 0%, 34%, 22% married; 14%, 18%, 9%, 18% de facto; 52%, 47%, 53%, 53% divorced/separated/widowed; 14%, 35%, 4%, 7% single	
	SCHUCKIT & MORRISSEY (1979b)	SAMPLE:	I - 154 inpatients with primary alcoholism; 70% White, 23% American Indian, 4% Black
			II - 18 inpatients with primary drug abuse; 83% White, 17% American Indian, 0% Black
III - 40 inpatients with primary affective disorder; 80% White, 15% American Indian, 3% Black			
IV - 40 inpatients with primary antisocial personality; 73% White, 17% American Indian, 5% Black			
V - 38 inpatients with no primary diagnosis; 74% White, 18% American Indian, 8% Black			
I, II, III, IV, V - all detoxification centre inpatients; predominantly of low and lower-middle SES (or origin)			
COUNTRY:		U.S.A.	
AGE:		45.4, 33.3, 41.8, 29.9, 44.3	
RELIGION:		10%, 33%, 10%, 27%, 15% no religious preference	
MARITAL STATUS:		25%, 11%, 23%, 12%, 44% married; 14%, 22%, 12%, 17%, 5% de facto; 48%, 39%, 50%, 37%, 23% divorced/separated; 9%, 0%, 12%, 15%, 10% widowed; 4%, 28%, 3%, 19%, 18% single	
EDUCATION:	10.8, 11.7, 12.1, 9.9, 10.8 years		
OCCUPATION:	20%, 17%, 18%, 20%, 26% employed		

TABLE 5 (continued)

AUTHOR (Year)	CHARACTERISTIC	DESCRIPTION
CARROLL, MALLOY, ROSCIOLI & GODARD (1981)	SAMPLE:	I - 61 patients misusing alcohol only; 28% White, 72% Black II - 101 patients misusing drugs only; 68% White, 32% Black III - 31 patients with primary alcohol misuse and secondary drug misuse; 71% White, 29% Black IV - 32 patients with primary drug misuse and secondary alcohol misuse; 72% White, 28% Black I, II, III, IV - all of similar SES
	COUNTRY:	U.S.A.
	AGE:	37, 25, 27, 26 overall; 43, 25, 25, 25 Whites; 35, 27, 31, 30 Blacks
	MARITAL STATUS:	"similar"
HOLLSTEDT DAHLGREN & RYDBERG (1983a)	SAMPLE:	I - 19 "high-risk" mothers, i.e. inpatients who had borne children after establishing regular alcohol use II - 43 "low-risk" mothers, i.e. inpatients who had borne children only before establishing regular alcohol use III - 30 childless inpatients
	COUNTRY:	Sweden
	AGE:	38, 41, 36
	MARITAL STATUS:	31% of mothers, 10% of childless patients divorced/widowed; 5% of mothers, 33% of childless patients unmarried
	OCCUPATION:	61% of mothers, 83% of childless patients employed; 11% of mothers, 0% of childless patients on a disability pension
HERR & PETTINATI (1984)	SAMPLE:	I - 48 housewives II - 24 working women I, II - all from an inpatient programme at a private psychiatric hospital; all but one Caucasian
	COUNTRY:	U.S.A.
	AGE:	43.2, 42.6
	MARITAL STATUS:	85%, 33% married; 8%, 42% divorced/separated

Note: The first value represents the sample denoted as I, the second that denoted as II, etc. Unless specified otherwise, values represent mean values.

2.2 FAMILY RELATIONSHIPS OF ALCOHOL DEPENDENT WOMEN

2.2.1 Parental Deprivation

The findings of studies examining the existence of parental loss among alcohol dependent women are presented in Table 6. Further reference to potential deprivation in the form of either parental alcohol dependence or psychiatric illness is made in Section 2.3.

Comparisons between studies are difficult for several reasons. First, the specified time periods during which the occurrence of loss has been reported vary between studies (e.g. De Lint, 1964a, 1964b; Lisansky, 1957; Rathod & Thomson, 1971; Rosenbaum, 1958), or are defined only loosely (e.g. Beckman, Day, Bardsley & Seeman, 1980; Curran, 1937). Secondly, the concept of parental deprivation differs between studies. Definitions include, for example, the existence of unknown parents, broken homes, parental alcoholism, death, divorce, separation or desertion, and not being raised by natural parents.

Results of studies in which alcohol dependent women and men were compared revealed no instances where a significantly larger percentage of men reported the absence of parents during childhood and adolescence. On the other hand, there was no overwhelming evidence to suggest that parental deprivation was significantly more common in the backgrounds of alcohol dependent women than in those of the men.

Very few comparisons between alcohol dependent and either normal women or those receiving psychiatric treatment have investigated the incidence of parental deprivation, as evident from Table 6. These studies indicated that although more alcohol dependent than normal women experienced some form of deprivation, the differences were not uniformly large. However, alcohol dependent and treatment women did not differ in this regard.

TABLE 6. Parental Deprivation among Alcohol Dependent Women

AUTHOR (Year)	SAMPLE	FINDINGS
<u>A: CLINICAL/DESCRIPTIVE STUDIES</u>		
CURRAN (1937)	50 (refer to Table 1 for details)	26% death, divorce, or separation of parents while subject was very young
ROSENBAUM (1958)	25 married alcoholics (subsample of Rosenbaum, Table 1)	40% loss of parent through death or abandonment at or before the age of 12
DE LINT (1964a)	274 inpatients; Canada	32% absence of one or both natural parents at or before the age of 5
KINSEY (1966)	46 (Table 3)	50% parents married and living together while subject was at home 15% parents divorced 28% father was dead or had deserted the family 7% mother was dead or had deserted the family
DOYLE (1967)	60 (Table 1)	52% death of one or both parents, parental separation, childhood spent in institutions, or other disturbances in early family relationships
<u>B: COMPARISONS BETWEEN ALCOHOL DEPENDENT WOMEN AND MEN</u>		
LISANSKY (1957)	46, 55 (Table 2)	42%, 41% absence of at least one parent through divorce, separation, desertion, or death before the age of 18 18%, 9% raised by relatives or in foster home
DE LINT (1964b)	451F, 2005M interviewed for admission to alcoholism clinic; predominantly of low and middle SES; Canada	37%, 13% absence of one or both natural parents at or before the age of 5 N.S. parental loss between the ages of 6 and 16
WINOKUR & CLAYTON (1968)	45, 69 (Table 2)	20%, 7% parents unknown
CURLEE (1970)	100, 100 (Table 2)	43%, 26% disruption in early family life through parental alcoholism or mental illness, or absence through death, divorce, or separation
RATHOD & THOMSON (1971)	30, 30 (Table 2)	3%, 7% illegitimacy 43%, 7% death of parent before the age of 16 20%, 0% death of father before the age of 16 23%, 7% death of mother before the age of 16 30%, 13% divorce or separation of parents before the age of 16
HOFFMANN & NOEM (1975c)	74, 650 (Table 2)	16%, 13% not raised by natural parents

TABLE 6 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
<u>B: COMPARISONS BETWEEN ALCOHOL DEPENDENT WOMEN AND MEN (continued)</u>		
STANKUSHEV & RAZBOYNIKOVA (1975)	87F, 80M inpatients; matched on age and education; Bulgaria	34%, 25% loss of parent through death or divorce
BECKMAN, DAY BARDSLEY & SEEMAN (1980)	120, 120 (Beckman, Table 2)	N.S. absence of at least one parent while subject was growing up N.S. not raised by natural parents
<u>C: COMPARISONS BETWEEN ALCOHOL DEPENDENT (A) AND NORMAL (N) WOMEN</u>		
PARKER (1972)	56, 56 (Table 3)	34%, 27% broken homes
STANKUSHEV & RAZBOYNIKOVA (1975)	A - 87 inpatients N - 66 healthy women matched on age and education; Bulgaria	34%, 15% loss of parent through death or divorce
BECKMAN et al. (1980)	120, 119 (Beckman, Table 3)	A > N absence of at least one parent while subject was growing up A > N not raised by natural parents (Diff. N.S. when subjects with elevated lie scores were excluded)
<u>D: COMPARISONS BETWEEN ALCOHOL DEPENDENT (A) AND TREATMENT (T) WOMEN</u>		
DRISCOLL & BARR (1972)	100, 100 (Table 4)	25%, 26% absence of father through alcoholism, divorce, separation, desertion, or death before the age of 12 9%, 9% absence of mother through alcoholism, divorce, separation, desertion, or death before the age of 12 3%, 1% absence of both parents through alcoholism, divorce, separation, desertion, or death before the age of 12
BECKMAN et al. (1980)	120, 118 (Beckman, Table 4)	N.S. absence of at least one parent while subject was growing up A > T not raised by natural parents (Diff. N.S. when subjects with elevated lie scores were excluded)
<u>E: COMPARISONS BETWEEN SUBGROUPS OF ALCOHOL DEPENDENT WOMEN</u>		
LISANSKY (1957)	46, 37 (Table 5)	42%, 59% absence of at least one parent through divorce, separation, desertion, or death before the age of 18 18%, 32% raised by relatives or in foster home

TABLE 6 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
<u>E: COMPARISONS BETWEEN SUBGROUPS OF ALCOHOL DEPENDENT WOMEN (continued)</u>		
PARKER (1972)	I - 29 alcoholics who binge drink II - 27 alcoholics who do not binge drink (Sample A, Table 3)	41%, 26% broken homes
BECKMAN (1978b)	28, 74 (Table 5)	81%, 47% absence of at least one parent during childhood N.S. not raised by natural parents

Note: The first value represents alcohol dependent women, whereas the second represents the comparison group. However in Section E, the first value represents the first subgroup of alcohol dependent women, whereas the second value represents the second subgroup. N.S. denotes a nonsignificant difference between samples.

Relatively larger intergroup differences are evident from studies comparing subgroups of alcohol dependent women. Once again, the number of such studies is very small, and each has examined different subgroups of alcohol dependent women, preventing an assessment of the consistency of these results.

In conclusion, there are insufficient data from which to determine whether parental deprivation is an important factor in the aetiology of alcohol dependence in women, pointing to the need for further studies, particularly those utilizing matched control groups of non-alcohol-dependent women. More studies are also required to establish whether parental deprivation is more prevalent among particular subgroups of alcohol dependent women.

2.2.2 Parental Personality

The personality characteristics of the parents of alcohol dependent women, with particular emphasis on dominance, have been described by several authors. With the exception of Van Amberg (1943), who reported few domineering mothers, the other studies have revealed that the mothers of alcohol dependent women are more likely than the fathers to be dominant (Driscoll & Barr, 1972; Kinsey, 1966, 1968; Lisansky, 1957; Myerson, 1966; Rosenbaum, 1958; Verrienti, De Vanna, Ottolenghi & Poldrugo, 1978; Wilsnack, 1973; Wood & Duffy, 1966).

Information about the women's emotional attachments to, or positive relationships with, either the father or mother is contradictory, with studies reporting more maternal attachments (Curran, 1937), paternal attachments (Driscoll & Barr, 1972; Rosenbaum, 1958; Van Amberg, 1943), or neither (Kinsey, 1966, 1968; Wall, 1937).

Given the lack of adequate comparative data, this and other information on potential influences from the home of origin is at best only of marginal interest and will not be elaborated upon.

2.2.3 Birth Order

Several studies have ascertained the birth order of alcohol dependent women (Anderson, 1980; Curran, 1937; De Lint, 1964a, 1964b; Lisansky, 1957; Van Amberg, 1943; Verrienti et al., 1978). Estimates of alcohol dependent women being only children range from 2% to 11% among those receiving outpatient treatment and 19% among those from a penal institution. Between 18% and 32% of alcohol dependent women were reported to be first born, whereas between 20% and 38% were the youngest siblings.

Only two studies (De Lint, 1946b; Lisansky, 1957) compared the birth order of alcohol dependent women and men, both finding only minor differences between the samples. Anderson (1980) examined birth order in both alcohol dependent women and their non-alcohol-dependent sisters, and found no significant difference, as did Driscoll and Barr (1972) in their comparison of alcohol and drug dependent women.

De Lint (1964b), who found that both female and male youngest siblings were overrepresented in his sample, made the interesting observation that this was due to the overrepresentation of patients deprived of at least one natural parent in the first five years of childhood. On the basis of this, he suggested that birth order, as an independent entity, was not relevant to the aetiology of alcohol dependence. Myerson (1959), in his description of alcohol dependent prisoners, also alluded to "the plight of the youngest child born late in the marriage of unhappy parents" (p. 559).

2.2.4 Marital Relationships

In Section 2.1.4 it was reported that a relatively high proportion of alcohol dependent women are divorced or separated. Furthermore, the literature suggests that even among the women who reported being married at the time of study, marital disharmony is common. Several studies point to a majority of alcohol dependent women being dissatisfied with their marital relationships (Kinsey, 1966; Warmington, 1977; Wood & Duffy, 1966). Mulford (1977) and Dahlgren (1979) found that more alcohol dependent women than men reported poor relationships with their spouse. A study by McLachlan, Walderman, Birchmore and Marsden (1979) reflected fewer alcohol dependent than non-alcohol-dependent women as being satisfied with themselves as a wife or partner, whereas Busch, Körmندی and Feuerlein (1973) found that a much lower proportion of the husbands of alcohol dependent women than a male control group of surgical patients reported a good quality of marriage in the preceding six months.

Studies recording the incidence of multiple marriages report, on average, more than one third (range: 8% to 43%) of alcohol dependent women as having been married at least twice (Anderson, 1980; Bark, 1979; Bromet & Moos, 1976; Dahlgren, 1979; Fortin & Evans, 1983; Hoar, 1983; Kinsey, 1966; Mulford, 1977; Rathod & Thomson, 1971). However, only one of the four studies comparing alcohol dependent women and men reported a significant difference: Mulford found that significantly more alcohol dependent women than men (34% and 24%, respectively) reported multiple marriages, whereas only 11% of women and 10% of men from the Iowa adult population were identified as having had multiple marriages. Approximately twice as many alcohol dependent women than their non-alcohol-dependent female counterparts in both Anderson's and Hoar's studies had been married at least twice.

Only 3 of the 40 alcohol dependent women and none of the 40 treatment control women in Bark's study had ever remarried, whereas the study by Vaglum and Vaglum (1985) indicated that approximately one half of the 43 alcohol-abusing women who had ever been divorced had been divorced at least twice, although this was the case with only 1 of the 26 ever-divorced psychiatric control women.

2.3 ALCOHOL DEPENDENCE AND PSYCHIATRIC ILLNESS IN THE FAMILIES OF ALCOHOL DEPENDENT WOMEN

2.3.1 Introduction

This section discusses the literature reporting the incidence of alcohol dependence and psychiatric illness in the families of alcohol dependent women. Once again, the studies can be divided into five major types: descriptive studies of alcohol dependent women, comparisons between alcohol dependent women and men, comparisons between alcohol dependent women and either normal control women or treatment control women, and comparisons between subsamples of alcohol dependent women.

2.3.2 Alcohol Dependence

Tables 7 to 10 (see pages 65 to 75) summarize the results obtained from these studies. Several patterns emerge. First, in almost every instance the reported incidence of alcohol dependence is higher among the fathers of alcohol dependent women than among the mothers. Estimates of the proportions of alcohol dependent fathers generally range from about 22% to about 58%, although several studies report lower percentages (Fort & Porterfield, 1961; Jackson & Connor, 1953; Latham, 1985; Sclare, 1970).

The majority of studies report between 0% and 16% of mothers as being alcoholic, although several other studies reflect somewhat higher percentages (e.g. Bromet & Moos, 1976; Hesselbrock, Stabenau & Hall, 1985; Rathod & Thomson, 1971).

Rates of sibling alcohol dependence were calculated as either the number of alcohol dependent siblings among the total number of siblings (Winokur, Reich, Rimmer & Pitts, 1970; Winokur, Rimmer & Reich, 1971) or as the percentage of probands having alcohol dependent siblings. Where studies examined brothers and sisters separately, the results paralleled those of fathers and mothers: higher percentages of brothers than sisters were classified as alcoholic. However, as Cotton (1979) notes in her excellent review of the familial incidence of alcoholism, "rates in parents are not comparable with those in siblings, since the parents have passed through a much longer period of risk" (p. 100).

Most studies report a high incidence of family history of alcoholism (which is often undefined) among alcohol dependent women, generally ranging between 40% and 68%, whereas Winokur and Clayton (1968) report a lower incidence among second-degree relatives.

The data on spouses are more difficult to interpret, because it is not always evident whether the stated percentages of alcohol dependent women with alcoholic spouses arise from the entire sample of women or only from those who are, or ever have been, married. Studies report an incidence of between 16% and 51% of alcoholic spouses, with the exception of Johnson, De Vries and Houghton (1966) and Wood and Duffy (1966) who report an incidence of less than 10%, and Hoffmann and Noem (1975c) who found that 74% had drinking problems. Both Kinsey (1966, 1968) and James (1975) report an increasing percentage of alcoholic spouses with subsequent marriages.

Examination of the studies comparing alcohol dependent women and men (Table 8) indicates that in the majority, alcohol dependent women were more likely to have alcohol dependent fathers and/or mothers than were their male counterparts. However, some of these differences were small (e.g. Hoffmann & Noem, 1975a; Winokur et al., 1971), while V.M. Hesselbrock et al. (1985) reported that the drinking styles of both the biological fathers and mothers show no significant differences between alcohol dependent women and men. The three reports by Winokur and his colleagues (1968, 1970, 1971) used different subsamples of the original sample of 259 female and male probands and showed relatively small sex differences in the percentages of alcoholic brothers, whereas more sisters of female than of male probands were considered alcoholic. Studies by Lisansky (1957) and Dahlgren (1978) reflected a higher incidence of sibling alcohol dependence among alcohol dependent women than among their male counterparts, whereas that by Curlee (1970) did not. In every study which reported the incidence of spousal alcohol dependence, alcohol dependent women were more likely than men to have alcohol dependent spouses. Furthermore, V.M. Hesselbrock and colleagues observed that among parents of alcoholic probands, if the mother drank heavily or was alcoholic, the father also did so 70% of the time, whereas the reverse was true in only 26% of cases. With the exception of Wall (1937) who reported a higher percentage of male compared with female probands as having alcoholic individuals in the two preceding generations, and Beckman et al. (1980) and Hesselbrock, Stabenau, Hesselbrock, Meyer and Babor (1982) who reported no significant sex differences, studies found that alcohol dependent women were more likely than men to have family histories of alcoholism.

Statements such as "certain family background characteristics often appear in the case histories of alcoholic women. These women are much more

likely than nonalcoholic women to have parents, especially fathers, who were alcoholics" (Beckman, 1976, p. 72), and "alcoholic women, compared with nonalcoholic women, are more likely to have alcoholic parents, especially fathers" (Boothroyd, 1980, p. 300) would lead one to believe that this issue has been widely addressed in the literature comparing alcohol dependent with non-alcohol-dependent women. Unfortunately however, the majority of studies cited by the above authors as substantiating these statements (respectively: Lisansky, 1957; Sherfey, 1955; Winokur & Clayton, 1968; Wood & Duffy, 1966; and Cramer & Blacker, 1966; Sherfey, 1955) did not in fact use control samples of non-alcohol-dependent women.

Indeed, the literature reveals that only a very small minority of the studies specifically comparing alcohol dependent women with non-alcohol-dependent women, either from the general population or in treatment, have explored the incidence of parental alcohol dependence. Although the studies listed in Table 9 do show that alcohol dependent women were more likely to report the existence of alcoholic parents than were control women, the relatively small number of these studies does not yet warrant the repetition of confident statements such as those quoted above.

Winokur and Clayton (1968) reported that 12% and 14% of, respectively, the female and male primary alcoholics in their study had alcoholic brothers, whereas the corresponding figures for sisters were 9% and 2% respectively. An earlier study by these authors investigated the risks of alcoholism in the brothers and sisters of women and men with affective disorders (Winokur & Clayton, 1967). The findings indicated that approximately 6% of the at-risk brothers of both the female and male patients were alcoholic, whereas less than 1% of the sisters of either group were classified as alcoholic. A direct comparison of the results of the two studies is not possible, because they

differed in the manner in which sibling illness was defined: the 1967 study examined the number of alcoholic siblings among all at-risk siblings, whereas the later study reported the percentage of probands with alcoholic siblings. It is nevertheless apparent that irrespective of the diagnosis of the probands, the brothers of both the female and male patients were more likely than the sisters to develop alcoholism. The data also suggest that the siblings of the alcoholic probands were more likely to be alcoholic than the siblings of corresponding sex of the affective disorder patients, especially in the case of sisters of female probands.

Driscoll and Barr's (1972) study investigated the proportion of alcohol dependent and drug dependent women with alcohol or drug dependent siblings. They found that 14% and 6% respectively of the women had siblings who were alcohol dependent, whereas the corresponding percentages with respect to drug dependence were 4% and 13%.

Driscoll and Barr's (1972), Bark's (1979) and Vaglum and Vaglum's (1985) studies were the only reviewed comparisons between alcohol dependent and non-alcohol-dependent women to indicate the prevalence of alcoholism and in Bark's study, also psychiatric illness, among partners. All three studies, however, used women in treatment for other problems as the comparison group.

Driscoll and Barr (1972) showed that one quarter of the alcohol dependent women had an alcoholic partner (either boyfriend or husband, presumably current), whereas only 7 of the 100 drug dependent women did. Not surprisingly, the drug dependent women were more likely than the alcohol dependent women to have a drug dependent partner (21% and 1%, respectively). In Bark's (1979) study, 26% and 13% of the past or present husbands of, respectively, the 40 alcohol dependent women and 40 women with a diagnosis of depression

(all of whom were or had been married) were alcoholic, but this difference was not statistically significant. Only one husband in each group had some other psychiatric illness. Vaglum and Vaglum (1985) also found that in their sample twice as many alcohol-abusing women lived with a man with alcohol problems than did psychiatric control women (31% and 15%, respectively).

Several studies have examined subgroups of alcohol dependent women with respect to familial alcoholism (Table 10). The three studies (Schuckit & Morrissey, 1979b; Schuckit et al., 1969; Winokur et al., 1971) which included subgroups of primary and affective disorder alcoholic women each reported higher incidences of maternal alcoholism among the former rather than the latter group. Furthermore, in no instance was paternal alcoholism higher among the affective disorder group. However, Schuckit and Morrissey found that higher percentages of affective disorder women, compared with female primary alcoholics, had alcoholic brothers or sisters, although the reverse was reported in the other studies.

Other studies also reflected variations in the incidence of familial alcoholism contingent upon the type of alcohol dependent women being studied. Of particular note was Lisansky's (1957) finding of 92% of alcoholic women from a penal institution reporting a past or present family history of problem drinking, compared with 57% of outpatient alcoholic women. Furthermore, Cramer and Blacker (1963) found variations within their sample of problem-drinking women from a penal institution. Specifically, among these women, those that reported first intoxication at a relatively late age were least likely to have an alcoholic parent.

In summary, it appears that the reported incidence of familial alcoholism depends in part on the characteristics of the sample of alcohol dependent

women. The studies presented here have shown variations with respect to primary psychiatric diagnosis, drug use, criminality, marital status, and drinking pattern.

2.3.3 Psychiatric Illness

Tables 7 to 10 also summarize the findings on familial incidence of psychiatric illness among alcohol dependent women. Only the major points arising from the tabulated studies are discussed below.

First, the results of several studies (Curlee, 1970; Dahlgren, 1978; Rimmer & Chambers, 1969; Winokur et al., 1970) suggest a higher incidence of familial psychiatric illness among female alcoholic probands than among their male counterparts. Furthermore, higher rates were generally found among the mothers as opposed to fathers.

Winokur et al. (1971) reported that the incidence of alcoholism was greater than that of depression among the first-degree relatives of both female and male primary alcoholics. Earlier, Winokur and Clayton (1968) noted that affective disorder was more prevalent among second-degree relatives of female rather than male probands, whereas the reverse was true for alcoholism.

Comparisons between female primary and affective disorder alcoholics by Schuckit et al. (1969) and Winokur et al. (1971) highlighted that the psychiatrically ill fathers and brothers of both groups of women tended to be alcoholic, whereas the mothers and sisters showed a tendency to have the same primary problem as the proband. Thus, alcoholism was significantly more common among the female relatives of primary alcoholics, whereas affective disorder was more commonly seen in the mothers and sisters of the affective disorder alcoholics. However, a later study by Schuckit and Morrissey (1979b) failed to provide strong support for this assertion.

Studies comparing alcohol dependent women with normal control women did not address the issue of psychiatric illness among relatives. However, an examination of the results of two studies by Winokur and Clayton (1967, 1968) provided some information on the prevalence of affective disorder among the siblings of alcoholic probands and affective disorder probands. As seen in Table 11, 2% and 3% of, respectively, the female and male primary alcoholic subjects in that study had brothers with affective disorder, whereas the sisters of 9% and 3% respectively were diagnosed as having affective disorder (Winokur & Clayton, 1968). An earlier study of 273 female and 148 male probands with an affective disorder (Winokur & Clayton, 1967) revealed that the brothers and sisters of the male probands were equally likely to have an affective disorder (of at-risk brothers and sisters: 20% in both groups). However, the sisters of female patients were much more likely to manifest affective disorders than were the brothers of these same patients (22% and 7%, respectively), although the prevalence of affective disorder among the former was similar to that among both brothers and sisters of the male patients. Among the alcoholic patients, the highest proportion of probands with affective disorder siblings was evident in the female proband-sister group, whereas among the affective disorder patients, the male siblings of female probands were least likely to manifest affective disorders; a more direct comparison of the results of the two studies is not possible because of the differential manner in which sibling illness was defined in the two studies.

Table 11 summarizes the results of the two studies by Winokur and Clayton, and affords some opportunity to examine the relative prevalence of sibling alcoholism and affective disorder in the two groups of probands, namely alcoholic and affective disorder female and male patients. Several patterns emerge. Among the alcoholic probands, both females and males were more

TABLE 11. Prevalence of Sibling Alcoholism or Affective Disorder among Alcoholic and Affective Disorder Probands

DIAGNOSIS	PROBAND TYPE			
	Alcoholic ^a		Affective Disorder ^b	
	Females (N=45)	Males (N=69)	Females (N=273)	Males (N=148)
Alcoholism in:				
brothers	12%	14	6 (342) ^c	6 (162)
sisters	9	2	<1 (350)	0 (0)
Affective disorder in:				
brothers	2	3	7 (204)	20 (101)
sisters	9	3	22 (208)	20 (114)
SOURCE	Winokur & Clayton (1968)		Winokur & Clayton (1967)	

^a Percentages denote the proportion of probands with affected siblings.

^b Percentages denote the proportion of affected siblings among at-risk siblings.

^c Numbers in brackets indicate the number of at-risk siblings.

likely to have alcoholic rather than affective disorder brothers. Secondly, probands of both sexes were just as likely to have alcoholic sisters as sisters with affective disorders, although both alcoholism and affective disorder in sisters was more prevalent among the female rather than the male alcoholic probands. An examination of the affective disorder probands indicated that the brothers of female probands were equally likely to manifest alcoholism or affective disorder, whereas the brothers of these male probands had a greater likelihood of having affective disorders rather than alcoholism. Finally, the sisters of both the female and male probands were less likely to be given a diagnosis of alcoholism than of affective disorder.

2.3.4 Methodological Issues

The lack of comparability between studies with respect to the definitions of alcohol dependence and psychiatric illness, or even the absence of any such definitions, poses serious methodological problems in assessing the familial incidence of alcoholism and psychiatric illness. For example, definitions of alcoholism, where provided, have ranged from Parker's (1972) adoption of a proband's positive response to item 60 (My father is (or was) a heavy drinker) of the Alcadd Test (Manson, 1949) to Winokur et al.'s (1970) systematic interview of both probands and relatives to establish a diagnosis. Incidence of familial psychiatric illness has, for example, been assessed through the existence of a "frank mental illness" (Van Amberg, 1943), actual treatment for psychiatric illness (Dahlgren, 1978) or a psychiatric diagnosis (Winokur et al., 1970).

The latter study highlights a further methodological problem, namely that the source of information influences the reported incidence of illness. The results obtained from Winokur et al.'s (1970) study are presented in Table 8. As is evident from that table, the obtained percentages varied, depending on whether they were based on interviewed relatives as well as those recognized through the family history method (which involved obtaining information on uninterviewed relatives from probands and other relatives), or only on interviewed relatives. Obtained percentages pertaining to alcoholism among male relatives and affective disorder were generally elevated with the use of the latter method, but curiously, smaller or no differences were evident between the two methods with respect to alcoholism among female relatives. However, few studies were as elaborate as those of Winokur and his colleagues. Hence, the accuracy of the information about familial incidence often relied entirely upon the reliability of the proband's identification of ill relatives, with its inherent possibility of denial or distortion.

The work of Rimmer and Chambers (1969) provides further strong evidence that the information source can seriously affect the degree of recognized illness among relatives. They compared the reliability of information obtained from 147 alcoholic female and male patients about the prevalence of psychiatric disorder in their first-degree relatives with the information obtained in a personal interview with these relatives. Specifically, information obtained from the probands identified 50 relatives with a psychiatric disorder of whom only two were later identified as false positives, whereas in personal interviews with the relatives, 132 of the 395 interviewed relatives were assigned a positive diagnosis of psychiatric disorder. Therefore, almost 64% of the relatives with a psychiatric disorder would have remained unidentified, if only the information from the proband had been taken into account. Further analyses showed that the reliability of the information provided by probands did not differ significantly in accordance with their sex, socio-economic status, or relative's relationship to them.

Studies based on the mailing of questionnaires are subject to response bias. For example, the study by Jackson and Connor (1953) obtained a return rate of 20% from alcoholics and only 8% from the control group, leaving open the question of whether familial incidence differed in some way among the respondents, as opposed to the nonrespondents.

The populations of relatives under examination are not always defined adequately. For example, the use of "alcoholism in the family" leaves open to individual interpretation exactly which relatives are being considered. Furthermore, the definition of sibling illness as the number of affected siblings among all siblings, rather than the number of probands with affected siblings, leads to the possibility that a relatively large number of siblings of only a relatively few probands are affected. As mentioned previously, the data on

spousal illness is difficult to interpret. First, there is a general lack of clarification of whether all, past, or present spouses are under consideration, and secondly, it is often unclear whether the figure represents the percentage of all women (including those never married) with ill spouses, or merely the percentages of affected spouses. Finally, the risk of developing alcohol dependence and various psychiatric illnesses changes over a lifetime (Winokur et al., 1970). However, only the studies by Winokur et al. (1970, 1971) have incorporated this notion of risk.

The studies on subgroups of alcohol dependent women have indicated differences in the incidence of familial illness, varying with certain characteristics of the subgroups studied. Consequently, greater attention needs to be focussed on the nature of the sample under consideration before generalizing to all alcohol dependent women. Furthermore, although most studies presented in the tables utilize clinical populations, either inpatient or outpatient, some studies have examined different populations. Of particular note in this regard were the studies by Jackson and Connor (1953) and Fort and Porterfield (1961), whose samples included AA members, and whose results reflected a relatively low proportion of alcohol dependent fathers. It remains to be established whether this finding in some way characterizes AA members.

Finally, literature reviews on alcohol dependent women have presented the notion that these women are more likely than their non-alcohol-dependent counterparts to have alcoholic parents (e.g. Beckman, 1976; Boothroyd, 1980). However, in the opinion of the writer, the existing evidence is insufficient, as only a very few studies comparing alcohol dependent with non-alcohol-dependent women have specifically addressed this issue. This highlights the need for further studies on the familial incidence of alcohol dependence and psychiatric illness, utilizing adequate controls of both normal women and women in treatment for non-alcohol-related psychiatric disorders.

TABLE 7. Incidence of Alcohol Dependence and/or Psychiatric Illness
in the Families of Alcohol Dependent Women
- Clinical/Descriptive Studies

AUTHOR (Year)	SAMPLE	FINDINGS
CURRAN (1937)	50 (refer to Table 1 for details)	ALCOHOL USE: father 8% heavy drinkers, 42% moderate drinkers mother 4% heavy drinkers, 66% abstainers siblings 24% moderate alcoholics, 12% heavy drinkers PSYCHIATRIC ILLNESS: 4% psychosis in family members
WALL (1937)	50 (Table 1)	ALCOHOL USE: father 24% excessive drinkers mother 4% excessive drinkers other 50% alcoholic individuals in two preceding generations
VAN AMBERG (1943)	50 (Table 1)	ALCOHOL USE: father 30% addicted to alcohol mother 6% addicted to alcohol siblings 28% alcoholism or mental illness PSYCHIATRIC ILLNESS: father 10% psychoneurotic or psychotic mother 8% frank mental illness
ROSENBAUM (1958)	25 (Table 6)	ALCOHOL USE: father 40% excessive drinkers mother 0% alcoholics spouse (N=20) 50% alcoholics, 30% excessive or heavy social drinkers, 10% controlled drinkers, 10% abstainers
FORT & PORTERFIELD (1961)	34 (Table 1)	ALCOHOL USE: father 6% alcoholics mother 3% alcoholics siblings 32% alcoholics spouse (either previous or current) 26% alcoholics
JOHNSON et al. (1966)	35 (Table 1)	ALCOHOL USE: father 34% alcoholics mother 6% alcoholics siblings 31% alcoholics spouse 9% alcoholics other 29% >1 close relatives alcoholics

TABLE 7 (continued)

AUTHOR (year)	SAMPLE	FINDINGS
KINSEY (1966)	46 (Table 3)	ALCOHOL USE: father (N=44) 34% inebrates, 43% moderate drinkers, 23% abstainers mother (N=44) 0% inebrates, 36% moderate drinkers, 64% abstainers spouse (N=33 first spouses) 37% inebrates, 39% moderate drinkers, 24% abstainers (N=25 subsequent spouses) 80% inebrates, 20% moderate drinkers, 0% abstainers PSYCHIATRIC ILLNESS: father (N=44) 9% psychotic mother (N=44) 14% psychotic
SENSEMAN (1966)	166 (Table 1)	ALCOHOL USE: 67% family history of alcoholism
WOOD & DUFFY (1966)	69 (Table 1)	ALCOHOL USE: father (N=69) 51% alcoholics spouse (N=68 previous or current spouses) 6% alcoholics
KINSEY (1968)	46 (Table 3)	ALCOHOL USE: 13% from homes with a permissive atmosphere towards alcohol 31% from homes where moderate drinking was tolerated 48% from homes where alcohol was forbidden
DOYLE (1967)	60 (Table 1)	ALCOHOL USE: spouse 40% alcoholics or heavy drinkers other 42% parents, siblings, or other relatives heavy drinkers
RIMMER (1974)	30 private hospital inpatients with a child \leq 16 y.o; U.S.A.	ALCOHOL USE: spouse (N=25 interviewed fathers of the children) 36% alcoholics or excessive drinkers PSYCHIATRIC ILLNESS: spouse (N=25 interviewed fathers of the children) 32% affective-depressive disorder, 4% sociopathy, 4% "undiagnosed" psychiatric illness
JAMES (1975)	89 (Table 1)	ALCOHOL USE: spouse (N=78 first spouses) 24% alcoholics, 19% heavy drinkers, 55% moderate drinkers, 1% abstainers (N=23 second spouses) 39% alcoholics, 30% heavy drinkers, 26% moderate drinkers, 4% abstainers (N=11 third spouses) 36% alcoholics, 9% heavy drinkers, 18% moderate drinkers, 36% abstainers

TABLE 7 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
BROWNE-MAYERS et al. (1976)	62 (Table 1)	ALCOHOL USE: spouse (of spouses) 31% alcoholics or very heavy drinkers other 50% family history of alcoholism 21% alcoholism among female family members
WARMINGTON (1977)	20 (Table 1)	ALCOHOL USE: father 40% alcoholics mother 0% alcoholics other 60% family history of alcoholism
VERRIENTI, DE VANNA, OTTOLENGHI & POLDRUGO (1978)	100 psychiatric clinic inpatients; Italy	ALCOHOL USE: father 58% alcoholics spouse 16% alcoholics
BARTNIK & SMITH (1979)	20 (Table 1)	ALCOHOL USE: father (N=19) 37% problem drinkers, 16% heavy drinkers, 21% frequent drinkers, 5% occasional drinkers, 21% abstainers mother (N=19) 16% problem drinkers, 5% heavy drinkers, 5% frequent drinkers, 26% occasional drinkers, 47% abstainers
DAHLGREN (1979)	51 inpatients; all married/ de facto; Sweden	ALCOHOL USE: spouse (N=51 current partners) 43% alcoholics only, 6% alcoholics and psychiatric diagnosis PSYCHIATRIC ILLNESS: spouse (N=51 current partners) 8% psychiatric diagnosis only
FINE et al. (1979)	28 (Table 1)	ALCOHOL USE: 74% extremely heavy drinking among close family members, usually father
FORTIN & EVANS (1983)	50 (Table 1)	ALCOHOL USE: father (N=50) 44% alcoholics, 22% heavy drinkers, 28% moderate drinkers, 6% abstainers mother (N=50) 16% alcoholics, 16% heavy drinkers, 44% moderate drinkers, 24% abstainers

Note: Unless specified otherwise, the values are assumed to refer to percentages based on the sample of alcohol dependent women.

TABLE 8. Incidence of Alcohol Dependence and/or Psychiatric Illness
in the Families of Alcohol Dependent Women
- Comparisons between Alcohol Dependent Women (F) and Men (M)

AUTHOR (Year)	SAMPLE	FINDINGS
WALL (1937)	50,100 (refer to Table 2 for details)	ALCOHOL USE: 50%, 71% alcoholic individuals in two preceding generations
JACKSON & CONNOR (1953)	24F, 183M; F - all from AA; M - 72 from AA, 60 from rehabilitation farm, 51 inpatients; U.S.A.	ALCOHOL USE: father 4%, 5% alcoholics; 13%, 12% heavy drinkers; 21%, 33% abstainers mother 8%, 1% alcoholics; 0%, 1% heavy drinkers; 46%, 78% abstainers
SHERFEY (1955)	72F, 89M patients; no criminal record; not of low intelligence; U.S.A.	ALCOHOL USE: 68%, 50% alcoholism in family
LISANSKY (1957)	46, 55 (Table 2)	ALCOHOL USE: father 41%, 31% problem drinkers mother 9%, 5% problem drinkers siblings 24%, 9% problem drinkers spouse 35%, 9% problem drinkers other 44%, 35% >1 parent problem drinkers
WINOKUR & CLAYTON (1968)	45, 69 (Table 2)	ALCOHOL USE: father 28%, 21% alcoholics mother 12%, 3% alcoholics brothers 12%, 14% alcoholics sisters 9%, 2% alcoholics other 10%, 21% alcoholism among second-degree relatives PSYCHIATRIC ILLNESS: father 44%, 29% unknown or psychiatrically ill 8%, 3% affective disorder mother 33%, 15% unknown or psychiatrically ill 2%, 6% affective disorder parents 39%, 22% unknown or psychiatrically ill (of known parents) 25%, 17% psychiatrically ill brothers 2%, 3% affective disorder sisters 9%, 3% affective disorder other 20%, 11% affective disorder among second-degree relatives
RIMMER & CHAMBERS (1969)	147 F and M private or public psychiatric hospital inpatients; U.S.A.	ALCOHOL USE/PSYCHIATRIC ILLNESS: relatives (N=132, 263 interviewed first-degree relatives) 41%, 30% alcoholics or psychiatrically ill

TABLE 8 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
CURLEE (1970)	100, 100 (Table 2)	ALCOHOL USE: father 25%, 16% alcoholics mother 4%, 3% alcoholics siblings 11%, 16% alcoholics PSYCHIATRIC ILLNESS: father 4%, 2% mentally ill mother 13%, 6% mentally ill
SCLARE (1970)	50, 50 (Table 2)	ALCOHOL USE: father 14%, 22% alcoholics spouse 16%, 0% alcoholics other 40%, 34% family history of alcoholism
WINOKUR, REICH, RIMMER & PITTS (1970)	103F, 156M private or public hospital inpatients; 61%, 73% primary alcoholism; 25%, 3% primary affective disorder; 7%, 20% primary personality disorder; U.S.A.	ALCOHOL USE: father (N=101, 151 at-risk fathers) ^a 33%, 33% alcoholics (N=16, 31 at-risk fathers) ^b 44%, 29% alcoholics mother (N=100, 150 at-risk mothers) ^a 7%, 9% alcoholics (N=32, 63 at-risk mothers) ^b 3%, 6% alcoholics brothers (N=111, 172 at-risk brothers) ^a 35%, 35% alcoholics (N=28, 67 at-risk brothers) ^b 50%, 46% alcoholics sisters (N=116, 195 at-risk sisters) ^a 16%, 7% alcoholics (N=38, 76 at-risk sisters) ^b 8%, 5% alcoholics PSYCHIATRIC ILLNESS: father (N=81, 126 at-risk fathers) ^a 9%, 3% affective disorder (N=9, 20 at-risk fathers) ^b 22%, 5% affective disorder (N=103, 156 at-risk fathers) ^a 0%, 4% sociopathy mother (N=84, 124 at-risk mothers) ^a 19%, 20% affective disorder (N=19, 39 at-risk mothers) ^b 42%, 36% affective disorder (N=103, 156 at-risk mothers) ^a 1%, 0% sociopathy brothers (N=73, 123 at-risk brothers) ^a 5%, 6% affective disorder (N=18, 44 at-risk brothers) ^b 6%, 9% affective disorder (N=139, 221 at-risk brothers) ^a 6%, 6% sociopathy sisters (N=76, 140 at-risk sisters) ^a 22%, 17% affective disorder (N=25, 52 at-risk sisters) ^b 52%, 31% affective disorder (N=145, 251 at-risk sisters) ^a 1%, 0% sociopathy relatives (N=172, 335 interviewed first- degree relatives) 49%, 37% psychiatric diagnosis
RATHOD & THOMSON (1971)	30, 30 (Table 2)	ALCOHOL USE: father 47%, 33% alcoholics mother 20%, 7% alcoholics spouse 30%, 20% problem drinkers other 60%, 40% ≥1 parent alcoholic PSYCHIATRIC ILLNESS: spouse 17%, 17% psychiatrically ill other 17%, 17% mental illness among first-degree relatives

TABLE 8 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
WINOKUR, RIMMER & REICH (1971)	63F, 112M patients; all primary alcoholics; U.S.A.	ALCOHOL USE: father (N=61, 106 at-risk fathers) 36%, 35% alcoholics mother (N=61, 108 at-risk mothers) 10%, 9% alcoholics brothers (N=75, 141 at-risk brothers) 33%, 36% alcoholics sisters (N=73, 117 at-risk sisters) 19%, 8% alcoholics relatives (N=289, 518 at-risk first- degree relatives) 24%, 22% alcoholics PSYCHIATRIC ILLNESS: father (N=40, 76 at-risk fathers) 8%, 4% depression mother (N=40, 75 at-risk mothers) 25%, 21% depression brothers (N=45, 86 at-risk brothers) 9%, 7% depression sisters (N=44, 71 at-risk sisters) 11%, 21% depression relatives (N=185, 350 at-risk first- degree relatives) 17%, 13% depression
R.W. JONES (1972)	320F, 1013M private alcoholism treatment centre inpatients; U.S.A.	ALCOHOL USE: 30%, 23% alcoholism among parents, siblings, spouse, or children
RIMMER & WINOKUR (1972)	127F, 132M patients; U.S.A.	ALCOHOL USE: spouse (N=25, 32 spouses) 20%, 3% alcoholics other (N=61, 192 opposite-sex first- degree relatives) 38%, 4% alcoholics PSYCHIATRIC ILLNESS: spouse (N=25, 32 spouses) 32%, 31% depression; 20%, 16% depression; ^c 0%, 3% schizophrenia other (N=61, 192 opposite-sex first- degree relatives) 6%, 19% depression; 5%, 0% sociopathy; 0%, 0% schizophrenia
HOFFMANN & NOEM (1975a)	220F, 1474M state hospital inpatients; U.S.A.	ALCOHOL USE: father 26%, 24% alcoholics; 31%, 25% abstainers mother 6%, 5% alcoholics; 63%, 67% abstainers
HOFFMANN & NOEM (1975c)	74, 650 (Table 2)	ALCOHOL USE: spouse 74%, 15% drinking problem
BROMET & MOOS (1976)	82, 310 (Table 2)	ALCOHOL USE: father 32%, 34% heavy drinkers mother 22%, 12% heavy drinkers spouse 51%, 14% heavy drinkers

TABLE 8 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
DAHLGREN & MYRHED (1977a)	100, 100 (Table 2)	ALCOHOL USE: spouse (N=55, 46 current partners) 51%, 13% alcohol abusers
MULFORD (1977)	395, 3132 (Table 2)	ALCOHOL USE: spouse (of current spouses) 12%, 43% abstainers
DAHLGREN (1978)	100, 100 (Dahlgren & Myrhed, Table 2)	ALCOHOL USE: father 27%, 21% alcoholics mother 4%, 5% alcoholics siblings 26%, 19% alcoholics spouse (of current partners) 51%, 13% alcoholics PSYCHIATRIC ILLNESS: father 6%, 3% psychiatric treatment mother 22%, 8% psychiatric treatment siblings 22%, 7% psychiatric treatment
DAHLGREN (1979)	51F, 46M inpatients; all married/ de facto; Sweden	ALCOHOL USE: spouse (N=51, 46 current permanent partners) 49%, 2% alcoholics
FILSTEAD et al. (1979)	50, 123 (Table 2)	ALCOHOL USE: father 22%, 23% alcoholics mother 8%, 11% alcoholics other 62%, 43% alcoholism in family
BECKMAN et al. (1980)	120, 120 (Beckman, Table 2)	ALCOHOL USE: parent N.S. >1 parent alcoholic
MCKENNA & PICKENS (1981)	410, 1520 (Table 2)	ALCOHOL USE: father 23%, 18% alcoholics mother 11%, 6% alcoholics parent 27%, 21% >1 parent alcoholic 7%, 3% both parents alcoholics
HESELBROCK, STABENAU, HESELBROCK, MEYER & BABOR (1982)	250 F and M alcoholism treatment facility inpatients; U.S.A.	ALCOHOL USE: no interactions between sex and type of family pedigree for alcoholism (i.e. unilineal, bilineal, or none)

TABLE 8 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
STABENAU (1984)	44F, 75M inpatients; no diagnosis of antisocial personality; U.S.A.	ALCOHOL USE: 14%, 20% no history of alcoholism among parents or siblings of parents 54%, 65% unilineal history of alcoholism among parents or siblings of parents 32%, 15% bilineal history of alcoholism among parents or siblings of parents
	10F, 81M inpatients; diagnosis of antisocial personality; U.S.A.	ALCOHOL USE: 10%, 11% no history of alcoholism among parents or siblings of parents 50%, 63% unilateral history of alcoholism among parents or siblings of parents 40%, 26% bilineal history of alcoholism among parents or siblings of parents
COOK & WINOKUR (1985)	61F, 112M inpatients; all primary alcoholics; U.S.A.	ALCOHOL USE: 79%, 79% alcoholism among first-degree or extended family members
HESSELBROCK, STABENAU & HALL (1985)	79F, 212M inpatients; U.S.A.	ALCOHOL USE: father (N=79, 212) 38%, 37% alcoholics; 18%, 14% heavy drinkers; 36%, 36% social drinkers; 8%, 13% abstainers mother (N=79, 212) 20%, 11% alcoholics; 4%, 7% heavy drinkers; 46%, 45% social drinkers; 30%, 37% abstainers
LATCHAM (1985)	47F, 190M first admissions to a psychiatric hospital; England/Scotland	ALCOHOL USE: father 15%, 17% alcoholics mother 6%, 3% alcoholics ^d brothers 23%, 12% alcoholics ^e sisters 0%, 1% alcoholics ^f other 55%, 38% family history of alcoholism

Note: The first value represents alcohol dependent women, whereas the second represents alcohol dependent men. Unless specified otherwise, the values refer to percentages based on the samples of alcohol dependent women and men. N.S. denotes a nonsignificant difference between samples.

^a Based on interviewed relatives, as well as those recognized through the family history method.

^b Based only on interviewed relatives.

^c Excludes depressions with severe precipitating factors.

^d Excludes cases with alcoholic fathers.

^e Excludes cases with alcoholic fathers or mothers.

^f Excludes cases with alcoholic fathers, mothers, or brothers.

TABLE 9. Incidence of Alcohol Dependence and/or Psychiatric Illness in the Families of Alcohol Dependent Women - Comparisons between Alcohol Dependent (A) and Non-Alcohol-Dependent Women

AUTHOR (Year)	SAMPLE	FINDINGS
<u>A: NORMAL CONTROLS (N)</u>		
JACKSON & CONNOR (1953)	A - 24 AA members N - 141 moderate drinkers, 521 abstainers; financial contributors to a Temperance Association; U.S.A.	ALCOHOL USE: father 4%, 2%, 1% alcoholics; 13%, 7%, 3% heavy drinkers; 21%, 57%, 81% abstainers mother 8%, 1%, 0% alcoholics; 0%, 0%, <1% heavy drinkers; 46%, 82%, 97% abstainers
CRAMER & BLACKER (1963)	A - 72 problem drinkers N - 18 non-problem drinkers A, N - all inmates at a state reformatory; U.S.A.	ALCOHOL USE: 36%, 17% during childhood or adolescence, >1 parent alcoholic
PARKER (1972)	56, 56 (Table 3)	ALCOHOL USE: father 46%, 12% heavy drinkers
BECKMAN et al. (1980)	120, 119 (Beckman, Table 3)	ALCOHOL USE: A > N >1 parent alcoholic
V.M. HESSELBROCK et al. (1985)	A - 79 inpatients N - 42 dental outpatients; no evidence of alcohol abuse or dependence; U.S.A.	ALCOHOL USE: father 38%, 19% alcoholics; 18%, 9% heavy drinkers; 36%, 60% social drinkers; 8%, 12% abstainers mother 20%, 7% alcoholics; 4%, 5% heavy drinkers; 46%, 64% social drinkers; 30%, 24% abstainers
<u>B: TREATMENT CONTROLS (T)</u>		
DRISCOLL & BARR (1972)	100, 100 (Table 4)	ALCOHOL USE: father 50%, 26% alcoholics mother 16%, 14% alcoholics parents 55%, 36% >1 parent alcoholic siblings 14%, 6% alcoholics other 25%, 7% boyfriend or spouse alcoholics
BECKMAN et al. (1980)	120, 118 (Beckman, Table 4)	ALCOHOL USE: A > T >1 parent alcoholic
VAGLUM & VAGLUM (1985)	64, 65 (Table 4)	ALCOHOL USE: father 44%, 34% alcohol problems mother 13%, 3% alcohol problems other 31%, 15% current spouse/fiancé with alcohol problems 39%, 35% grandparent with alcohol problems

Note: The first value represents alcohol dependent women, whereas the second represents the comparison group. Unless specified otherwise, the values refer to percentages based on the alcohol dependent and comparison samples.

TABLE 10. Incidence of Alcohol Dependence and/or Psychiatric Illness
in the Families of Alcohol Dependent Women
- Comparisons between Subgroups of Alcohol Dependent Women

AUTHOR (Year)	SAMPLE	FINDINGS
LISANSKY (1957)	46, 37 (Table 5)	ALCOHOL USE: parents 44%, 51% ≥1 parent problem drinkers siblings 24%, 19% problem drinkers spouse 35%, 56% problem drinkers other 57%, 92% past or present problem drinking among parents, siblings, or spouse
CRAMER & BLACKER (1963)	28, 20, 24 (Table 5)	ALCOHOL USE: parents 54%, 30%, 21% during childhood or adolescence, ≥1 parent alcoholic
SCHUCKIT et al. (1969)	39, 19 (Table 5)	ALCOHOL USE: ^a father (N=37, 18 fathers) 32%, 17% alcoholics mother (N=38, 19 mothers) 8%, 0% alcoholics brothers (N=49, 18 brothers) 29%, 22% alcoholics sisters (N=51, 29 sisters) 18%, 3% alcoholics other (N=216, 99 first-degree relatives) 19%, 10% alcoholics PSYCHIATRIC ILLNESS ^a : father (N=37, 18 fathers) 5%, 6% affective disorder mother (N=38, 19 mothers) 8%, 21% affective disorder brothers (N=49, 18 brothers) 4%, 0% affective disorder sisters (N=51, 29 sisters) 4%, 28% affective disorder other (N=216, 99 first-degree relatives) 13%, 21% psychiatric disorder, excluding alcoholism 32%, 33% psychiatric illness, including alcoholism
WINOKUR et al. (1971)	I - 63 primary alcoholics II - 26 depressive alcoholics I, II - all inpatients; U.S.A.	ALCOHOL USE: ^a father (N=61, 25 at-risk fathers) 36%, 24% alcoholics mother (N=61, 25 at-risk mothers) 10%, 0% alcoholics brothers (N=75, 23 at-risk brothers) 33%, 30% alcoholics sisters (N=73, 28 at-risk sisters) 19%, 7% alcoholics other (N=289, 110 at-risk first-degree relatives) 24%, 15% alcoholics PSYCHIATRIC ILLNESS: ^a father (N=40, 17 at-risk fathers) 8%, 18% depression mother (N=40, 17 at-risk mothers) 25%, 35% depression brothers (N=45, 14 at-risk brothers) 9%, 0% depression sisters (N=44, 17 at-risk sisters) 11%, 47% depression other (N=185, 74 at-risk first-degree relatives) 17%, 31% depression

TABLE 10 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
PARKER (1972)	29, 27 (Table 6:E)	ALCOHOL USE: father 69%, 22% heavy drinkers
BROMET & MOOS (1976)	36, 46 (Table 5)	ALCOHOL USE: father 28%, 35% heavy drinkers mother 16%, 27% heavy drinkers spouse ^b 51%, 52% heavy drinkers
SCHUCKIT & MORRISSEY (1979a)	95, 17, 108, 73 (Table 5)	ALCOHOL USE: father 37%, 35%, 22%, 11% alcoholics mother 17%, 29%, 7%, 3% alcoholics brother 17%, 12%, 12%, 16% alcoholics sister 6%, 18%, 12%, 10% alcoholics
SCHUCKIT & MORRISSEY (1979b)	154, 18, 40, 40, 38 (Table 5)	ALCOHOL USE: father 23%, 39%, 23%, 44%, 10% alcoholics mother 10%, 11%, 5%, 29%, 0% alcoholics brother 14%, 6%, 18%, 17%, 15% alcoholics sister 10%, 0%, 15%, 7%, 13% alcoholics PSYCHIATRIC ILLNESS: father 0%, 0%, 5%, 0%, 0% affective disorder; 0%, 0%, 0%, 0%, 0% other psychiatric illness mother 2%, 0%, 5%, 17%, 5% affective disorder; 1%, 0%, 0%, 2%, 0% other psychiatric illness brother 0%, 0%, 5%, 0%, 0% affective disorder; 2%, 11%, 8%, 15%, 0% other psychiatric illness sister 5%, 6%, 8%, 2%, 3% affective disorder; 3%, 6%, 5%, 2%, 3% other psychiatric illness
STABENAU (1984)	I - 10 inpatients; diagnosis of antisocial personality II - 44 inpatients; no diagnosis of antisocial personality; U.S.A.	ALCOHOL USE: 10%, 14% no history of alcoholism among parents or siblings of parents 50%, 54% unilineal history of alcoholism among parents or siblings of parents 40%, 32% bilineal history of alcoholism among parents or siblings of parents

Note: The first value represents the first subgroup, the second value represents the second subgroup etc. Unless specified otherwise, the values refer to percentages based on the subgroups of alcohol dependent women.

a Only relatives aged 17 and above were considered.

b Includes previous spouses of currently unmarried women.

2.4 MENTAL HEALTH OF ALCOHOL DEPENDENT WOMEN

2.4.1 Depression

2.4.1.1 Clinical/Descriptive Studies

The literature offers several descriptive studies of alcohol dependent women which have addressed the issue of depression. These are described below.

The Depression scale of the Minnesota Multiphasic Personality Inventory or MMPI (Hathaway & McKinley, 1943) was found to be the peak scale among a quarter of the 59 women studied by Browne-Mayers, Seelye and Sillman (1976). Of the 20 women in Warmington's (1977) sample, 14 reported experiencing depression at least monthly, including 15% who said they did so "all the time". The single most common reason given by the women for their depression was marital disharmony (35%), and 70% stated that they drank to relieve depression. Linton (1983) also found that drinking to relieve depression was a common practice among the 15 women she studied.

Fine et al. (1979) reported that the mean score on the Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961) of their sample of 28 women (of whom 19 were Black) fell within the upper end of the moderate range of depression, although almost one half of the women obtained a score indicative of severe depression. These latter women were also significantly more likely to report previous hospitalizations, had longer histories of problem drinking, and exhibited higher quantity-frequency indices of drinking. Severe depression was also noted by Hore (1979), who observed that at the time of interview, 36 of the 100 women in the sample exhibited severe depressive symptoms necessitating psychotropic medication. Furthermore, one third of this subsample had a history of depressive illness which required professional advice.

Unlike other authors, Beckman (1978b) and M.N. Hesselbrock et al. (1985) specifically reported the occurrence of depression before the development of drinking problems. Beckman found that 17% of the 120 alcohol dependent women in her sample had experienced at least one severe depression of at least two weeks duration in that time, whereas Hesselbrock et al. noted that depression antedated alcohol abuse in 65% of the 46 women with a lifetime diagnosis of a major depressive disorder.

2.4.1.2 Comparisons between Alcohol Dependent Women and Men

A number of studies have compared levels of depression in both alcohol dependent women and men.

Using the MMPI, several authors have reported peak scale scores for both sexes on the Depression and Psychopathic Deviance scales (e.g. Curlee, 1970; Eshbaugh et al., 1980; Jansen & Hoffmann, 1973). Whereas Zelen, Fox, Gould and Olson (1966) and Curlee found no significant sex differences on the MMPI Depression scale scores, Jansen and Hoffmann reported that males had significantly higher mean T-scores on that scale, although they did point out that the significant difference had little clinical significance, and was due most probably to the large sample sizes.

Several studies utilizing other measures of depression also have reported no significant sex differences (Beckman et al., 1980; Hoffmann & Jackson, 1974). However, Hoffmann and Wefring (1972) found that women had significantly higher mean scores on the Depressive Mood scale of the Brief Psychiatric Rating Scale (Overall & Gorham, 1962), and Bromet and Moos (1976) reported that although no significant differences on depression were evident overall, married women scored significantly higher than married men.

In a follow-up study, Hatsukami and Pickens (1982) found that within three separate comparisons between different groups of female and male subjects tested 1, 6 or 12 months following treatment, women obtained significantly higher mean scores each time on Zung's (1965) Self-Rating Depression Scale. However, the percentage achieving a score of at least 50 differed significantly only among the subjects tested 12 months after treatment, with significantly more women obtaining a high score. They additionally noted that both abstinent and relapsed women had significantly higher mean scores than their male counterparts, and twice as many women as men in both the abstinent and relapsed groups obtained scores of 50 or more.

Winokur and Clayton (1968) reported that within their sample of primary alcoholics, more women than men were given a secondary diagnosis of depressive reaction, although McLachlan et al. (1979) pointed out that this difference did not attain statistical significance. More than half the subjects of each sex showed symptoms of depressive affect, but the difference was not significant. Nevertheless, Sclare (1970) did report a significant gender difference in the numbers of patients given a diagnosis of primary depression: 20% of 50 females, but only 2% of 50 males. In his sample, more males than females reported depressive symptoms as precipitating hospital referral, although the difference failed to achieve statistical significance.

2.4.1.3 Comparisons between Alcohol Dependent and Non-Alcohol-Dependent Women

Comparisons of depression between alcohol dependent and non-alcohol-dependent women are relatively few in number. Within studies utilizing normal control groups, results have been mixed. Belfer, Shader, Carroll and Harmatz (1971) found that the 34 alcohol dependent women in their sample had significantly higher mean scores on the MMPI Depression scale than either the 10 wives

of alcoholics or the normative sample of 150 women, whereas Jones-Saumty, Fabian and Parsons (1981) reported that among women scoring 16 or less on the Beck Depression Index (Beck, 1967), alcohol dependent women obtained a significantly higher mean score than did normal women. Beckman et al. (1980) found no significant differences on current depression measured by the Multiple Affect Adjective Check List (Zuckerman & Lubin, 1965), as did Schwab-Bakman, Appelt and Rist (1981) using the Hamburger Depressions-Skala (Hippius & Selbach, 1969).

Three of four studies comparing alcohol dependent women with women in treatment for psychiatric or emotional problems found higher levels of depression among the latter (Beckman et al., 1980; MacAndrew, 1978; Schwab-Bakman et al., 1981), whereas Krauthamer's (1979) middle- to upper-middle-class samples of 30 women each did not differ significantly on the MMPI Depression scale.

2.4.1.4 Comparisons between Subgroups of Alcohol Dependent Women

The final series of comparisons reported here are those between subgroups of alcohol dependent women. No significant differences with respect to depression have been reported for comparisons between alcohol dependent women who were married or unmarried (Bromet & Moos, 1976), did or did not exhibit sex role identity conflicts (Beckman, 1978b), were still menstruating or not (Jones et al., 1980), did or did not relate their drinking to their menstrual cycles, whether pre- or post-menopausal (Belfer et al., 1971), and did or did not have a family history of alcoholism (Cook & Winokur, 1985).

On the other hand, Zelen et al. (1966) showed that 20 women voluntarily seeking treatment had significantly higher mean scores on the Depression scale of the MMPI than did 20 women who were in treatment as a result of a

court order. Schuckit and Morrissey also found significant intergroup differences within their sample of detoxification clients. Their first series of analyses showed that significantly more abusers of prescription drugs than nonabusers who either did or did not receive prescriptions were depressed (Schuckit & Morrissey, 1979a). A later comparison between groups of women differing with respect to primary psychiatric diagnosis (Schuckit & Morrissey, 1979b) indicated that, as would be expected, all of the women described as affective disorder alcoholics were depressed, and that significantly more of these women were depressed than those with primary diagnoses of alcohol dependence (of whom 4% were depressed), drug abuse (6%) or antisocial personality (34%), or those with no diagnosis (5%). Furthermore, the differences between the antisocial personality group and either the primary alcoholism, drug abuse or no diagnosis groups were also statistically significant.

2.4.1.5 Summary

Studies of depression among alcohol dependent women indicate in general that for a significant proportion of these women, depression is a concomitant factor. However, as Browne-Mayers et al. (1976) aptly state: "How much of the depression is reaction to hospitalization, to excessive alcohol intake, or indicates an affective disorder is difficult to decipher" (p. 596).

There is insufficient evidence within the literature to suggest the chronological sequence of depression and alcohol dependence. Only two studies, those of Beckman (1978b) and M.N. Hesselbrock et al. (1985), specifically address the incidence of depression prior to the development of drinking problems. Other studies have merely attempted to measure levels of depression at the time of treatment.

Comparisons between alcohol dependent women and men have shown either no significant sex differences, or if such differences have existed, that the women manifested greater levels of depression than their male counterparts. This observation comes as no surprise, given Gomberg's (1976) comment that depression "is more characteristically a symptom of women in the United States than of men" (p. 148), and her citation of Chesler's (1972) work which indicated that severe depression is diagnosed much more frequently among female psychiatric patients than among their male counterparts.

In a recent paper, Merikangas, Weissman and Pauls (1985) examined possible explanations for the increased prevalence rates of depression observed among women. On the basis of their own research they suggested that this increased prevalence cannot be attributed to genetic factors responsible for the transmission of depression. They suggest three alternative explanations. First, the sex difference may not be real, but rather an artefact of reporting, resulting from factors such as an overrepresentation of women in the health care system, an increased likelihood for women to admit to symptoms, women's greater negative experience of symptoms, and in particular, methodological factors relating to the definition of depression and its manner of ascertainment. Secondly, they cite evidence indicating that depression may be more common among women because of endocrinological factors related to the female reproductive system, and finally, that women's greater exposure to certain psychosocial factors, such as greater role stress, may predispose them to depression.

Studies comparing alcohol dependent women with non-alcohol-dependent women in treatment for psychiatric or emotional problems primarily showed that the latter group of women scored significantly higher on depression scales. However, comparisons between alcohol dependent and non-alcohol-dependent

normal women were less conclusive, with two studies indicating higher levels of depression among the alcohol dependent women, and two studies showing no statistically significant differences.

Finally, studies involving comparisons between various groups of alcohol dependent women differed in the types of alcohol dependent women being compared. As such, the reliability of their findings cannot be verified, although there are indications from the work of Schuckit and Morrissey (1979b) that the prevalence of depression differed with respect to the nature of primary psychiatric diagnosis.

This section has concentrated primarily on reviewing the literature examining depression as measured by various inventories, such as the MMPI; the following section addresses more specifically the types of psychiatric disorders, including depression, experienced by the alcohol dependent women.

2.4.2 Psychiatric Disorders

There is ample evidence in the literature to suggest that alcohol dependent women also suffer from other psychiatric disorders. However, considerable variation exists between these studies in the manner in which psychiatric disorders are recognized, varying from the use of detailed systematic interviews and explicit criteria (e.g. Halikas, Herzog, Mirassou & Lyttle 1981; Morrissey & Schuckit, 1978; Schuckit et al., 1969) to categorization in an unspecified way (e.g. Browne-Mayers et al., 1976; Fine et al., 1979).

Table 12 presents the percentages of alcohol dependent women assigned primary diagnoses of either alcohol dependence, affective disorder, psychoneurosis, personality disorder, or psychosis, as reported by various researchers.

TABLE 12. Primary Psychiatric Diagnoses of Alcohol Dependent Women

AUTHOR (Year)	N	PRIMARY PSYCHIATRIC DIAGNOSIS					
		Alcohol Dependence	Affective Disorder	Psycho- neurosis	Personality Disorder	Psychosis	Other
SCHUCKIT et al. (1969)	70	56%	27%	4%	10%	3%	0%
WINOKUR et al. (1970)	103	61%	25%		7%		7%
DAHLGREN (1978)	100	32%		64%	0%	3%	
MORRISSEY & SCHUCKIT (1978)	212 ^a	73%	10%		10%		7%
HALIKAS et al. (1981)	71	44%	28%		19%		8%
HOLLSTEDT et al. (1983a)	92	64%		23%	3%	3%	7%

^a 81 women classified as problem drinkers rather than alcoholics have been excluded from the original sample of 293 detoxification centre clients.

The results indicate that, with the exception of Dahlgren's (1978) study, the single most common diagnosis among the alcohol dependent women in these studies was primary alcohol dependence. A primary diagnosis of psychosis was assigned relatively infrequently, although it should be noted that affective disorders, diagnoses of which were relatively more frequent within these studies, can be either neuroses or psychoses, depending on the degree of emotional disturbance: this distinction was not made in most of these studies. Consequently, the relative prevalence of neuroses as opposed to psychoses cannot be determined accurately from the available data. Finally, the majority of these studies indicated that up to 10% of the women were given a primary diagnosis of personality disorder, which was generally of a sociopathic nature.

Among alcohol dependent women, the single most commonly reported secondary psychiatric diagnosis after alcohol dependence is that of neurosis, predominantly of a depressive nature (e.g. Belfer et al., 1971 : 44%; Pemberton, 1967 : 42%; Seelye, 1979 : 44%), although Driscoll and Barr (1972) and Browne-Mayers et al. (1976) did find that greater numbers of women in their samples were given a secondary diagnosis of personality disorder (55% and 37%, respectively) as opposed to psychoneurosis (38% and 32%, respectively).

There are some indications in the literature that treatment outcome may be related to psychiatric diagnosis. For example, Annis and Liban (1980) reviewed studies pertaining to prognostic factors in treatment outcome of alcohol dependent women. They cited studies indicating that the presence of an underlying neurosis related positively to outcome (Pemberton, 1967), whereas psychopathy showed a negative relationship (Glatt, 1961b) and other diagnostic categories were unrelated (e.g. Schuckit & Winokur, 1972). However, an examination of Schuckit and Winokur's data reflects a tendency towards better outcome among affective disorder alcoholics, with 57% of the 23 women with a good outcome and 32% of the 22 with a poor outcome having a diagnosis of affective disorder alcoholism at index admission. Moreover, when a revised follow-up diagnosis of affective disorder alcoholism was used, significantly more of these alcoholics than of primary alcoholics (72% and 39%, respectively) achieved a good outcome.

The two studies which have compared the primary psychiatric diagnoses of alcohol dependent women and men have found that fewer women than men were given primary diagnoses of either alcohol dependence (Dahlgren, 1978 : 32% and 60%; Winokur et al., 1970 : 61% and 73%, respectively) or personality disorder (0% and 7%; 7% and 20%; respectively, by author), whereas the reverse was found with respect to psychoneurosis (64% and 31%; 25% and 3%; respectively,

by author). Seelye's (1979) results showed a similar trend among women and men with respect to secondary diagnoses of personality disorders (33% and 62%, respectively) and psychoneuroses (44% and 18%, respectively).

The work of V.M. Hesselbrock et al. (1982) showed that the prevalence of lifetime major depressive disorder or antisocial personality did not vary significantly between alcohol dependent women and men with no history of familial alcoholism. However, among those with a history of alcoholism on either one or both sides of the family, the majority of women, and significantly more in number than men, had experienced a lifetime major depressive disorder, whereas significantly fewer women than men were given a diagnosis of antisocial personality.

In contrast, however, Glatt (1961a) found that approximately one third of both alcohol dependent women and men in their sample showed marked psychopathic features, whereas Winokur and Clayton (1968) did not find a statistically significant sex difference with respect to a secondary diagnosis of depressive reaction within their sample of primary alcoholics (31% and 19% among women and men, respectively). Sclare (1970) reported that although the majority of both alcohol dependent women and men were given an additional psychiatric diagnosis (72% and 56%, respectively), the only significant difference was with respect to depression, which was evident in 10 females but only one male. Bedi and Halikas (1985) also found that a significantly larger proportion of inpatient alcoholic women than men were diagnosed as having had an affective disorder during their lifetime (43% and 29%, respectively). They additionally observed that the age and sex group manifesting the highest prevalence rate was that of females aged between 20 and 30 years.

M.N. Hesselbrock et al. (1985) examined both the lifetime and current prevalence of additional psychopathologies in their sample of alcoholics.

Although fewer women than men (20% and 25%, respectively) had no additional psychopathology, the difference was not significant. They found that for females and males, respective lifetime prevalence rates of depression were 52% and 32%; of phobia, 44% and 20%; of drug abuse, 38% and 45%; and of antisocial personality, 20% and 49%. The most common current additional psychopathology was depression (38% and 18% among women and men, respectively), followed by phobia (29% and 15%, respectively) and drug abuse (13% and 8%, respectively). In the majority of women with a lifetime diagnosis of either depression, phobia, drug abuse, or antisocial personality, these conditions predated the onset of alcohol abuse. However, among men, drug abuse and depression generally occurred concurrently with, or subsequent to, alcohol abuse, whereas antisocial personality and phobia were more likely to antedate the abuse of alcohol.

Thus, comparisons between alcohol dependent women and men indicate that, on the whole, the women are more likely than their male counterparts to suffer affective disorders. On the other hand, men are more likely to manifest disorders characterized by deviant behaviours. These gender differences are paralleled in epidemiological data, where it has been shown that more women than men are treated for psychiatric illnesses such as neuroses and psychoses (Gove & Tudor, 1973), whereas disorders such as alcoholism, delinquency, and narcotic addiction, namely disorders suggestive of deviant behaviour, are more prevalent among males (Gomberg, 1974).

The selection criteria for control groups of normal women with whom alcohol dependent women are compared have precluded comparisons of psychiatric disorders between alcohol dependent and general population women, due to the rejection of women with either a history of, or current, psychiatric problems (e.g. Beckman, 1978a; Hoar, 1983; Navarro, 1979). However, a study by Jones-Saumty et al. (1981) of both alcohol dependent and normal women with

no severe depression or other psychiatric problems did find that 17% and 1% of the respective groups had a history of nervous breakdown, or treatment or medication for nerves.

The only study to compare the psychiatric diagnoses of alcohol-abusing and non-alcohol-abusing psychiatric patients was that by Vaglum and Vaglum (1985). They reported the findings of a case-control study which compared the psychiatric diagnoses of a group of 64 women who abused alcohol (of whom 80% were alcohol dependent) and a random sample of 65 psychiatric patients who did not. On the basis of axis I of the DSM-III diagnostic system (American Psychiatric Association, 1980), 42% of the alcohol group and 48% of the psychiatric control group were diagnosed as having a depressive disorder; 12% and 18%, respectively, schizophrenia; and 11% and 17%, respectively, neurosis. One third of the alcohol group had no diagnosis other than that of alcohol abuse. Thus, the major clinical diagnoses were distributed similarly in the two groups. However, significantly more women in the alcohol group than in the control group had a personality disorder (81% and 46%, respectively), as assessed by the use of DSM-III, axis II.

Driscoll and Barr (1972), in their comparison of alcohol and drug dependent women, found that similar numbers of women were classified as having a personality disorder (55% and 52%, respectively), psychotic disorder (4% and 6%) or a situational reaction of later life (3% and 2%). Neurosis, which was predominantly of a depressive nature, was found in 38% and 18% respectively. However, the younger age of the drug dependent women and their consequent higher likelihood of having a reaction of adolescence (0% and 17%, respectively), which could lead to depression in later life, may have accounted for the difference in the observed prevalence of neurosis.

Several authors have reported the results of comparisons between subgroups of alcohol dependent women, with respect to psychiatric diagnosis. Rimmer et al. (1971) found no significant differences in the prevalence of primary alcohol dependence between White and Black patients, or between private and public hospital patients.

Morrissey and Schuckit (1978) found that of 293 detoxification centre clients, 53% could be classified as primary alcoholics and 20% as secondary alcoholics, whereas the remaining 27% of women did not meet the criteria for a diagnosis of alcohol dependence. Among the latter two groups, 38% and 22% respectively were given a primary diagnosis of affective disorder, and 38% and 24% that of antisocial personality. The primary psychiatric diagnoses of this same group of women varied significantly in accordance with drug use (Schuckit & Morrissey, 1979a). In particular, the diagnoses of both the prescription- and street-drug abusers were significantly different to those of either the prescription-receiving or non-prescription-receiving nonabusers, although there was no significant difference within either the two groups of abusers or nonabusers. Compared with the nonabusers, the drug abusers were less likely to be given a primary diagnosis of alcoholism, and more likely to have an antisocial personality, but less than one fifth of the women in each group were labelled as having a primary affective disorder. Hollstedt et al. (1983a) found that there were significantly fewer primary alcoholics among alcohol dependent women who had borne children after establishing regular alcohol use than among those who had first borne children before starting to drink regularly. However, the proportion of childless women with a primary diagnosis of alcoholism was not significantly different from that of the two groups of mothers. The three groups did not differ significantly in the percentages of women given other primary diagnoses.

The lack of replication of specific subgroup comparisons once again prevents any recognition of consistent trends within this literature, except that psychiatric diagnosis per se does not appear to vary markedly across groups of alcohol dependent women differing with respect to other characteristics.

Several other studies have reported the percentages of alcohol dependent women who have received psychiatric treatment, without detailing explicitly the nature of the psychiatric diagnoses. Bartnik and Smith (1979) found that only 15% of their Australian sample of 20 women had had psychiatric admissions unrelated to drinking. Of Schuckit and Morrissey's (1979a) sample of 293 female detoxification clients, 38% had received outpatient treatment for psychiatric problems and 17% had been admitted as psychiatric inpatients, whereas a "significant number" of Schulte and Blume's (1979) 40 subjects had attempted suicide or been hospitalized for emotional difficulties such as depression.

In general, comparisons between alcohol dependent women and men have shown that more women than men have received psychiatric treatment. Curlee (1970) reported that almost three times as many women than men had been hospitalized for a psychiatric condition (43% and 15%, respectively), and that both the duration of hospitalization and number of admissions was greater among the women. A similar ratio was obtained with respect to outpatient treatment, with 30% of the women and 11% of the men having received such treatment. In Rathod and Thomson's (1971) study 80% of the women and 47% of the men had been treated for a mental illness, of whom 42% of the women but none of the men had received treatment prior to the onset of problem drinking. Dahlgren and Myrhed (1977a) also found that significantly more women than men (16% and 2%, respectively) had had inpatient psychiatric treatment for conditions other than alcoholism.

Once again, these differences between alcohol dependent women and men mirror those found in general population studies. For example, Gomberg (1976) has pointed out that within the general population, women outnumber men in statistics of mental hospital admissions, attendance at outpatient clinics, and psychiatric help-seeking "perhaps because it is more acceptable for women to look for help or perhaps because they are an unhappier lot" (p. 121).

Prior treatment for psychiatric problems has also been described by Schuckit and Morrissey (1979a, 1979b) in their comparisons between subgroups of detoxification centre clients. In their first report, they noted that significantly more abusers of either prescription or illicit drugs had received outpatient treatment for psychiatric problems than either of two groups of nonabusers, and that significantly more abusers of prescription drugs than nonabusers not receiving prescriptions had previously been psychiatric inpatients. Their second series of analyses showed that significantly more women with a primary diagnosis of affective disorder than those with diagnoses of alcoholism or antisocial personality, or those with no primary diagnosis, had received psychiatric treatment on either an outpatient or inpatient basis. Furthermore, significantly more women with a primary diagnosis of antisocial personality had had either outpatient or inpatient treatment, compared with those with primary alcohol dependence, and significantly more of the former than those with no primary diagnosis had received outpatient treatment.

2.4.3 Suicide

Results pertaining to rates of attempted suicide among alcohol dependent women are presented in Table 13.

TABLE 13. Attempted Suicide among Alcohol Dependent Women

AUTHOR (Year)	SAMPLE	FINDINGS	
<u>A: CLINICAL/DESCRIPTIVE STUDIES</u>			
JAMES (1975)	89 (refer to Table 1 for details)	65% 33%	considered suicide attempted suicide
SCHULTE & BLUME (1979)	40 (Table 1)	"significant no." had attempted suicide or been hospitalized for emotional difficulties such as depression	
<u>B: COMPARISONS BETWEEN ALCOHOL DEPENDENT WOMEN AND MEN</u>			
GLATT (1961a)	68, 200 (Table 2)	26%, 24% 43%, 29% 19%, 21%	attempted suicide of psychopaths (N=21, 65): attempted suicide of nonpsychopaths (N=47, 135): attempted suicide
PEMBERTON (1967)	50, 50 (Table 2)	22%, 12%	attempted suicide
WINOKUR & CLAYTON (1968)	45, 69 (Table 2)	53%, 24% 13%, 9% 4%, 6%	considered suicide suicide attempts at admission suicide attempts in past
CURLEE (1970)	100, 100 (Table 2)	11%, 0%	attempted suicide
SCLARE (1970)	50, 50 (Table 2)	34%, 26%	attempted suicide
RATHOD & THOMSON (1971)	30, 30 (Table 2)	37%, 7%	attempted suicide
RIMMER et al. (1971)	103, 156 (Winokur, Reich, Rimmer & Pitts, Table 8)	20%, 15% 44%, 26%	suicidal behaviour as reason for admission attempted suicide
RIMMER et al. (1972)	61, 112 (Table 2)	28%, 25%	attempted suicide
DAHLGREN & MYRHED (1977a)	100, 100 (Table 2)	29%, 3% 13%, 5%	attempted suicide suicide attempts at admission
MULFORD (1977)	395, 3132 (Table 2)	16%, 5%	attempted suicide in previous year

TABLE 13 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
<u>C: COMPARISONS BETWEEN SUBGROUPS OF ALCOHOL DEPENDENT WOMEN</u>		
SCHUCKIT et al. (1969)	39, 19 (Table 5)	13%, 68% attempted suicide and required medical attention
RIMMER et al. (1972)	61, 26 (Table 5)	28%, 62% attempted suicide
SCHUCKIT & MORRISSEY (1979a)	95, 17, 108, 73 (Table 5)	62%, 59%, 28%, 20% attempted suicide of those who attempted suicide: 39%, 0%, 3%, 0% attempted suicide while abusing drugs
SCHUCKIT & MORRISSEY (1979b)	154, 18, 40, 40, 38 (Table 5)	29%, 61%, 55%, 68%, 23% attempted suicide

Note: The first value represents alcohol dependent women, whereas the second represents the comparison group. However, in Section C, the first value represents the first subgroup of alcohol dependent women, the second value represents the second subgroup etc. Unless specified otherwise, the values refer to percentages based on the entire samples.

The majority of studies indicated that between approximately 20% and 45% of alcohol dependent women had attempted suicide at some stage (e.g. Dahlgren & Myrhed, 1977a; Driscoll & Barr, 1972; Glatt, 1961a; James, 1975; Pemberton, 1967; Rathod & Thomson, 1971; Rimmer et al., 1971; Rimmer et al., 1972; Sclare, 1970), although several studies showed somewhat lower rates (Curlee, 1970; Winokur & Clayton, 1968).

Both Winokur and Clayton (1968) and Dahlgren and Myrhed (1977a) found that 13% of the women in their samples had attempted suicide just prior to being admitted for treatment, and Rimmer et al. (1971) noted that for 20% of their female sample, the reason for admission was related to suicidal behaviour.

As would be expected, rates of suicidal ideation were higher than those of attempted suicide. In fact, both studies reporting such figures found that the majority of alcohol dependent women in their samples admitted to having considered suicide (James, 1975; Winokur & Clayton, 1968).

With the exception of Winokur and Clayton's (1968) study, every other study comparing rates of suicide attempts between alcohol dependent women and men revealed that the women were more likely to have attempted suicide, with significant differences evidenced by Rathod and Thomson (1971), Rimmer et al. (1971), and Dahlgren and Myrhed (1977a).

Among alcohol dependent women, the probability of previous suicide attempts appears to differ according to the nature of the woman's primary psychiatric diagnosis. Each of the five studies that have compared the incidence of suicide attempts between subgroups of alcohol dependent women have found significant intergroup differences. Glatt (1961a) found that a significantly higher percentage of psychopathic alcohol dependent women than their non-psychopathic counterparts had attempted suicide. Reports by Winokur and

colleagues (Rimmer et al., 1972; Schuckit et al., 1969) indicated that alcohol dependent women with primary diagnoses of affective disorder or depression were significantly more likely to have attempted suicide than women with a primary diagnosis of alcohol dependence. Schuckit and Morrissey found that among their sample of female detoxification clients, significantly more abusers of either prescription or illicit drugs had attempted suicide than nonabusers (Schuckit & Morrissey, 1979a), and that women with primary diagnoses of either drug abuse, affective disorder, or antisocial personality manifested a significantly greater likelihood of prior suicide attempts than those with either no primary diagnosis or primary alcohol dependence (Schuckit & Morrissey, 1979b). Driscoll and Barr's (1972) comparison between alcohol and drug dependent women also reflected a tendency towards more of the latter group having attempted suicide previously (38% and 46%, respectively).

Of the studies referred to within this section, only the study by Schuckit et al. (1969) offered a more precise definition of what constituted a suicide attempt, which in their case was an attempt requiring medical attention. This problem of definition leaves open to question whether the reported rates are in fact comparable.

Nevertheless, several studies investigating specific causes of mortality among alcohol dependent women have found that suicides have accounted for a significant excess in mortality (e.g. Adelstein & White, 1977; Black, Warrack & Winokur, 1985; Dahlgren & Myrhed, 1977b; Lindelius et al., 1974; Medhus, 1975; Nicholls, Edwards & Kyle, 1974; Schmidt & De Lint, 1972). However, Dahlgren's (1979) study did not indicate a statistically significant excess mortality due to suicide, possibly because of the small number (51) of women under investigation. The specific ratios of observed to expected number of deaths from suicide are presented in Table 14.

TABLE 14. Mortality due to Suicide, among Alcohol Dependent Women and Men

AUTHOR (Year)	SAMPLE SIZE ^a	WOMEN	MEN
SCHMIDT & DE LINT (1972)	1119, 5359	8.7	6.0
LINDELIUS et al. (1974)	118, 139	- (18) ^b	5
NICHOLLS, EDWARDS & KYLE (1974)	257, 678	18.4 (4.8)	26.5
MEDHUS (1975)	83	30.8	
ADELSTEIN & WHITE (1977)	475, 1595	23.0	21.7
DAHLGREN & MYRHED (1977b)	100, 100	20 (7)	7
DAHLGREN (1979)	51, 51 ^c	- (5.0)	3.3
BLACK, WARRACK & WINOKUR (1985)	256 ^d , 285 ^d	60.0	11.1

Note: The values represent ratios of observed to expected mortality due to suicide.

^a Of alcohol dependent women and men, respectively.

^b Numbers in brackets represent the mortality ratios derived by using the expected mortality rates for men.

^c Consists of partners of alcohol dependent women, not all of whom were alcoholic. However, all of the males who died from suicide were themselves alcoholic.

^d Includes individuals with diagnoses of alcohol or other drug abuse.

Using the expected mortality rates for men to calculate the mortality ratios for women, Lindelius et al. (1974) observed that the excess mortality resulting from suicide was much higher among women than among men, whereas Nicholls et al. (1974) reported the reverse. However, Hill (1984) questions the appropriateness of such a method, and suggests that at the very least, an age- and sex-matched comparison group should be used to determine mortality ratios.

2.4.4 Drug Use and Abuse

Major problems of definition are confronted in attempting to review the literature describing patterns of drug use of alcohol dependent women. The available literature reflects an almost universal lack of definition of terms such as drug abuse, dependency, or addiction, and of the time period when this is reported to have occurred.

Estimates of drug abuse from studies of alcohol dependent women have ranged up to 46%. Driscoll and Barr's (1972) study indicated that 13% of the alcohol dependent women had abused drugs at some stage. James (1975) found that 36% of her sample of 89 female volunteers from AA were "hooked" on drugs other than alcohol, mostly drugs obtained by prescription. Of the 27 women who reported the sequence of drug misuse and alcohol-related problems, 56% stated that alcohol problems preceded drug misuse and a further 11% noted that both began in the same year. The women took an average of three drugs at various times, with tranquillizers being nominated as one of the drugs by about 50%. Browne-Mayers et al. (1976) noted that 27% of the 62 women in their study recorded a history of drug abuse, of whom only 2 had been addicted to narcotics.

Schuckit and Morrissey (1979a) classified 32% of their sample of 293 female detoxification centre clients as abusers of prescription drugs, 6% as abusers of street drugs, 37% as nonabusers who had received prescriptions for analgesic, hypnotic, anxiolytic, or stimulant drugs, and 25% as nonabusers who had not received prescriptions for these drugs. Schuckit and Morrissey also examined the specific types of drugs allegedly used by the women in their sample, the results of which were as follows: 46% used marijuana; 29%, antidepressants; 26%, stimulants; 16%, opiates; 16%, hallucinogens; 12%, intravenous drugs; and 11%, cocaine. However, it should be noted that the authors do not explicitly state whether their reference to the above-mentioned drugs is within the context of use or abuse. Additional findings indicated that 57% of the women had received prescriptions for hypnotic or anxiolytic drugs, 27% for opiates, and 22% for stimulants.

Schulte and Blume (1979) reported that addiction to drugs in addition to alcohol was evident in 35% of the 40 women in their sample, whereas Fortin and Evans (1983) noted that 23 of 50 women with no history of heroin addiction were also addicted to drugs other than alcohol. Vaglum and Vaglum (1985) indicated that 17% of the 64 women in their study abused drugs in addition to alcohol, whereas 7 of the 92 women studied by Hollstedt et al. (1983a) were diagnosed as abusing sedative-hypnotic drugs as well as alcohol. Surprisingly, however, none of the latter were found to use opiates, amphetamines, cocaine, hallucinogens, or cannabis.

J.F.X. Carroll et al. (1981) found that of 225 women admitted for the first time to a therapeutic community treating alcohol and drug addicts, 27% were addicted to alcohol only, 45% to drugs only, whereas the remaining 28% misused both alcohol and drugs. When only the 131 White women were considered, the corresponding figures were 13%, 53%, and 34% respectively.

Of the 63 women misusing both alcohol and drugs, 21 used heroin most frequently; 19, tranquillizers, barbiturates, and sedatives; 16, amphetamines; 5, cannabis; 1, cocaine; and 1, inhalants. Twenty women had misused only one drug in addition to alcohol; 16, two drugs; 21, three drugs; and 6, four or more drugs.

Of the 100 women in the study by McLachlan et al. (1979), 38% reported using drugs on a daily basis. Similarly, 30% of Warmington's (1977) small sample of 20 women used prescribed medications, of whom half used minor tranquillizers, although all of those using tranquillizers reported using them less frequently than prescribed.

Table 15 depicts the evidence concerning drug use resulting from comparisons between alcohol dependent women and men. With the exception of the recent study by M.N. Hesselbrock et al. (1985), who observed that a lifetime history of substance abuse, but not current abuse, was more prevalent among men, all other studies have shown drug use and/or abuse to be more prevalent among the alcohol dependent women. Although several studies have indicated that the incidence of dependency or abuse is not significantly greater among women (Rathod & Thomson, 1971; Rimmer et al., 1971; Rimmer et al., 1972; Sclare, 1970), just as many studies have reported a significant sex difference (Curlee, 1970; Dahlgren & Myrhed, 1977a; Filstead et al., 1979; Lindelius et al., 1974; Mulford, 1977).

TABLE 15. Drug Use - Comparisons between Alcohol Dependent Women and Men

AUTHOR (Year)	SAMPLE	FINDINGS
CURLEE (1970)	100, 100 (Table 2)	43%, 20% 25%, 10% tranquillizer or sedative use problems related to use (e.g. exceeding dose, unable to decrease dose, feeling dependent)
SCLARE (1970)	50, 50 (Table 2)	associated drug dependency: 4%, 4% amphetamines 2%, 2% barbiturates 2%, 0% aspirin/codeine 2%, 0% pethidine/librium
RATHOD & THOMSON (1971)	30, 30 (Table 2)	30%, 20% history of drug dependence (primarily to amphetamines or barbiturates)
RIMMER et al. (1971)	79F, 117M private or public hospital inpatients; all White; U.S.A.	13%, 16% 11%, 9% drug experimentation drug addiction
RIMMER et al. (1972)	61, 112 (Table 2)	13%, 12% 8%, 5% drug experimentation drug addiction
LINDELIUS et al. (1974)	118, 139 (Table 2)	42%, 19% regular overconsumption of drugs of those who had delirium tremens (N=11, 25): 73%, 20% drug abuse
BROMET & MOOS (1976)	82, 310 (Table 2)	nonsignificant tendency for women to use sleeping pills and tranquillizers more frequently than men
DAHLGREN & MYRHED (1977a)	100, 100 (Table 2)	31%, 14% 0%, 0% drug abuse hospital treatment for drug abuse
MULFORD (1977)	395, 3132 (Table 2)	24%, 9% 14%, 4% 44%, 17% among polydrug users: 82%, 75% <2%, <2% <2%, <2% regular use of drugs (i.e. more than once a week) feeling of psychological dependence prescription of drugs by doctor regular use of sedatives (barbiturates or tranquillizers) regular use of drugs other than sedatives past or current regular use of narcotics
FILSTEAD et al. (1979)	50, 123 (Table 2)	48%, 20% 44%, 21% current polydrug misuse past or current misuse of drugs
HENDTLASS (1979)	85, 285 (Table 2)	(N=52, 185): 54%, 32% 38%, 19% use of tranquillizers for more than one week in previous year use of other drugs for more than one week in previous year
M.N. HESSELBROCK et al. (1985)	90, 231 (Table 2)	38%, 45% 13%, 8% lifetime substance abuse current substance abuse lifetime abuse of: 25%, 27% sedatives 19%, 24% marijuana 19%, 20% stimulants 7%, 18% opiates 2%, 3% cocaine

The only study which compared patterns of drug use between alcohol dependent and non-alcohol-dependent women was that of Jones-Saumty et al. (1981). Although women with current drug addiction or habitual use were excluded from the study, significantly more alcohol dependent than normal control women reported drug use (79% and 51%, respectively), which was defined by the authors as "use of prescription and nonprescription drugs without supervision to an extent of possible abuse" (p. 374). Of alcohol dependent women, 11% had been addicted to drugs prior to alcohol abuse, whereas no control women had a history of drug addiction, this difference again being significant.

Comparisons between subgroups of alcohol dependent women are likewise scarce. Rimmer et al.'s (1972) comparison between primary and depressive alcoholic women showed that 8% and 19% respectively were addicted to drugs, this difference however not being statistically significant. On the other hand, Schuckit and Morrissey's (1979b) comparison between groups of detoxification clients with varying psychiatric diagnoses indicated that significantly fewer women with a primary diagnosis of either alcohol dependence or affective disorder than those with a primary diagnosis of antisocial personality used antidepressants, stimulants, opiates, hallucinogens, cocaine, or intravenous drugs. However, the affective disorder group was significantly more likely to use antidepressants than were the women with primary alcohol dependence. The mean number of drugs used was significantly higher among the antisocial personality women than among the affective disorder group, who in turn used significantly more drugs than did the primary alcoholic women. Drug-related problems were also experienced by significantly more women diagnosed as having an antisocial personality, than those with affective disorder or primary alcoholism. As would be

expected, among these detoxification centre clients, women abusing either prescription or illicit drugs were significantly more likely than women not abusing drugs to report the use of each of the drugs referred to earlier, to use a greater number of drugs, and to experience drug-related problems (Schuckit & Morrissey, 1979a). Hollstedt et al. (1983a) found no statistically significant differences in the likelihood of drug abuse among three subgroups of alcohol dependent women (i.e. childless women and those who had borne children either before or after the onset of regular alcohol use).

2.5 OBSTETRIC AND GYNAECOLOGICAL HISTORIES OF ALCOHOL DEPENDENT WOMEN

2.5.1 Children

The majority of studies have reported between 70% and 80% of alcohol dependent women as having children (Bark, 1979; Browne-Mayers et al., 1976; Doyle, 1967; James, 1975; Morrissey & Schuckit, 1978; Rosenbaum, 1958; Schulte & Blume, 1979; Verrienti et al., 1978; Warmington, 1977), although several earlier studies (Curran, 1937; Kinsey, 1966; Wall, 1937) found that less than 55% of their sample had children. Of the literature appearing in this decade, three of four studies reported between 60% and 67% of alcohol dependent women as having children (Anderson, 1980; Fortin & Evans, 1983; Hollstedt et al., 1983b), whereas the remaining study (Hoar, 1983) found that 84% of the women had children. However, as only four studies have compared alcohol dependent and non-alcohol-dependent women, revealing nonsignificant differences in the percentages of women with children (Anderson, 1980; Bark, 1979; Hoar, 1983; Hollstedt et al., 1983b), the possibility remains that the percentages reported above reflect general population trends towards having children.

Each of the four studies comparing the number of children of alcohol dependent women and men reported nonsignificant differences (Beckman, 1978a; Dahlgren, 1979; Lisansky, 1957; Rathod & Thomson, 1971). Wilsnack (1973) and Hoar (1983) both found a tendency towards alcohol dependent women having fewer children than normal controls, whereas Rosenbaum (1958), Hollstedt et al. (1983b) and Beckman did not. Beckman reported that alcohol dependent women had significantly more children than treatment controls, whereas Bark's (1979) data revealed a tendency in the opposite direction. However, it should be noted that these studies varied with respect to the definition of the sample for which the mean number of children was calculated, some, for example, studying married women, and others, women with children.

In summary, there are insufficient data to determine whether or not the child-bearing practices of alcohol dependent women, in terms of family size, differ significantly from those of non-alcohol-dependent women.

2.5.2 Obstetric and Gynaecological Problems

2.5.2.1 Introduction

The results of studies investigating obstetric and gynaecological problems of alcohol dependent women are presented in Tables 16 and 17. However, of these studies, only Wilsnack (1973) specifically addressed the incidence of such problems prior to the onset of excessive drinking. It should also be noted that Wilsnack's results pertaining to any individual problem are conservative, given that women who had experienced more than one problem (e.g. difficulty in conceiving, miscarriages, and eventual hysterectomy) were however represented within only one category (e.g. difficulty in conceiving).

TABLE 16. Obstetric Histories of Alcohol Dependent Women

AUTHOR (Year)	SAMPLE	FINDINGS
<u>A: CLINICAL/DESCRIPTIVE STUDIES</u>		
KINSEY (1966)	46 (refer to Table 3 for details)	28% related excessive drinking to infertility
MORRISSEY & SCHUCKIT (1978)	293 (Table 5)	39% miscarriage 18% abortion
<u>B: COMPARISONS BETWEEN ALCOHOL DEPENDENT (A) AND NORMAL (N) WOMEN</u>		
WILSNACK (1973)	28, 28 (Table 3)	of ever-married women (N=23, 23) ^a : 13%, 0% pregnancy only after artificial insemination or surgery ^b 17%, 13% miscarriage ^b 4%, 4% hysterectomy ^b 9%, 0% unusually difficult or painful labour or delivery 4%, 9% caesarian section or rhesus factor complications 26%, 4% inability to conceive or carry any pregnancy to term
BECKMAN (1979b)	120, 119 (Table 3)	35%, 23% problems in conceiving ^c 40%, 27% complications of pregnancy ^d
JONES-SAUMTY et al. (1981)	100, 100 (Table 3)	25%, 22% miscarriage 22%, 3% abortion 19%, 24% problems in conceiving 5%, 3% caesarian section 25%, 25% other childbirth complications 7%, 15% dilatation and curettage
HOLLSTEDT et al. (1983b)	A - 92 inpatients N - 92 women following probands in population register; Sweden	4%, 11% miscarriage 11%, 10% abortion 0%, 1% stillbirth
<u>C: COMPARISONS BETWEEN ALCOHOL DEPENDENT AND TREATMENT WOMEN</u>		
BARK (1979)	40, 40 (Table 4)	48%, 38% miscarriage 8%, 0% ectopic pregnancy 3%, 5% stillbirth
BECKMAN (1979b)	120, 118 (Table 4)	35%, 20% problems in conceiving ^c 40%, 37% complications of pregnancy ^d

TABLE 16 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
<u>D: COMPARISONS BETWEEN SUBGROUPS OF ALCOHOL DEPENDENT WOMEN</u>		
SCHUCKIT & MORRISSEY (1979b)	154, 18, 40, 40, 38 (Table 5)	37%, 28%, 45%, 44%, 40% miscarriage 14%, 33%, 23%, 24%, 16% abortion

Note: The first value represents alcohol dependent women, whereas the second represents the comparison group. However, in Section D, the first value represents the first subgroup of alcohol dependent women, the second value represents the second subgroup etc. Unless specified otherwise, the values refer to percentages based on the entire samples.

- a Although several alcohol dependent women experienced more than one of the listed problems, each subject appears only once in the table.
- b Among women who have successfully carried at least one pregnancy to term.
- c Among women who have tried to conceive.
- d Among women who have ever been pregnant.

TABLE 17. Gynaecological Histories of Alcohol Dependent Women

AUTHOR (Year)	SAMPLE	FINDINGS
A: CLINICAL/DESCRIPTIVE STUDIES		
WALL (1937)	50 (refer to Table 1 for details)	80% dysmenorrhoea and premenstrual depression
KINSEY (1966)	46 (Table 3)	9% related excessive drinking to menopause
CURLEE (1969)	100 (Table 2)	of women with late sudden onset of excessive drinking (N=21): 33% related excessive drinking to menopause
BELFER et al. (1971)	34 (Table 1)	of menstruating women (N=21): 67% related drinking to their menstrual cycle of nonmenstruating women (N=13): 46% related drinking to their menstrual cycle
JAMES (1975)	89 (Table 1)	28% drinking increased premenstrually 4% drinking increased menstrually 24% drinking increased both premenstrually and menstrually
BROWNE-MAYERS et al. (1976)	62 (Table 1)	23% dysmenorrhoea
MORRISSEY & SCHUCKIT (1978)	293 (Table 5)	23% hysterectomy 24% menopause
SCHULTE & BLUME (1979)	40 (Table 1)	25% hospitalization for a gynaecological illness
SHEN (1984)	92 detoxification clients; U.S.A.	26% hysterectomy 21% amenorrhoea or menopause 7% irregular menstrual cycle
B: COMPARISONS BETWEEN ALCOHOL DEPENDENT AND NORMAL WOMEN		
BECKMAN (1979b)	120, 119 (Table 3)	51%, 36% menstrual or other "female" problems 29%, 3% drinking increased premenstrually
JONES et al. (1980)	40, 34 (Table 3)	20%, 44% hysterectomy 38%, 6% menopause of menstruating women (N=17, 17): "almost all", 6% irregular menstrual cycle

TABLE 17 (continued)

AUTHOR (Year)	SAMPLE	FINDINGS
<u>B: COMPARISONS BETWEEN ALCOHOL DEPENDENT AND NORMAL WOMEN (continued)</u>		
JONES-SAUMTY et al. (1981)	100, 100 (Table 3)	34%, 37% hysterectomy 18%, 22% oophorectomy 17%, 9% menopause 56%, 42% menstrual depression 57%, 41% irregular menstrual cycle 42%, 36% excessive menstrual bleeding 11%, 16% breast problems 2%, 8% current birth control
<u>C: COMPARISONS BETWEEN ALCOHOL DEPENDENT AND TREATMENT WOMEN</u>		
BECKMAN (1979b)	120, 118 (Table 4)	51%, 54% menstrual or other "female" problems 29%, 4% drinking increased premenstrually

Note: The first value represents alcohol dependent women, whereas the second represents the comparison group. Unless specified otherwise, the values refer to percentages based on the entire samples.

2.5.2.2 Miscarriage

Studies by Wilsnack (1973), Bark (1979), Jones-Saumty et al. (1981) and Hollstedt et al. (1983b) have each reflected no significant differences in the percentages of alcohol dependent and non-alcohol-dependent women reporting previous miscarriages. Morrissey and Schuckit (1978) found that 39% of 293 women attending a detoxification centre had had at least one miscarriage, and in a later paper they reported no significant differences in the incidence of miscarriage between subgroups of these women based on primary diagnosis (Schuckit & Morrissey, 1979b). Wilsnack (1982) reported additional unpublished data from this study which indicated that 81.5% of the 108 detoxification centre clients who had had at least one miscarriage, experienced their first miscarriage before the age at which they defined themselves as a problem drinker.

An epidemiological study by Sokol, Miller and Reed (1980) examined the medical records of over 12,000 pregnant women, of whom 204 were diagnosed as alcohol abusers. Although first trimester loss in the index pregnancy could not be assessed, they did find that among the multigravidas, the women currently diagnosed as alcohol abusers were 2.3 times more likely than the nonabusers to have a history of at least three miscarriages. However, information on drinking during previous pregnancies was not available, rendering it impossible to determine whether the previous miscarriages were related to excessive alcohol consumption at that time.

2.5.2.3 Stillbirth

Bark's (1979) and Hollstedt et al.'s (1983b) clinical studies and Sokol et al.'s (1980) epidemiological study all revealed a history of stillbirth in only a very small minority of women, with no significant differences between the alcohol-abusing and non-alcohol-abusing groups.

2.5.2.4 Abortion

Of the women in Morrissey and Schuckit's (1978) sample, 18% had had at least one abortion, with no evidence of significant differences between diagnostic subgroups of the detoxification centre clients (Schuckit & Morrissey, 1979b). Significantly more alcohol dependent women (22%) than control women (3%) in Jones-Saumty et al.'s (1981) study reported having had an abortion, whereas Hollstedt et al. (1983b) found no significant difference between their alcohol dependent and control women. Sokol et al. (1980) noted that 25% and 20% of, respectively, the alcohol-abusing and non-alcohol-abusing multi-gravidas in their sample had previously had at least one abortion.

2.5.2.5 Fertility Problems

Kinsey's (1966) study indicated that 28% of 46 alcohol dependent women related their excessive drinking to infertility. Both Wilsnack (1973) and Beckman (1979b) found that more alcohol dependent women than non-alcohol-dependent women experienced difficulty in conceiving. Specifically, Wilsnack reported that at least 26% of the alcohol dependent women and 4% of the control women who had ever been married were either unable to conceive or carry any pregnancy to term, whereas among those with one or more children, at least 13% of the alcohol dependent women but none of the control women required artificial insemination or surgery to become pregnant. Of the women in Beckman's study who had tried to get pregnant, 35% of the alcohol dependent women, 23% of the normal controls and 20% of the treatment controls reported problems in doing so. On the other hand, however, fewer alcohol dependent women than control women in the study by Jones-Saumty et al. (1981) reported a difficult conception, although the difference was not statistically significant.

2.5.2.6 Menstrual Disorders

An early clinical study (Wall, 1937) found that 80% of the 50 alcohol dependent women reported experiencing dysmenorrhoea and premenstrual depression, in the absence of any pelvic pathology to which this could be attributed. A study conducted at the same hospital several decades later, however, reflected a much lower prevalence (23%) of dysmenorrhoea (Browne-Mayers et al., 1976).

Irregular menstruation was noted by both Jones et al. (1980) and Jones-Saumty et al. (1981), although Shen (1984) found that only 7% of the women in his sample reported irregular menstrual cycles. Jones and colleagues reported that "almost all" of the 17 menstruating alcohol dependent women, but only one of the 17 menstruating control women had irregular menstrual cycles. Significantly more alcohol dependent women than normal control women in the sample studied by Jones-Saumty's group reported irregular menstruation (57% and 41%, respectively), as well as menstrual depression (56% and 42%, respectively). However, the percentage reporting excessive menstrual bleeding did not differ significantly between the two groups of women.

Finally, Beckman (1979b) found that significantly more alcohol dependent and treatment control women reported "menstrual or other female problems", which were not specified, than did normal women (51%, 54%, and 36%, respectively).

2.5.2.7 Relationship between Drinking and the Menstrual Cycle

Several later studies have supported Wall's (1937) observation that the menstrual period was associated with excessive drinking. Podolsky (1963) presented the case histories of seven alcohol dependent women, all of whom showed increased drinking premenstrually. All of the 59% of women in the

study by Belfer et al. (1971) who related their drinking to the menstrual cycle reported that their drinking began or increased premenstrually. James (1975) found that 28% of the women in his study drank more heavily premenstrually, whereas an additional 24% did so both before and during menstruation. Shen's (1984) observation that alcohol dependent women were significantly more likely to seek inpatient admission for detoxification when they were menstruating than at other phases of the menstrual cycle lends further support to the association of the premenstrual or menstrual phase with increased drinking.

In the only study comparing alcohol dependent with non-alcohol-dependent women, Beckman (1979b) indicated that significantly more alcohol dependent women than either treatment or normal control women reported heavier drinking prior to menstruation (29%, 4% and 3%, respectively).

2.5.2.8 Hysterectomy and Menopause

Although several studies have reported the percentages of alcohol dependent women who have had hysterectomies, the reasons for the surgery have not been identified.

In Morrissey and Schuckit's (1978) sample of detoxification clients, 23% had had a hysterectomy, whereas 24% had reached menopause. Wilsnack (1982) reported further data pertaining to this study, which indicated that of the 64 women who had had hysterectomies, 59% did so prior to the time at which they first defined themselves as problem drinkers. The corresponding percentage among the 65 menopausal women was 51%. About 8% of each group experienced either hysterectomy or menopause in the same year that they recognized themselves as problem drinkers. Shen's (1984) recent study, also of detoxification clients, provided similar results to those of Morrissey and Schuckit. He found that 26% of the women had had a hysterectomy, whereas an additional 21% were menopausal or were experiencing amenorrhoea.

Jones et al. (1980) found no significant difference between the percentages of alcohol dependent and control women in their sample who were still menstruating. However, compared with the control women, significantly more alcohol dependent women were postmenopausal (6% and 38%, respectively), whereas significantly fewer had had a hysterectomy (44% and 20%, respectively). In contrast, the percentages of alcohol dependent and normal women who had undergone an hysterectomy, oophorectomy, or were currently in menopause did not differ significantly in the study reported by Jones-Saumty et al. (1981).

Earlier, Kinsey (1966) had found that 9% of his sample of women related their excessive drinking specifically to menopause. Curlee (1969) reported a similar proportion: within a sample of 100 alcohol dependent women, 7 of the 21 women with a sudden onset of problem drinking in mid-life associated that onset with menopause.

2.5.2.9 Overall Problems

Several investigators have assessed the overall incidence of obstetric and/or gynaecological problems among alcohol dependent women.

Schulte and Blume (1979) reported that 25% of their sample of 40 alcohol dependent women had been hospitalized previously for an illness of a gynaecological nature.

Wilsnack (1973) found that 77% of the 23 ever-married alcohol dependent women in her sample reported that before the onset of excessive drinking, they had experienced some form of child-bearing problem, whereas only 34% of the control women had done so. Wilsnack did not identify the time period during which the obstetric/gynaecological problems of the control sample were experienced: if in fact they reported problems occurring up to the point of

interview, whereas the alcohol dependent women reported on their experience of similar problems up to the onset of excessive drinking, it is likely that the proportion of control women experiencing problems during the time span corresponding to that of the alcohol dependent women was even lower.

Two other studies reported no significant differences with respect to overall problems experienced by alcohol dependent and non-alcohol-dependent women. Beckman (1979b) found that 61% of alcohol dependent women and 53% of normal control women reported problems of reproductive functioning. However, the women in this study were matched on whether they had had children, a factor which Beckman herself points out may have attenuated potential intergroup differences in obstetric/gynaecological problems. The study by Jones-Saumty et al. (1981) revealed that, overall, alcohol dependent women did not report more problems than did control women.

2.5.3 Summary

The clinical studies reviewed in the preceding sections generally report high rates of obstetric and gynaecological problems among alcohol dependent women. However, with the possible exception of menstrual problems, including increased premenstrual drinking, the available research does not unequivocally indicate that alcohol dependent women are much more likely to experience such problems than are women who are not dependent on alcohol. For example, although Wilsnack (1973) did show an excess of obstetric problems among alcohol dependent women, the results of studies by Bark (1979), Beckman (1979b), Jones-Saumty et al. (1981) and Hollstedt et al. (1983b) did not reflect an overall significant difference between alcohol dependent and non-alcohol-dependent women in their obstetric and gynaecological histories.

However, the actual number of studies addressing these issues is limited, particularly with respect to those utilizing control groups of non-alcohol-dependent women. Other limitations of these studies mirror those discussed in the context of other sections: these include small sample sizes, lack of concise definition of both alcohol dependence and obstetric/gynaecological problems, and dependence on recall with its inherent problems of rationalization and distortion.

Finally, with the exception of the studies by Kinsey (1966), Wilsnack (1973) and Morrissey and Schuckit (1978, as described by Wilsnack, 1982), the temporal sequence of events has not been identified. In the latter paper, Wilsnack describes four possible patterns of association between obstetric/gynaecological problems and excessive drinking.

First, the experience of such problems may create distress, which the women may then attempt to alleviate through increased drinking. Alternatively, a reciprocal relationship may exist between the excessive use of alcohol and obstetric/gynaecological problems. In this instance, increased consumption resulting from distress due to such problems produces new, or exacerbates any existing, obstetric or gynaecological problems.

Thirdly, excessive drinking may in itself directly or indirectly lead to an increase in obstetric/gynaecological problems. Wilsnack (1982) suggests several potential mechanisms for such a causal pattern. For example, alcohol may have a direct physiological effect on reproductive function. Reproductive function may, however, also be affected by pathological physical states such as malnutrition or cirrhosis, which result from excessive consumption of alcohol. Furthermore, the relationship between heavy drinking and certain reproductive problems, such as decreased rates of conception, may be mediated

by interpersonal factors including marital problems and low coital frequency. Wilsnack also points out that problem-drinking males are at increased risk of impotence and spermatogenic failure. Given that alcohol dependent women are more likely than other women to be married to problem-drinking men, as discussed in Section 2.3.2, these characteristics of their sexual partners may also contribute to their own reduced fertility.

In addition to these relatively direct pathways between excessive drinking and obstetric/gynaecological dysfunction, Wilsnack (1982) points to the possibility that a third factor, such as stress or a physiological disposition, may cause or contribute to both excessive alcohol consumption and reproductive problems.

2.6 DRINKING PRACTICES OF ALCOHOL DEPENDENT WOMEN

2.6.1 Quantity of Alcohol Consumption

Alcohol dependent women have generally been shown to consume significantly less alcohol than alcohol dependent men (Hendtlass, 1979; Rimmer et al., 1971; Sclare, 1970; Smart, 1979; Wilkinson et al., 1969). However, V.M. Hesselbrock et al. (1982) found no significant difference between the sexes, although they do not report the actual quantity of alcohol consumed.

Wilkinson et al. (1969), Rimmer et al. (1971), Morrissey and Schuckit (1978), and Hollstedt et al. (1983a) all reported a pattern of consumption equivalent to a mean daily intake ranging from 112 to 155 g of alcohol. Jones-Saumty et al. (1981) reported a considerably higher mean daily intake of 230 g. Hendtlass (1979) found that 61% of her Australian sample of alcohol dependent women consumed an average of 80 g or more daily. Halikas et al. (1981) reported 86% drinking at least 336 g per drinking occasion. The

concept of intake per occasion, however, is not equivalent to mean daily consumption. Warmington (1977) found that daily intake when drinking was inversely proportional to frequency of drinking, with daily drinkers consuming an average of 83 g a day, weekly drinkers 140 g, and binge drinkers 215 g.

Morrissey and Schuckit determined the average daily alcohol consumption of women admitted to a detoxification centre. They found that women who were also abusing drugs drank significantly more than those who were not (Schuckit & Morrissey, 1979a), that women with a secondary diagnosis of alcohol dependence drank more than those with primary alcohol dependence (Morrissey & Schuckit, 1978), and that those with a primary diagnosis of antisocial personality drank more than others (Schuckit & Morrissey, 1979b).

2.6.2 Frequency and Periodicity of Drinking

Several studies have reported the frequency of drinking by alcohol dependent women. These studies indicated that the majority of alcohol dependent women drink on a daily basis (Halikas et al., 1981; Hendtlass, 1979; Hollstedt et al., 1983a; Johnson et al., 1966; McLachlan et al., 1979; Rimmer et al., 1971; Scida & Vannicelli, 1979), with the exception of the study by Morrissey and Schuckit (1978) which reported daily drinking in only 35% of the sample of women admitted to a detoxification centre. Morrissey and Schuckit compared the frequency of drinking between different subsamples of these women. They found that women with a secondary diagnosis of alcohol dependence were more likely to drink on a daily basis than those with a primary diagnosis of alcohol dependence (Morrissey & Schuckit, 1978), and of these, women with a primary diagnosis of antisocial personality were most likely to drink daily (Schuckit & Morrissey, 1979b). No significant differences were

found between groups of women differentiated on the basis of their use of other drugs (Schuckit & Morrissey, 1979a).

McLachlan et al. (1979) and Scida and Vannicelli (1979) compared the frequency of drinking in alcohol dependent women and normal women, and found that significantly more of the former exhibited a pattern of daily drinking.

The percentage of alcohol dependent women described as being primarily binge, bender, or periodic drinkers (i.e. periodic abstinence or moderate drinking between bouts of very heavy drinking) varies from 4% to 33% (Filstead et al., 1979 : 4%; Fort & Porterfield, 1961 : 18%; Hendtlass, 1979 : 23%; Hollstedt et al., 1983a : 33%; McLachlan et al., 1979 : 20%; Warmington, 1977 : 25%; Wilkinson et al., 1969 : 7%).

A pattern of drinking which includes occasional binge drinking was reported by between 47% and 58% of the women studied by Rimmer et al. (1971), Parker (1972), Morrissey and Schuckit (1978), and Scida and Vannicelli (1979). Fewer women than men have been found to engage in binge drinking (Horn & Wanberg, 1969; Rimmer et al., 1971; Wilkinson et al., 1969), and when they do, their drinking bouts are shorter (Wanberg & Knapp, 1970).

Several authors have compared different subgroups of women with alcohol problems with respect to periodicity of drinking. Rimmer et al. (1971) found that White alcohol dependent women from a private hospital were less likely to report binge drinking than were those from a public hospital. Two studies have found no difference in binge drinking between women with a primary diagnosis of alcohol dependence and those diagnosed as depressive alcoholics (Rimmer et al., 1972; Schuckit & Morrissey, 1979b). Morrissey and Schuckit (1978) reported that women with a primary diagnosis of alcohol dependence

were less likely to binge drink than were those with a secondary diagnosis of alcohol dependence, in particular when compared with those manifesting drug abuse or an antisocial personality (Schuckit & Morrissey, 1979b).

2.6.3 Drinking Company

Many authors describe the majority of alcohol dependent women as being primarily solitary drinkers (Bromet & Moos, 1976; Curran, 1937; Dahlgren & Myrhed, 1977a; Dawkins & Harper, 1983; Kinsey, 1966; Lisansky, 1957; Morrissey & Schuckit, 1978; Scida & Vannicelli, 1979; Warmington, 1977; Wood & Duffy, 1966). Other studies have shown a predominant pattern of a combination of lone drinking and drinking in the company of others (Johnson et al., 1966; Waller & Lorch, 1978). Kinsey (1966) and Dahlgren and Myrhed (1977a) reported that older alcohol dependent women were more likely than their younger counterparts to drink alone.

Several studies have shown that in comparison with alcohol dependent men, alcohol dependent women are more likely to drink alone (Dahlgren & Myrhed, 1977a; Horn & Wanberg, 1969; Lisansky, 1957; Wanberg & Knapp, 1970), although Bromet and Moos (1976) and Waller and Lorch (1978) found no significant differences between alcohol dependent women and men with respect to tendencies towards solitary drinking.

2.6.4 Location of Drinking

The finding that alcohol dependent women drink primarily at home (Bromet & Moos, 1976; Dawkins & Harper, 1983; Johnson et al., 1966; Verrienti et al., 1978; Warmington, 1977; Wood & Duffy, 1966) or secretively (Pemberton, 1967; Senseman, 1966) is consistent with their predominantly solitary drinking pattern. In contrast, Morrissey and Schuckit (1978) and

Scida and Vannicelli (1979) found that the majority of their samples reported drinking in bars. However, their samples did not exclusively comprise alcohol dependent women from a clinical population, as did most other studies reviewed here. Consequently, this difference in drinking pattern may reflect differences of sample composition, or a younger age group. This interpretation is supported by Schuckit and Morrissey (1979b), who found that women with a primary diagnosis of antisocial personality were not only significantly more likely to drink in bars than were women with other primary diagnoses, including that of primary alcohol dependence, but also that they were significantly younger than the latter group.

Kinsey (1966) in fact noted that location of drinking, as well as drinking company, differed with the age of the alcohol dependent women. The older women were more likely to drink at home than were the younger women, who all reported drinking primarily in bars, taverns, or cocktail lounges.

Drinking at home has been found to be more characteristic of alcohol dependent women than of their male counterparts (Horn & Wanberg, 1969; Wanberg & Knapp, 1970). Bromet and Moos (1976) also noted this tendency, although the difference in their sample was not statistically significant.

2.6.5 Type of Alcohol

There is no unequivocal evidence that alcohol dependent women prefer any particular type of alcoholic beverage. Within any particular study, differences between preferred beverage types were often relatively small in magnitude. Kinsey (1966) and Sclare (1970) found more women favouring spirits than other kinds of alcohol, whereas Wilkinson et al. (1969), Mulford (1977), and Dawkins and Harper (1983) all reported more women preferring beer.

Wine was preferred by the women studied by Warmington (1977) and Hollstedt et al. (1983a). Dahlgren (1978) and Filstead et al. (1979) reported more women favouring a combination of alcoholic beverages rather than any particular type, whereas Lisansky (1957) found an equal preference for whisky and beer.

Significantly more women than men have been found to prefer wine (Dahlgren, 1978; Lisansky, 1957) and spirits (Mulford, 1977), but the reverse has been noted for beer (Horn & Wanberg, 1969; Mulford, 1977; Sclare, 1970). Wanberg and Knapp (1970) found that in terms of the quantity of any particular kind of beverage that was consumed, alcohol dependent women and men did not differ with respect to spirits, whereas women consumed significantly smaller amounts of both wine and beer.

Although reported beverage preferences may be influenced not only by regional and social factors but also by the relative costs of beverages, these possibilities have not been explored in the literature.

2.6.6 Drinking History

2.6.6.1 Age at First Drink

Studies of alcohol dependent women have shown that these women were aged between about 15 and 21 when they had their first alcoholic drink (e.g. Dawkins & Harper, 1983; Glatt, 1961a; Halikas et al., 1981; M.N. Hesselbrock et al., 1985; Kinsey, 1966; Lisansky, 1957; Morrissey & Schuckit, 1978; Rimmer et al., 1971; Stabenau, 1984), although James (1975) reported a first taste of alcohol at 14, and Bartnik and Smith (1979), first drinks at a mean age of 22.3. In general, the more recent studies reported relatively younger ages at first drinking.

Most comparative studies showed that alcohol dependent women were significantly older than their male counterparts at the time of having their

first drink (Bromet & Moos, 1976; Glatt, 1961a; M.N. Hesselbrock et al., 1985; Lisansky, 1957; Rimmer et al., 1971, 1972), although Stabenau (1984) found that the difference was not significant.

Differences between subgroups of alcohol dependent women have also been noted with respect to age at first drink. Among detoxification centre clients, primary alcoholics and problem drinkers were significantly older than secondary alcoholics (Morrissey & Schuckit, 1978). Those with a primary diagnosis of alcohol dependence or affective disorder did not differ from each other, as also noted by Rimmer et al. (1972), but were significantly older at that stage of their drinking history than were women with primary diagnoses of drug abuse or antisocial personality. The mean age of women with no primary diagnosis was significantly higher than that of women with primary alcoholism, drug abuse, or antisocial personality (Schuckit & Morrissey, 1979b). Although levels of statistical significance were not reported by Rimmer et al. (1971), at the time of first drinking, private hospital patients appeared to be older than public hospital patients, and Whites older than Blacks. Dawkins and Harper (1983), however, found no significant difference between their White and Black patients. Other studies have shown no significant differences between outpatient and state farm alcoholic women (Lisansky, 1957), or married and unmarried patients (Bromet & Moos, 1976).

2.6.6.2 Age at First Intoxication

With the exceptions of Glatt's (1961a) and Bartnik and Smith's (1979) studies which reported a mean age at first intoxication of 30.9 and 24.3 respectively, other and in general, more recent studies have shown that alcohol dependent women first became intoxicated on average in their late

teens or early twenties (e.g. Halikas et al., 1981; M.N. Hesselbrock et al., 1985; V.M. Hesselbrock et al., 1982; Kinsey, 1966; Morrissey & Schuckit, 1978; Stabenau, 1984).

The studies that have compared this stage of the drinking history between alcohol dependent women and men have all recorded a significantly later age at first intoxication among the former (Glatt, 1961a; M.N. Hesselbrock et al., 1985; V.M. Hesselbrock et al., 1982; Stabenau, 1984; Wanberg & Knapp, 1970).

Morrissey and Schuckit compared subgroups of detoxification centre clients, differentiated on the basis of primary diagnosis. They found that problem-drinking women were significantly older when first intoxicated than were both primary and secondary alcoholics (Morrissey & Schuckit, 1978), and in particular when compared with those with primary drug abuse or antisocial personality (Schuckit & Morrissey, 1979b). At this stage of their drinking career, women with antisocial personality were also significantly younger than women with primary alcoholism, drug abuse, or affective disorder. Other subgroup comparisons have found that the age at first "drinking to get drunk", as opposed to first intoxication, was significantly higher in married compared with unmarried women (Bromet & Moos, 1976), and in female-sex-typed compared with low-female-sex-typed women (Warmington, 1977).

2.6.6.3 Age at Onset of Drinking

The definitions of, and differences between, drinking, social drinking, and regular drinking are not made explicit in the literature reporting the drinking histories of alcohol dependent women. Thus, in this section, the relevant data are merely recorded, and not interpreted.

The two studies reporting the onset of social drinking among alcohol dependent women both found that it began at a mean age of 20, which is of note, given a time span of over 30 years between the two studies (James, 1975; Van Amberg, 1943). Onset of drinking was reported at the ages of 21.2, 24, and 28 by Dahlgren (1978), Doyle (1967), and Wall (1937), respectively, whereas reported mean ages at onset of regular drinking were evenly spread throughout the entire third decade (Dahlgren, 1978; Dawkins & Harper, 1983; Hendtlass, 1979; V.M. Hesselbrock et al., 1982; Smart, 1979; Stabenau, 1984; Wilkinson et al., 1969).

Comparisons between alcohol dependent women and men have been consistent in showing that onset of regular drinking appeared at a significantly later age among the women (Dahlgren, 1978; Hendtlass, 1979; V.M. Hesselbrock et al., 1982; Smart, 1979; Stabenau, 1984; Wall, 1937; Wilkinson et al., 1969).

Only two studies have compared this aspect of the drinking history between specific subgroups of alcohol dependent women. Dawkins and Harper (1983) reported that White women began to drink regularly significantly later than their Black counterparts. Hollstedt et al. (1983a) found, as one would expect, that women who had borne children after establishing regular alcohol use began to drink regularly at an earlier age than women who had children before the onset of regular drinking. However, the childless women did not differ significantly from the alcohol dependent mothers.

2.6.6.4 Age at Onset of Increased Drinking

Once again, problems of definition, and in particular lack thereof, inhibit a precise appraisal of the average age at onset of increased levels of alcohol consumption among alcohol dependent women: the terminology

is so varied that a meaningful discussion of age ranges reflecting the onset of increased consumption is not realistic. For example, studies describe the onset of heavy drinking (Dawkins & Harper, 1983; Johnson et al., 1966; Jones et al., 1980; Van Amberg, 1943), regular intoxication (M.N. Hesselbrock et al., 1985; V.M. Hesselbrock et al., 1982; Stabenau, 1984), first alcohol problems (Bartnik & Smith, 1979; James, 1975; Morrissey & Schuckit, 1978), first alcohol symptoms (Kinsey, 1966), first suspicion of alcoholism (James, 1975; Morrissey & Schuckit, 1978), first recognition of problems (M.N. Hesselbrock et al., 1985; Stabenau, 1984), loss of control (Glatt, 1961a; Hollstedt et al., 1983a), problem drinking (Rosenbaum, 1958; Warmington, 1977), addictive drinking (Pemberton, 1967), alcoholic drinking (Mulford, 1977), alcohol abuse (Dahlgren, 1978), excessive drinking (Wilkinson et al., 1969), and alcoholism (Cook & Winokur, 1985; Lisansky, 1957; Rimmer et al., 1971, 1972; Schuckit & Morrissey, 1979b; Schuckit et al., 1969; Winokur & Clayton, 1968; Winokur et al., 1970, 1971). Suffice it to say that the ages at the onset of these generally undefined aspects of increased drinking overlap extensively and range from the mid-twenties to the early forties!

Nevertheless, some meaning can be derived from the studies that have compared either alcohol dependent women and men, or subgroups of alcohol dependent women.

The majority of gender comparisons have shown that "problematic drinking" - a term used in this context to denote any of the particular facets of increased consumption described earlier - began at a significantly later age among the women (Cook & Winokur, 1985; Dahlgren, 1978; Fort & Porterfield, 1961; Lisansky, 1957; Mantek, 1977; Morrissey, 1981; Mulford, 1977; Rimmer et al., 1971, 1972; Wilkinson et al., 1969; Winokur & Clayton, 1968; Winokur et al., 1970, 1971). However, several studies have shown only small and

nonsignificant sex differences (Glatt, 1961a; Pemberton, 1967), particularly with respect to the age at first recognizing the drinking problem (Bromet & Moos, 1976; M.N. Hesselbrock et al., 1985; V.M. Hesselbrock et al., 1982; Stabenau, 1984).

Subgroup comparisons have yielded no significant differences between outpatient and state farm women, although the latter did show a tendency towards earlier onset of alcoholism (Lisansky, 1957), or between women with and without a family history of alcoholism (Cook & Winokur, 1985). In general, comparisons between primary and affective disorder alcohol dependent women have shown no significant differences (Rimmer et al., 1972; Schuckit & Morrissey, 1979b; Schuckit et al., 1969). However, Winokur et al. (1971) found that depressive alcoholics had a median age at onset of alcoholism which was 7 and 13 years later than that of primary and sociopathic alcoholics, respectively. Furthermore, Morrissey and Schuckit (1978) found that although primary alcoholics, secondary alcoholics, and problem drinkers did not differ significantly in the age at which they first felt that alcohol was a problem, secondary alcoholics were significantly younger than either of the two other groups when experiencing their first alcohol-related problem. In particular, women with antisocial personality as their primary diagnosis were significantly younger than all others at this stage of their drinking history, and primary and affective disorder alcoholics, as well as those women with no diagnosis, were significantly older than drug abusers (Schuckit & Morrissey, 1979b). Heavy drinking was found to begin significantly earlier among menstruating rather than among nonmenstruating women (Jones et al., 1980), and among Black rather than among White women (Dawkins & Harper, 1983). Rimmer et al. (1971) also reported an apparent earlier onset of alcoholism among Black as opposed to White women, as well as among public rather than private hospital

patients, irrespective of race. Finally, Hollstedt et al. (1983a) reported that childless women began to lose control of their drinking significantly earlier than the sample of mothers, and in particular, when compared with those mothers who had borne children before establishing regular alcohol use.

Studies have also been able to distinguish subgroups of alcohol dependent women, differentiated primarily by age of onset of alcohol problems. Kinsey (1966) identified three different groups of women: those who began to drink early in life, drank heavily from the start and developed alcoholic symptoms within a short period of time; those who also began to drink early, but exhibited a prolonged period of social drinking before alcoholic symptoms appeared; and finally, those who began to drink later and showed signs of alcoholic symptoms after only a short period of drinking. In their sample of female prisoners, Cramer and Blacker (1963) were also able to distinguish groups manifesting early and late onset of problem drinking according to the reported age at first intoxication.

Subgroups analogous to Kinsey's third group, namely those manifesting a pattern of late beginning and rapid development of drinking, have been identified also by other researchers. This pattern of drinking among older women has been linked not only to the change in status upon entering middle age known as the "empty nest syndrome" (Curlee, 1969), but also to family problems (Warmington, 1981). The finding by Jones et al. (1980) that non-menstruating alcohol dependent women began to drink heavily at a later age than menstruating alcohol dependent women provides further evidence for this pattern of late but escalated development of alcohol dependence.

2.6.6.5 Duration of Increased Drinking

Interpretation of data relating to the duration of "problematic drinking" also suffers from lack of precision in definition. Again, the range is extensive,

being from approximately 4 to 14 years, although a duration of between 9 and 12 years is reported most frequently.

Almost all comparisons between the sexes indicate a significantly shorter duration of problematic drinking among women (Cook & Winokur, 1985; Dahlgren, 1978; Fort & Porterfield, 1961; Mulford, 1977; Rathod & Thomson, 1971; Rimmer et al., 1971, 1972; Sclare, 1970; Smart, 1979; Wall, 1937; Wilkinson et al., 1969; Winokur et al., 1971), although some studies show lesser (Lisansky, 1957) or no significant differences (Hoffmann & Noem, 1975c; Pemberton, 1967). Furthermore, Eshbaugh et al. (1980) and Smart noted that duration of drinking per se was shorter in women than in men.

Comparisons between subgroups of alcohol dependent women have not been numerous. Nevertheless, significant differences in the duration of problematic drinking have been found between primary and depressive alcoholics (Rimmer et al., 1972; Winokur et al., 1971), more depressed and less depressed alcoholics (Fine et al., 1979) and low-female-sex-typed and female-sex-typed alcoholics (Warmington, 1977), with the first-mentioned groups displaying a longer duration of such drinking. Other studies have shown no significant differences between either outpatient and state farm alcoholics (Lisansky, 1957), or those with and without a family history of alcoholism (Cook & Winokur, 1985).

2.6.7 Severity of Drinking

2.6.7.1 Physiological Consequences

The nature and number of physiological consequences of alcohol consumption experienced by alcohol dependent women are an indication of the severity of their dependence. Some studies have reported the proportion

of alcohol dependent women within their samples who have at some stage experienced specific consequences, including blackouts, tremors, hallucinations, seizures, delirium tremens, and physical symptoms such as liver damage. The results of these studies are presented in Table 18 (see pages 130 to 132).

It is evident from the table that blackouts constituted the most frequently reported consequences among the physiological consequences that were investigated. Moreover, the majority of the women in each of the studies reported a history of blackouts. Comparisons between alcohol dependent women and men indicated that a larger proportion of men had experienced blackouts (Glatt, 1961a; Rimmer et al., 1971, 1972), whereas comparisons between subgroups of alcohol dependent women showed that more public hospital than private hospital patients reported blackouts (Rimmer et al., 1971), as did secondary rather than primary alcoholics (Morrissey & Schuckit, 1978; Rimmer et al., 1971; Schuckit & Morrissey, 1979b). However, the differences were either not statistically significant or the significance was not reported.

As would be expected, however, fewer women diagnosed as problem drinkers rather than alcoholics had experienced blackouts (Morrissey & Schuckit, 1978; Scida & Vannicelli, 1979).

The proportion of women who reported the prior existence of tremors varied considerably between studies, ranging from under 10% to over 90%. Although this variation may reflect an actual difference between studies, it may also result from differences in the definition of tremors. Two of the three studies which compared women with men reported larger proportions of males experiencing tremors (Glatt, 1961a; Rimmer et al., 1971), although the differences in each of the studies were relatively small. Subgroups of alcohol dependent women, varying with respect to primary diagnosis, did not

differ significantly in the likelihood of prior experience of tremors, although women defined as problem drinkers were again less likely than alcohol dependent women to report tremors (Morrissey & Schuckit, 1978; Schuckit & Morrissey, 1979b).

Most studies found that less than one quarter of the alcohol dependent women reported hallucinations. No significant sex differences were evident in the one relevant study (Rimmer et al., 1972). White women, and in particular White private hospital patients showed a lesser tendency to report hallucinations than did their Black counterparts (Rimmer et al., 1971), but differences on the basis of primary diagnosis were not evident (Morrissey & Schuckit, 1978).

Seizures were reported by no more than 16% of the women in any study, and the one female/male comparison showed that almost twice as many males as females reported this consequence (Glatt, 1961a).

Most studies found that between 9% and 20% of alcohol dependent women reported experiencing delirium tremens. Sex differences were either of low magnitude (Dahlgren, 1978; Pemberton, 1967; Sclare, 1970) or reflected a greater likelihood of delirium tremens among males (Lindelius et al., 1974; Rimmer et al., 1971, 1972). However, there was an increased tendency among public rather than private female patients to report delirium tremens (Rimmer et al., 1971).

The definitions of medical consequences varied between studies and thus prevent a summary of the results. However, no significant sex differences with respect to specific medical consequences were evident within studies (Glatt, 1961a; Pemberton, 1967; Rimmer et al., 1971, 1972). White, and in particular White public female patients rather than Black patients were more

likely to report liver damage (Rimmer et al., 1971), and once again, problem drinkers were less likely to report such consequences than were the alcohol dependent (Morrissey & Schuckit, 1978; Schuckit & Morrissey, 1979b).

Several other studies reported sex differences in the physiological consequences of drinking, without explicitly stating the nature of the consequences. Mulford (1977) noted that 32% and 23% respectively of alcohol dependent women and men were hospitalized for an alcohol-related disorder in the year preceding the study, and that the duration of hospitalization was significantly longer among the women. However, a similar proportion of the women and men (25% and 28%, respectively) reported that their doctor had said that their health was affected by drinking. Stabenau (1984) found that women and men did not differ significantly in the mean number of symptoms of impaired control and physical problems (e.g. blackouts, tremors, morning drinking, unable to stop until drunk etc.) in the six months prior to investigation. However, women experienced significantly more symptoms associated with chronic alcohol use (e.g. hallucinations, paranoia, overreaction, irritability etc.) in that time than did the men. Finally, although the statistical significance was not reported, Cook and Winokur (1985) found that irrespective of type of family history of alcoholism, males had a larger mean number of both "alcoholic" and "physical" symptoms than did females.

TABLE 18. Physiological Consequences of Drinking

AUTHOR (Year)	SAMPLE	PERCENTAGES REPORTING:					
		Blackouts	Tremors	Hallucin- ations	Seizures	Delirium tremens	Medical consequences
<u>A: CLINICAL/DESCRIPTIVE STUDIES</u>							
JOHNSON et al. (1966)	35 (Table 1)	<50%					
SENSEMAN (1966)	166 (Table 1)						43 ^a
DRISCOLL & BARR (1972)	100 (Table 4)	78	27	50	16	23	
HALIKAS et al. (1981)	71 (Table 1)	72	66	25	6	16	35 ^b
JONES-SAUMTY et al. (1981)	100 (Table 3)				10		18 ^c
<u>B: COMPARISONS BETWEEN ALCOHOL DEPENDENT WOMEN AND MEN</u>							
GLATT (1961a)	77F, 192M alcoholics responding to a drinking history questionnaire; England	65, 78	64, 75		10, 19		55 ^d , 55 ^d
PEMBERTON (1967)	50, 50 (Table 2)					16, 14	26 ^e , 20 ^e
SCLARE (1970)	50, 50 (Table 2)					30, 32	
RIMMER et al. (1971)	79, 117 (Table 15)	58, 74	6, 16			10, 26	15 ^a , 23 ^a
RIMMER et al. (1972)	61, 112 (Table 2)	57, 71		21, 26		18, 35	15 ^c , 24 ^c
LINDELIUS et al. (1974)	118, 139 (Table 2)					9, 18	
DAHLGREN (1978)	100, 100 (Dahlgren & Myrhed, Table 2)		7, 0			10, 7	

TABLE 18 (continued)

AUTHOR (Year)	SAMPLE	PERCENTAGES REPORTING:					
		Blackouts	Tremors	Hallucin- ations	Seizures	Delirium tremens	Medical consequences
<u>C: COMPARISONS BETWEEN SUBGROUPS OF ALCOHOL DEPENDENT WOMEN</u>							
RIMMER et al. (1971)	59, 20, 8, 16 (Table 5)	51, 80, 50, 88		2, 20, 38, 50		7, 20, 0, 56	8 ^a , 35 ^a , 0 ^a , 6 ^a
RIMMER et al. (1972)	61, 26 (Table 5)	57, 73					15 ^c , 8 ^c
MORRISSEY & SCHUCKIT (1978)	154, 58, 81 (Table 5)	71, 88, 54	91, 98, 62	7, 12, 9			22 ^a , 34 ^a , 7 ^a
SCHUCKIT & MORRISSEY (1979a)	95, 17, 108, 73 (Table 5)	87, 94, 66, 47					28 ^a , 29 ^a , 17 ^a , 14 ^a
SCHUCKIT & MORRISSEY (1979b)	154, 18, 40, 40, 38 (Table 5)	71, 89, 78, 83, 33	91, 78, 83, 93, 54				22 ^f , 28 ^f , 23 ^f , 29 ^f , 0 ^f
SCIDA & VANNICELLI (1979)	26 women ^g classified as alcoholics ^h 35 women ^j classified as problem drinkers ^h ; U.S.A.	96					31 ⁱ
		20					6 ⁱ
HOLLSTEDT et al. (1983a)	19, 43 (Table 5)	80, 83		16, 12	5, 19	10, 0	

TABLE 18 (continued)

Note: In Section B, the first value represents alcohol dependent women, whereas the second represents alcohol dependent men. In Section C, the first value represents the first subgroup of alcohol dependent women, whereas the second value represents the second subgroup etc.

- a Liver damage.
- b Liver problems.
- c Liver disorders.
- d Sought medical advice for physical illness due to alcohol.
- e Medical complications.
- f Cirrhosis.
- g Comprising 3 university students, 22 patients from alcoholism treatment facilities, and 1 nonstudent volunteer.
- h On the basis of the Park Problem Drinking Scale (Park, 1967).
- i Sick.
- j Comprising 30 university students, 2 patients from alcoholism treatment facilities, and 3 nonstudent volunteers.

2.6.7.2 Psychosocial Consequences

The most common psychosocial consequences of drinking include job loss, motor vehicle accidents or violations (i.e. traffic offences such as driving under the influence of alcohol), other arrests, physical aggression, and familial disruption. These have been investigated by several studies: Table 19 presents the percentages of alcohol dependent women who reported experiencing these consequences.

In general, physical aggression and arrests were the most commonly reported psychosocial symptoms. The pattern emerging from the comparisons between alcohol dependent women and men suggests that fewer women than men experienced any particular consequence (Glatt, 1961a; Mulford, 1977; Rimmer et al., 1971, 1972). In addition, Cook and Winokur (1985) noted that males showed a higher mean number of antisocial symptoms than did females. However, Stabenau (1984) reported that women and men did not differ significantly in the mean number of psychosocial problems experienced in the six months prior to study.

Comparisons between subgroups of alcohol dependent women indicated that public rather than private patients were more likely to have lost jobs or been arrested because of their drinking (Rimmer et al., 1971). Furthermore, secondary alcoholics, and in particular those diagnosed as having an antisocial personality, were most likely to have experienced psychosocial consequences other than arrests or motor vehicle accidents/violations (Morrissey & Schuckit, 1978; Schuckit & Morrissey, 1979b), whereas problem drinkers were least likely to have done so (Morrissey & Schuckit, 1978; Schuckit & Morrissey, 1979b; Scida & Vannicelli, 1979).

TABLE 19. Psychosocial Consequences of Drinking

AUTHOR (Year)	SAMPLE	PERCENTAGES REPORTING:				
		Job loss	Motor vehicle accidents/ violations	Other arrests	Aggression	Familial disruption
<u>A: CLINICAL/DESCRIPTIVE STUDIES</u>						
HALIKAS et al. (1981)	71 (Table 1)	30%	24	24	41	
<u>B: COMPARISONS BETWEEN ALCOHOL DEPENDENT WOMEN AND MEN</u>						
GLATT (1961a)	77, 192 (Table 18)	19, 52	12, 23		34, 47	
RIMMER et al. (1971)	79, 117 (Table 15)	28 ^a , 26 ^a 16 ^b , 41 ^b	18, 44	18, 56		
RIMMER et al. (1972)	61, 112 (Table 2)	25 ^a , 22 ^a 18 ^b , 39 ^b	15, 36	31, 45		
MULFORD (1977)	395, 3132 (Table 2)	8 ^{c,d} , 16 ^{c,d}		32 ^d , 54 ^d		20 ^{d,e} , 30 ^{d,e}
<u>C: COMPARISONS BETWEEN SUBGROUPS OF ALCOHOL DEPENDENT WOMEN</u>						
RIMMER et al. (1971)	59, 20, 8, 16 (Table 5)	25 ^a , 35 ^a , 0 ^a , 31 ^a , 3 ^b , 55 ^b , 0 ^b , 38 ^b	20, 10, 0, 12	10, 40, 25, 62		
RIMMER et al. (1972)	61, 26 (Table 5)	25 ^a , 35 ^a 18 ^b , 15 ^b	15, 19	31, 23		

TABLE 19 (continued)

AUTHOR (Year)	SAMPLE	PERCENTAGES REPORTING:				
		Job loss	Motor vehicle accidents/ violations	Other arrests	Aggression	Familial disruption
<u>C: COMPARISONS BETWEEN SUBGROUPS</u>						
<u>OF ALCOHOL DEPENDENT WOMEN (continued)</u>						
MORRISSEY & SCHUCKIT (1978)	154, 58, 81 (Table 5)	25 ^f , 37 ^f , 9 ^f	accidents: 30 ^g , 33 ^g , 22 ^g violations: 33 ^g , 33 ^g , 19 ^g	51 ^h , 55 ^h , 33 ^h	41, 64, 32	26 ⁱ , 41 ⁱ , 3 ⁱ
SCHUCKIT & MORRISSEY (1979b)	154, 18, 40, 40, 38 (Table 5)	25 ^f , 13 ^f , 20 ^f , 45 ^f , 0 ^f	accidents: 31, 36, 32, 24, 19 violations: 33, 21, 32, 24, 19	51 ^j , 39 ^j , 25 ^j , 68 ^j , 33 ^j	41, 56, 43, 73, 13	26 ⁱ , 8 ⁱ , 21 ⁱ , 46 ⁱ , 0 ⁱ
SCIDA & VANNICELLI (1979)	26, 35 (Table 18)			50, 0	81, 11	12 ^k , 0 ^k

Note: In Section B, the first value represents alcohol dependent women, whereas the second represents alcohol dependent men. In Section C, the first value represents the first subgroup of alcohol dependent women, whereas the second value represents the second subgroup etc. Unless specified otherwise, the values refer to percentages based on the entire samples.

- a Lost job or friends.
- b Lost job and friends.
- c Includes threatened job loss.
- d In previous year.
- e Spouse left or threatened to leave.
- f Of those ever employed.
- g Of those who drive.
- h For public drunkenness.
- i Divorced/separated, of those ever married.
- j For drinking in public.
- k Loss of family.

2.6.7.3 Responses to Alcoholism Screening Inventories

The relative severity of alcohol dependence can also be assessed through the use of alcoholism screening inventories. The current review aims only to give an indication of alcohol dependent women's scores on the Alcadd Test (Manson, 1949) and the Michigan Alcoholism Screening Test or MAST (Selzer, 1971). However, more detailed reviews of these tests are presented later, in Sections 7.2 and 7.3.

As is evident from Table 20, relatively few studies have reported alcohol dependent women's scores on the Alcadd Test (Fowler & Bernard, 1965; Manson, 1949; Murphy, 1956; Parker, 1972). The range of mean scores is relatively large, from approximately 25 to 44. This variation may reflect the underlying composition of the samples. For example, Murphy found that the mean scores of active alcoholics differed significantly from those of AA members. As possible explanations for the observed difference, he suggested that the AA members may have either had a more accurate memory of earlier habits, attempted to maximize earlier difficulties, or in fact been more deviant in their drinking. Parker's three groups of alcoholics also differed significantly with respect to their Alcadd scores, but it must be stressed that he in fact used the women's responses to four Alcadd items as the means of classifying them into one of the three groups.

Manson (1949) found no significant sex differences on Alcadd scores, whereas Fowler and Bernard (1965) did not report the statistical significance of any sex differences. However, the latter researchers noted that the mean total and individual scale scores of their sample of outpatient alcohol dependent women were significantly lower than those of Manson's female sample. This may reflect the lower level of severity of dependence among the former group, given the women's general lack of previous treatment and relatively recent awareness of their drinking problem.

TABLE 20. Alcohol Dependent Women's Scores on the Alcadd Test^a

AUTHOR (Year)	SAMPLE	MEAN SCORE
MANSON (1949)	40F, 83M alcoholics	Total: 38.5, 36.8
		Scale A ^b : 6.3, 9.0
		Scale B ^c : 6.5, 6.9
		Scale C ^d : 13.3, 12.9
		Scale D ^e : 13.4, 12.2
		Scale E ^f : 13.1, 11.9
	58F, 61M social drinkers	Total: 5.4, 5.5
		Scale A: 0.2, 0.4
		Scale B: 1.2, 1.6
Scale C: 0.7, 1.3		
Scale D: 2.8, 2.7		
23F, 17M abstainers	Total: 0.6, 0.6	
	Scale A: 0, 0	
	Scale B: 0, 0	
	Scale C: 0, 0.1	
	Scale D: 0.7, 0.5	
MURPHY (1956)	24F active alcoholics	Total: 25.5
	34F AA members	Total: 41.4
	34F social drinkers	Total: 6.5
	28F abstainers	Total: 1.2
FOWLER & BERNARD (1965)	34F, 297M alcoholic outpatients	Total: 28.3, 34.9
		Scale A: 4.6, 6.0
		Scale B: 4.2, 6.3
		Scale C: 10.2, 13.4
		Scale D: 9.8, 10.2
PARKER (1972)	13F alcoholics who binge drink and who responded affirmatively to Item 65 ^g of the Alcadd Test	Total: 43.8
	16F alcoholics who binge drink and who responded negatively to Item 65 ^g	Total: 36.8
	27F alcoholics who do not binge drink	Total: 31.4
	56F moderate drinkers	Total: 5.3

Note: The first value represents women, whereas the second represents men.

^a Manson (1949).

^b Regularity of Drinking.

^c Preference for Drinking.

^d Lack of Controlled Drinking.

^e Rationalization of Drinking.

^f Excessive Emotionality.

^g "Almost from the very first drink I took, I had a strong craving for alcohol which nearly always led to my getting drunk."

The studies comparing alcohol dependent with non-alcohol-dependent women found significant differences, in the expected direction, between groups with respect to their mean Alcadd scores (Manson, 1949; Murphy, 1956; Parker, 1972).

Only one study was found to report alcohol dependent women's MAST responses, and no studies have compared the MAST scores of alcohol dependent and non-alcohol-dependent women. Selzer, Gomberg and Nordhoff (1979) found that only one of 80 female and 3 of 123 male inpatients from a general hospital alcoholism programme obtained MAST scores of less than 5, which are not considered indicative of alcoholism. On the other hand, approximately 93% and 97% of the women and men, respectively, obtained scores in excess of 10.

2.6.8 Summary

Alcohol dependent women have been shown to consume significantly smaller amounts of alcohol than alcohol dependent men. Daily drinking is characteristic of most alcohol dependent women, although a significant proportion do engage in binge drinking. The majority of alcohol dependent women drink at home and alone, although this pattern of drinking tends to be less characteristic of the younger alcohol dependent women. The preferred type of alcoholic beverage varies between studies, and there is no compelling evidence to suggest any one particular kind. However, compared with alcohol dependent men, significantly more women prefer wine or spirits, and less prefer beer.

The various stages of drinking begin later in life among women than among men, and alcohol dependence develops more rapidly in women as reflected by its shorter duration on admission to hospitals or clinics. Drinking practices

and drinking history appear to vary between subgroups of alcohol dependent women, particularly those differentiated on the basis of primary psychiatric diagnosis. There is also evidence to suggest a pattern of late but more escalated development of alcohol dependence among some older alcohol dependent women.

Finally, physiological and/or psychosocial consequences of drinking are experienced by a significant proportion of the women. In general, larger sex differences are evident with respect to psychosocial rather than physiological consequences, with fewer women than men reporting the former.

2.7 DRINKING PRACTICES OF NON-ALCOHOL-DEPENDENT WOMEN

The drinking habits of non-alcohol-dependent individuals have been described frequently, although most commonly only the quantity and/or frequency of alcohol consumption have been investigated.

Some reports have focussed on specific subgroups of the population, such as students (e.g. Temple, 1986; Wechsler & McFadden, 1979), pregnant women (e.g. Kaminski, Rumeau & Schwartz, 1978; Plant, 1984; Sokol et al., 1980), housewives (e.g. Chetwynd & Pearson, 1983), or residents of specific areas (e.g. Wechsler, Demone & Gottlieb, 1978). However, other studies (e.g. Clark & Midanik, 1982; Wilsnack, Klassen & Wilsnack, 1984) have utilized national surveys to obtain information on drinking behaviours.

The results pertaining to overseas studies of drinking among non-alcohol-dependent samples will not be reviewed: since this thesis considers an Australian sample of alcohol dependent women, with Australian control groups, the most appropriate normative data are those arising from Australian surveys of the general population.

The National Heart Foundation (NHF) of Australia (1980, 1983) conducted Risk Factor Prevalence Studies of adults aged between 25 and 64 years who were resident in Australian State capital cities. These surveys included questions on the quantity and frequency of alcohol consumption, the results of which are reproduced in Table 21. In 1980, 80.6% of the 2838 female respondents stated that they drank alcohol, whereas in 1983, 75.4% of the 3875 women did so.

TABLE 21. Quantity and Frequency of Drinking by Women in Australia

	1980 (N=2287)	1983 (N=2923)
Consumption per average drinking occasion		
≤2 standard drinks ^a	71.8%	71.3
3-4 standard drinks	22.5	22.9
5-8 standard drinks	4.9	5.2
9-12 standard drinks	0.7	0.5
>13 standard drinks	0.1	0.0
Frequency of drinking		
daily	13.3%	11.7
5-6 days per week	6.7	6.2
3-4 days per week	11.1	11.8
1-2 days per week	19.3	21.8
less than once a week	49.6	48.5

Note: Only women resident in capital cities and aged between 25 and 64 years were included in the survey. The values represent the percentages of women, among those who indicated that they drank alcohol. The percentages are derived from unweighted observed frequencies presented in the Risk Factor Prevalence Study reports (National Heart Foundation of Australia: 1980, Tables 6.5.3 and 6.5.5, pp. 62,63; 1983, Tables 6.5.1 and 6.5.3, pp. 63,64).

^a One standard drink = 10 g ethanol.

Further data pertaining to the drinking habits of women in Australia are available from an Alcohol Consumption Survey which was conducted by the Australian Bureau of Statistics (ABS) during October 1983 (Australian Bureau of Statistics, 1984). Of the South Australian population aged 18 years and over, 0.5% were surveyed. Tables 22 to 24 present Survey results which pertain to the quantity and frequency of drinking by female respondents, as well as the predominant type of alcohol consumed by them. These data were obtained from results, which although not included in the above-mentioned publication, were nevertheless made available to the writer by the ABS. Classification of drinking behaviour was based upon reported drinking occurring in the seven days prior to the day of interview. Almost one half of the women (47.7%) reported that they did not consume alcohol in the week preceding interview. However, it should be stressed that these women cannot be classified as total abstainers.

The time frame and age range encompassed by the NHF and ABS studies differ. Furthermore, the manner of defining not only a drinking woman but also the average consumption differs between the studies, thus inhibiting a direct comparison of the results. However, it is nevertheless obvious from the tables that the vast majority of women classified as drinkers in the context of the respective studies were represented within the category defined by the lowest level of alcohol consumption. Furthermore, similar proportions of drinking women in both studies reported daily drinking, although the majority stated that they drank alcohol on no more than two days per week. The NHF studies showed that approximately 65% and 68% of the female drinkers in 1980 and 1983, respectively, did not drink beer at all, whereas approximately 14% of the women classified as drinkers in the ABS survey nominated beer as their predominant beverage type. Although the surveys

conducted by the NHF did not examine the predominant type of beverage consumed, among the women in the ABS study, wine was the most commonly nominated predominant drink (54.0%), followed by spirits (18.3%).

TABLE 22. Average Daily Consumption of Alcohol
by Women in South Australia

Average daily consumption (g of ethanol)	Percentage	
	Of all Women	Of Drinking Women ^a
0	47.7%	
1 - <20	43.4	83.1
20 - <40	6.6	12.7
40 - <60	1.4	2.7
60 - <80	0.5	0.9
≥80	0.3	0.6
	99.9	100.0

Note: Average daily consumption is defined as one seventh of the total reported consumption in the seven days immediately preceding the day of interview. Only women aged 18 and above were included in the survey. The percentages are derived from data made available by the Australian Bureau of Statistics.

^a Consumed some alcohol during the seven days prior to interview.

TABLE 23. Drinking Frequency of Women in South Australia

Frequency (in days)	Percentage of drinking women ^a
7	13.5%
6	3.9
5	4.8
4	7.6
3	11.9
2	23.3
1	35.0
	100.0

Note: Frequency of drinking is defined as the number of days during the seven days prior to interview on which alcohol was consumed. Only women aged 18 and above were included in the survey. The percentages are derived from data made available by the Australian Bureau of Statistics.

^a Consumed some alcohol during the seven days prior to interview.

TABLE 24. Predominant Beverage Type of Women in South Australia

Beverage	Percentage of drinking women ^a
Beer	13.8%
Wine	54.0
Spirits	18.3
Fortified wine	6.7
None	7.2
	100.0

Note: Only women aged 18 and above were included in the survey. The percentages are derived from data made available by the Australian Bureau of Statistics.

^a Consumed some alcohol during the seven days prior to interview.

CHAPTER THREE

3.1 INTRODUCTION

The principal aim of this chapter is to review the literature which examines the association between drinking and sex roles among women. Section 3.2 presents a conceptual framework for what is to follow: it provides an introduction to sex role terminology and the concepts encompassed by these terms, as well as to the means of measuring sex role identity. Theories which are based upon notions of sex roles and which have been proposed as explanations for drinking among males and females are examined in Section 3.3.

The relationship between sex role identity and drinking among adolescent, non-alcohol-dependent females is addressed in Section 3.4, and the relationship between social roles and drinking, among both non-alcohol-dependent and alcohol dependent women, is examined in Section 3.5.

The final section reviews those studies which have addressed the issue of sex role identity among alcohol dependent women. Studies utilizing multiple measures of sex role identity have been grouped together in one subsection, and studies which have used only a single measure are reviewed in the following subsection. One subsection is devoted to the several studies that have examined the femininity of alcohol dependent women during adolescence. The final subsection discusses some methodological issues, and summarizes the results of studies on the sex role identity of alcohol dependent women.

3.2 DEFINITION AND MEASUREMENT OF SEX ROLE IDENTITY

3.2.1 Definition of Sex Role Identity

Wilsnack (1976) has defined sex role as referring "to those behaviors that are expected on the basis of a person's sex and the manner in which those behaviors are expected to be performed" (p. 38). According to Broverman, Vogel, Broverman, Clarkson and Rosenkrantz (1972), positively valued masculine traits form a cluster of related behaviours entailing competence, and include attributes such as independence, activity, ambition, and competitiveness. On the other hand, positively valued feminine traits form a cluster reflecting warmth and expressiveness, and include attributes such as sensitivity, tactfulness, and tenderness. Furthermore, the authors point out that the stereotypic perception of the sexes includes a relative absence of the opposite-sex traits. Their research has also confirmed the pervasiveness of sex role stereotypes, with a high degree of consensus about the characteristics of men and women being evident among groups differing in age, sex, religion, education, and marital status.

Sex role identity is viewed in general as being a composite of several subcategories, which are usually differentiated by their level of consciousness. These subcategories vary from author to author, but there is considerable overlap between them as is evident from the examples that follow.

The most basic construct is that of gender identity which, according to LaTorre (1976), is "a self-definition of oneself as being male or female" (p. 266). Similar definitions have also been offered by other authors (e.g. McClelland & Watt, 1968; Money, 1973). The other level of sex role identity relates to gender role, which is defined by Money as being the public expression of one's individuality as male or female. LaTorre suggests that gender role can, in fact, be subdivided into adoption, preference and ability. Briefly,

he views gender role adoption as "those aspects of the gender role that the individual has himself actually acquired", gender role preference as "an individual's preference for gender-typed items or behavior", and gender role ability as "a person's ability to present manifest acquired skills" (p. 267). McClelland and Watt also describe levels of identification that can be interpreted as being aspects of gender role. In particular, they suggest that an individual's sex role style is characterized by assertiveness among males and by yielding among females. However, they view an individual's most conscious level of identification as consisting of sex-typed interests, likes, and attitudes.

In general, gender identity and gender role are in accord with each other. However, a lack of congruence among aspects of an individual's sex role identity may be conceptualized as sex role conflict. As early as 1959, Lynn noted that "most psychologists associate psychological disturbances with a lack of harmony among aspects of an individual's sex role" (p. 127). However, in addition to this intrapsychic notion of conflict, there can also exist conflict between an individual's perceived and ideal sex role identity, or between his or her own perceived identity and the demands or expectations for opposite-sex behaviours in particular situations.

3.2.2 Measurement of Sex Role Identity

LaTorre (1976) identified three major problems confronting the measurement of sex role identity. His first point relates to the criterion upon which the measurement of gender role or identity is based. He states that "the one factor common to tests of gender identity or role is the test's ability to discriminate the responses of males and females. Hence gender identity and role are, unfortunately, defined basically in terms of gender differences" (p. 267).

The problem arises, however, in that "not every difference between the genders can be taken as a sign of gender identity or role" (p. 267).

Secondly, measurement of sex role identity is complicated further by the fact that the tests used to assess, in particular, gender role may confound one level of identification with another. For example, the one scale may include items which relate not only to gender role preference, but also to gender role adoption.

Finally, gender identity has often been described as the least conscious level of identification (e.g. McClelland & Watt, 1968; LaTorre, 1976). Therefore its dependence, at least in part, on unconscious factors has led to a greater reliance upon projective techniques as its means of assessment. Consequently, as LaTorre concludes, "the measurement of gender identity is more difficult and its interpretation more tenuous than is the measurement of gender role" (p. 276).

Many tests have been represented in the measurement of the various aspects of sex role identity. For example, Machover's (1949) Draw-A-Person Test (DAP) and Franck and Rosen's (1949) Drawing Completion Test (DCT) have been frequently utilized in an attempt to assess gender identity. The Adjective Check List (Gough & Heilbrun, 1965), and the Masculinity-Femininity scales of the Minnesota Multiphasic Personality Inventory or MMPI (Hathaway & McKinley, 1943) and the California Psychological Inventory or CPI (Gough, 1957) are just some early examples of measures used to assess the many aspects of gender role.

In general, these tests have conceptualized masculinity and femininity as being mutually exclusive dimensions of identification. In contrast however, more recent measures, such as the Bem Sex-Role Inventory or BSRI (Bem, 1974), the Personal Attributes Questionnaire or PAQ (Spence, Helmreich & Stapp, 1974),

and the ANDRO scale (Berzins, Welling & Wetter, 1978), represent masculinity and femininity as independent dimensions. Consequently, these latter tests enable the simultaneous measurement of both masculinity and femininity.

Although a more detailed description of these and other related tests lies outside the scope of this thesis, the DCT and the BSRI have in fact been used in the current research. They are reviewed in Sections 7.5 and 7.7, respectively.

3.3 SEX-ROLE-RELATED THEORIES OF DRINKING

There has been a change with time in the sex-role-based psychological theories proposed as explanations for drinking. McCord and McCord's (1960) dependency conflict theory was for many years the major psychological theory of drinking. This theory suggested that drinking provides gratification of passive oral dependency needs while still allowing the drinker to maintain an appearance of adult independence and assertiveness. However, McCord and McCord speculated that the female's greater scope to derive dependency need gratification through other more socially acceptable forms in her day-to-day life may partially account for the presumed lower incidence of alcohol dependence among women.

McClelland, Davis, Kalin and Wanner (1972) found evidence from studies of males to suggest another theory of drinking - that alcohol is used in an effort to increase feelings of power. They suggest that, as men are expected to be strong and assertive, they are more likely than women to develop concerns over their power, and consequently to drink more.

In contrast to the dependency and power theories, which are essentially theories of male drinking, a third hypothesis relates specifically to the psychological effects of drinking for women. Wilsnack (1974) suggests that among

women, drinking increases feelings of womanliness. Two sources of data led to the formulation of this hypothesis. First, Wilsnack cites a pilot study in which 20 female social drinkers listed 10 adjectives describing how they felt after two drinks. The majority of these adjectives related to feelings or characteristics traditionally considered as more feminine, rather than to any feelings associated with dependency or power needs. This finding indicated that for women, drinking may be accompanied by feelings of enhanced womanliness.

The clinical literature on alcohol dependent women was a second source of Wilsnack's (1974) womanliness hypothesis. Mothers of alcohol dependent women have been described as dominant and strict, and fathers as weak and ineffectual (e.g. Kinsey, 1968; Lisansky, 1957; Myerson, 1966; Rosenbaum, 1958; Wood & Duffy, 1966). These descriptions deviate from the characteristics normally ascribed to males and females in terms of sex role behaviour. Given this background of deviant family structure, it comes as no surprise that alcohol dependent women have been characterized as manifesting "role confusion" and "inadequate adjustment to the adult female role" (e.g. Kinsey, 1968; Mogar, Wilson & Helm, 1970; Rosenbaum, 1958; Wall, 1937; Wood & Duffy, 1966).

Wilsnack (1974) tested the dependency, power, and womanliness theories of drinking in a group of normal women, by analysing their fantasy productions before and after social drinking in an experimental party situation. Wilsnack used the Thematic Apperception Test or TAT (Murray, 1943) in order to generate sets of imaginative stories from her subjects both at the beginning and end of the party. In the TAT stories told before and after drinking, drinking had no effect on dependency themes, but reduced the frequency of power themes and the intensity of assertive masculine stories. Drinking

increased themes of "being" orientation, reflecting a sense of contentment with, and spontaneous enjoyment of, the present, as contrasted with a more "doing" orientation. These results were interpreted as reflecting an enhanced sense of traditional femininity or womanliness with social drinking, or alternatively, a decreased salience of masculine concerns with power and assertiveness.

Furthermore, Wilsnack (1974) speculated that women who possess characteristics that are traditionally considered as being masculine may have a special need for enhanced womanly feelings. Indeed, the results showed that prior to drinking, the heavier drinkers in the study (defined as those who subsequently drank more than three ounces of alcohol) were more masculine than light drinkers on several sex typed variables, including power.

Several other studies which used the TAT to assess power lend support to Wilsnack's (1974) findings. Durand (1975) found that, prior to drinking, those women who subsequently consumed only one or two drinks had lower power concerns than their counterparts who later consumed more drinks. In addition, motives reflecting personal power and the need for power decreased significantly among women consuming three or four drinks. However, in contrast with expectations, women having three or more drinks displayed a decline in affiliation fantasies after drinking. Scoufis and Walker (1982) found that women seeking treatment for alcohol problems gained higher scores on power than did light-drinking women. However, this study did not assess how power needs changed with drinking, and one can only speculate that drinking may be used by the alcohol dependent women to reduce the salience of their more typically masculine concerns with power, as suggested by Wilsnack.

3.4 RELATIONSHIP BETWEEN SEX ROLE IDENTITY AND DRINKING AMONG ADOLESCENT FEMALES

Several studies focussed on the association between drinking status and sex roles in nonclinical samples of adolescent females. It must be emphasized that the notion of heavy drinking referred to within this section is relative to that of the sample. Unless otherwise indicated, the quantity and/or frequency of alcohol consumption encompassed by this term is considerably less than that consumed by the alcohol dependent women referred to elsewhere in this chapter.

Zucker (1968) measured the association between drinking status and both conscious and unconscious sex role identity in a sample of female high school students (mean age approximately 15). The Femininity scale of the CPI, used to assess conscious sex role identity, did not differentiate heavier-drinking from moderate-drinking girls, nor girls who drank from girls who did not drink. Assessment of unconscious sex role identity was through book and movie preferences, and again, neither of the two comparisons yielded significant results. Zucker concluded on the basis of this study that neither conscious nor unconscious sex role identity was implicated in the dynamics of the girls' current drinking behaviour.

Wilsnack and Wilsnack (1978) analysed data from a national survey on adolescent drinking. They found that a 6-item scale of traditional femininity did not distinguish nondrinkers from drinkers among a sample of adolescent girls of varying ethnic backgrounds. However, among White girls who drank, drinking more, having more drinking problems, and drinking symptomatically were associated with rejection of traditional femininity. An examination of the magnitudes of the correlations, however, reveals the possibility of this finding being artefactual: a large sample size ($N = 2448$) making small correlations (ranging from .066 to .155) statistically significant.

Parker (1975) used a sample of slightly older female undergraduate college students (mean age 19.6) to assess the relationship between drinking and masculinity-femininity on the Terman-Miles test (Terman & Miles, 1936). He found that femininity of both role-relevant preferences and occupational preferences decreased significantly with increasing Alcad Test (Manson, 1949) scores. Femininity of emotions did not differ across drinker groups. A comparison between the femininity of preference scores of the heavy drinkers in this study and those of the adult alcohol dependent and moderate-drinking women in his earlier study (Parker, 1972) showed that the young heavy drinkers differed significantly from the adult moderate drinkers but not from the adult alcohol dependent women. Thus, Parker's results show evidence of rejection of the more conscious elements of traditional femininity among heavy-drinking young women, similar to that found among alcohol dependent women.

The sample of unmarried female undergraduates (mean age 18.4) used by Zucker, Battistich and Langer (1981) was comparable with that used by Parker (1975). They assessed the variation of four measures of sex role adaptation across heavy, moderate, light, and infrequent drinkers and abstainers, as well as between heavy drinkers who also rated at least two escape reasons for drinking as being important (e.g. drinking to cheer up, or when feeling tense) and other drinkers. The measures used as indices of sex role adaptation were the Femininity scale of the CPI, sex-typed attitudes and interests, the DCT and sex role style related to assertiveness-interdependence. Comparisons across drinker categories showed the only significant difference to be in terms of sex-typed attitudes and interests, where the light drinkers scored in a more feminine direction than both the abstainers and heavy drinkers. Heavy-escape drinking, as defined above, was not related to any of the four measures. Therefore, these results provide no support for an association between sex role identity or conflict and drinking status.

In summary, the findings from sex role identity research with adolescent females do not consistently support the notion of an association between heavier drinking or drinking versus abstinence and sex role identity problems.

3.5 RELATIONSHIP BETWEEN SOCIAL ROLES AND DRINKING

3.5.1 Introduction

When comparisons are made between the outcomes of studies of alcohol dependent women, conducted either at different points in time or involving women of differing ages, it must be recognized that the samples used in the studies are composed of women belonging to different cohorts. Therefore, it must be recognized that the cohorts of women have been influenced by differing societal norms, pressures, and expectations regarding many aspects of their behaviour, including those of alcohol use and adoption of sex-role-related behaviours, since these have changed over the last half century.

For example, older and younger women have certainly differed in the extent to which they have been exposed, through advertising and availability, to particular types of drugs, such as alcohol, tranquillizers, marijuana, and opiates. As a consequence, their acceptance and subsequent use of such drugs have been influenced not only by societal norms operating at that time, but also by the expectations of their particular subcultures.

Furthermore, the introduction of legal sanctions concerning the use of particular drugs may also influence the patterns of drug use. For example, there are some indications, even if only anecdotal, that the relatively recent introduction of zero blood alcohol limits for newly-licensed drivers in several Australian states has produced a shift from the use of alcohol to the use of marijuana.

Women's choice of, and satisfaction with, particular sex roles may also be subject to societal norms and pressures. These norms can differ between populations in different areas, as well as over time within the one area. Therefore, when comparisons are made between the outcomes of studies conducted at different points in time, it must be realized that, in this regard, the older and younger cohorts of women have been exposed to different norms. Perhaps even more importantly, the changes in societal expectations over time may contribute to a woman's conflict regarding her perceived role in society. In past generations, for instance, a woman's role was, to a large extent, defined in terms of wife and mother, whereas in more recent years, increased educational and job opportunities for women coupled with advances in family planning have afforded more women the possibility of combining the roles of wife, mother, and worker (in paid employment). However, these changes have, to a greater or lesser extent, led to an increased level of confusion with respect to the interplay between role adoption, preference, and ability.

3.5.2 Studies of Non-Alcohol-Dependent Women

The relationship between nontraditional role involvement and drinking has been examined in several relatively recent studies of non-alcohol-dependent women. For example, Keil (1978) found that among a sample of adult females, those with multiple or nontraditional role involvements were more likely to drink than were those with traditional role involvements, despite an ethno-religious background with conservative norms about alcohol use.

Johnson (1982) devised an index to classify 30 to 64 year old women into in-role and out-of-role groups. The women, from a national probability sample, were classified as out-of-role if they possessed at least three of the five following criteria: single, divorced or separated; employment outside

of the home; nontraditional job; head of household; no children. She found that in-role women were more often drinkers. However, among the out-of-role women, those who drank tended to be heavier drinkers and were significantly more likely to be problem drinkers. An analysis of the women's drinking patterns according to employment and marital status showed that the interaction between being married and being employed was the most important predictor for both heavier and problem drinking. This was in accord with her finding that working married women had significantly higher rates of heavier and problem drinking than married housewives or single employed women, irrespective of their socio-economic status.

The results of a study undertaken by Parker, Parker, Wolz and Harford (1980), however, did not support the notion that conflicting roles are associated with increased drinking in women. They found that interactions indicated by the role conflict model (i.e. marital status and employment status; marital status and education; marital status, employment status, and education) did not predict patterns of alcohol consumption among women. Nevertheless, they did find that frequency of drinking increased significantly with education, and was significantly higher among both employed women and women experiencing short-term unemployment than among women experiencing long-term unemployment, providing some support for Keil's (1978) findings.

3.5.3 Studies of Alcohol Dependent Women

A widely held stereotype of the alcohol dependent woman has been that of a bored and lonely housewife (e.g. Senseman, 1966). Other studies have similarly suggested discontent towards stereotypically female social roles among alcohol dependent women.

For example, McLachlan et al. (1979) noted that alcohol dependent women were less satisfied than other women with the roles of homemaker, and wife or partner. In a recent study, Kroft and Leichner (1987) found that alcohol dependent women were less satisfied with their roles as housekeepers and women than were non-alcohol-dependent women, but in contrast to the findings of McLachlan's group, no differences were evident with respect to their satisfaction in the role of wife/girlfriend. However, depressed women have been shown to be less satisfied than nondepressed women with the roles of wife/girlfriend, woman, and worker, but not with the role of housekeeper (Steinberg, Leichner & Harper, 1987). On the basis of these results and given that the alcohol dependent women were significantly more depressed than the non-alcohol-dependent women, Kroft and Leichner examined group differences in role satisfaction when the effects of depression were removed, and found no significant differences between the alcohol dependent and non-alcohol-dependent women. Consequently, they hypothesized that the role dissatisfaction evident among alcohol dependent women may be due primarily to the associated depression rather than to the alcoholism per se.

Browne-Mayers et al. (1976) found evidence of bewilderment over the role of being a woman, with some alcohol dependent women reacting with ultrafemininity and others with aggressiveness. Problems in role adjustment are further evident in the findings of a study by Thorne and Pishkin (1977). They analysed responses of alcohol dependent women to The Femininity Study (Thorne; cited in Thorne & Pishkin, 1977) and found factors suggestive of high interpersonal adaptability, heterosexual social role inadaptability, female role ambivalence, female identification problems, and maternal role inadaptability. However, evidence of role inadaptability was also found among women suffering from schizophrenia and among young women attending college.

Weathers and Billingsley (1982) examined perceptions of the female role, and found that addicted women held a more conservative view of the female role than nonaddicted women, as measured by the Attitudes Toward Women Scale (Spence & Helmreich, 1972).

Using the Sex-Role Inventory (Kalin & Tilby, 1978), Kroft and Leichner (1987) were also able to demonstrate a relatively traditional sex role ideology among alcohol dependent women, although in their study, a similar ideology was evident among the non-alcohol-dependent women.

Finally, Hoar (1983) compared the responses of alcohol dependent and normal women to the Maferr Inventory of Feminine Values (Steinmann & Fox, 1979). This inventory categorizes women's role perceptions of self, the ideal woman, and man's ideal woman as being primarily family-oriented, self-achieving, or balanced between the two. The majority of both groups of women perceived themselves and their own ideal woman as being self-oriented, but man's ideal woman as being family-oriented. Furthermore, a significantly greater proportion of normal women than of alcohol dependent women viewed man's ideal woman as being family-oriented, thus reflecting a lesser agreement between own ideal and man's ideal woman within the normal group rather than within the alcohol dependent group. Although Hoar concludes that the discrepancy between self and own ideal perception was significantly greater among the alcohol dependent women than among the controls, indicating a lesser degree of congruence between perceived and ideal role functioning among the former, the results presented in her paper appear to contradict her conclusion. Specifically, the alcohol dependent women's reported mean scores on perceptions of self and own ideal woman (7.19 and 10.59, respectively) appeared to be less discordant than those of the control women (6.92 and 11.16, respectively), and the percentages of alcohol dependent women with balanced,

family-oriented, and self-oriented perceptions of self (22%, 14%, and 64%, respectively) and own ideal woman (24%, 11%, and 65%, respectively) showed a more similar distribution than those of the control women (self: 36%, 13%, and 51%, respectively; own ideal woman: 24%, 16%, and 59%, respectively).

3.6 SEX ROLE IDENTITY OF ALCOHOL DEPENDENT WOMEN

3.6.1 Introduction

This section reviews the findings of studies examining sex role identity in alcohol dependent women. While some studies have looked at multiple measures of sex role identity and attempted to identify conflicts within an individual between different levels of her identity, other studies have concentrated only on one aspect of sex role identity. The former will be reviewed first, and in greater detail than the latter.

3.6.2 Studies utilizing Multiple Measures of Sex Role Identity

In one of the earliest studies to address empirically the issue of sex role identity in alcohol dependent women, Wilsnack (1973) compared a group of 28 alcohol dependent women with a matched group of normal women. She used three measures of conscious femininity: a set of nine traditional femininity items as a measure of sex-typed attitudes and interests (e.g. I would like to be a florist), a physical appearance checklist, and attitudes towards the maternal role. Sex role style was measured by the use of nine items related to the assertiveness-interdependence dimension of personal style (e.g. My feelings are not easily hurt), whereas unconscious gender identity was assessed using 11 items of the DCT. Scores on two of the three indices of conscious femininity did not differ between the alcohol dependent and control women. Attitudes towards motherhood indicated that the alcohol dependent women

originally wanted to have more children than did the control women, although in reality they had fewer children. This last finding may have contributed to the finding that more alcohol dependent women than controls would, in retrospect, choose to have more children. Significantly more alcohol dependent women than controls gave masculine assertive responses to the sex role style items. They also obtained more masculine scores on the DCT.

In summary, the alcohol dependent women were typically feminine in terms of their conscious values and attitudes, even to the extent of appearing to value the maternal role to a hyperfeminine degree. However, on measures of sex role style and unconscious masculinity-femininity, their responses were more masculine than those of the control women.

Parker (1972) compared 56 alcohol dependent women differentiated on the existence of spree or binge drinking with 56 moderate-drinking females on the Terman-Miles masculinity-femininity test. His findings indicated that femininity of role-relevant preferences decreased with increased tendency towards deviant drinking, which he interpreted as an increase in conscious masculinity. Femininity of emotional dispositions of subjects, which he took to indicate unconscious femininity, increased with deviant drinking. He also found that as the tendency towards deviant drinking increased, sex role preferences and emotional responses became increasingly incongruous.

Parker (1972) and Wilsnack (1973) disagree on the direction of conflict: Parker reported conscious masculinity and unconscious femininity, while Wilsnack found conscious femininity and unconscious masculinity. However, Wilsnack (1976) suggests that the difference between Parker's and her own findings may reflect differences not only in sex role orientations but also in the nature of sex role conflicts between two relatively distinct

subgroups of alcohol dependent women - those with primary and those with secondary alcohol dependence.

Scida and Vannicelli (1979) were the first to suggest that a broader direction-free conflict theory of sex role identity could reconcile the findings of Wilsnack (1973) and Parker (1972). They further suggest an extension of the conflict theory to encompass not only conflict between levels, for example consciously either masculine or feminine and unconsciously the reverse, but also conflict between sexual cognitions within a particular level, for instance between perceived and ideal sex role identity on the conscious level. The general hypothesis stemming from their unified theory is that

women whose actual sexual image and valued sexual image clash, and women whose conscious and unconscious sexual images conflict, would be more likely to overindulge in alcohol, than would those whose sexual images are congruent - no matter how masculine or feminine these women are in absolute. (p. 31)

Scida and Vannicelli (1979) tested specific aspects of the above hypothesis using women who, on the basis of their responses to the Park Problem Drinking Scale (Park, 1967) were classified as normal drinkers, problem drinkers, or alcohol dependent. Conscious sexual identity was assessed using the BSRI on which subjects were asked to describe themselves when not drinking, when drinking, and how they would ideally like to be. The DAP was used to measure unconscious gender identity. Sex role identity conflict on the conscious level was assessed in two ways: between how the subject perceives herself when not drinking and when drinking, and between the subject's perception of herself when not drinking and her ideal self-perception. Conflict between levels was measured by disparity between self-perception when not drinking and response to the DAP. Their findings were as follows: (a) The

greater the tendency towards deviant drinking, the greater the sex role identity conflict, both between perceived and ideal self on the conscious level, and between conscious and unconscious levels; (b) drinking may serve to resolve both general conflict, and sex role identity conflict; (c) there were no significant associations between drinking status and either perceived or ideal sex role identity on a conscious level; and (d) masculine unconscious identification increased with the tendency towards deviant drinking.

Anderson (1980) also addressed the issue of lack of congruence in sex role identification as a factor in problem drinking. She compared 30 women receiving treatment for alcohol dependence with their non-alcohol-dependent biological sisters on several measures of sex role identity previously used by Wilsnack (1973). In contrast to Wilsnack's findings, she found no significant differences between the groups on either sex role style or unconscious masculinity-femininity. However, in both studies, 57% of the alcohol dependent subjects gave masculine responses to at least five of nine sex role style items: the difference between the two studies arises from the differences between the control subjects' responses, with only 21% of Wilsnack's controls and 60% of Anderson's controls responding in a masculine manner to five or more sex role style items. Similarly, the alcohol dependent women in both studies had comparable 11-item DCT scores (Wilsnack, 5.06; Anderson, 5.03), whereas the control women in the earlier study had a more feminine score than did Anderson's controls (6.63 and 5.35, respectively). However, Anderson's finding that the alcohol dependent women did not differ from control women on a measure of traditional conscious femininity is consistent with Wilsnack's results.

Although there were no significant differences between the alcohol dependent women and their sister controls on any of the three levels of sex role identity measured, the controls tended to exhibit more congruence between

perceived and desired identification than did the alcohol dependent women. This led to Anderson's (1980) conclusion that lack of congruence in sex role identity may play a greater role in excessive drinking than direction of identification per se. This parallels Scida and Vannicelli's (1979) concept of a direction-free conflict theory of sex role identity.

McLachlan et al. (1979) compared 100 alcohol dependent women with 100 control women. They found that on at least 5 of 10 items on personal competence reflecting areas such as assertiveness, motivation, and self-organization, alcohol dependent women scored less than the controls. This could be interpreted as indicative of a less masculine style of behaviour. An examination of the satisfaction associated with roles stereotypically considered as being female (i.e. homemaker, wife/partner) showed a tendency towards less satisfaction among the alcohol dependent women than among the controls. However, alcohol dependent and control women did not differ in their responses to a questionnaire of attitudes towards marriage, women's roles, and women's liberation. Although these latter findings reflect typically feminine values among the alcohol dependent women, the results described earlier indicate that these values are not accompanied by adequate satisfaction in the actual functioning within stereotypically female roles.

Beckman (1978b) raised the possibility that sex role identity problems may be characteristic not only of alcohol dependent women, but also of women with psychopathology or emotional disorders. She compared a group of 120 alcohol dependent women with 118 non-alcohol-dependent women in treatment for psychiatric and emotional problems, and 119 normal women. The latter group was matched to the alcohol dependent group on age, marital status, education, religion, and whether they had children. Overall scores from 11 items of the DCT did not differ significantly between the three groups,

indicating similar unconscious gender identities. Furthermore, the three groups did not differ significantly on the Femininity scale of either the CPI, considered a measure of conscious femininity, or the BSRI, a measure of sex role style. The BSRI masculinity and androgyny scores of the alcohol dependent and treatment control women were not significantly different, although both groups were significantly less masculine and less androgynous than the normal control women. Beckman originally defined androgyny as the approximately equal endorsement of masculine and feminine items on the BSRI, following Bem (1974). (A more detailed description of the BSRI scales and their scoring is provided in Section 7.7.1.)

However, Spence et al. (1975) and Bem (1977) have suggested that the term androgynous should be reserved for those individuals who obtain high scores on both the Masculinity and Femininity scales of the BSRI, whereas the term undifferentiated should be used to describe individuals with low scores on both these scales. Therefore, Beckman (1978b) reanalysed the BSRI data, using the fourfold classification of subjects as either masculine, feminine, androgynous, or undifferentiated. These results indicated that the alcohol dependent and normal women no longer differed in their likelihood of being androgynous. However, although the alcohol dependent women were now more likely than the normal women to be classified as undifferentiated, the former were less likely than the treatment control women to be classified as such. Beckman suggests that this finding may reflect not only a lack of highly distinctive sex-role-related traits among women with some form of psychopathology, but also that the absence of androgyny may be associated with maladaptive behaviour, including problem drinking.

Beckman's (1978b) sample of normal woman comprised women who had been screened for the Los Angeles Metropolitan Area Survey and women

who were selected through the use of "reverse telephone directories" (which are not defined by the author). Furthermore, over 40% of the normal women were selected from community groups with a high proportion of divorcees, such as Parents Without Partners, to enable matching on marital status.

The sex role data were reanalysed, using only the first two more representative subsamples of normal women for comparison with the alcohol dependent women (Beckman et al., 1980). Contrary to the earlier results obtained with the entire sample of normal women, the results of the reanalysis indicated that the alcohol dependent women were higher on conscious femininity (CPI Femininity scale) but lower on unconscious femininity (DCT) than were the normal women. However, the results obtained from the BSRI remained unchanged. Therefore, it is apparent that Beckman's (1978b; Beckman et al., 1980) results varied in accordance with the nature of the normal control sample.

Beckman (1978b) also examined the patterns of conscious and unconscious identifications, based on the CPI Femininity scale and DCT scores. Means and standard deviations of the normal group were used to determine cut-off points for masculine versus feminine identification: women who scored more than one standard deviation below the mean on the CPI Femininity scale were classified as consciously masculine, the remainder being classified as consciously feminine. Similarly, women who scored more than one standard deviation below the mean on the DCT were classified as unconsciously masculine, whereas the others were classified as unconsciously feminine. The women were then divided into one of four categories, namely conscious femininity-unconscious femininity, conscious femininity-unconscious masculinity, conscious masculinity-unconscious femininity, or conscious masculinity-unconscious masculinity.

Results indicated that only one quarter of the alcohol dependent women fell into the category of conscious femininity-unconscious masculinity, a pattern previously suggested by Wilsnack (1973) as being characteristic of alcohol dependent women. Nevertheless, significantly more alcohol dependent women than normal women showed this pattern of identification. However, when the data were reanalysed using the median scale scores to form the four classifications, differences between the alcohol dependent and normal groups were no longer significant. Moreover, when sex role conflict between conscious and unconscious levels was examined without taking into account the direction of the conflict, 31% of the alcohol dependent women, 28% of the normal controls and 22% of the treatment controls showed conflict, the difference between groups not being statistically significant.

Kroft and Leichner's (1987) recent study compared several aspects of sex role identity between groups of women who were either alcohol dependent, remitted alcoholics, social drinkers, or abstainers. Initial analyses revealed significant differences between groups with respect to race, marital status, socio-economic status, and depression. Given the possible effect of these variables on sex role identity, their potential influence was controlled for during the subsequent analyses, the results of which are reported below.

As noted in Section 3.5.3, alcohol dependent women did not differ significantly from non-alcohol-dependent women in either their sex role ideology, which in each group was traditional rather than feminist in orientation, or in their satisfaction with the roles of housekeeper, woman, and wife/girlfriend. Furthermore, the actual and ideal masculinity and femininity scores derived from the BSRI indicated no significant differences between groups. Moreover, Kroft and Leichner's (1987) paper suggests that although the differences between ideal and actual masculinity and femininity scores were not

significantly different between the four groups, a significant masculine conflict (i.e. ideal minus actual masculinity score) was nevertheless apparent within each group, whereas ideal femininity scores were significantly greater than actual scores only among the alcoholic and social-drinking groups.

Kroft and Leichner (1987) also determined the percentages of each group who were categorized as masculine, feminine, androgynous, or undifferentiated on the basis of their BSRI scores. No differences between groups were evident with respect to the proportion achieving a masculine classification, with fewer than 7% of each group doing so. A misprint in the published article unfortunately prohibits the determination of the exact proportion of alcohol dependent women who were categorized as feminine, androgynous, or undifferentiated. Nevertheless, the results do indicate that these women were least likely to exhibit a well-defined sex role identity, as reflected by their over-representation within the undifferentiated category. The majority of both the remitted alcoholics (63%) and abstinent women (59%) were classified as feminine, whereas the social drinkers were more evenly distributed throughout the feminine, androgynous, and undifferentiated categories (36%, 29%, and 29%, respectively).

In summary, Kroft and Leichner's (1987) findings indicated that when the possible effects of demographic characteristics and depression were removed, alcohol dependent and non-alcohol-dependent women did not differ significantly with respect to either sex role ideology, role satisfaction, actual and ideal masculinity and femininity, or the conflict between actual and ideal sex role style. However, parallel analyses during which the effects of depression were not removed would have provided further valuable information regarding the possible influence of depression on the outcomes of studies on the sex role identity of alcohol dependent women.

3.6.3. Studies utilizing Single Measures of Sex Role Identity

In one of the few non-American studies of sex role identification among alcohol dependent women, Schwab-Bakman et al. (1981) found no significant differences between alcohol dependent and normal control women on masculinity, femininity, and androgyny scores from a German version of the BSRI (Schneider-Düker, 1978). Furthermore, after controlling for depression scores, women suffering from depression also did not differ significantly from the alcohol dependent and normal women on the BSRI scales. This supports previous evidence which suggested that femininity of sex role style did not differ between groups of women. Desire for more femininity was more strongly exhibited among alcohol dependent women and depressed women than among normal women, but this difference disappeared when depression was statistically controlled.

The only Australian study which examined sex role identity among alcohol dependent women was that of Warmington (1981). She found that on the basis of BSRI responses, 70% of her sample of 20 alcohol dependent women were classified as female sex-typed, who appeared to drink to become transiently more assertive and confident, and less compassionate. However, the small sample size and lack of control group in this study limits the significance of these findings.

Griffin-Shelley (1986) also administered the BSRI to a sample of 36 inpatient women addicted to alcohol and/or drugs. The results showed that 50% of the women were classified as feminine, 8% as masculine, 11% as androgynous, and 31% as undifferentiated. Furthermore, these results were not significantly affected by factors such as age, income, education, marital status of self or parents, severity of addiction, and duration of treatment. On the basis of past studies suggesting that androgynous subjects have the

highest self-esteem, and undifferentiated subjects the lowest (O'Connor, Mann & Bardwick, 1978; Spence et al., 1975), and that both masculine and androgynous subjects are better adjusted than feminine and undifferentiated subjects (Gilbert, 1981), Griffin-Shelley concluded that "the lack of Androgynous females and the large number of Undifferentiated women indicated problems with self-esteem and adjustment" (p. 1311).

Fitzgerald, Pasewark and Tanner (1967) and Scott and Manaugh (1976) looked at whether the conscious preferences of alcohol dependent women differed from those of a normative group of women, as measured by the Edwards Personal Preference Schedule (Edwards, 1959). Both studies found few differences between groups, leading Scott and Manaugh to conclude that the conscious preferences of alcohol dependent women are no less feminine than those of control women.

Belfer et al. (1971) found no significant differences between alcohol dependent and control women on the Femininity scale of the CPI.

In contrast to the above findings, Stankushev and Razboynikova (1975) noted that significantly more alcohol dependent women than normal control women had masculine personality characteristics, although the authors did not define these characteristics.

Body image could also be construed as one aspect of sex role identity, yet the Weathers and Billingsley (1982) study was the only one found to address this issue. Their analysis of scores on the Body Cathexis Scale (Secord & Jourard, 1953) supported the hypothesis that addicted women would have a more negative body image, although socio-economic status was a confounding factor in this analysis. Generalization of these findings to other alcohol dependent women is limited, because only 10 of the 20 addicted women were

alcohol dependent, the remainder being addicted to opiates. Furthermore, the nonaddicted control sample was composed of women receiving treatment for emotional difficulties, and the possibility remains that they themselves may differ from normal control women.

3.6.4 Femininity of Alcohol Dependent Women during Adolescence

Only two studies have examined the problem-drinking women's sense of femininity during adolescence and therefore prior to the development of alcohol dependence. M.C. Jones (1971), in the only longitudinal study to describe pre-alcoholic personality traits of problem-drinking women, depicts the problem drinker in her adolescence as follows: "She escapes into ultra femininity. This protective coloration will keep her going through the mating season but very likely she will recognize the emptiness and impotence in later years" (p. 68). In contrast, however, Anderson (1981) found that the self-descriptions of her sample of alcohol dependent women portrayed significantly less ultrafemininity than did those of their non-alcohol-dependent sisters.

The findings of M.C. Jones (1971) and Anderson (1981) appear to be contradictory. However, as recognized by Anderson, the sources of the data differ markedly between the two studies. Jones relied upon an extensive data base collected during adolescence, derived not only from subjective assessments, but also from the objective measurement of many characteristics. On the other hand, Anderson's measure of ultrafemininity relied upon the retrospective recall of oneself during adolescence, in terms of femininity of dress and behaviour, interest in boys and dating, and in marriages versus education. Moreover, she found that when asked to describe their sister, the pairs of sisters did not differ significantly in their selection of these traits.

Thus, Anderson conceded that "while the prealcoholic adolescent does not appear 'ultrafeminine' as this trait is conceptualized in the present study, this finding does not conflict with the objective ratings in Jones's study" (p. 244).

3.6.5 Summary

Several issues arise from the previous research on sex role identification among alcohol dependent women. Of primary importance is the recognition that the vast majority of the studies cited in the preceding review have focussed on the nature of current sex role identity. Few authors have explicitly addressed the issue of how the development of alcohol dependence per se has potentially affected sex role identity. It is difficult, if not impossible, to place aetiological significance on a concept such as sex role identification or conflict if the premorbid nature of the concept is unknown. Consequently, this body of research knowledge can make no claims on the importance of sex role identity as an aetiological factor in the development of alcohol dependence in women. Rather, it can only describe the nature of identification at the time of the study and how it differs between alcohol dependent and other women.

How other factors such as, for example, depression or self-esteem, relate to sex role identification is also relevant. The possibility arises that sex role identity is influenced by these factors, which in turn have been affected by the course of alcohol dependence. These issues can only be resolved by the use of longitudinal studies of women, some of whom go on to develop alcohol dependence.

Measurement of sex role identity is another problem within this area of research. Although several studies have attempted to ascertain the extent

of identification on several levels, predominantly that of conscious, stylistic, and unconscious response, comparability of the measures used to define these responses is lacking. Consequently, results that may at first appear to reflect contradictory findings may in fact reflect only differences arising from the unsuitability and/or lack of comparability of the measures used.

Outcomes based on comparisons between alcohol dependent and non-alcohol-dependent women are influenced by the nature of the control group. One very good example of this is Beckman's work (1978b; Beckman et al., 1980), where a later reanalysis of data using only a subsection of the original control group as the comparison group yielded significant differences in areas where previously no differences were found. Similarly, a comparison of the results obtained by Wilsnack (1973) and Anderson (1980) indicated that the differing conclusions were due almost entirely to differences in the control groups' responses to identical measures.

The composition of the alcohol dependent group can also influence the nature of the conclusions reached. For example, Wilsnack (1976) states that "the difference between Parker's findings and my own may reflect differences in sex-role orientations and in the nature of sex-role conflicts between two relatively distinct subgroups of alcoholic women" (p. 51), these subgroups being primary and secondary alcoholics.

What conclusions can be drawn from the research described earlier? Most, but by no means all, studies have shown that the femininity of sex-typed attitudes, values, and interests of alcohol dependent women do not differ significantly from those of normal control women. However, findings relating to less conscious levels of identification have been more contradictory. The issues raised in the preceding paragraphs no doubt underly the lack of consensus among studies. Several studies have pointed to the existence of

a greater degree of sex role conflict among alcohol dependent women than among normal control women. However, this form of conflict is unequivocally not universal among alcohol dependent women. Furthermore, sex role conflict can be socially defined, as well as intrapsychically. There exist many women who appear to function well in society although they possess characteristics commonly defined as masculine (e.g. career women). Consequently, an examination of how sex role identification interacts with other factors in both alcohol dependent women and women whose sex role identity conflicts with societal expectations may be a valuable aid in the interpretation of the dynamics of sex role identification and drinking. Finally, sex role identity research in alcohol dependent women has focussed primarily on the existence of masculine or feminine characteristics and not on the concept of sex role flexibility or androgyny. It may well be that the lack of integration of both masculine and feminine characteristics, rather than either masculine or feminine identification per se or their incongruence, is the pivotal issue of sex role problems among alcohol dependent women.

CHAPTER FOUR

4.1 INTRODUCTION

The researches into stress and alcohol can be broadly dichotomized into two major groups. In both, it is posited that alcohol is consumed in an attempt to relieve or cope with the experience of stress or tension. The first employs laboratory-based studies of tension reduction as a function of alcohol use, and alcohol use as a function of artificially manipulated stress or tension. Such studies are discussed in Section 4.2.

The second group of studies comprises epidemiological analyses and as such are of greater relevance to the current thesis. These attempt to examine the relationship between the natural experience of stressful life events and the consumption of alcohol. Section 4.3 introduces the concept of stressful life events, whereas Section 4.4 addresses the relationship between the experience of stressful life events and alcohol use. Separate subsections are devoted to studies of non-alcohol-dependent individuals, alcohol dependent men, and alcohol dependent women.

The impact of stressful life events undoubtedly varies between individuals. The psychological appraisal of the experience of certain events and the subsequent emotional responses constitute a mediating process between the experience of stressful life events and any potential changes in drinking behaviour. The psychological or mood-related reasons for drinking to some extent reflect the nature of this mediating process. Therefore, the final section of this chapter, Section 4.5, focusses upon studies which have examined the relationship between mood and alcohol use among alcohol dependent women.

4.2 THE TENSION REDUCTION HYPOTHESIS (TRH)

4.2.1 Introduction

Most of the laboratory-based research focussing on the link between stress and alcohol revolves around the tension reduction hypothesis, or TRH (Conger, 1956). This hypothesis proposes, first, that alcohol serves to reduce tension, and secondly, that this resultant tension relief reinforces further drinking. The implication of the latter stage of the hypothesis is that the experience of tension or stress will lead to increased alcohol consumption.

The following sections review human experimental studies which have addressed these notions.

4.2.2 Tension Reduction as a Function of Alcohol Use

Studies of the effects of ingestion of alcohol on physiological indices of anxiety in nonalcoholic male samples have shown either decreased physiological arousal in support of the TRH (e.g. Lipscomb, Nathan, Wilson & Abrams, 1980; Wilson, Abrams & Lipscomb, 1980), no change (e.g. Bradlyn, Strickler & Maxwell, 1981; McCollam, Burish, Maisto & Sobell, 1980), an increase in physiological arousal (e.g. Keane & Lisman, 1980), or evidence of both decreasing and increasing arousal, depending on the specific physiological measure used (e.g. Levenson, Sher, Grossman, Newman & Newlin, 1980; Sher & Levenson, 1982). When self-report measures of anxiety were used, the results were also contradictory, with some studies offering support for the TRH (e.g. Levenson et al., 1980; Polivy, Schueneman & Carlson, 1976; Robbins & Brotherton, 1980; Sher & Levenson, 1982; Vogel-Sprott, 1967) and others finding no evidence of tension reduction as a result of alcohol consumption (e.g. Keane & Lisman, 1980; Lipscomb et al., 1980; McCollam et al., 1980; G.T. Wilson et al., 1980).

The TRH has also been examined using samples of alcohol dependent males. In laboratory drinking studies, Tamerin and Mendelson (1969), Alterman, Gottheil and Crawford (1975) and Stockwell, Hodgson and Rankin (1982) found a short-term reduction in anxiety with drinking, which was reversed as drinking progressed, whereas some studies have shown only increasing anxiety as a result of drinking (e.g. Allman, Taylor & Nathan, 1972; McNamee, Mello & Mendelson, 1968; Mendelson, La Dou & Solomon, 1964). Other studies have yielded inconclusive results (e.g. Vannicelli, 1972) or contradictory results, depending on the measures of anxiety employed (e.g. Steffen, Nathan & Taylor, 1974; Stockwell et al., 1982).

With the exception of the Robbins and Brotherton (1980) study, the research reviewed in the preceding pages used exclusively male samples. The work of Robbins and Brotherton illustrates the need for caution in generalizing findings obtained with male samples to females. Although they found a reduction in tension and an increase in confusion with increasing blood alcohol concentrations among both males and females, the direction of changes in depression and anger were sex-specific, increasing with higher blood alcohol levels in males, but decreasing among females.

Two other studies have used female samples to examine the TRH. Eddy (1979) studied the effects of moderate alcohol consumption on anxiety in a sample of 14 problem-drinking and 14 non-problem-drinking women matched on age and education. These women were identified through responses to a drinking behaviour questionnaire distributed at shopping centres. The State-Trait Anxiety Inventory's A-state (Spielberger, Gorsuch & Lushene, 1970) as well as heart rate and speech disturbance were used as measures of anxiety. Subjects gave a short speech under low and high stress conditions, both before and after the consumption of alcohol. Results indicated a reduction in A-state

and heart rate after alcohol ingestion, independent of stress level and normal drinking status. Furthermore, compared with non-problem-drinking women, problem drinkers experienced a significantly greater reduction in A-state anxiety after drinking under high stress but not low stress conditions. Anxiety reduction, in terms of decreased speech disturbance, occurred after drinking only in the low stress condition.

To date, the only reported laboratory study of the behaviour of alcohol dependent women during prolonged drinking is that of Tracey and Nathan (1976). Overall, their very limited sample of only four alcohol dependent women reported increased positive affect once drinking began, with two women specifically reporting tension reduction with drinking.

In summary, research with both male social drinkers and alcoholics provides little empirical support for the first stage of the TRH, namely for the tension-reducing effects of alcohol. Earlier more extensive reviews also attested to the equivocal results of human research (e.g. Cappell, 1975; Marlatt, 1976), paralleling the conclusions reached by Cappell and Herman (1972) in their evaluation of predominantly animal-based controlled experimental research. Results from the very limited amount of research using female subjects offer more support for the tension-reducing effects of alcohol. Nevertheless, these findings need replication before any conclusions can be drawn about the applicability of this stage of the TRH of alcohol use for women.

4.2.3 Alcohol Use as a Function of Tension or Stress

The literature provides no convincing support for the assumption that the experience of stress will lead to increased drinking. On the one hand, some studies of social-drinking males have shown increased drinking after the

experience of greater levels of stress, in the form of either social evaluation fear (Higgins & Marlatt, 1975), provocation to anger (Marlatt, Kosturn & Lang, 1975), or intellectual performance (Tucker, Vuchinich, Sobell & Maisto, 1980). However, the results of other studies of male social drinkers offer no support for this stage of the TRH, whether the means of stress induction is within interpersonal contexts (Holroyd, 1978; Miller, Hersen, Eisler & Hilsman, 1974; Rohsenow, 1982) or via the threat of electric shock (Higgins & Marlatt, 1973).

Relevant studies of alcohol dependent males include those of Allman et al. (1972) who found increased drinking in two of their three subjects only when stress was coupled with periods of socialization rather than isolation, Miller et al. (1974) whose findings supported the TRH in alcohol dependent but not in social-drinking males, and Higgins and Marlatt (1973) who reported no evidence of increased drinking with the threat of impending shock.

The only study to include females was that of Marlatt et al. (1975). No sex differences were evident in the study, which showed that both male and female heavy-drinking students who were provoked to anger but denied the opportunity for retaliation subsequently drank significantly more during a taste discrimination task than did those who were given the opportunity to retaliate.

However, several studies have pointed to an association between Type A or coronary-prone behaviour and alcohol consumption. The Type A behaviour pattern is characterized by competitiveness, time urgency, aggressiveness, and drive (e.g. Price, 1982), or more simply, by a self-induced creation of stress, whereas Type B individuals do not in general exhibit these traits. Friedman and Rosenman have found that both Type A men (Friedman & Rosenman, 1959) and women (Rosenman & Friedman, 1961) consumed more alcohol than their Type B counterparts. In a recent study of a large sample

of men who were at high risk for coronary heart disease, Folsom et al. (1985) found that the Type A men drank more alcohol than did the Type B men. Furthermore, the greater alcohol consumption of the former appeared to be due primarily to their increased frequency of drinking rather than to either an increased quantity per drinking occasion or a lower abstention rate. The authors offered several hypotheses for this apparent association between behaviour pattern and alcohol use. Of these, one relates to the TRH in that the authors proposed that Type A individuals, who find it more difficult to relax than do Type B individuals, may drink more frequently to help them relax.

In summary, the literature provides no convincing support either for the assumption that the experience of stress will lead to increased drinking or that alcohol does in fact reduce tension. Moreover, the point needs to be made that even if stress-induced increases in alcohol consumption were evident, it would nevertheless be difficult to conclude, as noted by Cappell (1975), that reinforcement by stress reduction was the motivation for the increased alcohol consumption.

4.2.4 Limitations and Problems of Research directed at the TRH

In their recent review of studies pertaining to the TRH, Powers and Kutash (1985) include the following limitations as being evident in at least some of the research: generalization from artificial (i.e. laboratory or hospital) to natural settings, small sample sizes, limited range of sample populations and lack of adequate control groups, questionable validity of assessment instruments, and finally, small ranges in alcohol dosages, stressors, and response measures.

Marlatt (1976, 1979) and Abrams (1983) highlight other issues which may partially account for the contradictory evidence in the literature. These include problems of assessment of tension reduction, which are amplified by the difficulty of defining specific emotional states (Russell & Mehrabian, 1975), and the crudity of, and apparent lack of correlation between, measures used to assess tension. Furthermore, the source of tension may mediate the relationship between stress and alcohol consumption. For example, whereas alcohol may be expected to have tension-reducing properties in some situations, such as within interpersonal contexts (Higgins & Marlatt, 1975), these expectations may not be relevant with other sources of tension, such as fear of pain (Higgins & Marlatt, 1973).

The administered dosage of alcohol is another important factor in stress and alcohol research. Evidence suggests a biphasic reaction to alcohol, with stimulative properties being evident at lower concentrations and depressive effects at higher doses (e.g. Mello, 1978). Degree of tolerance to alcohol has also been shown to influence stress responses (Lipscomb et al., 1980).

Earlier studies on stress and alcohol failed to recognize the importance of cognitive mediational factors in the determination of behaviour. As such, they made no attempt to control for the expectation as opposed to the actuality of drinking alcohol, and its consequent effect on stress. Two parallel studies by Abrams and Wilson illustrate that expectations of alcohol, rather than actual alcoholic content, were the major determinants of change in anxiety. Specifically, male subjects who believed that they had been drinking alcohol showed less increase in anxiety after the social stress manipulation than those who believed they had consumed tonic (Wilson & Abrams, 1977), whereas females who thought they had consumed alcohol showed increases in anxiety (Abrams & Wilson, 1979). Although the effects on anxiety were in opposite directions,

the point remains that expectations, and not pharmacological effects, were the major determinant of the stress modulating response. Moreover, these two studies emphasize the danger of generalizing results from studies using male subjects, which are predominant in this area, to females.

The effects of drinking may also be influenced by the setting and context in which drinking occurs, with positive effects more likely to be found in convivial, informal atmospheres (e.g. Williams, 1966). Social factors such as the drinking behaviour of a peer model have also been shown to influence subjects' drinking behaviours (Caudill & Marlatt, 1975), particularly among male heavy drinkers (Lied & Marlatt, 1979).

In summary, as Abrams (1983) stated, "alcohol can increase stress, have no effect on stress or reduce stress depending on the context, the response mode measured, individual differences, cognitive variables and pharmacological factors" (p. 70).

4.3 STRESSFUL LIFE EVENTS

4.3.1 Introduction

Before proceeding to a review of epidemiological studies which address the link between stressful life events and alcohol, a broad overview - by no means a comprehensive review - of the background literature is presented. This overview encompasses the concept of stress underlying the experience of life events, the measurement of stressful life events, and problems inherent in research of this nature.

4.3.2 Definition of Stressful Life Events

Selye (1956) originally postulated that the introduction of noxious agents or "stressors" into an organism caused a physiological reaction of the organism constituting "stress". Although Selye's hypothesis evolved from his work with laboratory animals, essentially similar components of his conceptualization of stress have been retained by more recent considerations of the impact of stress on human behaviour.

Morrissey (1980) integrates definitions of stress by Cofer and Appley (1964), Dodge and Martin (1970) and McGrath (1970), and succinctly deduces that "stress is a state of an individual organism resulting from potentially threatening environmental demands requiring adaptive responses and from the individual's inability or perceived inability to respond adequately to these demands" (p. 60). These environmental demands are seen as being events, situations, or circumstances requiring physiological, psychological, or social adaptations on the part of the individual experiencing them. Death of a loved one, birth of a child, hysterectomy, marriage, divorce, and emigration are examples of such life events.

4.3.3 Measurement of Stressful Life Events

Life events, or more particularly their potential for evoking stress, have been aetiologically implicated in the onset of various psychiatric illnesses (e.g. Brown & Birley, 1968; Brown, Harris & Peto, 1973; Paykel et al., 1969), physical diseases (e.g. Rahe, Meyer, Smith, Kjaer & Holmes, 1964; Rahe & Paasikivi, 1971), and psychological symptomatology (e.g. Gersten, Langner, Eisenberg & Orzeck, 1974; Mueller, Edwards & Yarvis, 1977).

The recognition that life events could be related to future morbidity focussed attention on methods of measuring stress associated with the experience of discrete events, and two distinct approaches have emerged. One conception, originating from the work of Holmes and Rahe (1967), holds that it is the magnitude of life change or readjustment consequent upon the experience of a life event that is associated with the later onset of illness. They state that for each of the 43 life event items contained in their Social Readjustment Rating Scale "the emphasis is on change from the existing steady state and not on psychological meaning, emotion, or social desirability" (p. 217). Life change scores of individual items were based on judges' ratings of the degree of readjustment required by the event; according to "the intensity and length of time necessary to accommodate to a life event, regardless of the desirability of this event" (p. 213, italicised in original).

The approach of Paykel, Prusoff and Uhlenhuth (1971) is representative of the chief alternative method of scaling life events. Their 61-item list of life events was derived, with considerable modification, from Holmes and Rahe (1967). However, the scoring of events incorporated judgements of the degree to which the events were upsetting or distressing, rather than the amount of change or adjustment they evoked. The authors found that low-scoring events, namely those reflecting lesser degrees of distress, generally involved either moderate life change coupled with desirability, or little implication of both change and undesirability, whereas those scoring high tended to involve both change and, in particular, undesirability.

This emphasis on the undesirability of events as being the more important property of life events is supported by the work of some researchers (e.g. Mueller et al., 1977; Vinokur & Selzer, 1975), but disputed by others (e.g. Dohrenwend, 1973; Ruch, 1977) who contend that life change, rather

than distress or undesirability, is the primary dimension. However, Paykel et al. (1971) make the point that "Holmes and Rahe were particularly concerned with the relation of life events to somatic illness. The life-change model has been widely used in that context and may be the more relevant" (p. 346). They explain their own choice of the concept of distress rather than life change by pointing out the intended application of their scale to the precipitation of psychiatric disturbances where stress and perceived distress appear closely related. Furthermore, they state that "threats rather than occurrences, and events which may involve little actual life change. . . often appear to precipitate emotional disturbances" (p. 346). Therefore, rather than viewing the life change and distress approaches to scaling of life events as being in opposition to each other, it may be that these two conceptually different aspects of stress are differentially related to the epidemiology of physical and psychiatric illnesses respectively.

Tennant and Andrews (1976) adopted both the life change and distress approaches in their construction of a 67-item life event inventory. This inventory, which is reviewed in more detail in Section 7.8, is of particular relevance to the current research project as it was calibrated on an Australian sample, thus rendering it more applicable than other comparable scales to research conducted in Australia. The inventory items were derived, with modifications, from the two original inventories outlined earlier, and events were scored for both life change and distress. The obvious advantage of the Tennant and Andrews inventory lies in its potential to quantify individual life events simultaneously in terms of both life change and distress, thus affording opportunities to compare the relative importance of each approach in epidemiological research.

Paykel (1983) identified four main techniques of quantifying life event stress. The first of these is based on consensus scaling, as epitomized by the work of Holmes and Rahe (1967), Paykel et al. (1971), and Tennant and Andrews (1976), all of which were described above.

The second approach involves the categorization of events into groups, taking into account the underlying characteristics of the event. For example, events have been categorized in terms of desirability (e.g. Dohrenwend, 1973; Gersten et al., 1974; Paykel et al., 1969), the area of activity which they involve (e.g. Myers, Lindenthal & Pepper, 1971; Paykel et al., 1969), entrances into or exits from the individual's social field (e.g. Myers, Lindenthal, Pepper & Ostrander, 1972; Paykel et al., 1969), and the control the individual has over the occurrence of the event (e.g. Brown & Birley, 1968; Paykel, 1974).

A third method of quantifying life event stress is through judgements by raters of the expected stressfulness of the event (e.g. Brown, Sklair, Harris & Birley, 1973; Tennant, Smith, Bebbington & Hurry, 1979). This so-called "judgement of contextual threat" approach takes into account the circumstances of the occurrence of the particular event, but ignores the subjective reaction of the individual who experienced that event.

In contrast to the methods outlined above, the final procedure does not involve any objective rating of the stressful life event. Rather, it focusses entirely upon the subjective meaning of the event to the individual who has experienced that event (e.g. Byrne & Whyte, 1980; Dressler, Donovan & Geller, 1976; Stewart & Salt, 1981).

Paykel (1983) made the important point that although the degree of sensitivity inherent in the four methods outlined above increases with each approach, the risk of bias and retrospective falsification also simultaneously increases.

4.3.4 Methodological Issues in Life Event Research

The methodology of research into the relationship between life events and illness has been extensively reviewed and criticized (e.g. Dohrenwend & Dohrenwend, 1974, 1978; Innes, 1981; Kasl, 1977; Paykel, 1983). Kasl has cogently summarized the major criticisms and his points warrant quotation in their entirety:

- (1) The set of weights used for assigning scores to events may be inappropriate or nonoptimal, given cultural, subcultural, and individual differences in rating such events.
- (2) Aside from magnitude, other characteristics of each event should also be known: previous experience with event, anticipation and preparation for it, duration, desirability, person's role in the event, etc.
- (3) Many of the so-called events are vague with no specific objective referents.
- (4) There may be conceptual and methodological overlap between the independent variable (life "events") and the dependent variable (health status indicator).
- (5) Biases in recalling and reporting events may produce spurious association between life events and health status (particularly so in retrospective studies).
- (6) Onset of many events and many health status changes is difficult to determine, making it impossible to establish temporal order, so crucial to causal interpretations.
- (7) Illness behavior is often confused with illness.
- (8) The global (total) score precludes a meaningful study of conditioning variables (in the person and in the environment) and of intervening processes. (pp. 168, 169)

Over a decade ago, Mechanic (1974) stated that:

It is clear that stressful life events play some role in the occurrence of illness in populations. But any statement beyond

this vague generalization is likely to stir controversy. The important issues in understanding how life events interact with social psychological, biological, and intrapsychic variables require specification of what events influence what illnesses under what conditions through what processes. (p. 87, italicised in original)

More recently however, Cooke and Hole (1983) have stressed that the methods of statistical analysis which are utilized can also markedly influence the degree of aetiological importance subsequently attributed to stressful life events. They argue that although the proportion of variance accounted for by life events may often be small, as suggested by Andrews and Tennant (1978) for example, the explained variance reflects only the accuracy of predicting whether a particular individual may succumb to a disease, and does not provide an accurate indication of the aetiological importance of life events. They reanalysed the results of several studies using the Population Attributable Risk Percent statistic (Lilienfeld & Lilienfeld, 1980), and found that approximately 40% of female psychiatric cases within these studies could be attributed to life events.

Problems relating to the measurement of stressful life events can also arise initially through the inappropriate manner of data collection. The three main methods of collecting data involve the use of either a self-report questionnaire, a semistructured interview, or a completely standardized interview. According to Paykel (1983), a semistructured interview represents the best approach, in that it provides the opportunity not only for further definition of items, but also for probing by the interviewer to determine the time of occurrence of the event. Therefore, this approach should enable the collection of reliable and valid data, if used with care.

In summary, the outcome of research into the association between life events and illness is influenced not only by problems of definition and

measurement as outlined by, for example, Kasl (1977), but also by the manner of data collection and the method of statistical analysis.

4.4 EPIDEMIOLOGICAL RESEARCH ON STRESSFUL LIFE EVENTS AND DRINKING

4.4.1 Introduction

Section 4.2 concentrated on laboratory studies attempting to link stress and alcohol. In view of the fact that the net results of these studies provide little evidence to suggest that the simple reinforcing effect of tension reduction is the major motivation for drinking, alternative explanations need to be addressed. For example, Abrams (1983) has extended the relatively simplistic TRH. He posits that the interrelationships between environmental stress, individual predisposing factors, decision-making cognitions, behaviour, and immediate and delayed consequences of drinking may lead to vicious cycles of recurrent stress and drinking, as depicted in Figure 1.

He characterizes persons in this high-risk group, who choose alcohol as a means of self-control and coping, as having poor stress tolerance, an expectation that alcohol reduces stress, no viable alternative coping responses other than drinking, and low self-efficacy. The loops of events explain the increased reliance on drinking as a coping mechanism, whereby the immediate effects of drinking reinforce subsequent drinking, the delayed effects exacerbate the predisposing individual deficits and the long-term effects increase the environmental stressors.

Although the laboratory-based studies discussed earlier were unable consistently to show increases in drinking as a result of artificially manipulated stress, epidemiological research findings indicate a stronger relationship. These focus on one aspect of Abrams' (1983) model, namely the association between

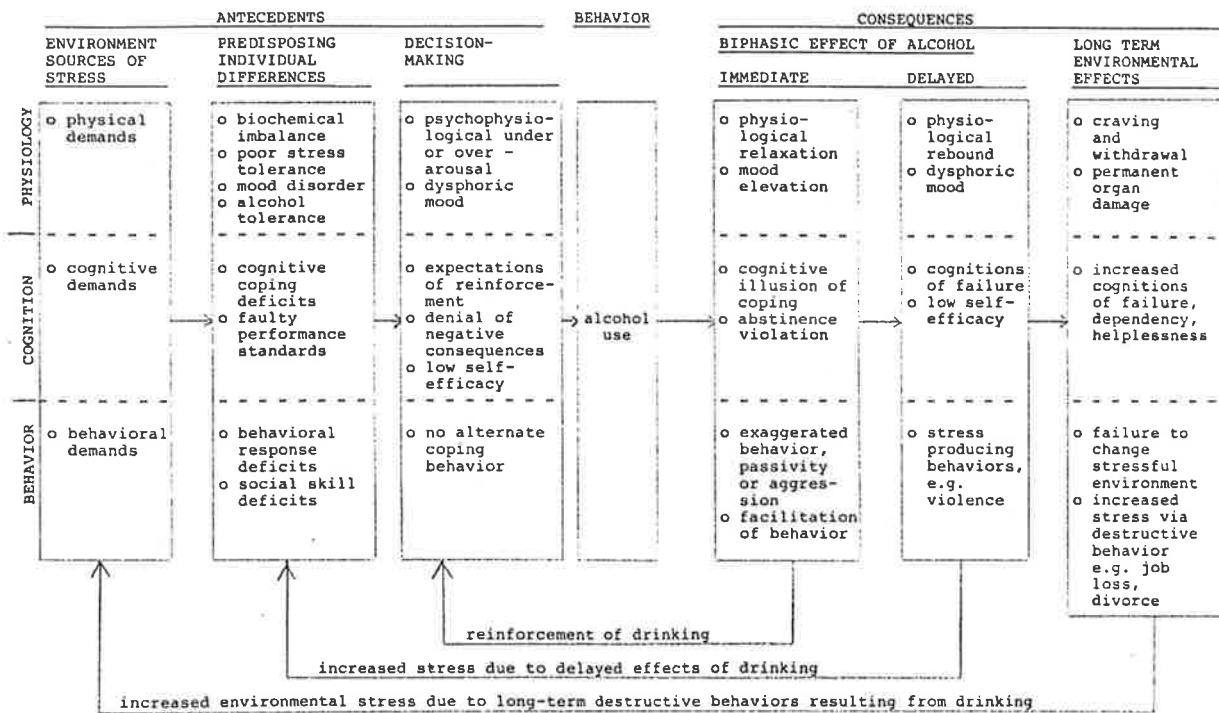


FIGURE 1. Relationship between environmental stress, individual predisposing factors, decision making cognitions, behaviour, immediate and delayed consequences of drinking.

(Feedback loops illustrate vicious cycles of recurrent stress and drinking.)

REPRODUCED FROM: Abrams, 1983, p. 80.

environmental stressors, in the form of stressful life events, and drinking. The results of studies that have examined this relationship within non-alcohol-dependent samples are presented in Section 4.4.2; examples of studies comprised primarily of alcohol dependent males are reviewed in the following section. Stressful life events have commonly been reported as precipitating alcohol dependence among women (e.g. Curlee, 1969; Holubowycz, 1983; Morrissey & Schuckit, 1978; Wall, 1937; Wilsnack, 1973). Such studies are reviewed in more detail in Section 4.4.4.

4.4.2 Association between Alcohol Use and Stressful Life Events in Non-Alcohol-Dependent Individuals

Several studies have examined whether individuals who differ with respect to their drinking behaviours also differ in their prior experience of stressful life events. The results of some of these studies are summarized below.

Neff and Husaini (1982) classified 713 predominantly rural residents as abstainers, moderate drinkers (i.e. an average of five or fewer drinks per week), or heavy drinkers (i.e. an average of more than five drinks per week). Their results indicated that heavy drinkers, who comprised 17% of the sample, reported more life events in the 12 months preceding interview than did either moderate drinkers or abstainers. It should be noted, however, that an unusually high proportion (66%) of their sample were classified as abstainers.

Wells-Parker, Miles and Spencer (1983) found that elderly males charged with their first offence of driving with a blood alcohol concentration in excess of 100 mg/100 ml experienced significantly more stressful events and life change in the 12 months prior to their arrest than did a control sample of elderly nonoffending men. However, the researchers also observed that the elderly first offenders reported more drinking problems in their younger years than did the controls.

At least one study has examined the association between life event stress and alcohol consumption within a random sample of women drawn from the general population. Within their sample of 230 women, Cooke and Allan (1984) classified women who had consumed alcohol in the seven days prior to interview as regular drinkers, whereas those who reported drinking in the previous year but not in the previous week were considered to be occasional drinkers. The remainder were classified as nondrinkers. Among drinkers,

women consuming a quantity of alcohol more than one standard deviation above the mean were designated as heavy drinkers. Respondents were questioned about life events experienced in the previous year, and these were subsequently weighted with respect to degree of upset, using weights obtained by Paykel, McGuiness and Gomez (1976) in a previous British study. Four life event indices were used, namely those of total life stress, life stress arising from the departure of significant individuals from the respondent's social field, life stress due to death events, and total life stress over the previous three months. Correlations between reported alcohol consumption and life event scores were computed for each combination of drinker type and life event index, but no correlations reached statistical significance. The authors concluded that their study provides no evidence that women in the general population increase their alcohol consumption in response to life events. However, it should be noted that the report does not appear to consider the possibility of a change in drinking pattern consequent upon the experience of stressful life events over a longer period of time.

The studies described above have examined the relationship of stressful life events and drinking at the individual level. A recent study by Linsky, Straus and Colby (1985) has, on the other hand, examined this association at the macro, societal level. The State Stress Index, developed by Linsky and Straus (cited in Linsky et al., 1985), was used to reflect the extent of life change experienced at a societal level, within individual states of the U.S.A. The 15 items of the index are analogous to items used in the individual-level life event scales. Positive correlations were found between this index and the three indicators of alcohol-related problems, namely cirrhosis death rates, alcoholism and alcoholic psychosis death rates, and total alcohol consumption. The death rate correlations were significant for the total populations, and of

particular relevance in this thesis, were highest among White women. However, as recognized by the authors, the lack of a time lag between the measures of stressful life events and alcohol-related problems limits the study's applicability in defining a causal model between the experience of stressful life events and increased drinking.

The experience of stressful life events may also be mediated by the Type A behaviour pattern. Byrne and Rosenman (1986) have shown, for example, that individuals exhibiting the Type A pattern also report more stressful life events. In view of the finding by Folsom et al. (1985), referred to previously, that Type A men also drink more frequently than do Type B, there is the possibility that a personality variable mediates between stressful life events and drinking.

4.4.3 Experience of Stressful Life Events among Alcohol Dependent Males

4.4.3.1 Introduction

Studies of stressful life events among alcohol dependent males can be divided into two types: those that examine the prior incidence of life events, and those that focus upon the relationship between treatment outcome and the experience of life events.

4.4.3.2 Prior Incidence of Life Events

Dudley and his colleagues, for instance, have reported that their sample of hospitalized alcohol dependent males had experienced a high degree of life change associated with stressful life events in the year prior to testing (Dudley, Roszell, Mules & Hague, 1974), as well as in each of four time periods extending up to three years prior to testing (Mules, Hague & Dudley, 1977). A high total frequency of life events has also been observed (Dudley, Mules, Roszell, Glickfeld & Hague, 1976). Furthermore, Masuda and Holmes (1978) reported

that the above sample experienced a higher mean annual frequency of life events than did prisoners, students, doctors, patients, footballers, pregnant women, and normative samples.

Similarly, detoxification patients (of unspecified sex) reported significantly more life events during the past year than did community survey respondents (Bell, Keeley, Clements, Warheit & Holzer, 1976). The authors also noted that the two groups were less likely to differ with respect to events that were relatively independent of their actions. On the other hand, however, they were more likely to differ with respect to interpersonal or social events, which may in fact involve the consequences of maladaptive behaviour.

This latter finding serves to emphasize the very real possibility of some life events being consequences and not antecedents of heavy drinking. The importance of defining the temporal sequence of events interpreted as independent and dependent was also stressed by Kasl (1977), as noted previously.

4.4.3.3 Relationship between Treatment Outcome and the Experience of Life Events

Moos, Bromet, Tsu and Moos (1979) found that among their sample (composed predominantly but not exclusively of males), at six to eight months after treatment, the number of undesirable or negative life events was related to alcohol consumption, self-rating of drinking problem, and physical impairment. On the other hand, the number of desirable or positive events was related to psychological well-being.

Billings and Moos (1983) found that relapsed alcoholics reported twice the number of negative events than did recovered alcoholics, and only half the number of positive events. Rosenberg (1983) similarly found an association between negative events and relapse, and positive events and recovery. He

also noted that the total number of life events did not differ significantly between the relapsers and nonrelapsers, implying that the quality rather than the quantity of life events was important with respect to treatment outcome.

O'Doherty and Davies (1987) make the point that results such as these need to be interpreted with caution, given the possibility that relapsers perceived their life events as being more negative than did nonrelapsers, as a way of explaining their relapse. Furthermore, as mentioned previously, the drinking per se may have increased the incidence of negative events.

4.4.4 Stressful Life Events and Alcohol Dependence in Women

4.4.4.1 Introduction

The literature on alcohol dependent women reflects a continued emphasis on the role of life event stress in the development of dependence. For example, in their recent review of stressful life events and alcohol misuse in women, Allan and Cooke (1985) point out that "many researchers have suggested that women begin to misuse alcohol in response to stress linked to precipitating circumstances or life events" (p. 147).

The following subsections address, first, those studies that describe the types of stressful life events experienced by alcohol dependent women, and secondly, those that have compared alcohol dependent women and men with respect to their experience of stressful life events. An overall critique of these studies is presented in Section 4.4.4.4 and the last subsection provides a summary of the research findings.

4.4.4.2 Descriptive Studies of Alcohol Dependent Women

Wall (1937), in his seminal work on alcohol dependent women, first suggested that among women "excessive drinking [is] more intimately associated

with a definite life situation" (p. 952). He noted that the nature of the precipitant stress differed across age groups. Specifically, women who began to drink before the age of 20 did so in response to a definite personal problem, such as dysmenorrhoea, an abortion, or desertion by a lover. In contrast to these younger women who began to drink pathologically from the outset, the excessive drinking of women who began drinking in their twenties or thirties was preceded by moderate social drinking. Among this group, precipitants of excessive drinking included marital problems, childbirth, physical illness, and deaths of relatives. Women who began to drink after the age of 40 related the onset of problem drinking to problems associated with menopause. Van Amberg (1943) studied a further series of 50 alcohol dependent women admitted to the same hospital previously utilized by Wall. Concrete although not necessarily discrete causal factors of drinking reported by the women included difficult marital situations (38%), loss of relatives (20%), strong involuntional factors (32%), and economic insecurity (14%).

Rosenbaum (1958) found that within his sample of 67 married alcohol dependent women, the most commonly cited precipitating causes of alcoholic episodes were related to the spousal relationship. (Although an "alcoholic episode" is not specifically defined by Rosenbaum, it refers presumably to a prolonged period of excessive drinking.) Other causes of these episodes cited by at least 15% of the women included ongoing tensions such as anger, depression, boredom, or loneliness, problems with children, and physical complaints. Earlier studies had alluded to the significance of familial deaths, but only 4% of Rosenbaum's sample cited the death of a relative. Other discrete, as opposed to continuing, stresses were also rarely cited.

In a sample of 34 AA volunteers, Fort and Porterfield (1961) found that 44% of the women developed alcohol problems immediately following

a well-defined highly emotional stress event. This onset pattern was found primarily among those women without pre-alcoholic maladjustments, who were also older at the time of onset. Cramer and Blacker (1963) reported a similar pattern among female reformatory inmates. Within their sample, 24 problem drinkers first became intoxicated at 25 years of age or later, and of these "late" drinkers, 83% experienced a stress situation, most commonly a familial death, near the time of their first intoxication. This relationship between life events and first intoxication was verified by matching dates of first intoxication with dates of events, rather than relying solely upon patients' reports of events perceived as instrumental in their first intoxication. However, younger women and older women who first became intoxicated at an earlier age did not exhibit this association between life events and first intoxication, but as in Fort and Porterfield's study, did show evidence of a more disorganized background.

Johnson et al. (1966) studied 35 alcohol dependent women who were volunteers from AA or were referred by their family doctors. Although 40% of the women referred to life stress as the reason for the development of their drinking problem, only two women mentioned discrete events such as the death of a relative, with the remainder reporting continuous stress such as marital problems, problems with parents, or unhappiness as children.

Of Kinsey's (1968) sample of 46 alcohol dependent women of lower socio-economic status, 36 related physiological factors to the onset of alcohol dependence. Frigidity and infertility were most commonly mentioned; a smaller number referred to menopause and homosexuality.

Curlee (1969) found that 30% of her sample of 100 women associated the onset of their alcohol dependence with a specific factor. She noted that for 21 of these women, the trauma involved events such as menopause, husband's

death, breaking of ties with children, or divorce, all of which could be seen as a change in, or challenge to, their roles as wives or mothers, namely, as a middle-age identity crisis. The nine remaining women referred to retirement, stress and depression consequent upon childbirth, concurrent physical health problems, and adaptations to problem-drinking husbands as precipitants of their excessive drinking. However, in a later publication, Curlee (1970) appears to have dismissed the latter two factors as precipitating stresses, and noted that 26% of the original sample, and not the previously mentioned 30%, identified some definite precipitating stress which tipped the scale towards uncontrolled drinking.

Wilsnack (1973) similarly stated that many of the events shortly preceding the onset of excessive drinking could be viewed as threats to a woman's sense of feminine adequacy. Of the 26 women in her sample who were questioned about precipitating events or life crises, 24 named such events. Divorce, separation, marital problems, and husband's death were mentioned most frequently; other events included obstetric or gynaecological problems, children growing older and more independent, and children leaving home.

Two Australian studies have looked at antecedents of problem drinking among alcohol dependent women, but the small sample size of 20 in each study presents problems of interpretation. The women in Warmington's (1977) study most commonly reported marital and family problems as being present when drinking became a problem. Bartnik and Smith's (1979) data indicate continuous and not discrete stresses as being common antecedents of problem drinking. Non-family-related antecedents, such as loneliness or wanting to have a good time, were reported by 60% of their sample, whereas the remaining 40% gave family-related antecedents, including financial worries or general upsets. Discrete events such as familial deaths, gynaecological events, divorce,

or separation were mentioned by 60% of the sample as being precipitating events of first drinking to get drunk; surprisingly, in the light of previous findings, these discrete events were not mentioned as antecedents of problem drinking.

On the basis of one of the more methodologically sound studies, Morrissey and Schuckit (1978) concluded that "no strong temporal associations were found between the occurrence of stressful life events and the onset of alcohol problems" (p. 1559) within their large sample of women admitted to a detoxification centre. The patients were asked about their age at first occurrence of events including obstetric or gynaecological problems, familial deaths, marital separation or divorce, homosexual experiences, drug problems, depression, and suicide attempts. Two indices of age at onset of problem drinking were used, these being the patient's subjective estimate of that age and the age at which an alcohol-related problem first occurred. They found that although 98% of the patients had experienced at least one of the potentially stressful life events mentioned previously, only 22% experienced their first alcohol-related problem within one year of any event, and slightly less than half did so either within the same year or within the following three years. When the age at which the patient perceived the onset of alcohol problems was used, the relationship was even less strong. The authors recognized that some of the events, in particular depression, suicide attempts, marital disruption, and drug-related problems, could be consequences rather than causes of increased drinking, and that the inclusion of these events would have tended to inflate the observed association. Gynaecological events and familial deaths were less likely to be influenced by drinking, and were experienced by, respectively, 89% and 74% of the patients. However, onset of the first alcohol-related problem occurred within a year of these respective events among only 8%

and 10% of the women, and even when the time interval was expanded, only 28% and 20% respectively demonstrated any temporal relationship.

Morrissey and Schuckit (1978) also found that problem-drinking women, as opposed to alcohol dependent women, were most likely to experience their first alcohol-related problem in the same year as any life event, suggesting that the problem drinkers may be experiencing transient alcohol-related difficulties, perhaps at a time of severe stress. Examination of specific types of events indicated that gynaecological events were most closely related to the occurrence of alcohol problems among primary alcohol dependent women, familial deaths among secondary alcohol dependent women, and depression or suicide attempts and drug problems among problem drinkers.

Morrissey and Schuckit (1978) stressed that a patient's report of an association between life events and pathology should not be interpreted as causal, nor even taken as indicative that such an association did in fact exist. Furthermore, they made the point that the accumulation of stressful events over time may be aetiologically more important in the development of alcohol-related problems than the experience of single discrete events. Because patients were asked only for the age at first occurrence of events, their study could not determine the potential effect on drinking pattern of later occurrences of similar events. In contrast, however, Brown and Harris (1978) have argued that once a single major event has been experienced, subsequent events are of lesser importance.

In a sample of 28 alcohol dependent female inpatients (of whom approximately two thirds were Black), Fine et al. (1979) noted that 52% indicated that traumatic events or specific life crises preceded the onset of their alcohol dependence. Schulte and Blume (1979) also reported a high incidence of specific precipitating factors leading to heavy drinking. Of their sample of 40 alcohol

dependent women attending a day centre, 88% cited such factors, most of which related to marital and family problems or other traumatic events that disturbed their traditional roles in the family.

All 15 women in Linton's (1983) study of AA volunteers reported experiencing a significant life crisis and/or depression prior to the onset of heavy drinking. She also noted that the occurrence of a further life crisis during a period of active drinking served to increase the degree of drinking.

In a comparison of 38 Black and 163 White women undergoing treatment for alcohol-related problems, Dawkins and Harper (1983) found that more White women than Black women perceived divorce or a broken relationship (47% of White women and 29% of Black women), marital problems (48% and 39%, respectively), and loneliness or boredom (73% and 59%, respectively) as major contributing factors to their alcohol problem. Although they stated that smaller racial differences were evident for other factors such as deaths of significant others or traumatic experiences, they did not report actual percentages for these factors.

Two other studies refer to types of stressors experienced by alcohol dependent women, without clarifying whether these were antecedent to the initial onset of drinking problems, or were merely experienced at some later point in time. Browne-Mayers et al. (1976) noted that "alcoholic women will utilize almost any stressful experience as an excuse for resuming or increasing their drinking" (p. 602). They found that among the 62 women in their sample, reports were given of: 45 occurrences of family stress, including 20 of marital disharmony; 15 of isolation, including 5 resulting from death; 13 of underlying physical or psychiatric illness; and 5 each of sexual conflict and job stress. Of 100 female patients in England referred with drinking problems, Hore (1979) noted the occurrence of a recent bereavement in 12. It is interesting to note

however, that Clayton, Halikes and Maurice (1971) had found that only 4 of 10 heavy-drinking or alcohol dependent persons actually increased their drinking during a period of bereavement following a spouse's death.

4.4.4.3 Comparisons between Alcohol Dependent Women and Men

Although descriptive studies of alcohol dependent women may elicit information about the types of stressful life events experienced prior to the onset of dependence, they cannot in themselves provide indications of whether life event stress is an important and unique precipitant of female dependence. However, several studies have examined whether women are more likely than men to relate the onset of excessive drinking to life event stress, by comparing its premorbid incidence between both alcohol dependent women and men.

Lisansky (1957) was the first to examine gender differences in the circumstances surrounding the onset of uncontrolled drinking. Reasons for drinking were reported for 28 outpatients of each sex, although why these patients were selected from the larger original sample is not stated. Of the women, all but two referred to a specific discrete stressful event such as parental death, divorce, abortion, surgery, or unhappy love affair as the reason for their problem drinking. However, only half of the men nominated past events as reasons for their drinking and their references to these events were often vague.

Curlee's (1969) study supported the earlier finding of Lisansky (1957) that alcohol dependent women were more likely than their male counterparts to relate the onset of excessive drinking to specific problems. In her study of 100 patients of each sex, she found that only 8% of the males referred to specific precipitating factors, whereas more than one quarter of the women associated the onset of alcohol dependence with a specific factor.

Dahlgren (1978) similarly compared the cited reasons for alcohol abuse of 100 alcohol dependent women and men. She found that significantly more women (75%) than men (33%) reported specific circumstances as reasons for their drinking problems. A further 11 women and 28 men cited a heavy social life as the reason, whereas the remaining 14 women and 39 men saw no apparent reason for their abuse. Reasons given by women included marital problems or divorce (28 instances), general nervous conditions (17), living with an alcohol dependent partner (12), and death of a significant other (5), whereas men usually blamed marital problems or divorce (12), nervous conditions (10), or work difficulties (5).

In a further comparison between married alcohol dependent women and men, Dahlgren (1979) found that 80% of 51 women and only 20% of 46 men subjectively rated their alcohol problems as being partly or totally due to their partners. Beckman (1979a) similarly found that alcohol dependent women saw other persons, such as spouses, as a more important causal factor of their drinking problems than did their male counterparts. However, males and females did not assign significantly different ratings of importance to other factors including distressing events (e.g. familial deaths, divorce, job loss) and environment (e.g. job, marriage, home life as a child) as being responsible for their own drinking problems.

The studies reviewed up to this point have not considered the effect on drinking of multiple occurrences of any specific event. In a relatively sophisticated study comparing alcohol dependent females and males, Morrissey (1981) examined the impact on problem drinking of subsequent occurrences of a particular event, namely childbirth. She found that although nearly equal numbers of males first defined themselves as problem drinkers within two years following the birth of a first or second child, among females, the birth

of the first child had a greater impact on subsequent development of problem drinking. Rather than using the entire sample as the denominator in establishing the rates of onset of alcohol-related problems following life events, as was generally done in other studies, Morrissey utilized an actuarial method of data analysis developed by Robins, Taibleson, LeVine and Richardson (1972) which allowed the determination of subjects still at risk of developing alcohol-related problems following the event. Because of their generally earlier onset of problem drinking, a smaller absolute number of males are ever at risk of developing alcohol-related problems in response to the birth of children. In accordance with this, Morrissey found that a greater number of women than men developed alcohol-related problems after the birth of a child. However, contrary to expectations and to findings in earlier studies, the rate of outcome was almost twice as high among men than among women. A similar pattern in rate of outcome was seen when self-definition as a problem drinker was used as the outcome variable.

Other studies have compared women and men on the circumstances prior to various alcohol-related outcomes. Sclare (1970) looked at the provocative situations leading to hospital referral in 50 alcohol dependent persons of each gender, and found that women most often cited marital discord (22 instances) and domestic stress (21), whereas men described situations of depressive symptomatology (22) and employment problems (21). A comparison of provocative factors indicated that domestic stress was significantly more common among women than among men, whereas employment problems were significantly less frequent.

Hoffmann and Noem (1975c) examined the frequencies of life events which were reported to have occurred just prior to the onset of the latest period of drinking among a sample of rural alcohol dependent females and

males. The 74 women most commonly reported financial problems (58%), marital problems (51%), a severe disappointment (49%), physical illness (42%), death of a significant other (41%), loss or difficulties with spouse (39%), an anticipated or realized responsibility (32%), and changes associated with aging (22%). The 650 men also most commonly reported these same events, as well as legal involvement. Women reported an overall higher frequency of life events than did men, and consideration of specific events indicated that a significantly higher percentage of women than men reported loss or difficulties with spouse, the death of a significant other, physical illness in themselves, marital problems, and miscarriage, pregnancy or childbirth. Only legal involvement was reported by a significantly higher percentage of men than women.

As a consequence of their research, Hoffmann and Noem (1975c) suggested that two types of events may precede a drinking bout. One type, such as financial or marital problems, may in fact result from the alcohol abuse itself, whereas the other type, for example deaths of significant others, may precipitate the drinking problems.

Mulford (1977) examined the nature of emotional crises experienced by a large sample of females and males in the year preceding their first admission to an alcoholism service centre. Women reported an emotional crisis during the year prior to admission more frequently than did men. Types of recent crises reported by women and men included a major illness or accident within the family (32% and 21%, respectively), a major financial setback (29% and 23%), divorce or separation (24% and 16%), and suicide attempts (16% and 5%).

4.4.4.4 Critique of Research on Life Event Stress among Alcohol Dependent Women

The research on life events and alcohol dependence in women remains at a relatively primitive level: most studies describe only the types of events experienced and the proportions of alcohol dependent women who report the incidence of certain events. As was apparent in the preceding subsections, numerous studies have alluded to the role of stressful life events in the development of alcohol dependence among women. Problems of interpretation of the results of these studies stem predominantly from problems inherent in definition and measurement of stressful life events and their lack of comparability across studies, and from varied methodological insufficiencies.

Kasl's (1977) major criticisms, levelled at the general area of life event research (see Section 4.3.4), are also relevant to studies on the experience of stressful life events by alcohol dependent women. The following paragraphs reiterate and expand upon some of Kasl's criticisms, within the context of research on alcohol dependent women.

The result obtained within any single study is obviously partly determined by what is taken to constitute a life event. The studies cited earlier reflect a wide diversity of definition of life events. Without regard to their qualitative characteristics, the nature of events can be broadly categorized as being either discrete, as in a familial death or a child's birth, or continuous as exemplified by marital disharmony, a chronic physical illness, or economic difficulties. Several studies have included not only specific events but also particular types of emotional circumstances, such as loneliness or depression. Although the occurrence of specific discrete events can be dated with a reasonable degree of accuracy, this is clearly not the case with continuous stressors or mood-related factors. It stands to reason that the wider the

definition of life events, the greater the likelihood that they are found to be associated with the development of alcohol dependence, or for that matter, with any form of pathology. Furthermore, unless the definition of life events remains constant, as exemplified by the use of a life events inventory such as that of Tennant and Andrews (1976), it becomes difficult if not impossible to compare findings across studies.

Allan and Cooke (1985) make the point that because most life event studies are retrospective in nature, difficulties can therefore arise through the recall of events. They suggest that the accurate recall of events may be hindered by a tendency to attribute, for example, heavy drinking to specific causes. They quote Dahlgren (1975) as speculating that this course of action may elicit sympathy rather than condemnation for what is still a stigmatized condition, particularly among women. Furthermore, on the basis of Brown and Harris' (1978) work, they hypothesize that depressive symptomatology, which is commonly seen among alcohol dependent women, may lead to a biased and negative view of the past and therefore to an unreliable account of events. Finally, they point out that any cognitive deficits resulting from prolonged drinking may also inhibit accuracy in recalling events.

Aetiological considerations of the role of life events in the development of alcohol-related problems essentially depend on the accurate measurement of both time of occurrence of life events and time of onset of the outcome variable, which is usually alcohol dependence. As also noted by Allan and Cooke (1985), problems often arise in the dating of onset of the alcohol-related outcome under consideration. Obviously, the definition of stressful life events as being pre- or post-onset relies upon the accurate identification of time of onset of the alcohol-related outcome. However, most studies have ignored the dating procedure by simply asking subjects to specify the circumstances

or events which they felt were related to the onset of, for example, alcohol dependence.

Several methodological problems arise through the use of such an approach, which is based entirely on self-report of both antecedent and outcome variables. This approach depends on the subjects' recall of events, their interpretation of the aetiological significance of such events, and their identification of the time of onset of dependence. Each of these factors is in itself problematic, as discussed earlier. Furthermore, the time span over which events may have aetiological significance is left open to individual interpretation. Finally, the probability that a subject will refer to one or more events as a means of rationalization of her drinking problems is increased, as mentioned previously.

As early as 1957, Lisansky had cautioned that the reasons given by alcohol dependent persons for their drinking may in fact only be rationalizations of their excessive drinking. This warning seems largely to have been ignored, and researchers have continued to report events cited by alcohol dependent women as precipitants of their excessive drinking.

Cramer and Blacker (1963) and Morrissey and Schuckit (1978) both adopted a technique wherein data about the time of occurrence of life events and the time of onset of the alcohol-related outcome were gathered during separate phases of the interview. This allowed for a more systematic and objective evaluation of the temporal relationship between life events and onset of alcohol-related problems than was possible in other investigations.

The use of a standard inventory of life events increases the likelihood of objective measurement, by aiding subject recall and preserving the terms of reference of what constitutes a life event. The collection of dates of

occurrence of specific events and of alcohol-related outcomes permits the investigator to determine the period of time during which events may be temporally associated with outcome, rather than relying upon the subject's definition of which events contributed to the onset of the alcohol-related outcome in question.

Most investigators have merely reported the proportion of their sample who cited a specific life event as being contributory to the development of alcohol dependence, or in even more general terms, the percentage of subjects reporting any life events during a specified period of time prior to the onset of dependence. With the exception of Morrissey's (1981) work, studies have ignored the size of the sample actually still at risk of developing an alcohol-related outcome following the experience of a specific life event. For example, if a woman has never married, obviously she cannot undergo divorce, or become alcohol dependent as a result of that event. The use of the entire sample of subjects as the denominator in establishing rates of onset of alcohol-related problems following specific life events, rather than only those subjects at risk of developing problems given the experience of the particular life event, will tend to attenuate the magnitude of the association between life events and subsequent onset of problems. This aspect of methodology is particularly pertinent to gender comparisons of the role of life events in the development of dependence. Because of the earlier age at onset of alcohol-related problems among males, a smaller absolute number of males remain at risk of first developing problems in response to particular life events.

Few studies of alcohol dependent women have attempted to categorize life events in terms of their qualitative nature, and even fewer have employed a quantitative assessment of the experience of life events through the assignment and subsequent addition of weights reflecting inherent life change or desirability

characteristics of the events. The latter approach, in particular, would incorporate the notion that the accumulation of stressors may have a greater aetiological impact on the development of problems with drinking, than would the experience of a single life event.

Perhaps the most serious problem of interpretation lies in the confusion between causes and consequences of alcohol dependence. This confusion is well illustrated by the remarks of Bell et al. (1976), who suggest that the events, such as familial deaths, on which their detoxification patients and community survey respondents did not differ significantly were events somewhat independent of the individual's actions. Significant differences were found for other events, including marital, legal, and financial problems, and they state that "these events are highly interpersonal or social and involve the consequences of maladaptive interpersonal or social behaviors" (p. 476). However, they go on to say that their findings "suggest and support the role of life stress in the possible formation of alcoholism" (p. 477), a statement which appears contradictory to the earlier quotation.

Alcohol dependence develops over a period of time, during which increasingly serious problems with drinking are often evident. It is probable that many life events, and in particular continuous stressors such as marital problems, which are reported by alcohol dependent women as being precipitants of their dependence, are in fact consequences of their rapidly increasing involvement with alcohol. Therefore, the direction of influence may be that increased drinking leads to an increase in the experience of stressful life events, and not vice versa as is so commonly assumed.

However, the possibility also arises that the association between life events and excessive drinking may be spurious, as suggested by Allan and Cooke (1985). A third factor, such as an underlying personality disorder, may

generate both an increased number of life events and a tendency towards excessive drinking. To date, no studies have addressed the possibility of the existence of spurious correlations between life events and drinking.

The final methodological problem inherent in this area of research lies in the nature of the samples used. With the exception of the study by Cooke and Allan (1984), all studies have examined treatment populations. Sclare (1970) has pointed out that among women, domestic stress including marital problems was a common situation leading to hospital referral and subsequent treatment. Consequently, as Allan and Cooke (1985) note:

Life events may merely cause contact with or referral to treatment agencies but not cause the alcohol misuse per se. The samples considered . . . may, therefore, represent not only a small proportion of alcohol misusers but also a biased population of alcohol misusers, the high rate of events observed being an artifact of the referral procedures.
(p. 150)

Finally, with the exception of a preliminary report of this research by the writer (Holubowycz, 1983), no other studies on life events and drinking among women have incorporated into their design a control group of women drawn from the general population. Such a design would enable comparisons on the experience of stressful life events over varying periods of time between alcohol dependent women and normal control women, and thus help to define the contribution of life event stress to the development of female alcohol dependence.

Even if it is assumed that factors such as the experience of life events may predispose a woman to develop alcohol dependence, it must also be assumed that other factors may act to decrease the probability of the development of excessive drinking. Obviously, there are many women who have

experienced the stress associated with life events, but who have never begun to drink excessively. A factor which in recent years has been recognized as a mediator of any possible stress/adjustment/illness relationship is the effect of a social support network. This issue will be considered in more detail in the following chapter.

4.4.4.5 Summary

Generally, most studies of the role of life events in the development of alcohol dependence among women have suffered from the inadequacies discussed in the previous pages, making it difficult to draw conclusions on the basis of past research. Nevertheless, some general points can be made. Continuous stressors, such as marital difficulties, have most often been cited as precipitators of dependence. However, caution is needed, since it is possible that many continuous stressors may, at least in part, result from earlier alcohol-related problems. The importance of discrete events, such as familial deaths, varies widely across studies and does not indicate any apparent trend.

Studies that have examined the relationship between age and the association between life events and development of dependence have indicated that the relationship is stronger among older women who developed alcohol-related problems later in life.

Comparisons between women and men have shown a greater number of women reporting life events antecedent to the development of dependence. However, other factors may contribute to this finding, including the possibility that women are more likely than men to rationalize their drinking problems, as suggested by Lisansky (1957). Furthermore, Morrissey (1981) points out that men develop alcohol-related problems at an earlier age than their female counterparts and as a consequence, fewer men than women remain at risk of developing these problems as a result of the experience of certain life events.

In their excellent review of stressful life events and alcohol misuse in women, Allan and Cooke (1985) provide a pertinent conclusion to this area, by stating that "studies in support of the hypothesis that adverse life events cause women to misuse alcohol are methodologically inadequate" (p. 151).

4.5 MOOD AND ALCOHOL USE AMONG ALCOHOL DEPENDENT WOMEN

4.5.1 Introduction

The previous section considered the role of stress, specifically in the form of stressful life events, in the precipitation of alcohol dependence among women. This approach has focussed on the nature of life events experienced prior to either the onset of dependence per se, or some other alcohol-related outcome such as referral to treatment. The use of an objective life events inventory to examine premorbid life event experience has certain methodological advantages as discussed earlier, such as aiding recall and maintaining the terms of reference of what constitutes a life event.

However, this approach ignores the role of cognitive appraisal of, and emotional response to, the experience of these events. The subjective interpretation of a specific event such as, for example, marriage, may range from positive to negative, depending on the individual circumstances surrounding the experience of that event. Kasl (1977) also referred to this problem of individual variation in rating the impact of events in his critique of life event research, which was presented in an earlier section.

Consideration of these subjective factors now leads to an examination of the psychological or mood-related reasons for drinking cited by alcohol dependent women.

4.5.2 Mood-Related Reasons for Drinking among Alcohol Dependent Women

One of the few studies specifically to address the psychological reasons for drinking given by alcohol dependent women was that of Scida and Vannicelli (1979). In a comparison of 26 alcohol dependent, 35 problem-drinking and 40 normal-drinking women, they found that the most frequently cited reasons for drinking given by normal drinkers were "social" (80%) and "taste" (67%), whereas problem drinkers nominated "relax" (77%), "social" (74%), "get high" (69%), and "taste" (57%). On the other hand, alcohol dependent women nominated intrapsychic reasons as well as social reasons, including "relax" (100%), "anxiety" (96%), "forget" (89%), "feel secure" (81%), "social" (77%), "get high" (73%), "consolation" (62%), "problems" (62%), and "affection" (58%).

Mulford (1977) similarly found that in his large sample, both female and male problem drinkers drank for psychological as well as for social reasons. Using the Iowa Scale of Definitions of Alcohol (Mulford & Miller, 1960), a cumulative Guttman scale which measures the extent to which the subject drinks for psychological relief in addition to social reasons, he found that 64% of each sex obtained high scores. Significantly more women than men drank to settle their nerves (83% and 77%, respectively), forget pressures (77% and 71%), overcome loneliness (66% and 59%), and get to sleep (50% and 41%). Waller and Lorch (1978) used a modification of Mulford and Miller's scale and found that the alcohol dependent males in their sample were more likely than their female counterparts to drink for personal rather than for social effects. However, they noted that over one third of the women achieved a score of zero on the scale, which is usually more reflective of abstinence than of alcohol dependence, and therefore they suggested the need for further refinement of the scale, as had Mulford and Miller (1963) previously.

Numerous other studies have also mentioned psychological or mood variables, either as antecedents of alcohol dependence or as reasons for more recent drinking. However, the distinction between predisposing and current reasons is not always made clear, and therefore they will not be considered separately here. The types of mood factors commonly mentioned as reasons for drinking among alcohol dependent women include depression (e.g. Dawkins & Harper, 1983; Fine et al., 1979; Linton, 1983; Morrissey & Schuckit, 1978; Rosenbaum, 1958; Sclare, 1970; Senseman, 1966; Van Amberg, 1943; Warmington, 1977), loneliness (e.g. Bartnik & Smith, 1979; Browne-Mayers et al., 1976; Dahlgren, 1978; Dawkins & Harper, 1983; Johnson et al., 1966; Rosenbaum, 1958; Senseman, 1966; Verrienti et al., 1978), anxiety, worry, or sleeplessness (e.g. Curran, 1937; Dahlgren, 1978; Kinsey, 1968; Rosenbaum, 1958; Van Amberg, 1943; Verrienti et al., 1978; Wood & Duffy, 1966), boredom (e.g. Rosenbaum, 1958; Senseman, 1966), insecurity or inferiority (e.g. Bartnik & Smith, 1979; Johnson et al., 1966; Kinsey, 1968; Wood & Duffy, 1966), and helplessness (Mantek, 1977).

Powers and Kutash (1985) point out that the gamut of stress responses include responses other than tension or anxiety, as had been considered in the tension reduction hypothesis or TRH. They therefore suggest the Stress Reduction Hypothesis (SRH) as an extension of the TRH and posit that

alcohol use may serve to reduce one or more stress responses, and that the relief of the stress response(s) may increase the frequency and/or amount of the drinking response. The SRH, in brief, calls for investigation of the effects of alcohol use on a wide range of stress responses, such as depression, lowered self-esteem, and anger. (p. 463)

This wider range of emotional responses corresponds to the negative mood states cited by alcohol dependent women as reasons for their drinking.

Therefore, this points to the possibility that alcohol is used by these women in an attempt to elevate mood. However, as was discussed earlier, the studies addressing the tension- or stress-reducing effects of alcohol among women are too limited in number and sample size to offer any firm indications that alcohol does in fact reduce tension or otherwise elevate mood.

Nevertheless, Abrams' (1983) broader model describing the antecedents and consequences of drinking over a protracted period of time suggests the notion that even if the immediate effects of drinking on mood are positive, the delayed effects are dysphoric, leading in time to increased negative cognitions of self. The net psychological effect of the consequences of drinking on one's behavioural, cognitive, and physiological spheres may then lead to further drinking as a means of coping - albeit maladaptively - with these negative mood states, thus propagating the vicious cycle of continued excessive drinking.

CHAPTER FIVE

5.1 INTRODUCTION

The following sections will broadly address the issues of the definition and nature of social support, evidence linking social support with both physical and mental health, and problems encountered in the study of social support as a buffer against stress. Finally, studies referring to aspects of social support among alcohol dependent women will be reviewed.

5.2 DEFINITION AND NATURE OF SOCIAL SUPPORT

Early writers offered only vague conceptualizations of social support, leading Carveth and Gottlieb (1979) to write that "there is little agreement about the definition of social support" (p. 181). However, since then several investigators have offered more precise definitions, of which the following are examples. House (1981) summarized his own and others conceptualizations by defining social support as "an interpersonal transaction involving one or more of the following: (1) emotional concern (liking, love, empathy), (2) instrumental aid (goods or services), (3) information (about the environment), or (4) appraisal (information relevant to self-evaluation)" (p. 39). Furthermore, he noted that of the different types of social support, emotional support appeared to be the most important. Thoits (1982) refined a definition developed by Kaplan, Cassel and Gore (1977) and defined social support as "the degree to which a person's basic social needs are gratified through interaction with others" (p. 147). She specified that these needs include those of affection, esteem or approval, belonging, identity, and security, which are not dissimilar to the categories of relational functions previously outlined by Weiss (1969), specifically those of intimacy, social integration, opportunity for nurturant behaviour,

reassurance of worth, assistance, and guidance. Berkman (1984) simply but succinctly stated that "social support may be seen as the emotional, instrumental, and financial aid that is obtained from one's social network" (p. 415). Finally, Cohen and Wills (1985) described four resources of support, which included esteem support, informational support, social companionship, and instrumental support. These examples illustrate that conceptualizations of social support always subsume the provision of emotional aid through interpersonal involvement, and may additionally involve the provision of other forms of assistance.

At this point in the discussion, the conceptual difference between social support and social networks needs clarification. Berkman (1984) defined social networks as "the web of social ties that surrounds an individual" (p. 414). Although persons in an individual's social support system are also part of that individual's social network, the converse is not necessarily true, because as Wellman (1981) argued, not all of an individual's social ties are necessarily supportive. Thoits (1982) incorporates this distinction into her definition of the social support system as "that subset of persons in the individual's total social network upon whom he or she relies for socioemotional aid, instrumental aid, or both" (p. 148). Moreover, Rook (1987) has recently distinguished between social support (defined as social interaction aimed at problem alleviation) and companionship (defined as social interaction aimed at providing mutual enjoyment for its own sake). On the basis of the results of several studies, she has in fact suggested that "companionship plays a more important and more varied role in sustaining psychological well-being than most research on social support has acknowledged" (p. 1144).

Finally, it should be noted that although the effects of support are usually positive, as will be illustrated in the examples provided in the following

sections, in some circumstances support may invoke negative consequences (House, 1981). For example, Rook (1984) has shown that, among elderly widowed women, adverse social ties were more consistently and more strongly related to well-being, whereas supportive social ties had a lesser impact on well-being. Negative outcomes of support are also exemplified by Cobb's (1979) finding that instrumental support could act to increase an individual's dependence on others, and the results of some studies on depression indicating that a person's depressed state may inadvertently be maintained by the actions of his social support network (e.g. Burgess, 1969; Coates & Wortman, 1980). Moreover, Pattison, Llamas and Hurd (1979) have suggested that although normal social networks may be positive in their function, the types of networks commonly found among those with neurotic disorders, addictions, or maladaptive behaviour patterns, and those common to schizophrenics and people with major affective disorders may "not only fail to help the individual cope with stress, but - because of their very structure - tend to promote and perpetuate maladaptive coping behavior and thus generate anxiety instead of ameliorating it" (p. 66).

5.3 SOCIAL SUPPORT AND HEALTH

5.3.1 Introduction

Several recent reviews of social support have suggested that social support may affect health in at least two ways, either through its interactive or buffering impact on stress, thereby protecting the individual from the negative health effects of stress, or through its direct and positive effect on health status (e.g. Broadhead et al., 1983; Cohen & Wills, 1985; Mueller, 1980; Thoits, 1982). A third hypothesis postulates that the existence of social support may reduce the likelihood of the occurrence of stressful life events.

Examples of studies representing each of these pathways are presented in the following sections.

5.3.2 Buffering Effects of Social Support on Stress

The notion that an individual's reaction to stress may be moderated or buffered by social support has been well documented (e.g. Antonovsky, 1974; Cassel, 1976; Cobb, 1976; Dean & Lin, 1977; Kaplan et al., 1977; Rabkin & Struening, 1976). In other words, given the experience of stress, individuals with a strong system of social support should be better able to cope than those with little or no social support. A further implication of the so-called "buffering hypothesis" is that the positive effects of social support on health are only evident when there are high levels of stress.

One of the earliest studies to provide evidence of the buffering nature of social support was that of Nuckolls, Cassel and Kaplan (1972). They found that among 170 army wives, neither life change nor psychosocial assets (which included aspects of social support) were independently related to pregnancy complications. However, in the presence of high levels of stress in the form of life change, both before and during pregnancy, women with high levels of psychosocial assets had only one third the complication rate of women with low levels of such assets, suggesting a buffering effect of psychosocial assets on life change. Psychosocial assets and pregnancy complications were not related among women with low levels of life change. It should be noted, however, that the individual impact of those aspects of psychosocial assets most closely resembling social support was not considered.

In another study of pregnant women, Norbeck and Tilden (1983) found a significant interaction between tangible, but not emotional, social support and life stress during pregnancy for each type of pregnancy complication (but

not for overall complications). Women with high life stress and low support had the highest rate of gestation and infant complications. Surprisingly, low support was related to higher rates of labour and delivery complications only among women with low levels of life event stress, which is in contrast to expectations based on the supposed buffering effects of support. They also found indications of a direct effect of life event stress during the prior year on gestation and overall pregnancy complications, in contrast to the earlier finding of Nuckolls et al. (1972), but no evidence of a direct effect of social support on complications.

Three studies are chosen to illustrate the protective influence of the stress buffering effects of social support on morbidity. In a study of steroid therapy in chronic asthmatics, de Araujo, van Arsdel, Holmes and Dudley (1973) found that patients with high life change and low psychosocial assets required significantly higher mean daily doses of steroids than those with high life change and high levels of assets, or those with low levels of life change, irrespective of psychosocial assets. Medalie and Goldbourt (1976) conducted a 5-year prospective study of the development of angina pectoris among almost 10,000 men in Israel. They found that among men with high levels of anxiety, the perception of a wife's love and support reduced the incidence rate of angina by almost one half, even in the presence of other risk factors. Under conditions of low anxiety, spousal support was not related to angina incidence. Winefield (1982) found no differences between male myocardial infarction victims and male controls in reported social support, with the exception of the former reporting it more often helpful to talk over problems with someone else. However, among the heart patients, a positive association between reciprocal confiding relationships reported in hospital and physical well-being at follow-up six to seven months later was suggestive of a mediating effect of social support.

Within a community sample, Billings and Moos (1981) found that social resources, and particularly their qualitative as opposed to quantitative nature, attenuated the relationship between undesirable life events and depression, anxiety, and physical symptoms among women, and to a lesser degree, among men. Results from another community study by Myers et al. (1975) indicated that persons who reported many stressful events but who had few psychiatric symptoms were more socially integrated and presumably more supported than those with few events and many symptoms. A study of Chinese-Americans by Lin, Simeone, Ensel and Kuo (1979) provided further evidence of a buffering effect of social support. When life event stress was high, subjects with low levels of social support experienced greater psychiatric symptoms than those with higher levels of social support, again indicative of a mediating effect of social support between stress and illness. Furthermore, correlations of life event stress and social support with psychiatric symptomatology indicated that life events were positively related to the incidence of psychiatric symptoms, whereas social support was negatively and almost twice as strongly related to symptomatology.

5.3.3 Direct Effects of Social Support on Health

Other studies, some of which are briefly reviewed below, have examined the interrelationships between life events, social support, and physical or mental health status, but have found no evidence indicative of a buffering effect of support on the impact of life events. Rather, the results of these studies have pointed to a direct or main effect of social support on physical or mental well-being, implying that support should also be considered as an important aetiological factor in its own right.

The study by Schaefer, Coyne and Lazarus (1981) of 100 middle-aged persons from a community sample is one of only a few studies to examine

the effects of differential aspects of social support. They found that, in general, perceived social support, and particularly its tangible and emotional aspects, was inversely associated with depression and negative morale, both cross-sectionally and prospectively. Cross-sectional analyses showed positive correlations of each aspect of perceived support, namely tangible, emotional, and informational, with positive morale, but no significant relationships were found between physical health status and perceived social support. The size of social networks had a weaker relationship with outcome variables than did perceived social support, indicating the relative importance of the latter in its association with psychological outcome. In this sample, there was no evidence of a mediating effect of social support between life event stress and health status.

Using an Australian community sample, Andrews, Tennant, Hewson and Vaillant (1978) examined the effects of stressful life events, social support, and coping style on psychiatric symptomatology as measured by the General Health Questionnaire (Goldberg, 1972). They found that of the three social support measures used, namely crisis support, neighbourhood interaction, and community participation, only crisis support was related to psychiatric impairment, as were life events and coping style. However, neither coping style nor any of the support measures moderated the relationship between stress and impairment. They therefore concluded that crisis support and coping style had direct but no buffering effects. In further analyses of the same sample, Andrews, Tennant, Hewson and Schonell (1978) found that several variables including high life event stress and poor social support were positively related to both physical and psychiatric impairment. A breakdown by sex showed the same trends for physical impairment, although they did not reach statistical significance. Among women, high life event stress and poor social

support were significantly and positively related to psychiatric symptomatology, whereas among men, only life event stress attained a statistically significant relationship.

Finally, Norbeck and Tilden (1983) found that in their sample of pregnant women, high life event stress and low emotional support were significantly related to emotional disequilibrium (i.e. anxiety, depression, and low self-esteem), although the interactions between stress and support were not significant.

A further group of studies has examined the relationship between social support and indices of physical or mental well-being without reference to stressful life events. Berkman and Syme (1979) found that people who lacked social ties were more likely to die during a 9.5-year follow-up period than those with more extensive contacts. A Social Network Index was constructed which considered the relative importance of social ties (i.e. marriage, contacts with friends and relatives, church membership, and group affiliations), as well as their number. The association between this index and all-causes mortality was found to be independent of initial health status, use of health services, and various risk factors such as obesity or alcohol consumption. The age-adjusted relative risk for those most isolated when compared with those with most social connections was 2.8 for women and 2.3 for men.

House, Robbins and Metzner (1982) also examined mortality during a follow-up period 9 to 12 years later. Social relationships were categorized as intimate social relationships, formal organizational involvement, active social leisure, and passive solitary leisure. Except for the latter, social relationships and activities were negatively associated with mortality. After adjusting for age and other risk factors, this association between relationships and mortality persisted among men but was generally not significant among women, in contrast with the earlier findings of Berkman and Syme (1979).

Contrary to expectations, however, House and his colleagues found that the association between mortality and satisfaction with social relationships was not significant, pointing to the possibility that quantity rather than quality of relationships is more critical.

A study by Miller and Ingham (1976) of 337 subjects from a general practice further illustrates the beneficial effects of social support on health. Women who reported having at least one confidant had less severe overall psychological symptoms and specifically those of tiredness, depression, and anxiety, than did women who had no confidants. Furthermore, women with fewer acquaintances reported more overall psychological and physical symptoms than did women with more acquaintances. Results for men showed similar trends but were not as strong. Further evidence of the importance of a confiding relationship was provided by Roy (1978), who found that significantly more depressed women than matched controls from a gynaecological unit had nonconfiding marital relationships. Similarly, Winefield (1979b) found that in an Australian sample, hospitalized depressed women were more likely than control women to report fewer confidants, nobody confiding in them, and less confidence of being liked. However, there were no significant differences between groups in the number of cohabitants or friends and acquaintances, and both depressed and normal women found it helpful to a similar degree to talk over problems.

Two Australian studies further illustrate the beneficial effects of social bonds on psychological well-being. Henderson, Duncan-Jones, McAuley and Ritchie (1978) found that compared with controls, patients with nonpsychotic psychiatric disorders reported having a deficient primary group, particularly in terms of size and affective quality of interaction, but not in duration of contact. In addition, patients reported receiving insufficient support from

people they felt they needed most or to whom they felt closest. In a random sample of the general population, Henderson, Byrne et al. (1978) found a strong inverse relationship between the presence of social bonds and the prevalence of neurotic symptoms, this association being strongest for close affectional ties. However, a later report of a longitudinal study suggested that personal traits, and not social bonds, were related to the incidence of neurotic symptoms, particularly in the presence of adversity (Henderson, Byrne & Duncan-Jones, 1981).

5.3.4 Effect of Social Support on the Occurrence of Stressful Life Events

Lin et al. (1979) suggested that social support may be viewed as "a structural factor in the alleviation or reduction of illness-producing stressors" (p. 111). Their formulation was partly derived from the earlier work of Langlie (1977) who speculated that in terms of influencing preventive health behaviours, social groups may differ with respect to their norms regarding such behaviours and in their ability to exert pressures to conform to such norms, and partly from that of Pearlin and Schooler (1978) who suggested that one of the protective mechanisms of coping behaviour was to eliminate or modify the situation giving rise to problems. However, Lin and her colleagues were not able to substantiate objectively their claim that social support precedes and negatively affects stressors.

More recently, Cohen and Wills (1985) wrote in their review of stress and social support that although "support may also prevent the occurrence of objective stressful events the lack of correlation between stress and support found in many of the reviewed studies indicates that this is not a prevalent mechanism" (p. 312).

5.3.5 Methodological Issues in Research on Social Support

In summary, research has indicated that social support can affect physical and mental health in the following ways: (1) by mitigating or

buffering the impact of stressors on health, (2) by directly enhancing health, and (3) by directly influencing the occurrence of stressors and hence indirectly improving health. However, several serious conceptual, methodological, and theoretical problems exist within this research area, and recognition and consideration of these is imperative in any attempt to interpret the research literature. Excellent reviews of these problems are available (e.g. Cohen & Wills, 1985; Thoits, 1982), and the major points are summarized below.

First, many studies lack an adequate conceptualization and operationalization of social support, with a further lack of attention being paid to the development of valid and reliable indicators of social support. Moreover, some studies have utilized indicators such as "psychosocial assets" which incorporate aspects of an individual's life-style and psychological make-up that are not directly interpretable as social support, while others have assumed that the existence of social ties such as marriage are synonymous with the provision of social support. The lack of comparability in the conceptualization of social support, and the diversity of indicators used to measure it, have presented difficulties in the comparative analysis of studies in the area. These same factors have therefore also prevented definitive conclusions from being drawn. Many studies have also ignored the multidimensional nature of social support: there is a need to consider the source, type, and amount or intensity of social support, and not only its existence per se. Tucker (1982) also suggests that the potential existence of social support does not unequivocally imply that such a network will be activated, and that attention therefore needs to be focussed not only on whether or not support exists, but also on whether or not it is used.

A further series of problems stems from the confounding of life events and social support. Many events incorporated in life event inventories represent

changes in social support. Thus, the experience of life events such as death of significant individuals, marital separations, or geographic movement usually, if not always, signify a loss of supportive contacts. Events may also produce additional alterations in sources of social support, as evidenced in the case of divorce where individuals typically experience the loss of support from some persons, while simultaneously gaining additional support from others. Therefore, as Thoits (1982) stated, "support . . . is a dynamic variable that may be a product of - if not, in some cases, operationally identical with - the occurrence of certain types of life events" (p. 148). The issue of confounding is of critical importance in studies that measure social support and prior experience of life events at a single point in time. Typically, such an experimental design ignores that current levels of social support have been at least partially influenced by the prior experience of life events, and this necessarily leads to the confounding of direct effects of life events on social support with the interactive effects of life events with social support. Consequently, it becomes obvious that the studies previously reviewed within the section on buffering effects of social support have on the whole been methodologically inadequate in their attempts to test the buffering hypothesis. Thoits suggests that a longitudinal design is necessary to address adequately the issue of whether social support mitigates the effects of life events, and furthermore, that stability of the level of social support may be the more appropriate measure to interact with life events. To this end, she offers a restatement of the buffering hypothesis as follows: "The higher the initial level of support and the greater the degree to which this level is maintained throughout a crisis period, the less impact life changes will have upon psychological state" (p. 154).

Confounding may arise not only between life events and social support, but also in the interrelationships between physical or mental illness, life events,

and social support. The possibility exists, but has rarely been experimentally studied, that pre-existing illness, either physical or mental, may influence an individual's experience and interpretation of both life events and social support, thereby further complicating the interpretation of the nature of the interrelationships between social support, life events, and illness.

The final issue is one which addresses the theoretical link between social support and health status. Tucker (1982) makes the point that although researchers in the area have often alluded to the role of coping strategies and mechanisms within the realm of the supposed stress-reducing functions of social support, this aspect has rarely been behaviourally addressed, conceptualized, or measured, and therefore the behavioural component of how social support mediates life event stress remains unknown. Furthermore, Tucker notes that researchers whose interest has been focussed on coping have largely ignored the interpersonal or social aspects of coping behaviour. This is highlighted in the work of Pearlin and Schooler (1978) who identified social resources (conceptually similar to social support networks), psychological resources, and specific coping responses as dimensions of coping, but whose analyses focussed only on psychological resources and coping responses.

Thoits (1982) presents examples of sociological reasons as to why social support may be directly related to psychological well-being. It is posited (e.g. by Mead; cited in Thoits, 1982) that social interaction encourages self-evaluation and social identity, which are important elements of psychological well-being. Therefore, Thoits argues that because social support also acts upon self-esteem and social identity, it should also have a direct and positive influence on psychological state. Similarly she draws upon Durkheim's (1897/1951) anomie theory which assumes that psychological well-being is maintained by social integration. She infers that because social support is an aspect of

social integration, it should of itself directly affect psychological state. Others have speculated upon alternative pathways between social networks and their provision of support, and health status (Berkman, 1984; Berkman & Syme, 1979). Berkman suggests that one potential mechanism is that some individuals may simply receive better medical care than others, because their social network provides them with superior values, knowledge of how to obtain certain services, and subsequent access to them. Alternatively, the network may directly provide assistance and services. Berkman's third hypothesis poses the possibility that networks influence a member's behaviour to act in accordance with the network's norms, which in turn may potentially be health-promoting. Finally, Berkman suggests that physiological stress may be generated by the lack of supports providing intimacy, a sense of belonging, opportunities for nurturance, and a sense of positive self-esteem. This physiological stress may then of itself increase the risk of illness.

5.4 SOCIAL SUPPORT STRUCTURES OF ALCOHOL DEPENDENT WOMEN

5.4.1 Introduction

The literature on alcohol dependent women reflects a paucity of studies examining the social support structures of these women, although as Tucker (1982) noted "the social support-stress-coping paradigm appears to be an especially useful approach to the study of female substance abuse" (p. 125). Mantek (1977) also pointed to the importance of support. Specifically, she identified withdrawal of support and security, and insecurity in social contacts, which are both interpretable in terms of deficiencies in social support, as risk factors in the development of female alcohol dependence.

The focus of the following review is on social support experienced as an adult. References to childhood disruption or instability through, for example,

parental death or separation may be interpreted as indicators of the level of support available during childhood, but the findings of these studies are reviewed in another context elsewhere (see Section 2.2.1).

5.4.2 Studies of Social Support Structures

To date, the study by Schilit (1984), in which she compared alcohol dependent women receiving treatment with their nonalcoholic age peers, presents the most detailed analysis of the social support available to alcohol dependent women. She found that although the groups did not differ with respect to availability of material support and provision of emotional support to others, the alcohol dependent women were significantly more likely than the controls to experience negative support and to report not having someone, among the people they felt close to, in whom they could confide when feeling upset, nervous, or depressed. However, it should be noted that at least 88% of the dependent women were able to identify someone in the above categories. Warmington (1977) and Mulford (1977) also found that the majority of alcohol dependent women were able to confide in, or discuss problems with, some other person, although neither of these studies utilized a female control group to enable a comparison with other women.

Since friendships and social relationships are potential, but by no means definite, sources of social support, it is pertinent to examine their prevalence. The work of Pattison et al. (1979) showed that the mean number of individuals in the personal social networks of alcoholics (of unspecified sex), and particularly within the spheres of friends, co-workers, and relatives outside of the immediate family, was significantly less than that of normal persons. Furthermore, those relationships that did exist were also less reciprocal. Schilit (1984) found that significantly fewer alcohol dependent women than

control women reported having close female friends, although again a large majority of both groups did in fact respond affirmatively to this item. Similarly, Waller and Lorch (1978) found that less than 10% of alcohol dependent women reported no close friends, but that more than half their sample had at least four close friends. More importantly however, Schilit's results indicated that alcohol dependent women were almost twice as likely as control women to state that they would like to have more friends, yet they did not differ significantly from the control women in the quantitative categorization of friends and relatives. The combination of the latter two findings implies that alcohol dependent women perceive, but do not necessarily experience, a lack of friendship ties. In a similar vein, McLachlan et al. (1979) reported that alcohol dependent women were less satisfied with their social relationships than were normal control women. However, Calicchia and Barresi (1975), and Beckman et al. (1980) found that alcohol dependent women were in fact more socially isolated, as measured by Dean's (1961) Social Isolation Scale, than were normal women. Years earlier, Rosenbaum (1958) had also remarked on the apparent social isolation within his sample of married alcohol dependent women, while more recently Warmington (1977) reported that half of her sample of alcohol dependent women felt socially isolated. In addition, both Beckman and her colleagues and Calicchia and Barresi reported a greater degree of alienation among the alcohol dependent women, and the former group of researchers also found that these women had fewer close friends than did the normal women. Furthermore, no significant differences with respect to the above variables were evident between women in treatment for an emotional or psychiatric problem and the alcohol dependent women.

Beckman (1979c) additionally examined the relationship between social isolation and alienation and treatment outcome in terms of drinking versus

abstinence at follow-up one year later. She found no significant difference between drinking and abstaining women in their social isolation scores at intake, although nonabstinent women had somewhat, but not significantly, higher initial alienation scores. Pemberton (1967) also looked at the association between initial social support and treatment outcome. He classified a husband's attitude to his wife's drinking as being supportive if some attempt was made to understand or help his wife, and rejecting if no support was offered. Of 27 married alcohol dependent women at treatment intake, exactly one third were found to have supportive husbands, with the remainder being classified as rejecting. However at follow-up 8 to 24 months later, husband's attitude on admission was not found to discriminate between women with successful or unsuccessful outcomes in terms of drinking status.

The ease with which alcohol dependent women claim they make friends has varied from study to study, with Warmington (1977) reporting 70% and Rosenbaum (1958) 36% of the women finding it easy to make friends, whereas Waller and Lorch (1978) found that 10% of the dependent women experienced difficulty in "breaking family ties and establishing wholesome relationships with peers" (p. 206). MacAndrew (1982-83) identified one of the dimensions of self-dissatisfaction among his sample of alcohol dependent women as "Lack of Interpersonal Forthcomingness" or more specifically, that "while they wished that they were more forthcoming in their relationships with others, they lacked the motivation to establish and/or to maintain close relationships" (p. 362).

However, the results of several studies suggest that potential sources of support of alcohol dependent women are eroded as a consequence of their drinking. For example, Rimmer et al. (1972) found that 42% of primary alcohol dependent women and 50% of depressive women with secondary alcohol dependence had lost friends and/or jobs because of their drinking. Schilit's (1984)

work indicated that alcohol dependent women who had a longer history of drinking reported more negative consequences of drinking on social support and, particularly within the 30 to 40 year old group, less current support from friends and relatives, than did those who had been drinking for a shorter period of time. However, spousal support was not affected by duration of drinking. Furthermore, Calicchia and Barresi (1975) found that in their combined male and female sample of AA members, the duration of active alcohol dependence correlated positively and significantly with both alienation and social isolation.

A recent paper by Gomberg and Schilit (1985) stressed that the social isolation of alcohol dependent women was a consequence not only of rejection by others, but also of their own behavioural choices. A majority of alcohol dependent women reported that family or friends became critical or angry, but the majority of these women also cut themselves off from old friends, saw only a few people who were mainly drinking companions, and felt suspicious or distrustful of others. Furthermore, these behavioural responses were significantly more prevalent among the alcohol dependent women in their twenties than among their middle-aged counterparts. Therefore the authors suggest the need to view the alcohol dependent woman not merely as a passive victim of rejection, but rather as an active participant in the progression of her own social isolation.

Several studies have determined the identity of the alcohol dependent woman's "significant other". In Warmington's (1977) sample, the women who stated that they could confide in someone, identified a friend (40%), professional helper (27%), partner (13%), sibling (13%), or other relative (7%) as their confidant. Waller and Lorch (1978) found that of the 28 alcohol dependent women who specified only one person as their significant other, 54% nominated

their child, 18% their husband, and 14% a friend. On the other hand, Muchowski-Conley (1982) reported the identity of the significant other within her sample as being husband (48%), child (28%), and friend (16%). However, she noted that married alcohol dependent women were most likely to identify their husband (71%) as being their most important significant other, whereas divorced or separated women chose evenly between children and friends, indicating that in her sample the identity of a significant other was largely influenced by marital status. In contrast to this, Mulford (1977) found that only 18% of married alcohol dependent women identified their husband as the person with whom they most often discussed personal problems, the same percentage as mentioned friends.

The only study to examine the relationship between stressful life events, social support, and the development of alcohol-related problems was that of Morrissey (1980). As indicators of social support, she used the expression of religious preferences, frequency of kinship contacts, not living alone, employment, and marriage. However, the use of these measures assumes that their existence implies the actual provision of support, an assumption that is at best tenuous. Within her sample of male and female detoxification centre admissions she found that those without social supports, as indicated by lack of kinship contact and current employment, evidenced fairly consistently higher rates of stress-precipitated problem drinking than those with more regular social contacts within these areas. However, the existence of any of the remaining three indicators of social support did not reduce the likelihood of developing alcohol-related problems consequent upon major life change. This led Morrissey to conclude that "the results did not elucidate the mediating impact of social supports on the link between potentially stressful events and the development of alcohol-related problems" (p. 205, 206).

5.4.3. Summary

Relatively few studies have explored the social supports available to, and used by, alcohol dependent women. Only Schilit's (1984) study has specifically compared various aspects of social support of alcohol dependent and normal women. In general, her results indicated a deficiency of positive support among the dependent group, relative to that of the controls. In absolute terms, however, the studies have illustrated that the majority of alcohol dependent women do in fact identify someone in whom they can confide.

Other studies have alluded to the greater social isolation and alienation of alcohol dependent women compared with that of normal women, as well as to perceived difficulties in making and maintaining friendships. However, it is important to emphasize again that the mere existence of social ties, such as friendships, cannot be unequivocally interpreted as indicative of the adequate provision of support. Therefore the problems of conceptualization and measurement of social support, as discussed in more detail previously, are pertinent to studies of the social supports of alcohol dependent women. The need for more studies utilizing adequate control groups is also obvious.

However, the major theoretical issue relevant to the study of the development of alcohol dependence among women is whether a deficiency in social support antedates problem drinking and as such increases the risk of its development. Studies have illustrated the deficiencies in social support at the time of treatment intake, but several studies have indicated that drinking serves to erode the existence of potential sources of social support, and it is reasonable to assume that current levels of support are not accurate indicators of premorbid social support. Moreover, there are indications that at least some of the decline in social support is a consequence of the women's

own behavioural choices. Therefore until longitudinal studies are available to quantify levels of social support prior to the development of dependence and to identify the relationship between social support, life event stress, and alcohol dependence, social support, or lack thereof, cannot be interpreted as having any causal significance in the development of female alcohol dependence.

CHAPTER SIX

6.1 INTRODUCTION

This chapter describes the types of subjects, the interview procedure, and methodological aspects of the research. Section 6.2 discusses the rationale underlying the choice of the samples included in the study, provides a brief description of the composition of the samples, and details the manner in which individual subjects within each of the three samples were selected. The interview procedure is described in Section 6.3. Finally, Section 6.4 addresses the theoretical reasons underlying the use of paid interviewers and the provision of incentive payments to subjects. Furthermore, any modifications to test materials are described, and where appropriate, scoring techniques are elaborated upon.

It should also be noted that detailed reviews of each of the tests utilized during the interview are presented in the following chapter (Chapter Seven), whereas detailed instructions regarding the administration of the tests, the tests themselves, and their associated scoring guides are presented as appendices.

6.2 SUBJECTS

6.2.1 Rationale of Sample Selection

6.2.1.1 Alcohol Dependent Women

The intention of the study was to examine the similarities and differences between samples of alcohol dependent and non-alcohol-dependent women. Although it must be acknowledged that alcohol dependent women represent a very heterogeneous population, which includes not only women undergoing

various forms of treatment but also women who either have not recognized their dependence or have not sought treatment, much of the previous research has nevertheless focussed upon women drawn from inpatient populations. Consequently, to facilitate comparisons with earlier studies, in the current study, an alcohol dependent woman was defined simply as a woman undergoing an inpatient treatment programme for alcohol dependence. Further details of the selection of alcohol dependent subjects are provided in Section 6.2.3.1.

6.2.1.2 General Population Women

One sample of non-alcohol-dependent women was to comprise women with no history of substance abuse or psychiatric illness. Furthermore, these women were to be selected at random from the general population in a manner that would not unduly bias the composition of the sample. The method of their selection and the reasons underlying the choice of this method are outlined in Section 6.2.3.2. However, these women were to be matched to the alcohol dependent women on the basis of area of residence and age.

As in many cities, the suburb of residence within Adelaide approximately reflects the socio-economic status of its inhabitants. Therefore, matching on this factor provides a means of equating the current socio-economic status of the alcohol dependent and general population samples. Moreover, the availability and quality of facilities such as health care, support services, and recreational and sporting organizations, vary between suburbs. Thus, women drawn from the same suburb could be expected to have available to them similar community-based resources. It is not unreasonable to assume that the provision of such services may in some way affect the course of alcohol dependence, and that matching on area of residence would therefore, at least in part, control for the potential influence of such external resources.

The decision to match the two samples on age was motivated primarily by two factors. First, women of the same age could be expected to have been subject to similar societal norms regarding alcohol use. Secondly, given that the examination of the prior experience of life events constitutes a major area of investigation within the current study, it was considered important to equate the duration of potential exposure to such events. Age-matching was one summary method of achieving this.

6.2.1.3 Career Women

Some previous research studies have suggested that alcohol dependent women were more likely than non-alcohol-dependent women to exhibit elements of masculine sex role identification. However, masculine sex role identity is not uncommonly apparent among non-alcohol-dependent women, and is perhaps most evident, particularly on the level of response style, among career women. Consequently, the use of an additional control sample of non-alcohol-dependent women, who were hypothesized to exhibit a higher degree of masculine sex role identity, could potentially clarify which, if any, specific aspects of sex role identity were in fact anomalous among alcohol dependent women. Therefore, for these reasons a sample of career women was selected to serve as a second control sample of non-alcohol-dependent women.

Of course, career women, as a group, were likely to be of a higher socio-economic status than either alcohol dependent women or women drawn from the general population. Hence, no attempt was made to match the career sample to the alcohol dependent sample on the basis of area of residence. However, the alcohol dependent and career women were to be matched on age, for the same reasons that were outlined earlier. The selection of individual career women is detailed in Section 6.2.3.3.

6.2.1.4 Women in Treatment for a Psychiatric Illness

The writer originally intended to use a further control sample comprising non-alcohol-dependent women who were being treated, as inpatients, for a psychiatric illness unrelated to alcohol or drug abuse. It was hypothesized that the investigation of women with primary diagnoses of psychiatric illness that were matched to those of any alcohol dependent women with secondary psychiatric diagnoses could provide valuable information with respect to which factors were idiosyncratic to alcohol dependent women, as opposed to women exhibiting other forms of psychiatric illness.

In practice however, it soon became apparent that the process of obtaining a sample of such women, who were to be matched to the alcohol dependent women on the basis of psychiatric diagnosis, age, and area of residence, was going to be a very lengthy one. Unfortunately, given the limits of time available for the collection of data for this study, it was necessary to abort this phase of the study.

6.2.2 Composition of Samples

The sample of alcohol dependent women comprised 63 women who were undergoing an inpatient treatment programme for alcohol dependence either at Robertson House, Hillcrest Hospital, which is a psychiatric hospital, or at St. Anthony's Hospital, which was an inpatient treatment facility of the Alcohol and Drug Addicts Treatment Board of South Australia (now Drug and Alcohol Services Council). These two facilities were the only ones in Adelaide which offered an inpatient treatment programme for alcohol dependence. The general population control sample contained 59 women who were randomly selected from the population by doorknocking. The career control sample consisted of 57 women who were actively engaged in full-time careers.

However, most of the analyses reported in this thesis pertain to comparisons between three samples, each comprising 53 women. The women in these reduced samples were drawn from the original larger samples, but were individually matched across groups on age, and in the case of the alcohol dependent and general population groups, also on area of residence. Table 25 provides details of the composition and ages of both the original and matched samples, for each group of women.

TABLE 25. Composition and Age of Samples

GROUP	SAMPLE	
	Original	Matched ^a
ALCOHOL DEPENDENT WOMEN		
Sample size	63	53
Composition		
Robertson House	27	24
St. Anthony's Hospital	36	29
Age		
Mean	41.9	39.8
Range	23-67	23-58
GENERAL POPULATION WOMEN		
Sample size	59	53
Age		
Mean	41.8	39.9
Range	23-69	23-59
CAREER WOMEN		
Sample size	57	53
Composition		
Academics	25	23
Medical practitioners	14	14
Retail executives	10	8
Legal practitioners	8	8
Age		
Mean	40.1	39.8
Range	23-58	23-58

^a Matched on age between all three groups, and on area of residence between alcohol dependent and general population groups.

6.2.3 Selection of Individual Subjects

6.2.3.1 Alcohol Dependent Women

The Director of the Alcohol and Drug Addicts Treatment Board and the Medical Superintendent of Hillcrest Hospital were initially contacted by letter (see Appendices 1 and 2) requesting an opportunity to discuss aspects of the proposed research. Thereafter, the writer presented the research proposal to the research committees of both facilities, and approval to use the hospitals' patients was granted.

Subsequently, contact was made with those personnel directly involved with the treatment of the alcohol dependent women at both hospitals. The study was described to the therapists and the criteria for including women in the study were explained. These criteria were (1) that the patient's alcohol dependence was the primary problem, (2) that the patient was Caucasian, (3) that the patient was fluent in both written and spoken English, and (4) that the patient was in at least the third week of the four week treatment programme.

The writer telephoned the hospitals on a weekly basis, and when told that a female patient matched the above criteria, she went to the hospital, was introduced to the patient by a member of staff, and during the course of an informal chat, briefly described the purpose of the study, including the fact that it was both voluntary and confidential. She then answered any questions and, if appropriate, arranged an appointment for the interview. It was felt that such an initial contact with the patient would increase the probability of participation and cooperation, as well as enhance the build-up of rapport between patient and writer. The therapist's involvement was only in so far as to approach the patient and tell her that a researcher from the University wished to speak to her for a few minutes.

6.2.3.2 General Population Women

Each alcohol dependent woman was to be matched, on the basis of age and area of residence, to a woman drawn from the general population. Specifically, for each alcohol dependent woman normally resident within the greater Adelaide metropolitan area, an attempt was to be made to interview a general population woman whose age was within one year of that of the alcohol dependent woman and who resided in the same suburb. Alcohol dependent women living outside of Adelaide were to be matched to women of similar age living in the same area.

To be included within the general population sample, a woman had to (1) be Caucasian, (2) be fluent in both written and spoken English, (3) have no previous history of alcohol or drug abuse, and (4) have no previous history of psychiatric illness.

The women within this sample were to be selected in a completely random manner, except for the requisites of matching on age and area of residence. It was felt that any attempt to access women through some form of organization, based either on employment or recreation, would unduly restrict the sample. Similarly, advertising in any manner for volunteers would result in the selection of women who showed some initiative and assertiveness simply by responding to such an advertisement. Therefore, these methods of recruiting control subjects were rejected. Various official listings of people were then considered, including motor vehicle registration lists and electoral rolls. These listings, however, excluded information on age and it was felt that a more economic method of accessing subjects was desirable.

After further deliberation it was decided that doorknocking would be the most suitable method of randomly recruiting subjects. In order to access

women within Adelaide and its environs, a street was to be picked at random from a map of each required suburb. This street would then become the target for doorknocking in that suburb.

Careful consideration was also given to the time period for doorknocking that would potentially access the most random population of women. Obviously, doorknocking during the day between Monday and Friday would bias the sample towards housewives and unemployed women. Doorknocking during the evenings was considered not only too dangerous as during the winter months it became dark by 6 p.m., but also it was felt that fewer people would be likely to answer the door at night. In Adelaide, Saturday morning is traditionally the time for weekly shopping and therefore also unsuitable. Many team sports are played on Saturday afternoons and consequently doorknocking at this time would bias against women involved in some manner with sporting activities. Sunday afternoon is the time for family leisure activities, with many people not being home. Consequently, by the process of elimination, Sunday morning was considered to be the most suitable period.

Therefore, on every Sunday excepting long weekends over a period of several months, the writer attempted to recruit, by doorknocking, a sample of general population women. The target street in each suburb was chosen in the manner described previously. The writer wore an identity tag incorporating a photograph and also carried a letter of introduction and authority (see Appendix 3) as an aid to identification, should this be required.

Whoever answered the door at each house was told that the writer was from the University of Adelaide and was conducting a study which required her to speak to women within certain age ranges and from various suburbs of Adelaide. At this point, if a male had answered the door, the writer asked to speak to a female in the household. The woman was then

told the age range of the subject required from that particular suburb, and was asked whether she, or any other female resident at that address, was of that age. If not, the woman was thanked for her cooperation and asked if she knew of any female neighbours whose age might be within the desired range. The writer then moved on to the next house. The people usually told the writer if only males resided in any particular house, or if specific women were obviously outside of the required age range, thus often eliminating the need for the writer to knock on every door in that area.

When a woman was in the required age category, the writer went on to explain that she was doing a study in which she was interviewing different groups of women, including those with alcohol-related problems. The woman was then told that it was necessary to match the women in the latter group to women drawn from the general population who were of a similar age and from the same suburb, but who did not have any alcohol-related problems. The potential subject was told that participation in the study was anonymous, to the extent that no names were ever recorded, and was reassured that any information that was obtained would be treated with the utmost confidentiality. It was also explained that \$10 was offered to participants in the study. The writer then answered any questions regarding the study, and if the woman was willing to participate, an appointment for the interview was made. The woman was given a slip of paper on which were the writer's name and university department, home and departmental office telephone numbers, as well as the time and date of interview.

The cooperation of subjects was overwhelming, with approximately 90% of those women in the required age category agreeing to participate in the study. Fifty-two subjects living in the greater Adelaide metropolitan area were recruited in this manner, and all subjects completed the interview.

However, three subjects were found to have alcohol-related problems and one, a history of psychiatric illness, and although interviewed, were subsequently excluded from the sample. Replacements for each of these subjects were found.

The recruitment and interviewing of control subjects for those alcohol dependent women normally resident outside of Adelaide posed more difficulties. Obviously, it was not economically feasible for the writer to arrange personally and then conduct the necessary interviews. Consequently, it was decided to employ interviewers resident in these localities both to recruit and to interview the required control subjects. Subjects were required from the following areas: Whyalla, Pt. Lincoln (two subjects), Renmark and Woomera in South Australia, Alice Springs, Katherine and Tennant Creek in the Northern Territory, Griffith in New South Wales, and Ashfield, a Sydney suburb. One alcohol dependent subject had described herself as geographically transient, constantly moving from area to area, and therefore no attempt was made to match this subject to a general population woman on the basis of area of residence. Thus, no control was obtained for this particular subject.

Within country centres many residents are known to each other and therefore it was decided to sidestep the technique of doorknocking as a means of recruiting control subjects in these areas. Instead, the interviewer was to find a suitable age-matched control by word of mouth through her network of acquaintances. Although it is acknowledged that this system of accessing subjects is not as random as that used within metropolitan Adelaide, it was nevertheless considered to be acceptable for the country regions, given the restraints of time and personnel.

The towns of Katherine, Tennant Creek and Woomera are similar not only in terms of their size, population, facilities, and geographic isolation,

but also with respect to the characteristics of their inhabitants. Consequently, in order to simplify the recruitment of subjects, it was decided to access subjects from only one of these localities, namely Katherine. With the help of a colleague of the writer who was resident in Katherine, a suitable interviewer was chosen. This interviewer was a female welfare officer working under the supervision of the writer's colleague.

The writer telephoned medical practitioners living in Port Lincoln and Renmark, to elicit their assistance in locating suitable interviewers in these towns. She explained the nature of her research and the skills sought in a potential interviewer. Both practitioners were cooperative and suggested suitable interviewers: a community nurse in Port Lincoln and a final-year female medical student doing an elective under the supervision of the Renmark doctor.

The writer was able personally to choose the interviewers for the Whyalla and Alice Springs subjects. Both were female acquaintances of the writer, one a final-year social work student who was returning to Whyalla for a short period of time, and the other, a final-year medical student who was going to Alice Springs to undertake her medical elective. The mother of another acquaintance resided in Griffith and had considerable previous experience in interviewing, and was therefore chosen to interview the Griffith subject.

Each of these interviewers was contacted by the writer either in person or by telephone. The writer explained the nature of the study and the type and age-range of the required subject, and subsequently answered any questions. All potential interviewers agreed to cooperate, and were then sent copies of the interview schedule, together with a listing of the criteria for inclusion of subjects in the general population sample. After the interviewers had

familiarized themselves with the interview schedule, the writer again contacted each interviewer and discussed in detail every item of the schedule with them. The onus was then on the interviewers to recruit a suitable subject and to conduct the interview. After the schedules had been returned, the writer rang the interviewers to clarify any points, if necessary, and to thank them for their cooperation.

By coincidence and good fortune, a friend of the writer normally resided in Ashfield, and was also of the appropriate age to serve as a control subject for the alcohol dependent woman from Ashfield. Moreover, as this woman was holidaying in Adelaide, she was interviewed by the writer whilst in Adelaide.

As mentioned previously, successful matching to women from the general population was eventually achieved for all alcohol dependent women resident within the greater Adelaide metropolitan area. However, although all country interviewers did in fact complete interviews with potential subjects, the three women interviewed in Katherine (who were to serve as the controls for the Katherine, Tennant Creek, and Woomera subjects) were subsequently noted to be part-Aboriginal, and therefore not eligible under the criteria. These women were thus excluded from the sample, and time constraints prevented the selection and interview of subjects to replace them.

Hence, the final sample of women drawn from the general population consisted of 59 women. The alcohol dependent women normally resident in Katherine, Tennant Creek, and Woomera remained unmatched, as did the woman who had no fixed place of abode.

6.2.3.3 Career Women

Alcohol dependent and career women were to be matched on age alone. Criteria for inclusion within the sample of career women stipulated that the

woman (1) was actively engaged in a full-time career, (2) was Caucasian, (3) was fluent in both written and spoken English, (4) had no previous history of alcohol or drug abuse, and (5) had no previous history of psychiatric illness.

The most appropriate method of approaching potential subjects was deemed to be through professional organizations or through the personnel departments of relevant organizations: with this approach, female academics, retail executives, and medical and legal practitioners could be accessed with comparative ease.

In order to access a group of female retail executives, letters of introduction were sent to the personnel managers of three large department stores in Adelaide, namely, Myers, David Jones, and John Martins (see Appendix 4). Although no subsequent reply was received from John Martins, the other two organizations were willing to cooperate with the study. After discussions with the personnel managers of these stores it was decided that the best approach was for the personnel division of each store to select from their files the names of those women who were retail executives. The personnel managers then sent each of these women a letter of introduction from the writer (see Appendix 5), a brief questionnaire aimed at facilitating the selection of those women who fitted the criteria mentioned above (see Appendix 6), and a pre-paid envelope addressed to the writer, in which to return the questionnaire. The fact that the initial contact with the women was through the personnel division of their store, and not directly through the writer, provided endorsement of the organization's willingness to cooperate in the study, and was intended to increase the degree of cooperation of the employees.

From the 24 letters sent to female executives employed by Myers, 9 replies were received, whereas 3 of 15 executive staff at David Jones

responded. Out of this pool of potential subjects, seven from Myers and three from David Jones were deemed suitable for interview on the basis of both age and the other criterion requisites.

The medical practitioners were accessed through the South Australian Medical Women's Association. The President of the Association made provisions for the writer to include the letter of introduction, brief questionnaire, and pre-paid envelope in the routine mailing of the Association's newsletter to its members. In this manner, 82 letters were sent and 35 replies were subsequently received. Sixteen medical practitioners were of the required age and also fitted the necessary criteria.

Within South Australia there is no separate association of female legal practitioners and the available listings of lawyers do not specify sex. Consequently, it was not possible for the writer to access only female legal practitioners. However, the editor of the Law Society Bulletin was willing to include a copy of the introductory letter as well as of the questionnaire within the contents of the next issue of the Bulletin that was regularly mailed to the approximately 1100 legal practitioners within South Australia. Although it was not possible to include a pre-paid envelope, it was hoped that this would not unduly prejudice against the return of the questionnaire. Twenty female legal practitioners replied, and nine were selected for interview.

In order to access a group of female academics from the South Australian Institute of Technology, an appointment was made with the Staffing Officer of that institution. The writer explained the purpose of the study and the Staffing Officer agreed to make available a listing of those women employed at the Institute at a level of Senior Tutor or above. Sixty-five names were provided, and the writer then sent each of these women the introductory letter, the brief questionnaire, and the pre-paid envelope. Replies from 26

women were received, of whom 12 were deemed suitable for interview. The same procedure was used to access women at Flinders University. Forty-three women were initially contacted, 21 replied, and 12 were selected.

By this stage, the majority of alcohol dependent women had been matched on the basis of age to a career control woman. Consequently, it no longer seemed practical to access an entire population of potential subjects. The only alcohol dependent subjects remaining unmatched were those in their late forties, and those over 60 years of age. As women in South Australia retire at the age of 60, it was not possible to match the alcohol dependent women in this age category to career women who would still be actively involved in full-time careers.

As a means of contacting a population of career women in their late forties, the writer approached a female senior administrative officer at the University of Adelaide who had had widespread contact with women at the University. She agreed to provide the writer with a list of names of those career women she thought were within this age category, a total of eight women. These women were sent the introductory letter and questionnaire, as well as an internal mail return envelope addressed to the writer. However, only two women replied of whom one was suitable. It was then decided to telephone the remaining six women in an effort to increase the participation rate within this age category. Two women were absent on study leave, two were outside the required age range, and the remaining two declined to participate due to a perceived lack of anonymity, given that they were on the same campus as the writer.

At each stage of sampling, the writer telephoned all the women who had responded to the questionnaire. Women who had not been selected for

interview were thanked for their willingness to participate and were told that because their age fell outside of the required range, they could not be included in the study. The potential subjects were told that the study was examining the differences between groups of women with respect to their backgrounds, current situations, medical histories, and patterns of alcohol and drug use. The confidential nature of the study was stressed and the women were also advised that a small remuneration of \$10 was offered to all participants. The writer then answered any questions, and arranged a mutually convenient time and place for the interview.

A total of 60 career women were interviewed. However, three of these women were subsequently excluded from the sample, one because she was unable to complete the interview due to time constraints, and two because during the course of the interview, it was revealed that they had a history of psychiatric illness.

The career sample therefore comprised 57 women. Four alcohol dependent women over the age of sixty remained unmatched, as did two women aged 47 and 48 for whom it had not been possible to locate suitable career control women.

6.3 INTERVIEW PROCEDURE

6.3.1 Time, Place, and Duration of Interviews

All subjects were interviewed individually, either by the writer or by a paid female research assistant experienced in interviewing (see Section 6.4.1).

The 63 alcohol dependent women were interviewed at their respective hospitals, in a pleasant private interview room made available to the interviewer. All St. Anthony's patients were interviewed in the evening, whereas all patients

from Robertson House were interviewed during the day. The women drawn from the general population all chose to be interviewed in their own homes, whereas approximately one half of the women in the career sample were interviewed at home, with the remainder being interviewed either at their place of employment or at the Department of Psychology in the University of Adelaide. This variation in place of interview resulted from trying to minimize the degree of inconvenience experienced by the women, whereby they were given the opportunity to select the most convenient location. Interviews with the non-alcohol-dependent women were conducted either during the day or in the evening, depending on personal preference.

Table 26 provides information relating to when interviews were conducted, as well as the average duration of interview. Although the average length of interview with career women was significantly less than that with either alcohol dependent or general population women, interviews with women in the latter two samples were of a very similar average duration.

TABLE 26. Interview Details

SAMPLE	Conduct of Interviews	DURATION OF INTERVIEW (min.s)		
		Range	Mean	Median
ALCOHOL DEPENDENT WOMEN	Feb. 1980 - Sept. 1981	90-505	148	130
GENERAL POPULATION WOMEN	June 1982 - Jan. 1983	70-390	147	125
CAREER WOMEN	Apr. 1981 - Jan. 1982	30-210	88	80

6.3.2 The Interview

Each interview began with an informal chat between subject and interviewer, in order to develop rapport between them. All subjects were then told that different samples of women were being interviewed, and that the aim of the research was to examine whether women who had experienced alcohol-related problems also differed in other ways from women who had not experienced problems related to alcohol. The subjects were also told that the results of the study would subsequently indicate ways in which the treatment programmes offered to alcohol dependent women could be changed so as to cater more directly to the specific needs of alcohol dependent women.

The confidential nature of the research was stressed, as was the importance of honesty throughout the interview if the study's aims were to be achieved. The women in the general population and career samples were also reminded that they were able to be paid \$10 for their participation in the interview (see Section 6.4.2).

The interview followed a structured format, and the interview schedule is reproduced in Appendix 7. As mentioned earlier, the eight tests which were included as part of the overall protocol are reviewed in Chapter Seven, and the individual tests and their associated instructions are detailed in Appendices 8 to 15.

All answers to questions were recorded in writing on the interview schedule by the interviewer, although most tests were completed by the subjects, in the presence of the interviewer. However, in some instances, subjects requested that tests be read out to them by the interviewer, who then marked down the given responses on the test protocols.

The initial part of the interview covered demographic factors, including marital history, education and employment, and interests. The subjects then completed the second version of Winefield's (1979b, 1982) Social Environment Questionnaire (see Appendix 8). Questions relating to parents, siblings, children, miscarriages and stillbirths followed, and the next section addressed drinking habits and history, and for the alcohol dependent women, also precipitants of excessive drinking, treatment history, and consequences of drinking. Three questionnaires relating to alcohol use, namely Selzer et al.'s (1975) revision of the Michigan Alcoholism Screening Test, Manson's (1949) Alcadd Test, and the Drinking Emotions Questionnaire, were then administered to all subjects (see Appendices 9, 10, 11).

Following the completion of these questionnaires, several questions about height, weight, and appearance were asked. Subjects subsequently completed 11 items of Franck and Rosen's (1949) Drawing Completion Test (see Appendix 12). The next series of questions focussed on hospitalization history, contraception, menopause and menstruation, depression, sleep disturbance, and smoking. Zung's (1965) Self-Rating Depression Scale (see Appendix 13), and a modified version of Bem's (1974) Bem Sex-Role Inventory or BSRI (see Section 6.4.3.7 and Appendix 14) were then filled in by the subjects.

After completing the BSRI, the subjects were asked about their attitudes towards various roles. They were given two sets of cards of 5-point rating scales to facilitate answering the questions, and the interviewer recorded the responses on the interview schedule.

The next section involved the verbal administration of a modified version of Tennant and Andrews' (1976) Life Events Inventory (see Section 6.4.3.8 and Appendix 15) and the responses were recorded by the interviewer on the Inventory.

Finally, a series of 10 questions of a more personal nature were administered in questionnaire format and completed by the subjects. These questions were grouped together at the end of the interview, in the hope that by this stage, sufficient rapport had been built up for the subjects to answer these questions honestly and without offence. In fact, no objections were raised about the contents of this questionnaire.

At the conclusion of the interview the subjects were thanked for their cooperation and honesty in responding to questions. The interviewer willingly discussed any aspects of the interview, or explained the purpose of any of the measures used. In some instances subjects requested the results of a particular test and these were then forwarded at a later date. Finally, the women in the general population and career samples were given \$10 for their participation in the study, and a receipt to this effect was signed (by initial or pseudonym if the subjects desired to retain their anonymity). The alcohol dependent subjects were not paid for their participation, as the therapists felt that financial inducement for participation should not be offered to them.

Although the majority of the interviews proceeded in the manner outlined above, two alcohol dependent women and one general population woman were unable to complete the interview in the one day, and the interview was finished at a later date. Several of the interviews conducted with patients from Robertson House were interrupted for a number of hours, while the subjects attended some form of therapy or were required for other duties. These interruptions to the interview did not appear to influence the outcome in any manner.

During the course of the interview some subjects, both alcohol dependent and control, became emotionally upset as a result of having to recall and discuss

various aspects of their lives: the interviewer was then willing to discuss the matter at greater depth with the subject, if the subject wished to do so. In some instances, this required a considerable deviation from the interview schedule. Furthermore, in several instances of interviewing alcohol dependent women, the subjects brought up an area of concern that they had not previously mentioned to the therapists involved in their treatment. In these cases, the writer felt that it was important for the interviewer to probe more deeply into the problem and then to encourage the patients to speak to their therapists about the issue. The ethical code governing research of this nature prevented the interviewer to break confidentiality by approaching the relevant therapist herself.

In addition to the information obtained by interviewing alcohol dependent women, further information was obtained from the case notes of all alcohol dependent patients. The case notes were used to verify the information obtained during the interview, as well as to provide additional information on previous alcohol-related admissions, lengths and dates of hospitalizations, and any underlying psychiatric disorders.

6.4 METHODOLOGICAL CONSIDERATIONS

6.4.1 Utilization of Paid Interviewers

It has already been noted that some interviews were conducted by paid female research assistants, who had had prior experience with interviewing.

Several studies have shown that where data are collected through intensive personal interviews, the possibility of any expectancies held by the investigator influencing the gathered data is increased (e.g. Barber, 1976). On the other hand, however, if a number of interviewers each interview a

subsample of every group of subjects, any experimenter expectancy effect likely to influence the quality of the data would be equated across all groups (Rosenthal, 1966). Furthermore, the use of more than one interviewer would decrease the probability that interviewer practice and fatigue influences the quality of the data obtained during interview (Campbell & Stanley, 1966). To this end, it was decided to employ additional interviewers who were not aware of the experimental hypotheses of the current study. Moreover, Section 6.2.3.2 drew attention to the practical difficulties of recruiting and interviewing non-alcohol-dependent women to serve as controls for the alcohol dependent women who normally resided in country areas. Consequently, the use of research assistants to interview general population women from country regions was desirable from both a practical and theoretical perspective.

Of the 63 interviews with alcohol dependent women, 46 were conducted by the writer and 17 by a research assistant. The same research assistant, who was a doctoral candidate in the Department of Psychology at the University of Adelaide, interviewed 10 career women, whereas the remaining 47 were interviewed by the writer. Because the writer had made the initial contact, through doorknocking, with all the women from the general population sample who were normally resident within the greater Adelaide metropolitan area, it was considered desirable for these women also to be interviewed by the writer. However, 6 of the 59 women comprising the general population sample resided in country regions, and these women were both recruited and interviewed by research assistants. Details of the qualifications of these research assistants were provided in Section 6.1.3.2.

6.4.2 Payment of Subjects

The decision to offer a financial incentive for participation in the interview was based on past research findings which indicate that financial reward (1) increases the representativeness of the volunteer sample, (2) increases the proportion of the potential sample volunteering to participate, (3) improves the quality of participation, and (4) appears to reduce the stress associated with the experimental task (Wagner & Schubert, 1976).

The sum of \$10 was considered to be adequate in so far as achieving the desired effects outlined in the preceding paragraph. Simultaneously, it was also considered not to be excessive to the point that participation in the study was likely to result solely from the desire for monetary reward.

All non-alcohol-dependent women were told during the initial contact that they would be given a modest financial payment for their participation. However, the staff of the alcoholism treatment units requested that financial reward not be offered to the alcohol dependent women participating in the study, and as a consequence, these women were not paid for their participation.

6.4.3 Modifications to, and Scoring of, Tests

6.4.3.1 Social Environment Questionnaire (SEQ)

Winefield's (1979b, 1982) second version of the SEQ, or SEQ-II, was utilized in this study (see Appendix 8). Analyses involved not only the examination of responses to individual test items, but also the calculation of a summary statistic, the Social Support Index, the derivation of which is outlined in Section 7.7.1.

6.4.3.2 Michigan Alcoholism Screening Test (MAST)

Selzer et al.'s (1975) revision of the original MAST (Selzer, 1971) was used in the current study. The revised MAST contains 24 as opposed to 25 items, and also includes minor modifications to the wording of some items.

In addition, however, several further minor modifications were made in the context of the current study. Specifically, as the test was to be used only with female subjects, the word "wife" was eliminated from items 3, 10, and 11, and in item 12, the word "girlfriends" was changed to boyfriends. Furthermore, item 23, which addresses drink-driving violations, was altered to include the drink-driving violations encompassed by the local Road Traffic Act. The modified test and scoring scheme are reproduced in Appendix 9.

Items 21 and 22 of the test refer to treatment for alcohol-related problems specifically within psychiatric hospitals or clinics. However, as was noted in Section 6.2.2, one of the inpatient alcoholism treatment facilities accessed in the current study was part of a psychiatric hospital, whereas the other was not. Therefore, to preserve uniformity, both these items were scored in the affirmative for every alcohol dependent woman, irrespective of hospital status. In every other respect, the test was scored in accordance with Selzer et al.'s (1975) weighted scoring scheme.

6.4.3.3 Alcadd Test

Manson's (1949) Alcadd Test was used with no modifications either to items or scoring. The test and scoring method are shown in Appendix 10.

6.4.3.4 Drinking Emotions Questionnaire

The DEQ (see Appendix 11) was developed by the writer specifically for use in the current study. Details of its development are provided in Section 7.4.

6.4.3.5 Drawing Completion Test (DCT)

Although Franck and Rosen's (1949) DCT comprises 36 items, only 11 items were utilized in the current study. This brief version of the DCT was developed by Cochrane, Parkman and Strodtbeck (1966). The items were scored in accordance with the principles outlined by Bezdek and Madsen (1970), which, together with the test, are reproduced in Appendix 12.

Given the projective nature of the test, and therefore the potential ambiguities in its scoring, it was deemed important to examine the reliability of the writer's scoring. Both the writer and a paid research assistant scored 352 items, comprising 32 complete protocols. (The research assistant was a doctoral candidate within the University's Department of Psychology, and had had previous experience in the scoring of projective tests.) Both scorers studied in detail the appropriate scoring manuals prior to scoring the test protocols. It was found that 89.2% of the 352 items were scored identically by both scorers with respect to abstract or content nature of completion, whereas agreement regarding masculine or feminine type of completion was obtained with 87.5% of the items. When both abstract or content and masculine or feminine nature of completion were considered simultaneously, an interrater reliability of 81.8% was achieved.

The interrater reliability indices recorded within the current study were somewhat lower than those reported in the literature (see Section 7.5.3.2). Consequently, any items from the entire sample of protocols that were considered by the principal scorer (the writer) to be ambiguous with respect to their scoring were subsequently discussed with the research assistant before a score was assigned.

6.4.3.6 Self-Rating Depression Scale (SDS)

No modifications were made to Zung's (1965) SDS. In the current study, results were presented as raw scores rather than as an SDS Index (see Section 7.6.1). Both the test and scoring key are presented in Appendix 13.

6.4.3.7 Bem Sex-Role Inventory (BSRI)

The BSRI (Bem, 1974) requires that individuals use a 7-point rating scale (see Section 7.7.1) to describe how they perceive themselves with respect to each of 60 items. However, for the purposes of the current research, subjects were asked to respond not only with respect to how they actually perceive themselves, but also with respect to how they would ideally like to be vis a vis each of the items. As seen in Appendix 14, an additional column labelled "Ideal Self" was provided for these latter responses. The same 7-point rating scale was used for both methods of self-rating.

A subsequent appraisal of the BSRI response sheets indicated to the writer that 40 (i.e. 12 alcohol dependent, 12 general population, and 16 career women) of the 74 women, who indicated a discrepancy between their perceived and ideal selves with respect to the item "Does not use harsh language", in fact responded in a manner which reflected a desire for change in the less socially desirable direction with respect to this item. Consequently, several career women, who were known to the writer and whose responses reflected this apparent anomaly, were contacted again, and asked if in fact they ideally wanted to use harsh language more frequently than they currently perceived themselves doing. It became apparent through these discussions that the wording of the item, specifically with respect to the word "not" was confusing when used in conjunction with the rating scale, resulting in the incorrect use of the latter. Such incorrect responses had occurred with both the perceived and ideal self-ratings. Because it was not possible to clarify each subject's

intended response to this item, and given the resultant ambiguity with respect to the meaning of the self-ratings vis a vis the item "Does not use harsh language", this item was disregarded when scoring the BSRI.

Median Masculinity and Femininity scores of the entire sample (i.e. alcohol dependent, general population, and career samples combined), derived from ratings of perceived self, were used as the basis for categorizing subjects into both perceived and ideal sex role type. The median Masculinity and Femininity scores were 4.17 and 5.00, respectively. Each subject's mean Masculinity and Femininity scores were then used to categorize her as either masculine, feminine, androgynous, or undifferentiated in terms of sex role type, in the manner shown in Table 27.

TABLE 27. Categorization into Sex Role Type (BSRI)

		\bar{X} Masculinity Score	
		<4.17	≥4.17
\bar{X} Femininity Score	<5.00	undifferentiated	masculine
	≥5.00	feminine	androgynous

6.4.3.8 Life Events Inventory

A modified version of Tennant and Andrews' (1976) Life Events Inventory was used in the current study.

Several papers have expressed concern about the reliability of life event inventories, particularly with respect to respondent failure to recall events (e.g. Brown & Harris, 1982; Funch & Marshall, 1984; Jenkins, Hurst & Rose, 1979; Uhlenhuth, Haberman, Balter & Lipman, 1977). However, there are some indications that the fall-off in the reporting of life events is affected by the nature of events and the manner of inventory administration.

Some studies have found an association between the saliency of events and fall-off in the reporting of events, such that more salient or severe events are subject to less fall-off (e.g. Brown & Harris, 1982; Funch & Marshall, 1984; Jenkins et al., 1979). However, the finding by Steele, Henderson and Duncan-Jones (1980) that more distressing events had a lower test-retest reliability than less distressing events is contradictory.

Given that the current study involved the recall of events occurring over a long period of time, namely since childhood, only the more salient and/or severe events of the original Inventory were used in the study. Specifically, 47 of the 67 items from Tennant and Andrews' (1976) Inventory were selected, one item pertaining to beginning a de facto relationship was added, and several of the original items were expanded to include de facto partners as well as husbands. Minor changes to the wording of some items were also made. The inventory which was used in this study is presented in Appendix 15, whereas Appendix 16 details Tennant and Andrews' Life Events Inventory.

The current research methodology required the recall of events occurring since childhood, as noted in the previous paragraph. Fall-off in the reporting of events occurring during this time is inevitable, even if precautions are taken to include only those events that are least likely to be forgotten. Jenkins et al. (1979) note that "[their] findings argue against the use of retrospective research designs that rely on 'using persons as their own controls' by comparing numbers of events reported for successive time periods" (p. 383). However, they proceed to state that "these kinds of comparisons are, of course, appropriate if comparable longitudinal data are obtained for control groups" (p. 383). In the current study, problems relating to the fall-off in the reporting of life events are therefore reduced, given that the research design involves the comparison, during comparable time periods, of life events reported by alcohol

dependent women, with those reported by two control groups of non-alcohol-dependent women.

Life event inventories can be administered either as a self-report questionnaire or verbally by an interviewer. The latter approach was adopted in this study for several reasons. First, there is some evidence to suggest that interview administration elicits more reliable information (Brown & Harris, 1982; Steele et al., 1980; Tennant & Andrews, 1978b). Secondly, a significant amount of time can be saved by verbal administration, given that some items are not relevant to all subjects and that other items can be answered from responses given in earlier segments of the interview. Finally, an interviewer can immediately clarify any uncertainties with respect to either the definition of events or the time of their occurrence. For example, within the current study, if a subject was uncertain of when a particular event occurred, the interviewer drew her attention to another event that she had experienced and enquired as to the relative order of these events. This process continued with the use of further events until the time of occurrence was determined. This comparative dating technique has subsequently been recommended by several authors as a means of further improving the reliability of data collection (e.g. Brown & Harris, 1982; Funch & Marshall, 1984).

Tennant and Andrews' (1976) distress and life change scalings for each item (see Appendix 15) were adopted for use during analysis. However, further analyses additionally required the categorization of life events, according to two independent schema. Nine postgraduate students from the Department of Psychology were asked to categorize each event.

The first manner of categorization involved judgements of whether each event was primarily within, or outside of, an individual's control. Of the 48 items on the inventory, 26 were classified by at least six of nine judges as

being controllable, and 17 as uncontrollable. However, an approximately equal number of controllable and uncontrollable classifications were obtained for the remaining five items. These were subsequently deemed to be ambiguous with respect to this manner of classification and were therefore excluded from analyses utilizing this schema. Appendix 15 also details this manner of categorization of life events.

Tennant and Andrews (1977) constructed a scale to measure the cause of life events, utilizing three causal factors of "Chance", "Self", and "Others". Their scale is described in more detail in Section 7.8.5, and the three component scalings of individual events are presented in Appendix 16. In general, events which were judged as being controllable in the context of this study correspond to Tennant and Andrews' events achieving primarily a "Self" component scaling, whereas uncontrollable events correspond to their primarily "Chance" events. Five events pertaining to the behaviour of children were classified as uncontrollable, which is nevertheless in accord with Tennant and Andrews' classification of these same events as being primarily due to the behaviour of others, rather than self. However, lesser agreement was apparent with respect to events relating to work, although a different economic climate may account for some of these differences. Finally, the onset of menopause was judged to be uncontrollable, whereas Tennant and Andrews' judges rated this event as being due primarily to the actions of self, rather than chance, and a husband's extramarital affair was not unequivocally controllable or uncontrollable, whereas Tennant and Andrews' scaling reflected that others were the major causal factor.

The second manner of categorization used in the current study involved judgements of whether events could be perceived as posing either biological or psychological threats to a woman's sense of female adequacy. Therefore,

on the basis of classifications by the same nine postgraduate students, each event was categorized as being either a biological threat, a psychological threat, or as not constituting any form of threat to female adequacy. With this form of categorization in mind, additional information was obtained from the subjects with respect to the specific nature of any reported operation or serious illness. Suspected infertility, hysterectomy, mastectomy, and sterilization were subsequently classified as biological threats, whereas other types of illness or operations were classified as nonthreat events. This form of event categorization is presented in Appendix 15.

The experience of stressful life events was examined during each of five time periods of the women's lives. Specifically, among the alcohol dependent women, the first time span (subsequently referred to as Period 1) incorporated the period from childhood to the time of self-reported onset of heavy drinking. The period from the self-reported onset of heavy drinking to that of problem drinking constituted the second time span (Period 2). The addition of both these periods formed the third period, namely that from childhood to the onset of problem drinking (Period 3). The fourth span reflected the duration of time from the self-reported onset of problem drinking to interview (Period 4), whereas the fifth and final period covered the overall total experience of stressful live events (Period 5).

One general population and one career woman was individually matched on the basis of age to each alcohol dependent woman. The time spans incorporated by Periods 1 to 5 for the alcohol dependent women, as described above, were also individually calculated for each general population and career woman in order to encompass the corresponding period of time.

CHAPTER SEVEN

7.1 SOCIAL ENVIRONMENT QUESTIONNAIRE (SEQ)

7.1.1 Description

The SEQ-II (Winefield, 1982), which is used in the present study, is a modification of Winefield's (1979b) original SEQ. The SEQ-II is a 7-item self-report instrument (see Appendix 8), which assesses the following aspects of a person's social environment and social support: number of cohabitants, number of confidants among cohabitants, number of close friends, number of individuals who confide in the respondent, number of friends and acquaintances relative to the perceived average, confidence of making a good first impression on another individual, and perceived helpfulness of confiding in someone.

The first four questions are each scored simply by summing the number of nominated individuals. Winefield (1979b) also suggests the calculation of a Social Support Index (SSI), which may serve as a quantitative summary of the available social support. The SSI pertaining to the responses to the SEQ-II can be calculated by using an adaptation of the formula provided by Winefield for use with the original SEQ: $(Q2 + Q3) \times Q4 \times Q6$, where Q denotes the individual question. However, the answers are first recoded to remove extreme scores (i.e. Q2, 3 and 4: no individuals listed = 1; 1, 2 individuals = 2; ≥ 3 individuals = 3; Q6: very much lacks confidence, not very confident = 1; fairly confident, very confident = 2). The SSI can therefore range in value from 2 to 36.

7.1.2 Development

Winefield (1979b) provides no details of the development of the SEQ.

7.1.3 Psychometric Properties

No published data of the reliability or validity of the SEQ are available.

However, there are some indications of the interrelationships between items. Winefield (1982) noted that among a sample of 105 middle-aged Australian men, of whom 52 had suffered a first myocardial infarction, the strongest intercorrelations among the SEQ-II items were between the number of confidants outside the household and both the number of individuals confiding in the respondent ($r = .49$), and the number of cohabitants ($-.24$).

7.1.4 Response Bias

Winefield (1982) reported that although there was considerable variability in the number of reported confiding relationships, the responses to the multiple-choice items of the SEQ-II nevertheless indicated some stereotyping of responses, which may reflect a response bias. On the other hand, however, she noted that the lack of differences in the responses made by the myocardial infarction patients, who were known to the investigator, and the healthy controls, who responded anonymously, "may be taken as evidence against significant response biases" (p. 49).

7.1.5 Association with Demographic Factors

The responses of 35 female and 30 male mature-age university students indicated no significant sex differences with respect to the SEQ items, with the exception of women being significantly more likely than men to report that talking over problems was always or usually helpful, rather than only sometimes or never helpful (Winefield, 1979b).

Within a sample of 105 males, age was found to correlate significantly and negatively with the number of cohabitants, but no significant correlation was evident between age and the numbers of confiding relationships (Winefield, 1982).

7.1.6 Subgroup Responses - Women

Winefield (1979b) compared the social supports and environments of hospitalized depressed women and female university students of similar ages, and found that the SSI scores of the depressed women were significantly lower than those of the students. Although the depressed women did not differ significantly from the students with respect to either the number of cohabitants, the perceived relative size of their friendship/acquaintance network, or the perceived helpfulness of talking over problems, they did, however, report a smaller number of confiding relationships. Furthermore, the responses of the depressed women indicated a relative lack of confidence in being able to make a good first impression.

Within both samples of women, the SSI showed a significant negative correlation with depression ($r = -.56$ and $-.31$, among the depressed and student women, respectively), as measured by Zung's (1965) Self-Rating Depression Scale or SDS. As expected, the hospitalized women reported feeling significantly more depressed and hopeless than did the students. However, the two samples did not differ significantly in their experience of life events in the two years preceding interview.

7.1.7 Summary

The SEQ-II developed by Winefield (1979b, 1982) is a self-administered, 7-item measure of an individual's support and social environment. Although

the instrument's reliability and validity have not been established empirically, there is sufficient evidence that it does differentiate between samples of women similar to those for whom previous research has indicated marked differences in social support. Moreover, the SEQ was developed locally, and normative data from both clinical and nonclinical samples of women is available, enhancing its value as a brief measure of social support to be used in the present research.

7.2 MICHIGAN ALCOHOLISM SCREENING TEST (MAST)

7.2.1 Description

The MAST was developed by Selzer (1971) to provide a screening instrument for alcoholism. The original MAST comprised 25 questions, many of them drawn from other studies. Each question relates directly to drinking or alcohol-related behaviours, and as such the items have a high face validity. The test can be given either in interview format (Selzer, 1971), or as a self-administered instrument (Selzer et al., 1975). The latter revised version, consisting of 24 questions, is used in the current study (see Appendix 9). Summation of weighted scores for each response indicative of alcoholism gives a total test score, which can range from zero to 53.

7.2.2 Development

The MAST was initially administered to White male alcoholic inpatients and White male controls (Selzer, 1971). On the basis of the distributions of the responses of the two groups, and from clinical appraisal of the alcoholism syndrome, a weighted scoring system was developed. Cutoff points were then assigned to yield both a minimum number of false positives among the controls, and false negatives among the alcoholics. A score of 0-3 was regarded as

nonalcoholic; 4, suggestive of alcoholism; and 5 or more, indicative of alcoholism.

The MAST was then administered to a further three samples: drivers convicted of driving under the influence of liquor, persons convicted of drunk and disorderly behaviour, and drivers undergoing a licence review because of excessive accidents and traffic violations in the previous two years. A validation score for each subject was derived from alcohol-related data in medical-social and driver-criminal records and compared with his MAST score: only 15 of approximately 450 subjects scoring in the non-alcoholic range on the MAST were found to be alcoholic by virtue of their validation score.

7.2.3 Psychometric Properties

7.2.3.1 Validity

Since the introduction of the MAST, its validity has been supported by studies using different samples. For example, physician's diagnosis, patient history, and MAST scores were used to evaluate alcoholism among 200 male and female patients in a general hospital (Moore, 1971). Overall, 10% of the patients were considered to be alcoholic by the MAST and/or by physicians' diagnosis and the patient's history: the MAST identified 90% of these individuals, whereas physicians identified only 50%. Of 400 adult psychiatric patients, 128 were rated as alcoholic by psychiatrists, and the MAST identified 126 of these (Moore, 1972). However, when using diagnoses of nonalcoholic, equivocal, or alcoholic, the overall agreement between psychiatrists' ratings and MAST scores was only 78%. Breitenbucher (1976) administered the MAST to male and female ambulatory patients in a general clinic, and of 70 patients where alcoholism was suspected from their previous records, the MAST

identified 60, whereas only 32 were recognized by their attending physicians. Goode and Hudson (1976), using an Australian sample, found that the MAST discriminated between patients undergoing treatment for alcohol only and patients receiving treatment for the abuse of other drugs.

Although the original MAST was intended for use during a structured interview, Selzer et al. (1975) subsequently examined its suitability as a self-administered instrument. Several changes were made to the original MAST, including the elimination of one question and the rewording of several others. Approximately 500 drivers, comprising inpatient and outpatient alcoholics, drivers renewing their driver licences, and drivers convicted of traffic violations, completed the revised MAST. Results indicated that the alcoholics were several times more likely than the other drivers to respond in the alcoholic direction on each MAST item, and moreover, that the inpatients were more likely to do so than the outpatients, as were the drivers with violations when compared with the drivers renewing licences. Correlating total MAST score and criterion group membership (i.e. alcoholic vs. other drivers), the product-moment correlation coefficient was .79, and Goodman's gamma, .95. Controlling for age, the validity coefficient was .72. These computations were then repeated, using only the inpatient alcoholics and drivers renewing their licences as the criterion groups: the coefficients were even higher ($r = .90$, $\text{gamma} = .99$, and controlling for age, $r = .88$).

Two studies using motorists arrested for driving while intoxicated (DWI) found that most of the MAST items discriminated between respondents classified as problem drinkers on the basis of their total MAST scores, thus supporting the internal validity of the MAST (Zung, 1979; Zung & Charalampous, 1975). Further support for the internal validity of the MAST is provided by the reported correlations between individual items and total

test scores, which ranged from zero to .79: Zung and Charalampous (1975) reported a range from .30 to .79; Zung (1979), zero to .72, with the correlations of zero resulting from the nonendorsement of those items; and Skinner (1979), .41 to .78, except for one item with a correlation of .13 (i.e. "Have you ever been told you have liver trouble? Cirrhosis?"). Moreover, in each of these studies, few items failed to correlate significantly with the total test score.

7.2.3.2 Reliability

Several studies have reported the test-retest reliability of the MAST. Goode and Hudson (1976) noted a test-retest correlation of .66, which was however dependent on the interval between testing: if testing and retesting occurred within one month, the correlation was .81 (N=9), falling to .47 (N=29) when the time difference was greater than one month. Skinner and Sheu (1982) reported a substantively higher test-retest reliability of .84, even though the average test-retest interval was 4.8 (+ 2.6) months.

Reported reliability estimates in terms of internal consistency range from .83 to .95. Selzer et al. (1975) reported a coefficient alpha of .83 for their combined sample of convicted drivers and drivers renewing licences, and .87 for the alcoholic sample. Skinner's (1979) sample of alcoholics and drug addicts yielded a coefficient alpha of .90, and Zung (1979) reported Cronbach's alphas of .88 and .83 for his two samples of DWI offenders. Skinner and Sheu (1982) reported coefficient alphas of .85 at initial testing and .88 at retesting several months later. Given that the values of the reported reliability coefficients are relatively consistent across different samples and studies, the MAST appears to be adequate in terms of its internal consistency.

7.2.4 Response Bias

When test items have a high face validity, as in the MAST, deliberate falsification of responses in order to minimize problem areas may result. Several studies have reported attempts to measure the effect of response style on MAST scores. Selzer (1971) reported an earlier study in which inpatient alcoholics were given instructions to lie deliberately about their drinking problems. Nevertheless, 92% disclosed sufficient information on the MAST to be classified as alcoholic. Skinner (1979) administered three scales to assess response styles, namely, the Personality Research Form's (PRF; Jackson, 1974) Desirability and Infrequency scales, which measure, respectively, the extent of presenting an overly favourable picture of oneself and the degree of careless response or lack of understanding of items, and the Denial scale of the Basic Personality Inventory or BPI (Jackson, 1976) which assesses the tendency to be defensive or to minimize problem areas. The correlation of MAST scores with Desirability was $-.32$ ($p < .01$), with Infrequency, $-.03$, and with Denial, $.06$, thus indicating that persons scoring high on the MAST were less interested than those with low scores in presenting an overly favourable impression of themselves, that respondents were not answering test items carelessly or inconsistently, and that a denial syndrome was not influencing MAST scores. Selzer et al. (1975) reported that correlations between MAST scores and scores on the Deny-Bad subscale of the Crowne-Marlowe Social Desirability Scale (Crowne & Marlowe, 1964) were $-.18$ among alcoholics and $-.11$ among convicted drivers or those renewing their licences.

7.2.5 Association with Demographic Factors

Significant correlations have been reported between demographic characteristics and MAST scores. Skinner (1979) found that within a sample of male and female alcohol and/or drug addicts, higher scores were evident

among older subjects ($r = .31$), males ($-.24$), those with lesser social stability ($-.38$), and those with lesser education ($-.20$). He emphasized, however, that the higher scores of men were influenced by the younger age of the women in the sample, as well as the large number of drug addicts among the women.

Selzer et al. (1975) also examined the relationship between age and MAST scores. Within their sample of both inpatient and outpatient alcoholic males, age was unrelated to MAST scores ($r = .02$), although a higher correlation ($.20$) was evident among male drivers either convicted of traffic violations or seeking renewal of their licences.

7.2.6 Subgroup Responses - Women

The MAST was initially devised and validated using exclusively male samples, and although several studies (e.g. Breitenbucher, 1976; Moore, 1971, 1972) have included women within their samples, only one study has specifically compared the MAST responses of male and female alcoholics. Selzer et al. (1979) found that the total MAST scores of their samples of male and female alcoholics did not differ significantly, with 97.6% of the males and 98.7% of the females scoring within the alcoholic range.

However, the study by Selzer et al. (1979) indicated that for 7 of the 24 MAST items, significantly more men than women gave alcoholic responses. Most of these items also reflected social role differences between men and women, such as the higher proportion of men working outside of the home, or the more frequent arrest records of males. These differences broadly parallel sex differences regarding the nature of alcohol-related behaviours. The need for further research to define female-oriented alcohol-related behaviours is indicated, with the possibility of incorporating these into the MAST.

7.2.7 Short Forms

Two abbreviated versions of the MAST have been introduced: the 10-item Brief MAST developed by Pokorny, Miller and Kaplan (1972), and Selzer et al.'s (1975) 13-item Short MAST. However, Zung's (1979) comparison of the two shorter versions with the original MAST have led him to report that the short versions produce unacceptably high rates of false-negative classifications, and as such, the use of the abbreviated versions in place of the MAST is not justified.

7.2.8 Summary

The revised MAST contains 24 scorable items relating to drinking habits. Research has supported its validity in distinguishing alcoholics from non-alcoholics, and the test's internal consistency reliability appears adequate. The effects of response style on MAST scores appear not to affect substantially the test's validity. The test appears adequate for use with female as well as male samples.

The test's easy administration and straightforward scoring, as well as its apparent applicability to Australian samples, enhance its suitability for use within this study.

7.3 ALCADD TEST

7.3.1 Description

The Alcadd Test (Manson, 1949) is a yes-no questionnaire comprising 65 items, of which 61 relate directly to drinking (see Appendix 10). The test is self-administered. Summation of alcoholic responses to each of the 60 scorable items gives a total test score.

In addition, each scorable item loads on to either one or two subscales, allowing the determination of scores for a total of five subscales: (1) regularity of drinking, (2) preference for drinking over other activities, (3) lack of controlled drinking, (4) rationalization of drinking, and (5) excessive emotionality.

7.3.2 Development

Manson's (1949) aims in developing the Alcadd Test were to "(1) construct a valid and reliable psychometric instrument for the rapid identification of alcoholic addicts and to (2) attempt the objective recognition of the characteristics of alcohol addicts" (p. 200).

Manson (1949) constructed an initial battery of 160 items, based on his personal observations and findings reported in the literature on the characteristics of alcoholics. These items were administered to alcoholics and nonalcoholics who were comparable on the basis of demographic characteristics. Through item analysis, 60 items were selected for inclusion in the Alcadd, with each of these items having a critical ratio (between the alcoholic and nonalcoholic samples) of at least 2.7 for both male and female subjects, and most items having critical ratios in excess of 5.0.

The Alcadd Test, comprising these 60 items, was then administered to 83 male and 40 female alcoholics, and to 78 male and 81 female abstainers and social drinkers. Approximately two thirds of the alcoholics were members of AA, with the remainder being hospital patients. The mean total Alcadd scores for the alcoholic, social-drinking and abstaining males were 36.8, 5.5, and 0.6, respectively, and for the females, 38.5, 5.4, and 0.6. Although the differences in scores were statistically significant between each category of drinker within each sex, the differences between males and females within each drinking category were not significant.

Using a critical score of 12 for the male groups, 97.6% of the alcoholics were classified correctly, whereas 6.6% of the social drinkers were incorrectly classified as alcoholics. None of the abstainers were identified as alcoholic. With a critical score of 14 for the females, 97.5% of the alcoholics, 94.8% of the social drinkers, and 100% of the abstainers were identified correctly.

7.3.3 Dimensionality

Manson (1949) subjectively analysed the Alcadd's 60 scorable items, and reported the existence of five clusters, "each composed of items probing at or measuring a common characteristic" (p. 203). These clusters are labelled (1) regularity of drinking (comprising 12 items); (2) preference for drinking over other activities (11 items); (3) lack of controlled drinking (18 items); (4) rationalization of drinking (23 items); and (5) excessive emotionality (19 items).

Manson (1949) found marked differences in the mean scores on the five subscales between the alcoholics, social drinkers, and abstainers within each sex. Fowler and Bernard (1965) compared the mean trait scores of their male and female outpatient samples to those reported by Manson. They found that although the differences between the two male samples were statistically significant on three of the five subscales, the differences in actual mean scores were nevertheless not substantive and thus of little clinical relevance. In contrast, however, a comparison between the two female samples indicated that all the mean subscale scores differed significantly, with the outpatient sample scoring approximately one standard deviation below that of Manson's sample. Moreover, among the outpatient females, some of the mean scores on the subscales were closer to Manson's reported critical scores for the subscales than to his subscale means. Fowler and Bernard concluded that

their research cast some doubt on the applicability of the traits for outpatient samples of females and/or on the accuracy of the critical scores suggested by Manson for the subscales.

It is important to note that no factor or cluster analytic studies have attempted to validate Manson's (1949) traits. Reviews of the Alcadd Test by Hunsicker (1953), Smart (1961) and Campbell (1965) all stress that the five traits are subjective conceptions, and until their validation through objective analysis, remain of questionable value.

7.3.4 Psychometric Properties

7.3.4.1 Validity

Murphy (1956) administered the Alcadd Test to four groups of females: active alcoholics, members of AA, social drinkers, and abstainers. Total scores for the four groups were, respectively, 22.5, 41.4, 6.5, and 1.2. The differences between group means were all statistically significant. Interestingly, the AA members, who had been instructed to respond to the test on the basis of their habits prior to joining AA, obtained a higher mean score than did the active alcoholics. As possible explanations for this finding, Murphy suggested that the AA members may have remembered their aberrant habits more accurately than did the active alcoholics for whom the excessive drinking was closer in time, that the AA members may have maximized difficulties that they now considered overcome, or that the drinking habits of the AA members may actually have been more deviant.

Using a cutoff score of 14, as suggested by Manson (1949), the predictive powers of the Alcadd were supported, with the test correctly identifying 80% of the alcoholics, 100% of the AA members, 94% of the social drinkers, and 100% of the abstainers.

Fowler and Bernard (1965) administered the Alcadd to male and female White outpatient alcoholics. Comparing their results with those of Manson (1949), they noted that the alcoholic males in both groups obtained similar mean scores (32.9 and 36.8, respectively). However, the outpatient females exhibited a narrower range of scores than did Manson's sample of alcohol dependent women, and moreover, the mean total score of the former was significantly lower than that of the latter (28.3 and 38.5, respectively). Nevertheless, the predictive value of the Alcadd was again supported, with 99% of the male alcoholics and 92% of the female alcoholics being correctly classified using critical scores of 12 and 14, respectively.

Several studies have tested the utility of the Alcadd as a predictor of drinking behaviour following treatment. Lanyon, Primo, Terrell and Wener (1972) found that, among small groups of alcoholics who had randomly been assigned to one of three different treatments, the group with the highest proportion of abstainers at follow-up six to nine months after treatment had exhibited the largest mean reductions in Alcadd scores.

Ornstein (1978) found that although the mean Alcadd scores of five groups of male alcoholics (categorized as abstainers, improved, or unimproved, according to their drinking behaviour in the two years following treatment, or as unable to be classified, or deceased) did not differ significantly on admission to treatment, the mean Alcadd scores of the subsequent abstainers were lower than those of all the other groups just prior to discharge. Furthermore, a significant reduction in Alcadd scores between admission and discharge was evident for every group with the exception of the deceased sample.

Little attention has been given to the relationship between the Alcadd and other measures of drinking behaviours. In fact, only one such reference

was identified, wherein Hilton and Lokare (1978) noted the high correlation between scores on the Alcadd Test and the Hilton Drinking Behaviour Questionnaire, a relatively unknown measure of alcoholism.

7.3.4.2 Reliability

No estimates of test-retest reliability of the Alcadd were located in the literature.

Manson (1949), using the shorter approximation of the Richardson-Kuder formula, reported coefficients of reliability of .92 for his male sample, and .96 for his female sample. A reliability coefficient of .97 was reported by Murphy (1956) for his female sample, using Hoyt's approximation of the Richardson-Kuder formula.

7.3.5 Response Bias

Several reviews of the Alcadd (Campbell, 1965; Honzik, 1953; Hunsicker, 1953; Smart, 1961) have emphasized its vulnerability to deliberate or unconscious falsification, as a result of the test items' high face validity.

Dunlop (1980) examined the relationship between test-taking attitude and Alcadd scores. The validity scales of the Minnesota Multiphasic Personality Inventory or MMPI (Hathaway & McKinley, 1943) were used to measure test-taking attitude. The L or Lie scale measures deliberate avoidance of honest responding, the K scale examines more subtle biases of self-presentation, whereas the F scale identifies deviancy of response, and the F-K score measures both self-enhancing and self-depreciating response sets. Dunlop's sample of male inpatients with a primary diagnosis of alcoholism was divided into quartiles, with the lowest quartile comprising individuals with the lowest 25% of Alcadd scores. Examination of the L and K scale means indicated

that these consistently decreased across increasing Alcadd quartiles, whereas the F-K index increased. Moreover, statistically significant differences between, at the very least, the lowest and highest quartiles were evident with respect to these mean scores. In a similar vein, Ross (1973) reported a significant negative correlation (-.57) between the Alcadd score and the K scale of the MMPI, within a sample of male alcoholics.

These data therefore suggest that subjects who, on the basis of the MMPI, were identified as being more defensive and self-enhancing responded to the Alcadd items in the alcoholic direction less frequently than did subjects with a more straightforward or self-denigrating attitude. However, Dunlop (1980) conceded that less than 1% of the subjects in the most defensive and self-enhancing quartile in fact scored below the critical score suggested by Manson (1949), indicating that within populations similar to the one studied, namely individuals voluntarily seeking treatment, misclassification due to response style is relatively unlikely.

7.3.6 Association with Demographic Factors

The relationship between sex and Alcadd scores is discussed in Sections 2.6.7.3 and 7.3.7. The only other demographic correlate of the Alcadd Test mentioned in the literature was age. Ornstein (1978) noted that the correlation between age and Alcadd score on admission to treatment was -.218, indicating that younger alcoholic males obtained higher Alcadd scores. However, this association was no longer evident when Alcadd scores obtained prior to discharge were examined.

7.3.7 Subgroup Responses - Women

Women's responses to the Alcadd Test were reviewed earlier, in Section 2.6.7.3, and Table 20 presented the mean total and subscale scores

obtained by the women in various studies. To recapitulate, Manson (1949) found no significant sex differences with respect to Alcadd scores, whereas results from Fowler and Bernard's (1965) study indicated a lower mean score among female rather than male alcohol dependent outpatients, although the statistical significance of the difference was not reported. The studies that have compared the Alcadd scores of alcohol dependent and non-alcohol-dependent women all reported significantly higher scores among the former, as would be expected (Manson, 1949; Murphy, 1956; Parker, 1972).

7.3.8 Summary

The Alcadd Test is self-administered, and contains 65 items, most of which relate specifically to drinking. Although five subscales have been described, no evidence pertaining to their validity is available. Nevertheless, the total Alcadd scores have been shown to discriminate between alcohol dependent and non-alcohol-dependent individuals among both male and female samples, although some doubt has been cast on the test's potential utility in identifying alcoholic individuals in other than treatment populations. Few reports are available regarding its reliability or its association with demographic factors.

The test's simple administration and scoring, and established validity, particularly with treatment populations, warrant its utilization within the current research study.

7.4 DRINKING EMOTIONS QUESTIONNAIRE (DEQ)

7.4.1 Description

The DEQ, which is reproduced in Appendix 11, was developed by the writer, specifically for use within the current research study. It comprises three stages, each of which relates to the same 18 emotional states, which are presented as adjectives.

The first stage of the questionnaire focusses upon whether the person ever drinks when feeling each of the 18 emotions (e.g. aggressive, burdened, excited etc.). For every affirmative response, two further issues are explored: the frequency of drinking on the occasions when the individual feels, for example, aggressive, and the frequency of excessive drinking on the occasions that the individual drinks in association with that particular emotion.

The questionnaire is self-administered, following detailed instructions and examples given by the interviewer.

7.4.2 Development

7.4.2.1 Introduction

Previous studies had used Mulford and Miller's (1960) Iowa Scale of Definitions of Alcohol (Mulford, 1977), or an adaptation thereof (Waller & Lorch, 1978), to assess the extent of drinking for psychological relief. However, problems regarding the potential differentiation between alcohol dependent and abstaining individuals were highlighted by both Mulford and Miller (1963) and Waller and Lorch, suggesting the need for further refinement of that scale. Consequently, it was felt that the Iowa Scale of Definitions of Alcohol was not suitable for use within the current study. As no other available instruments

examined the association between drinking and emotional states, with particular emphasis on the frequency of such drinking, a new instrument was developed by the writer.

7.4.2.2 Item Selection

Russell and Mehrabian (1977) devised a list of 151 emotions that were defined in terms of three dimensions, namely pleasure, arousal, and dominance or control. Their research has indicated that these three dimensions are not only necessary but also sufficient to define all the various emotional states. Therefore, the use of Russell and Mehrabian's list as the pool from which to select the emotions subsequently included in the questionnaire simultaneously provided sufficient documentation to ensure that all the selected emotions were in fact relatively distinct from each other in their definition.

Each emotion on Russell and Mehrabian's (1977) list had either a positive or negative rating on each of the three dimensions. In theory, eight categorizations of emotions were possible: positive pleasure/positive arousal/positive dominance, positive pleasure/positive arousal/negative dominance, and so on. However, few emotions were represented by negative pleasure/negative arousal/positive dominance. Moreover, another study by Russell and Mehrabian reflected moderate correlations between dominance and both pleasure and arousal. Therefore, it was decided to disregard the dominance dimension during the process of item selection. Furthermore, the emotions defined simultaneously by positive pleasure and negative arousal (e.g. modest, reserved, humble) were seen by the writer as, in general, reflecting stable characteristics of individuals, rather than those within the repertoire of day-to-day experience, and were therefore not considered appropriate for inclusion in the questionnaire. On the other hand, choosing emotions on the basis of

approximately equal representation of items indicative of either negative pleasure or positive arousal would ensure the inclusion of items that were potentially associated with episodes of drinking as a means of coping, albeit maladaptively, with negative mood states.

The final choice of the specific emotional states was governed by four factors:

(1) the emotional states were to be relatively frequent in the repertoire of emotional experience of most women, and in particular of both alcohol dependent and non-alcohol-dependent women;

(2) the emotional states were to be readily understood by most women;

(3) the emotional states were to encompass those feelings that have been previously nominated as reasons for drinking by alcohol dependent women, as described in Section 4.4.2; and

(4) the emotional states were to be quite distinct from each other in their meaning, as defined by Russell and Mehrabian (1977).

The 18 items that were finally selected for inclusion in the DEQ were deemed by the writer and her supervisor as representing the set of emotions that most closely fulfilled the four selection criteria that were stipulated above, given the additional requirement of approximately equal representation of items defined by negative pleasure and positive arousal.

7.4.2.3 Development of Structure

The DEQ was constructed to examine three interrelated issues. First, an indication was needed of the specific emotions, out of a predetermined set, with which drinking was associated. The selection of the 18 items included in the questionnaire was described in the preceding section. The first question "Do you ever drink when you are feeling [emotion]?" was designed to provide either an affirmative or negative response for each of the 18 emotions.

Secondly, it was felt that although both alcohol dependent and non-alcohol-dependent women may drink in association with a wide range of emotions, the frequency of drinking in conjunction with the experience of these emotions may nevertheless vary between different samples of women. Therefore, the frequency of drinking was the focus of the second question. Specifically, for each affirmative response to the first question, the subject was to select one of five responses (i.e. always, most of the time, often, occasionally, rarely) in answer to the question "On the occasions you feel this way, how frequently would you drink?"

Thirdly, women who indulge in a similar frequency of drinking in conjunction with any one emotion may nevertheless differ with respect to the frequency with which such drinking is excessive. This issue was included as the final question of the instrument, which was worded as "Of these occasions when you do drink, how frequently would you drink to excess?" One of six potential responses (i.e. always, most of the time, often, occasionally, rarely, never) was to be marked on the questionnaire.

7.4.3 Psychometric Properties

The DEQ is an instrument that was developed specifically for use within the current research study. A large number of administrations of the questionnaire are likely to be necessary before its usefulness in differentiating between the emotion-based drinking behaviours of alcohol dependent and non-alcohol-dependent women could be determined. Therefore, the current study was to serve as the pilot study of the instrument. Consequently, no prior indications of the reliability or validity of the instrument are available, although it does possess face validity.

7.5 FRANCK DRAWING COMPLETION TEST (DCT)

7.5.1 Description

The DCT (Franck & Rosen, 1949) comprises 36 incomplete drawings or stimuli, each of which consists of a few simple lines. These stimuli are depicted in Appendix L. The respondent is required to complete each drawing in any way he or she desires.

Franck and Rosen (1949) wrote that, in completing the drawings:
the subjects express something which might be called "body image", in a sense that includes both structure and impulses. This image, which is part of the individual's awareness of his identity and potentialities, corresponds to physiological reality if it is not surrounded and distorted by defensive measures. It follows that the [Franck Drawing Completion Test] . . . is a measure of degree of acceptance of the individual's sex role, conscious or unconscious. (p. 255)

More recently, however, the test has been utilized predominantly as a measure of, for example "a latent dimension of sex-role identity" (Bezdek & Madsen, 1970, p. 1) or "the most unconscious level of sex-role identity" (Wilsnack, 1972, p. 185).

A brief version of the DCT, which includes 11 of the 36 original items, was developed by Cochrane et al. (1966). The brief version has been utilized in the current study. Consequently, only the scoring principles specifically relevant to the brief version will be elaborated upon within this section, although details of scoring the original test are available elsewhere (e.g. Franck, 1972; Franck & Rosen, 1949).

Each item is scored as being either masculine (0 points) or feminine (1 point). Therefore, the total test scores range from zero if all items were completed in a masculine manner to 36 or 11, for the original and brief versions, respectively, if all items were scored as being feminine. The following

scoring principles arise from the work of Bezdek and Madsen (1970) who have developed a detailed manual specifically for scoring the 11-item test.

Each drawing is assessed initially with respect to whether it has recognizable content or is abstract. The scoring of content follows three major principles. Drawings are accorded a masculine score if they are either active, symbolic, or depict activity or objects related to male roles. Conversely, a feminine score results from drawings that are either passive, realistic, or show activity or objects related to female roles.

If content is absent or too ambiguous, the scoring of the drawing follows four criteria for abstract completions: the presence or absence of internal elaboration, roundness, angularity, and closure. However, only one criterion is relevant for each of the 11 items. The general guidelines for scoring each of the items of the brief version of the DCT are also presented in Appendix 12. More detailed descriptions and examples are provided by Bezdek and Madsen (1970) in their manual.

The DCT is presented in booklet form and is self-administered. With access to the scoring manuals and after some practice, interrater reliability with respect to scoring appears to be adequate, with reliability coefficients ranging from .84 to .90 for the original 36-item test (Franck & Rosen, 1949).

7.5.2 Development

The impetus for the development of the DCT arose from Franck's (1946) research in which pairs of paintings of sex symbols were presented to both male and female students. The results indicated that significantly more men than women were attracted to the female symbol of each pair, whereas women showed the opposite attraction. However, Franck and Rosen (1949) argued that the process of stating such preferences between structured

stimuli lacked the means of personal expression, which in turn would hold an advantage in gaining a better understanding of an individual's sex role adjustment.

Consequently, 60 stimulus drawings were presented to 250 students and "differences between types of completion of drawings by men and by women were examined, formulated as criteria, and tallied for frequency of incidence" (Franck & Rosen, 1949, p. 249). Of these 60 items, 36 showed significant sex differences and were chosen to constitute the DCT items.

7.5.3 Psychometric Properties

7.5.3.1 Validity

7.5.3.1.1 Behavioural Correlates

The construct validity of the DCT, and in particular of the 11-item version, has been demonstrated in a series of studies by Strodbeck and his colleagues (Bezdek & Strodbeck, 1970; Lipsitt & Strodbeck, 1967; Strodbeck, Bezdek & Goldhamer, 1970).

Lipsitt and Strodbeck (1967) were able to show that male naval personnel who were both unconsciously and consciously masculine were least likely to be influenced by the introduction of material which was not directly relevant to the defendant's case in a mock legal trial.

Strodbeck et al. (1970) compared unconsciously and consciously masculine men with unconsciously and consciously feminine men on their willingness to act after hearing one of four versions of a tape on water pollution. The authors presumed that masculinity was associated with a task orientation, whereas femininity was associated with a person orientation; they hypothesized that masculine individuals would be more willing than their feminine counterparts to act when water pollution was described as being solvable but not

serious, but that feminine individuals would be more willing than their masculine peers to take action when it was presented as serious but not solvable. Their results supported the hypotheses.

In the experiment described above, it was not possible to ascertain whether unconscious or conscious identification affected the men's willingness to act. Therefore, another similar experiment was conducted, using male and female high school students (Bezdek & Strodtbeck, 1970). The results indicated that neither biological sex nor conscious identity affected willingness to act after either presentation. On the other hand, the results of the previous study by Strodtbeck et al. (1970) were replicated, when masculinity and femininity among both males and females was defined on the basis of the DCT classification.

In summary, Bezdek and Strodtbeck (1970) suggest that the results of these three experiments, and in particular, the unconsciously masculine individual's

greater willingness to act when he believes he can be efficacious . . . and his attention to the trial evidence without any apparent consideration of the interpersonal implications of this evidence . . . are consistent with the cognitive instrumental implications of the [Universalistic] - Achievement orientation (p. 500)

which, the authors maintain, is more congruent with unconscious masculinity.

In contrast, the unconsciously feminine individual's

greater concern with moral issues, his disposition to act contrary to the instructions of the judge when it appeared the judge was violating ascriptive norms by showing partiality . . . [and] his concern with the evaluative problem of seriousness rather than the cognitive problem of efficacy . . . are consistent with the evaluative and moral implications of the [Universalistic] - Ascriptive orientation (p. 500)

which is more congruent with unconscious femininity.

Given that inappropriate sex role identification is believed by some to be associated with homosexuality (e.g. Chang & Block, 1960), it becomes reasonable to postulate that unconscious sex role identity may be less congruent with biological sex among homosexual individuals than among heterosexual individuals. However, the work of Thompson, Schwartz, McCandless and Edwards (1973) was not able to discern any significant differences with respect to scores on the 11-item version of the DCT between White, well-educated homosexuals and heterosexuals within each sex. These results therefore suggest that unconscious sex role identity, as measured by the DCT, was unable to differentiate between individuals of the same sex who nonetheless differed in their sexual preference.

7.5.3.1.2 Relationship with other Measures of Masculinity-Femininity

No study has been able to demonstrate a significant correlation between scores on either the full or abbreviated versions of the DCT and any other measure of masculinity-femininity.

This lack of association has been apparent between the 36-item DCT and Gough's (1952) Fe scale (Engel, 1966), Strong's (1945) Vocational Interest Blank (Engel, 1966; Shepler, 1951), the MMPI's Mf scale (Engel, 1966; Reed, 1957; Shepler, 1951), Terman and Miles' (1936) Attitude-Interest Test (Engel, 1966; Shepler, 1951), Secord and Jourard's (1953) Body Cathexis Scale (Jaskar & Reed, 1963), and Secord's (1953) Homonym Word Association Test (Jaskar & Reed, 1963). Furthermore, no significant correlations have been found between the DCT and other nonverbal measures of masculinity-femininity, such as Fisher and Cleveland's (1958) Rorschach barrier and penetration scores (Jaskar & Reed, 1963) and Machover's (1949) Draw-A-Person Test or DAP (Reed, 1957).

Similarly, the shorter versions of the DCT have not shown significant correlations with the 24-item version of Gough's (1952) Fe scale (Bezdek & Strodbeck, 1970; Blane & Yamamoto, 1970; Cottle, Edwards & Pleck, 1970; Strodbeck et al., 1970), the MMPI Mf scale (McCarthy, Anthony & Domino, 1970), Heilbrun's (1968) Adjective Check List Masculinity-Femininity scale (Thompson et al., 1973), Gough's (1957) California Psychological Inventory (CPI) Fe scale (Beckman, 1978b; Blane & Chafetz, 1971; McCarthy et al. 1970), and Bem's (1974) Bem Sex-Role Inventory or BSRI (Beckman, 1978b).

In summary, these results suggest that to the extent that the DCT is purported to be a measure of masculinity-femininity, it is obviously measuring a unique aspect of this phenomenon, as evidenced by its lack of correlation with any other commonly used verbal or nonverbal test of masculinity-femininity.

7.5.3.2 Reliability

No results specifically pertaining to the test-retest reliability of the DCT were located. However, Lansky (1962) administered the DCT three times during a semester to a sample of graduate students and noted that "the data suggest that masculinity-femininity is stable " (p. 303).

Strodbeck et al. (1970) found that, for the 11-item version of the DCT, mean item-total correlations obtained from the administration of the DCT to female school students ranged from .09 to .50. Moreover, the correlations exceeded .22 for 9 out of the 11 items. Similar results were obtained using a comparable sample of male students, with correlations ranging from .14 to .59, and exceeding .22 for 10 of the 11 items. This writer was unable to identify any other studies which addressed any aspects of the internal consistency of the DCT.

Reported variation between raters in scoring the DCT has generally been low. Most studies using either the full or abbreviated versions of the test have reported interrater reliability coefficients in excess of .80 (e.g. Bieliauskas, Miranda & Lansky, 1968; Blane & Chafetz, 1971; Franck & Rosen, 1949; McCarthy et al., 1970; Shepler, 1951; Thompson et al., 1973), although some lower correlations have been obtained (e.g. Reed, 1957).

Lansky and McKay (1969) found between 94% and 96% agreement between raters who scored 180 items of the DCT, whereas Zucker et al. (1981) and Beckman (1978b) reported, respectively, 91% and 92% agreement between raters. Wilsnack (1973) noted that agreement between two scorers on the 11 items of 30 protocols ranged from 76% to 100%, with a median agreement of 93%.

These results therefore suggest that with careful consideration of the scoring manuals, good reliability in scoring the DCT can be attained, even with relatively inexperienced raters.

7.5.4 Response Bias

There is little available evidence on the possibility of responding to the DCT in a socially desirable manner. Only Bezdek and Strodbeck (1970) have noted that there appears to be no relationship between DCT scores and social desirability.

The purpose of the DCT does not appear to be immediately obvious, inferring a low face validity. However, two similar studies have revealed that male, but not female, college students were able to respond to the DCT in accordance with how they thought the opposite sex would respond (Bieliauskas et al., 1968; LeLievre & Wise, 1974). Under standard instructions and according to expectation, females obtained significantly

more feminine scores than did males. However, males' responses under opposite-sex instructions were significantly more feminine than their responses under standard instructions, whereas the scores of females did not vary significantly with type of instruction.

7.5.5 Association with Demographic Factors

There is ample evidence demonstrating a significant sex difference with respect to DCT scores. The results of studies pertaining to sex differences will be discussed in more detail in Section 7.5.6.1, which addresses women's responses to the DCT.

Several studies have examined the influence of age on DCT scores. No significant age effects have been found, among either female nurses or hospitalized psychotic women (Reed, 1957), or Australian children (Shea, 1983).

Reed (1957) also noted that there was no consistent evidence for an association between marital status and DCT scores among psychotic women. However, this association has not been examined in normal samples.

Bezdek and Strodbeck (1970) indicated that pilot studies have shown no relationship between socio-economic status and DCT scores, and Shea (1983) found that middle- and working-class Australian children also did not differ in this regard.

Finally, Franck's (1972) norms for the DCT demonstrated that samples of male students aged over 18 years from eight different countries (including Australia) did not vary with respect to mean DCT scores. However, comparisons between similar samples of female students revealed no significant differences between the three English-speaking samples, although some differences were evident between these samples and those from the non-English-speaking countries.

In summary, the available information indicates that demographic characteristics do not appreciably influence performance on the DCT, particularly within English-speaking samples.

7.5.6 Subgroup Responses

7.5.6.1 Women

Most studies have reported significant sex differences in the predicted direction with respect to DCT scores. Such differences have been observed among college students responding either to the 36-item DCT (e.g. Bieliauskas et al., 1968; Franck & Rosen, 1949; LeLievre & Wise, 1974; Shepler, 1951) or only to the first 12 items of the test (McCarthy et al., 1970). Studies utilizing either the 12-item or 11-item versions of the DCT have also indicated significant differences between the scores of male and female high school students (e.g. Bezdek & Strodtbeck, 1970; Blane & Yamamoto, 1970; Urbina, Harrison, Schaefer & Anastasi, 1970) and younger school children (Strodtbeck et al., 1970), and significant sex differences on the 36-item DCT were observed among Australian samples of children in both middle childhood and adolescence (Shea, 1983). However, a study of children aged between 60 and 73 months was unable to demonstrate a significant sex difference (Lansky & McKay, 1969).

Cottle et al. (1970) noted that male and female adults of varying socio-economic status also obtained significantly different scores on the 11-item version of the test. In contrast, however, the results presented by Small, Biller, Gross and Prochaska (1977) suggested that the mothers of predelinquent adolescent males in fact scored in a more masculine direction on the 36-item DCT than did the fathers. The statistical significance of this difference was not reported.

Mean scores obtained by samples of normal women on the 11-item DCT have ranged from 5.31 to 6.63. Zucker et al. (1981) noted that undergraduate college women who differed with respect to their quantity and frequency of drinking obtained mean scores in the range of 5.31 to 5.96, and Cottle et al. (1970), Wilsnack (1973), Beckman (1978b), and Anderson (1980) reported means of 6.08, 6.63, 6.50, and 5.35, respectively, for their normal adult female samples. Female high school students studied by Bezdek and Strodtbeck (1970) recorded a mean of 6.17.

In summary, it has been clearly demonstrated that significant sex differences exist with respect to scores on either the original or abbreviated versions of the DCT. In this context, it is also interesting to make note of Franck and Rosen's (1949) comment that even if males and females achieve similar scores on the DCT, their manner of item completion is nevertheless typically quite different.

7.5.6.2 Alcoholics

Several studies of alcohol dependent women have utilized the 11-item version of the DCT as a measure of the women's unconscious sex role identity.

Wilsnack (1973), Beckman (1978b) and Anderson (1980) reported mean scores of 5.06, 6.11, and 5.03, respectively, for their samples of alcohol dependent women, and, as noted previously, scores of 6.63, 6.50, and 5.35 for the respective samples of non-alcohol-dependent control women. Wilsnack's results reflected a significant difference between the alcohol dependent and non-alcohol-dependent women, whereas Beckman's and Anderson's alcohol dependent and non-alcohol-dependent samples did not differ significantly in this regard.

Other studies have investigated the relationship between DCT scores and the quantity/frequency of drinking, using nonclinical samples. In the first of these, Blane and Chafetz (1971) found that delinquent adolescent males who had exhibited a temporal association between delinquency and drinking and who were subsequently categorized as mild, moderate, marked, or episodic drinkers, did not exhibit any significant variation with respect to mean DCT scores across drinking groups. Similarly, Zucker et al. (1981) classified undergraduate college women as abstainers and infrequent, light, moderate, and heavy drinkers. Again, no significant differentiation with respect to DCT scores was evident between these groups of women.

7.5.7 Summary

The DCT is a simple, self-administered test with no obvious bias relating to cultural factors. Demographic characteristics other than sex do not appear to influence scores on the test. The DCT bears little relationship to other verbal or nonverbal measures of masculinity-femininity, but significant sex differences have nevertheless been apparent in almost every study utilizing this test.

Although little information is available regarding the psychometric properties of the test, the DCT has nevertheless been the most frequently utilized measure of unconscious sex role identity in studies of alcohol dependent women. Consequently, the selection of the DCT as the measure of unconscious sex role identity within the current study thereby provides the opportunity to compare the results obtained in this study with those of previous studies.

7.6 SELF-RATING DEPRESSION SCALE (SDS)

7.6.1 Description

The SDS (Zung, 1965) is made up of 20 statements, 10 of which are worded symptomatically positive, and 10, symptomatically negative (see Appendix 13). As the name implies, the scale is self-administered, and the subject is asked to indicate whether each item applies to them "a little of the time", "some of the time", "good part of the time", or "most of the time".

The SDS is scored by assigning a value of 1, 2, 3, or 4 to each item response, depending on whether the item was worded symptomatically positive or negative. Individual item scores are then summated, with higher scores allegedly representing greater levels of depression. This raw score can then be converted into an SDS Index by dividing it by the maximum possible score of 80, and expressing it as a decimal (Zung, 1965), or as more commonly evident, multiplying the resultant decimal by 100 (Zung, Richards & Short, 1965). However, as Goodstein (1972) points out in his review of the scale, the SDS Index "is nothing more than the actual percentage obtained of the 80 possible scale points. In this age of more sophisticated scaling techniques, this procedure both seems inadequate and might delude naive users into considering such scores with more seriousness than they deserve" (p. 321).

7.6.2 Development

In developing the SDS, Zung's (1965) goals were that the scale should be (1) all inclusive with respect to symptoms of depression, (2) short, simple, and self-administered, and (3) quantitative rather than qualitative.

The results of previous factor analytic studies of depression, which had derived factors which were meaningful in terms of depressive symptomatology, were used by Zung (1965) as the basis for establishing the diagnostic

criteria encompassing the most common characteristics of depression. Zung then grouped these criteria into areas reflecting pervasive effect, and physiological and psychological disturbance; for each of the 20 criteria, he used patient interview material to select one statement which appeared to him to be the most representative of that particular symptom. The 20 statements derived in this manner constitute the SDS.

7.6.3 Psychometric Properties

7.6.3.1 Validity

7.6.3.1.1 Discriminative Power

A series of studies by Zung and his colleagues has reported the SDS index scores of a variety of psychiatric and nonpsychiatric subjects.

In the initial study (Zung, 1965), the normal group (hospital staff, medical and surgical patients, with no observable symptoms of depression and no history of recent depressive illness) scored significantly less than either the D-D group (admission diagnosis of depressive disorder and subsequent treatment for depression) prior to treatment, or the D-O group (admission diagnosis of depressive disorder but treated subsequently for other psychiatric diagnoses). However, the latter two groups also differed significantly, with the D-D group obtaining higher scores. The SDS score of the D-D group after treatment was not significantly different from that of the normal group.

Two further studies by Zung (Zung et al., 1965; Zung, 1967b) indicated that patients diagnosed as having a depressive reaction achieved a significantly higher mean score than did patients with diagnoses of anxiety reaction, personality disorder, or transient situational adjustment reaction. However, the scores of the latter three groups did not differ significantly from each other, and were also similar to those of the D-O group from Zung's (1965) earlier study.

The results of a collaborative international study encompassing Australia (patients only), Czechoslovakia, England, Germany, Japan, and Switzerland (depressive disorder patients only) indicated that SDS indices of depressive disorder patients, patients with other psychiatric diagnoses, and normal controls were all significantly different from one another (Zung, 1969), but also comparable to those of corresponding samples in the other studies.

Two other studies reported by Zung examined only nonpatient samples. In the first of these, Zung (1967a) found that the mean SDS index scores of an aged population were significantly higher than those obtained from a normal population under the age of 65 (Zung, 1965). Zung suggested that this indicated a higher baseline of depressive complaints within a normal aged population, compared to that within a normal younger population. Finally, the mean SDS index score obtained by a random sample of employees (Zung, 1971) was higher than that reported for the original normal sample (Zung, 1965). This difference was attributed to the fact that although the earlier sample was known to be symptom-free, the later sample was randomly selected, and presumably may have included subjects with varying degrees of depressive symptomatology.

As described in the previous paragraphs, Zung's studies (Zung, 1965, 1967b, 1969, 1971; Zung et al., 1965) have shown that SDS scores significantly differentiated depressive patients from patients with other psychiatric disorders and from normal individuals. Equi and Jabara (1976) were able to demonstrate the concurrent validity of the SDS when used with a sample of inpatient alcohol dependent men. The MMPI Depression scale was used to divide the patients into depressed and nondepressed groups, and 81% of the 58 patients were correctly identified when the SDS index score of 50 was used as the cutoff interval. The mean SDS indices of the depressed and

nondepressed alcoholics differed significantly (55.8 and 42.2, respectively). In a South Australian study, Winefield (1979a) compared the SDS scores of 60 depressed female inpatients under the age of 45 with those of 35 mature-age female university students. The patients achieved a significantly higher mean scale score than did the students (49.4 and 34.0, respectively, equivalent to index scores of 61.8 and 42.5, respectively). The SDS is therefore able to differentiate between depressed and nondepressed individuals within samples of alcoholics and females.

7.6.3.1.2 Relationship with other Measures of Depression

Several studies have investigated the relationship between SDS scores and scores on other commonly used measures of depression. Significant correlations ranging from .58 to .70 have been reported with scores on the MMPI Depression scale (e.g. Seitz, 1970; Zung, 1967b; Zung et al., 1965), as well as correlations of .71 before treatment and .84 after treatment in a sample of alcoholics (Equi & Jabara, 1976).

The Beck Depression Inventory or BDI (Beck et al., 1961) has also been shown to correlate significantly with the SDS, with, for example, Zung (1969) reporting correlations of .72 and .76 from German and English samples respectively, and Seitz (1970) a correlation of .83. Davies, Burrows and Poynton (1975) obtained correlations ranging from .52 to .80 (using log transformed Zung scores), according to the time of testing.

Reported correlations between the Hamilton Rating Scale for Depression or HRS (Hamilton, 1960) and the SDS were .56 (Zung, 1969), .79 (Brown & Zung, 1972), .62 to .95 (Davies et al., 1975), and .45 to .76 (Biggs, Wylie & Ziegler, 1978) depending on when testing was done, and .37 for day patients (which was not statistically significant), .40 for inpatients, and .61

for general practice patients from an Australian study (Carroll, Fielding & Blashki, 1973). Biggs and his associates also noted a high correlation (.69) between the change in the SDS and HRS scores of depressed outpatients from before treatment to the completion of a 6-week course of antidepressants.

Zung (1969) reported correlations ranging between .43 and .65 (with an overall mean of .53) between global ratings by psychiatrists and SDS index scores of patients with depressive disorders from six countries. In contrast, however, the corresponding mean correlation coefficient for non-depressed psychiatric patients was .13. Seitz (1970) found that the SDS scores of a sample of inpatients with neurotic depressive reactions did not correlate significantly with a psychiatrist's estimate of the patient's degree of depression. However, the correlations between other measures of depression, including the BDI and the MMPI Depression scale, and the psychiatrist's ratings were even lower. Nevertheless, a significant correlation (.69) between SDS scores and physician's global rating was reported by Biggs et al. (1978), who additionally noted that the changes in both scores during treatment were also correlated (.51).

7.6.3.2 Reliability

There is little evidence available on the reliability of the SDS.

Gibson and Becker (1973) tested one group of gaoled alcoholics with both the SDS and the BDI in the 1st, 6th, and 10th weeks of a rehabilitation programme, whereas another group was tested in the 3rd, 4th, and 5th weeks. The authors found that unlike the BDI scores, the slopes of the SDS scores for both groups of subjects were nearly parallel during corresponding time intervals. From this, they deduced that the SDS showed considerably less retest effects than did the BDI. Unfortunately however, the actual test-retest correlation coefficients were not reported.

The only identified reference to the internal consistency reliability of the SDS was Jegede's (1976) study of American addicts and Nigerian students. He reported coefficient alphas of .75 and .79 for the addicts and students, respectively. Thus, in spite of the marked sociocultural differences between the two samples, the SDS appeared adequate in terms of its internal consistency reliability.

7.6.3.3 Sensitivity

Several studies have demonstrated decreases in SDS scores following treatment, indicating the scale's sensitivity to changes in depression.

In his initial study, Zung (1965) found that SDS index scores of patients with depressive disorders decreased an average of 35 points following treatment for depression. In a sample of alcoholics, Gibson and Becker (1973) similarly reported a decline in SDS scores over time, as did Equi and Jabara (1976) who additionally noted a larger mean differential between pre- and post-treatment scores in depressed alcoholics, compared with that of the non-depressed patients. In Weingold, Lachin, Bell and Coxe's (1968) study of male alcoholics exhibiting low to high levels of depression, depression was found to remit spontaneously over time irrespective of treatment mode, with all three treatment groups showing equivalent changes in SDS scores. However, assignment to treatment mode was not random and the decrease in SDS scores was found to be proportional to the initial level of depression. In contrast, Wilson, Alltop and Riley (1970) found that among 40 incarcerated depressed alcoholic women randomly assigned to either antidepressant or placebo drug groups, the former group showed significantly more improvement over time as measured by both the SDS and the HRS, although both groups improved significantly. The authors noted that although previous studies by Prange, Wilson, Rabon and Lipton (cited in I.C. Wilson et al., 1970) had

indicated that the HRS was more sensitive than the SDS in measuring improvement in depressive symptomatology, in the current study of alcohol dependent women, the SDS rather than the HRS accentuated differences between the drug and placebo groups.

Finally, in a series of three drug trials, Rickels, Downing, Lipman, Fisher and Randall (1973) were able to demonstrate a significant decrease in the total SDS score over a 4-week period, which was attributable to drug treatment. They also noted that the SDS scores appeared to be less sensitive to treatment differences among lower socio-economic clinic patients than among private practice patients.

Although the studies described above have been able to show the SDS's sensitivity to changes in depression over time and/or with treatment, the results of a study by B.J. Carroll et al. (1973) challenge Zung's (1965) assertion that the SDS is sensitive to the actual degree of depression. Their findings showed that the SDS scores of three groups of depressed patients (i.e. mildly depressed general practice patients, moderately depressed day patients, and inpatients with severe depression) did not reflect the increasing severity of the depressive disorder. They attributed this apparent lack of sensitivity to the fact that the SDS measures frequency rather than severity of symptoms, thereby losing discriminatory power. In contrast, Biggs et al. (1978) found that the SDS did significantly differentiate four groups of depressed outpatients classified with respect to severity on the basis of global ratings by a physician. However, the authors also noted that the HRS was a more sensitive measure than the SDS at both extremes of the global ratings of depression.

7.6.4 Response Bias

Many of the SDS items have a high face validity, leading to the possibility that responses may be fabricated in order to minimize the appearance of depression.

Mikesell and Calhoun (1969) found that high school juniors instructed to "fake bad" did in fact obtain significantly higher scores than subjects given either standard instructions or asked to "fake good", even though the subjects were not told what they were to fake. However, the latter two groups of subjects did not differ significantly from each other in their SDS scores. Swanson and Anderson (1972), using a sample of junior college students, were able to replicate the earlier findings, even when information as to the purpose of the SDS was provided.

Therefore, it appears that although individuals may be able to answer in a manner that exaggerates their level of depression, fabrication in the direction of more favourable responses, namely less depression, has not been evident, at least among the relatively young subjects studied by the authors cited above.

Response set is defined by Mikesell and Calhoun (1970) as the "tendency to respond in a particular way, almost independently of item content" (p. 22), one aspect of which includes bias arising from the order of items.

Within the SDS, items relating to pervasive effect, psychological and physiological symptoms are grouped together, rather than being presented in a random manner. However, Mikesell and Calhoun (1970) found that there were no significant differences in mean SDS scores between two groups of subjects who completed the SDS items in either the standard or scrambled order. These results indicate that SDS scores are not influenced by the

clustering of related items, that is, that there are no significant order effects within the SDS.

7.6.5 Association with Demographic Factors

Zung (1967b) was able to show that within a sample of psychiatric outpatients, the SDS index scores did not differ significantly with sex or marital status. The correlation between the SDS and age was .06, with education -.28, with financial status .02, and with the Ohio Literacy Test (Foster & Goddard, 1924), -.03. In a later study of hospital employees, Zung (1971) again noted that SDS scores were independent of age and sex, as well as race.

However, several studies point to a variation in SDS scores with age. As noted previously, a comparison of the results of two studies by Zung (1965, 1967a) indicated higher levels of depression among a normal sample aged 65 and over, compared with that among a normal sample below the age of 65. Furthermore, Mikesell and Calhoun (1969) found that junior high school students obtained a mean SDS index score of 48 which was similar to that obtained by Zung's aged population, but higher than that achieved by his other normative samples. Therefore, it appears that normal samples from both ends of the age spectrum may achieve inflated SDS scores, compared with those obtained by samples in the middle age range.

Blumenthal (1975) reported demographic correlates of the SDS arising from interviews with 160 married couples from the general population. The obtained correlations of these factors with the SDS were as follows: age, .19; sex, .15; total family income, -.11; education, -.24; husband's education, -.28; and wife's education, -.22. Although all of these latter correlation coefficients were statistically significant, they were nevertheless

of a relatively small order of magnitude, suggesting only weak, if any, associations between the SDS and demographic characteristics of subjects.

7.6.6 Subgroup Responses

7.6.6.1 Women

Several studies have demonstrated no sex-related significant differences in SDS scores, for example among psychiatric patients (Zung, 1967b), employees (Zung, 1971), or junior high school students (Mikesell & Calhoun, 1969). Blumenthal's (1975) analyses of a sample of married couples from the general population indicated a statistically significant, albeit relatively low, correlation of .15 between sex and SDS scores, which related primarily to responses to items tapping depressed mood. However, she was unable to determine whether this apparent sex difference related to actual differences in depression or to a potential sex difference in response style. Using female samples, other studies have been able to demonstrate the SDS's concurrent validity (Winefield, 1979a), sensitivity (I.C. Wilson et al., 1970), and lack of order effects (Mikesell & Calhoun, 1970).

Thus, overall indications are that the SDS is appropriate for use with female samples.

7.6.6.2 Alcoholics

One study of male alcoholics has shown that the SDS was able to differentiate between depressed and nondepressed individuals, and that it correlated highly with the MMPI Depression scale (Equi & Jabara, 1976). The scale's sensitivity when used with alcoholic samples has also been demonstrated (e.g. Equi & Jabara, 1976; Gibson & Becker, 1973; Weingold et al., 1968; I.C. Wilson et al., 1970). Gibson and Becker were able to identify

three factors derived from the Zung-Grinker pool of items, namely Self-Debasement, Vital Depression, and Pessimism-Suicide, which were valid characteristics of depression within both alcoholics and primary depressives. The mean SDS index scores of their sample of incarcerated male alcoholics lay between those previously reported by Zung (1965) for normal subjects and psychiatric patients.

The SDS therefore appears to be suitable for measuring depression within alcoholic samples.

7.6.7 Summary

Zung's (1965) SDS certainly meets his requirements of being short, simple, and self-administering. However, the degree to which it is able to quantify rather than give a qualitative picture of depression is open to question, given its relative insensitivity in differentiating between depressed individuals with varying degrees of illness severity, and its emphasis on frequency rather than severity of symptoms.

The test's construct validity, concurrent validity, and sensitivity to changes with treatment and over time are well substantiated. Although its reliability has not been researched adequately, the available information is favourable. Test scores appear to be generally independent of demographic characteristics. Research into response style has shown no indications of "faking good", although there is some evidence to suggest the possibility of "faking bad". Order effects are not apparent.

Studies of specific samples pertinent to this thesis, namely women and alcoholics, support its applicability for use with these groups.

7.7 BEM SEX-ROLE INVENTORY (BSRI)

7.7.1 Description

The BSRI (Bem, 1974) differs from most traditional measures of masculinity-femininity, such as the Masculinity-Femininity scale of the CPI, in that it conceptualizes masculinity and femininity as two independent dimensions, rather than as opposing ends of a single continuum.

The BSRI consists of 20 "masculine" items, 20 "feminine" items and 20 "neutral" items, each item consisting of either an adjective or short phrase. The respondent is asked to indicate on a 7-point scale how well each of the 60 items describes himself or herself (see Appendix 14). The scale ranges from never or almost never true (1) to always or almost always true (7).

The Masculinity and Femininity scores derived from the BSRI responses reflect "the extent to which a person endorses masculine and feminine personality characteristics as self-descriptive" (Bem, 1974, p. 158). The Masculinity and Femininity scores are the mean self-ratings for all endorsed masculine and feminine items, respectively. Both the Masculinity and Femininity scores can vary from 1 to 7, with higher scores indicating greater levels of that characteristic.

The BSRI also enables the categorization of individuals with respect to the nature of their overall sex role type. Bem's (1974) original formulation allowed for five sex role categories (i.e. masculine, near masculine, androgynous, near feminine, feminine), which took into account only the difference between masculine and feminine responses. Under this method of classification, individuals were classified as androgynous if their endorsement of masculine and feminine items was approximately equal, irrespective of the actual degree of masculinity and femininity per se.

However, Spence et al. (1975) suggested differentiating between individuals who, although showing a similar proportion of both masculine and feminine characteristics, nevertheless differed in the extent to which masculinity or femininity was predominant. They subdivided subjects into four groups, namely feminine, masculine, androgynous, and undifferentiated. Specifically, individuals whose masculinity and femininity scores fell above the respective median masculinity and femininity scores of the sample were classified as androgynous, whereas those whose scores were both below the respective medians were classified as undifferentiated. Individuals attaining femininity and masculinity scores which were above and below the respective medians were categorized as feminine, whereas masculine individuals were those who showed the opposite pattern of scores.

Bem (1977) addressed the same issue. Her results led her to conclude that, in concurrence with Spence et al. (1975),

the term androgynous ought to be reserved for those individuals who score high in both masculinity and femininity, and that the BSRI ought therefore to be scored so as to yield four distinct groups of masculine, feminine, androgynous, and undifferentiated subjects.
(p. 204, italics in original)

The BSRI also gives a Social Desirability score, which reflects the extent to which a person describes himself or herself in a socially desirable manner on items that are gender neutral. The score is the mean self-rating for the 20 neutral items, after the self-ratings for the 10 undesirable items have been reversed. Scores can range from 1 to 7, with higher scores indicating a tendency to describe oneself in a socially desirable manner.

7.7.2 Development

Bem (1974) indicated that the BSRI was "founded on a conception of the sex-typed person as someone who has internalized society's sex-typed standards of desirable behavior for men and women" (p. 155). Thus, sex-typed social desirability was the basis upon which items were selected for inclusion in the BSRI's Masculinity and Femininity scales.

Bem (1974) selected approximately 200 personality characteristics that appeared subjectively to be not only valued positively but also either masculine or feminine in tone, and 200 characteristics that seemed neither masculine nor feminine. Of the latter items, half were positive in value, and half were negative. All of these personality characteristics were then rated by 100 undergraduate students with respect to their desirability in American society either for a man or for a woman.

The characteristics that were rated by both male and female judges as being more desirable for a man than for a woman were termed masculine, whereas those that were rated by both sexes as being more desirable for a woman than for a man were considered feminine. Bem (1974) then chose 20 items for the Masculinity scale and 20 for the Femininity scale.

A personality characteristic was eligible for the Social Desirability scale if both male and female judges rated that item as no more socially desirable for one sex than for the other, and if the overall desirability ratings of that item did not differ significantly between male and female judges. The Social Desirability scale comprised 10 positive and 10 negative items which fitted the above criteria.

The manner of construction of the BSRI has been criticized by several authors. Pedhazur and Tetenbaum (1979) noted that rather than defining the concepts of masculinity and femininity and proceeding to construct scales

consistent with such definitions, Bem (1974) adopted a strictly experimental approach, as outlined earlier. Payne (1985) similarly stated that Bem did not appear to be "guided by any clearly articulated theory about the nature of masculinity and femininity" (p. 178). In replying to the Pedhazur-Tetenbaum critique, Bem (1979) makes reference to the BSRI being "based on a theory about both the cognitive processing and the motivational dynamics of sex-typed and androgynous individuals" (p. 1048), although her earlier publications reveal no explications of such a theoretical base.

Strahan (1975) and Pedhazur and Tetenbaum (1979) point to the lack of definition and consequent potential ambiguity of the term "desirable" which was used as the instructional basis in selecting items for the BSRI. Both Locksley and Colten (1979) and Pedhazur and Tetenbaum question the validity of developing an instrument within the context of making global desirability judgements, but then utilizing it in the context of self-rating. Moreover, Locksley and Colten suggest that sex stereotypes may in fact be linked to ideal female and male family and work roles rather than to sex per se. In support of this notion, they refer to earlier research which indicates that the adjectives used to describe a typical housewife resemble those found on the BSRI Femininity scale, whereas career women were described using adjectives similar to those on the Masculinity scale (Clifton, McGrath & Wick; cited in Locksley & Colten, 1979). Payne (1985) also noted that the content of the BSRI Masculinity and Femininity scales concentrated on the domains of independence, decisiveness, and self-assertiveness in the case of the former, and emotionality and awareness of others' feelings in the case of the latter.

7.7.3 Validation of Item Selection

Several studies have attempted to cross-validate Bem's (1974) selection of BSRI Masculinity and Femininity scale items.

Edwards and Ashworth (1977) found that in their own desirability ratings study, only the items "masculine" and "feminine" fitted Bem's (1974) item selection criteria. However, Walkup and Abbott (1978) noted that this study differed in two important respects from Bem's study. First, Edwards and Ashworth used a 9-point rating scale ranging from extremely undesirable (1) to extremely desirable (9) in contrast to Bem's 7-point scale which was anchored with not at all desirable (1) and extremely desirable (7). Secondly, whereas Bem's instructions to raters emphasized societal evaluation of desirability, those of Edwards and Ashworth concentrated upon individual evaluation.

Studies by Walkup and Abbott (1978) and Pedhazur and Tetenbaum (1979) in general supported Bem's (1974) selection of items. Studies by Drinkwater (1979) and Moore and Rosenthal (1980) are particularly relevant to the current thesis in that they provide data on the desirability of the BSRI items for Australian men and women. Both of these studies found that the Masculinity and Femininity scale items provided an acceptable discrimination in terms of perceived social desirability for Australian men and women, leading Moore and Rosenthal to suggest that "the BSRI can be validly used in this [Australian] culture" (p. 467).

7.7.4 Psychometric Properties

7.7.4.1 Validity

7.7.4.1.1 Behavioural Correlates

Bem has demonstrated the construct validity of the BSRI Masculinity and Femininity scales in a series of studies which investigated the relationship between sex role type and gender-related behaviours such as conformity (Bem, 1975), nurturance towards a baby and interpersonal sensitivity (Bem, Martyna & Watson, 1976), and avoidance of "cross-sex" or sex-inappropriate behaviours (Bem & Lenney, 1976).

Some further support for the construct validity of the BSRI is indicated by the work of Jones, Chernovetz and Hansson (1978), who examined aspects of feminist ideology, personality and adjustment, and intellectual competence of males and females categorized as masculine, feminine, or androgynous on the basis of their BSRI responses. Their analyses of sex differences suggested that extraversion, problem drinking, political awareness, and reliance upon skill rather than luck in problem-solving tasks were significantly more evident among males. More importantly however, among the female subjects, the masculine women were more likely to exhibit these characteristics than were the feminine women. Furthermore, although females in general were more likely than males to endorse a feminist orientation on social issues, the masculine females did so to a larger extent than the more traditionally sex-typed females. In contrast however, Bem (1977) was unable to detect any relationship between women's masculinity or femininity and their attitudes towards women.

7.7.4.1.2 Relationship between Masculinity and Femininity

Bem's (1974) aim in developing the BSRI was to provide logically independent measures of masculinity and femininity, and available data have supported that independence.

Several studies in different countries and utilizing both student and adult samples have reported low correlations between the BSRI Masculinity and Femininity scales (e.g. Bem, 1974; Cunningham & Antill, 1980; Feather, 1978; Russell, Antill & Cunningham, 1978; Small, Erdwins & Gross, 1979; Whetton & Swindells, 1977). In general, correlation coefficients did not exceed an absolute value of .17 within female samples, and .26 within male samples. In contrast, Hogan (1977) reported an inexplicably high correlation of .71 among males. However, the correlation coefficient of .15 between Masculinity and Femininity among females in his sample was within the range reported in other studies.

7.7.4.1.3 Relationship with other Measures of Masculinity-Femininity

The relationships between the BSRI Masculinity and Femininity scales and various other masculinity-femininity measures have been assessed.

The results of these studies have shown that the masculinity and femininity scales of the more recently developed inventories such as the Personal Attributes Questionnaire (PAQ; Spence et al., 1974) and the ANDRO scale (Berzins et al., 1978), which, like the BSRI, conceptualize masculinity and femininity as independent dimensions, correlate moderately to highly with the respective BSRI scales. For example, Cunningham and Antill (1980) reported correlations between the BSRI and PAQ, for males and females respectively, of .83 and .84 for masculinity, and .64 and .70 for femininity. Similarly, Gaa and Liberman (1981) reported the results of two separate

studies in which they found correlations of .56 and .79 between the Masculinity scales, and .59 and .71 between the Femininity scales. Correlations between the comparable BSRI and ANDRO scales ranging from .44 to .64 (Gayton, Havu, Ozmon & Tavormina, 1977) and from .55 to .65 (Cunningham & Antill, 1980) have also been reported.

Correlations between the BSRI scales and the more traditional masculinity-femininity measures, which perceive masculinity-femininity as a continuum, have been less strong. This has been indicated in studies which have compared results on the BSRI and the masculinity-femininity scales of the CPI (Beckman, 1978b; Bem, 1974; Cunningham & Antill, 1980), Guilford and Zimmerman's (1949) Guilford-Zimmerman Temperament Survey (Bem, 1974), Comrey's (1970) Personality Scales (Cunningham & Antill, 1980), the MMPI (Volentine, 1981), the DCT (Beckman, 1978b), and either a symbolic sex role measure or a verbal traditionalist sex role scale (Hogan, 1977). Moreover, Wakefield, Sasek, Friedman and Bowden (1976) assessed the inter-relationships between the BSRI's Masculinity, Femininity, and Androgyny scales, and the Masculinity-Femininity scales of the MMPI, the CPI, and the Omnibus Personality Inventory (OPI; Heist, Yonge, McConnell & Webster, 1968) using the principal-components method. They found that the BSRI Masculinity and Femininity scales did not load heavily on a Masculinity-Femininity factor described principally by the Masculinity-Femininity scales of the other three inventories.

In summary, these results suggest that the BSRI bears some conceptual resemblance to the relatively recent PAQ and ANDRO scales. However, the BSRI appears to be measuring aspects of sex roles that have hitherto remained untapped by the earlier masculinity-femininity scales.

7.7.4.2 Reliability

The test-retest reliability of the BSRI has been assessed. Bem (1974) found that BSRI scores from two administrations four weeks apart yielded correlation coefficients of .90 for both the Masculinity and Femininity scales, .93 for the Androgyny scale, and .89 for the Social Desirability scale. An Australian study by Rowland (1977) provided similar evidence of reliability over an 8-week period: product-moment correlations for the Masculinity, Femininity, and Androgyny scales, respectively, were .93, .80, and .86 among males, and .88, .82, and .91 among females.

Hogan (1977) reported Spearman-Brown split-half reliability coefficients of .90, .89, and .56 for males, and .84, .82, and .23 for females for the Masculinity, Femininity, and Social Desirability scales, respectively.

Several studies (e.g. Bem, 1974; Moreland, Gulanick, Montague & Harren, 1978; Russell et al., 1978) have examined internal consistency. Coefficient alphas were .86 in each of these studies for Masculinity, from .76 to .82 for Femininity, and from .68 to .75 for Social Desirability.

Mean item-total correlations reported by Feather (1978) and Moreland et al. (1978) ranged from .46 to .52 (Masculinity), from .36 to .40 (Femininity), and from .28 to .33 (Social Desirability).

7.7.5 Response Bias

Several studies incorporating American, British, and Australian samples have reported the correlations between the BSRI's Social Desirability scale and the Masculinity or Femininity scales (e.g. Bem, 1974; Feather, 1978; Hogan, 1977; Russell et al., 1978; Whetton & Swindells, 1977). Although almost all reported correlations were positive, indicating a direct relationship

between masculinity or femininity and social desirability, the magnitudes of the correlation coefficients nevertheless varied. With the exception of the reported correlations between the Masculinity and Social Desirability scales among females which were all in the low to moderate range (.06 to .22), the range of correlation coefficients between these two scales among males (with one exception, .22 to .72) and between Femininity and Social Desirability among either sex (males: .04 to .66; females: .15 to .47) included several correlations in the moderate to high range.

Both Taylor (1981) and Lee (1982) examined the correlations between the BSRI Masculinity and Femininity scores and scores on the Crowne-Marlowe Social Desirability Scale. Taylor's results indicated that among both males and females, the Femininity score was more strongly associated with a tendency to respond in a socially desirable manner. However, Lee showed that the relationship between BSRI responses and social desirability differed between the sexes, with women's Femininity scores relating to social desirability, but neither Femininity nor Masculinity scores of males being associated with social desirability.

7.7.6 Association with Demographic Factors

Gender differences with respect to BSRI scores are discussed in more detail in Section 7.7.7.1. Reports of the relationship between socio-economic status, education, or occupation and manner of response to the BSRI were not located in the literature, and only minimal reference was made to age effects. Specifically, an Australian study by Moore and Rosenthal (1980) addressed the possibility of generation differences in responses to the BSRI. They found that the mean Masculinity score of the younger women was significantly higher than that of the older women (4.54 and 4.12, respectively),

although no other sex by generation interactions were significant. In contrast however, the results of an earlier Australian study did not reflect a difference between the female undergraduate and adult samples (Russell et al., 1978).

Finally, there is some indication that BSRI Masculinity and Femininity scores show some degree of variability between countries. In general, the reported mean scores obtained by American samples (e.g. Bem, 1974; Hogan, 1977; Pedhazur & Tetenbaum, 1979) have been higher than those obtained by either British (Whetton & Swindells, 1977) or Australian samples (Cunningham & Antill, 1980; Feather, 1978; Russell et al., 1978). This trend is even more apparent among females than among males. In contrast however, Social Desirability scores have revealed lesser differences between countries, thereby negating Whetton and Swindell's suggestion that the American subjects may have been more willing to endorse the higher points of the rating scale.

7.7.7 Subgroup Responses

7.7.7.1 Women

Sex differences in both mean Masculinity and Femininity scores have consistently been reported, with the former being higher among males, and the latter, among females (e.g. Bem, 1974; Cunningham & Antill, 1980; Feather, 1978; Gaudreau, 1977; Hogan, 1977; Moore & Rosenthal, 1980; Pedhazur & Tetenbaum, 1979; Russell et al., 1978; Whetton & Swindells, 1977).

However, Pedhazur and Tetenbaum (1979) observed that ratings on the items "masculine" and "feminine" in fact accounted for approximately one half of the mean difference between the sexes on Masculinity and Femininity. Gaudreau's (1977) finding that the correlations of the sex of

the individual with these adjectives were much higher in magnitude than those with the Masculinity and Femininity scores also supports Pedhazur and Tetenbaum's contention that much of the variability attributed to sex may in fact result merely from responses to the adjectives "masculine" and "feminine".

Factor analytic studies of the BSRI, which have frequently identified a dimension described primarily by the items "masculine" and "feminine" as well as the individual's sex (Antill & Russell, 1982; Feather, 1978; Gaudreau, 1977; Moreland et al., 1978; Pedhazur & Tetenbaum, 1979; Waters, Waters & Pincus, 1977) add further support to this notion.

As already noted in Section 7.7.6, mean scores on the BSRI Masculinity and Femininity scales have reflected some cultural differences, with scores obtained from American samples being higher than those from British or Australian samples. The mean Masculinity and Femininity scores of female samples in American studies have ranged from 4.49 to 4.95, and from 4.86 to 5.21, respectively, whereas the comparable ranges in non-American studies were 4.09 to 4.41, and 4.74 to 4.95, respectively.

7.7.7.2 Alcoholics

Several previous studies of the sex role identity of alcohol dependent women have utilized the BSRI (e.g. Beckman, 1978b; Griffin-Shelley, 1986; Kroft & Leichner, 1987; Scida & Vannicelli, 1979; Warmington, 1981). However, only Beckman specifically reported the alcohol dependent women's mean Masculinity and Femininity scores, which were 4.45 and 5.36, respectively. Several of these studies reported the proportion of alcohol dependent women who were classified as either masculine, feminine, androgynous, or undifferentiated. However, it should be noted that this form of classification

is not directly comparable across studies, because it depends upon each individual's scores relative to the median scores of that sample.

7.7.8 Summary

The BSRI is simple to administer as well as to score. It enables the calculation of both Masculinity and Femininity scores, which have been shown to be independent of each other. In addition, the BSRI can be used to classify individuals as either masculine, feminine, androgynous; or undifferentiated, relative to other individuals in the sample under investigation.

The BSRI has been used extensively in both American and Australian studies, including those which have examined the sex role identity of alcohol dependent women. Its reliability and validity have been demonstrated, as has its applicability for use with Australian samples.

7.8 LIFE EVENTS INVENTORY

7.8.1 Description

Tennant and Andrews' (1976) Life Events Inventory (presented in Appendix 16) comprises 67 life event items. Eleven items relate to health, 4 to bereavement, 18 to family and social situations, 5 to friends and relatives, 6 to education, 11 to work, 3 to moving house, and 9 to financial and legal situations. Some items are applicable to both men and women, whereas others are relevant to either men or women only. Similarly, some items relate only to ever-married individuals, individuals with children, or single individuals.

The respondent indicates which events he or she has experienced during a predetermined period of time. The Inventory can be administered either as a self-report questionnaire or verbally by an interviewer.

Scoring of the Inventory allows for three measures of the stress of life events. The first method involves the summation of the number of life events that have been experienced during the specified time period. Two additional scales enable the measurement of two conceptually different aspects of life event stress, namely the amount of distress and life change associated with the nominated stressful life events. Tennant and Andrews (1976) provide a distress scaling and life change scaling for each event (see Appendix 16), the development of which will be discussed in the following section. The individual distress scalings for each reported event are then summated to provide a total distress score. A total life change score is obtained in the same manner.

7.8.2 Development

7.8.2.1 Introduction

In developing the Inventory, Tennant and Andrews (1976) had two major objectives. As the scales of Holmes and Rahe (1967) and Paykel et al. (1971) had been calibrated on American samples, their applicability for use in Australia may be limited. Therefore, Tennant and Andrews' first objective was to construct a life events inventory specifically for use with Australian samples. Secondly, they aimed to construct an inventory that would simultaneously incorporate both distress and life change scalings for each individual item.

7.8.2.2 Item Selection

The 67 items of the Tennant and Andrews (1976) Life Events Inventory were derived from the 43 items of the Social Readjustment Rating Scale (Holmes & Rahe, 1967) which measures life change, and the 61-item distress

scale developed by Paykel et al. (1971). According to Tennant and Andrews:

the items were selected so that the widest possible range of human experience could be included in an inventory of manageable size. Relatively uncommon events were only included if they were obviously major stressors and relatively minor events were included only if likely to occur relatively frequently. (p. 28)

Furthermore, items which may represent symptoms of illness were not selected to avoid potential confounding between the experience of events and illness.

In keeping with their objective of providing an Australian scale, the authors also changed the wording of many items from the original scales to increase their comprehension.

7.8.2.3 Development of Distress and Life Change Scales

To derive the distress and life change scalings for each item, Tennant and Andrews (1976) utilized a ratio method of scaling that enabled the comparison of each Inventory item with an index item.

A prescaling procedure, involving 94 adults, was used to identify an item that would be of equal significance on both the distress and life change scales, and would therefore serve as the index item in the final scaling procedure. A 0-20 scale of importance was used to scale the 67 items, initially for the degree of life change required, and then on a separate occasion, for the degree of emotional distress involved following the experience of each item. The item "a serious personal physical illness" achieved mean scores of 13.6 and 13.9, and ranks of 17 and 20, for life change and distress respectively, and was thus selected as the index item.

A sample of 78 males and 73 females (mean age of 35; 28%, single; 38%, medical personnel; 74%, professional, managerial, or administrative occupations) then compared each item with the index item and allocated an appropriate distress and life change score to each. The mean distress and life change values for each item were obtained for the whole sample. These values constitute the objective scalings of distress and life change associated with each Inventory item.

7.8.3 Psychometric Properties

7.8.3.1 Validity

7.8.3.1.1 Behavioural Correlates

Two separate studies of large random samples of adults from the Australian general population have demonstrated an association between adversity, as measured by the Life Events Inventory, and neurotic impairment, as assessed by the General Health Questionnaire or GHQ (Goldberg, 1972).

In the first study, Tennant and Andrews (1978b) reported statistically significant correlations of .22, .27, and .19 between the GHQ score and, respectively, the number of events experienced between 2 and 13 months prior to study, the cumulative distress score, and the cumulative life change score. Furthermore, the correlation with distress was significantly greater than that with life change. Due to the high intercorrelations between the three measures of stress, which were presented earlier, the authors also calculated the first-order partial correlation coefficients between GHQ scores and the life event scores. The results of these analyses suggested that only the relationship between distress and neurotic impairment was independent of the other two scores.

Of the 863 subjects in the study, 24% were categorized as impaired, having GHQ scores of 4 or above. However, when the sample was dichotomized around the mean distress score, the percentage of impaired subjects differed, with significantly more individuals in the high distress group than in the low distress group being impaired (34.5% and 18.1%, respectively). Hence, when the amount of distress associated with life events was taken into consideration, the risk of being identified as impaired was significantly increased or decreased from that of the overall sample (Andrews, Tennant, Hewson & Vaillant, 1978).

The results of a study conducted with 756 Canberra residents supported the above findings. Specifically, Henderson, Byrne, Duncan-Jones, Scott and Adcock (1980) found a significant positive association among both men and women between cumulative distress during the 12 months prior to interview and GHQ scores. In addition, a similar association was found between distress and depression, as assessed by the SDS.

7.8.3.1.2 Relationship between Distress, Life Change, and the Number of Events

Tennant and Andrews (1978b) examined the correlations between the three measures of life event stress: the total number of reported events experienced in a preceding 12 month period, the total amount of distress, and the total amount of life change. A random household sample of Sydney adults completed the Inventory. On the basis of their responses, the following correlations were obtained: between distress and life change, .78; between distress and the number of life events, .80; and between life change and the number of events, .89. All of these correlations were significantly different from zero.

However, in their earlier work on the development of the Inventory (Tennant & Andrews, 1976), the rank order correlation coefficient between the distress and life change scalings was relatively low (.44).

In conjunction, these results suggest that although the two concepts of distress and life change can be seen to be relatively distinct, the cumulative distress and life change scores which are subsequently obtained during administration of the Inventory are nevertheless highly intercorrelated. Moreover, given that these scores are cumulative, they are of course related to the actual number of reported events.

7.8.3.1.3 Relationship with other Measures of Life Event Stress

Tennant and Andrews (1976) calculated the rank-order correlation coefficients between the distress scalings of the 59 comparable events on their own scale and on Paykel et al.'s (1971) scale, and between the life change scalings of the 22 comparable events on the former and on Holmes and Rahe's (1967) scale. The correlations of .92 and .87, respectively, reflect a high degree of consistency between the distress and life change scalings of the Inventory and those of the two original inventories.

7.8.3.2 Reliability

Steele et al. (1980) have examined the reliability of the Inventory, using a sample of 16 male and 36 female Canberra, Australia residents, recruited from a baby immunization clinic, a general hospital medical ward, and a medical clinic at a tertiary college. Two questions about exposure to long-standing difficulties were added to the Inventory, which was completed twice by the subjects. The second completion occurred between 7 and 14 days after the first, and on this occasion, the order of items was randomly altered to minimize recall.

The product-moment test-retest correlation coefficients were .94 for the mean number of reported events, and .89 and .93 for the summed total distress and life change scores, respectively. When the highest score for any individual event was considered, the correlations were .91 for distress and .84 for life change, although as the authors noted, the identity of the associated event may nevertheless have differed between the two administrations. All of these correlation coefficients were statistically significant.

In addition, Steele et al. (1980) report two percentages which reflect the reliability of reporting individual events: 70% of all the events reported on either occasion were in fact reported on both, and 83% of all the reported events were matched (i.e. 360 of 440 events in the first administration were matched to 360 of 432 events in the second).

Steele et al. (1980) also examined the reliability of reporting different categories of events. Their findings indicated no differences in the reliability with which events with high and low life change scores were reported. In contrast however, 78% of low distress events were reported on both occasions, compared with only 60% of high distress events, indicating that more distressing events were in fact less reliably reported. The authors also dichotomized the life events, in the manner of Uhlenhuth et al.'s (1977) categorization of events into "fateful" ones which are outside of the respondent's control, and all others. They found that the reliability of reporting these two types of events did not differ.

7.8.4 Association with Demographic Factors

Tennant and Andrews (1978b) report some associations between measures of life stress and demographic characteristics. Using mean scores,

they dichotomized their sample of 863 Sydney residents into high and low scoring groups on each of the measures, namely the number of reported events during a 12-month period, cumulative distress, and cumulative life change. Cross-tabulations revealed a positive association between each measure and age. Furthermore, positive associations were obtained between married status and both the number of events and life change, between migrant status and distress, and between higher social status and the number of events. No significant associations with sex were apparent.

A high consistency in the way various demographic subgroups rated the relative significance of both distress and life change associated with the Inventory items is suggested by the outcome of Tennant and Andrews' (1976) original scaling procedure. They correlated the rank order of the attributed scalings of both distress and life change between males and females, individuals of upper and lower occupational status, medical and nonmedical personnel, marrieds and singles, and those older than and younger than 40. The resultant coefficients between the distress scalings of these various subgroups were either .97 or .98, and they ranged from .93 to .97 for the life change scalings. Although the scaling sample was biased towards the upper socio-economic groups, these results nevertheless suggest that the allocation of scalings to individual items was not unduly affected by this bias.

7.8.5 Categorization of Life Events

Different methods of categorizing life events, in addition to examining the distress and life change associated with their experience, were discussed earlier (see Section 4.3.3). Tennant and Andrews (1977) have provided one such alternative. As an adjunct to their Inventory, they have constructed

a scale to measure the cause of each of the Inventory items. According to Tennant and Andrews

[the] three perceived causal factors are conceptually distinct and together comprehensive. The first causal factor is that of chance or misfortune. The second is that attributable to the individual's own behaviour and thus theoretically within his control. The third factor is that attributable to the behaviour of other individuals in the subject's social environment. (pp. 163, 164)

Given that most events are caused by a combination of these three factors, Tennant and Andrews (1977) asked 105 subjects to scale each Inventory item by allocating 10 points in proportion to the degree to which they believed that the event, if experienced by an average individual, would have been caused by "Chance", by "Self", and by "Others", as defined above. The mean scaling for each component of each event was derived from the 105 sets of responses. These scalings are presented in Appendix 16.

In general, the results indicated that events relating to illness and bereavement are perceived as being caused primarily by "Chance" factors, whereas events relating to an individual's interpersonal functioning and environment are due to both "Self" and "Others". Finally, events concerning education and work are determined primarily by one's own behaviour.

The authors recognize two major problems inherent in their approach. First, they concede that the scaling sample, comprising hospital employees, may have overestimated the extent to which an individual has control over his or her own destiny. Secondly, they question the extent to which the objective judgement about the causation of events does in fact relate to the actual cause of such events.

Using this scale, Tennant and Andrews (1978a) compared the cause of life events experienced by 150 neurotic subjects (identified as such by the GHQ) and 150 nonneurotic subjects. The two samples were matched on sex, age, marital status, and social status, as well as on their 1-year cumulative distress score. The results indicated that neither the mean scores for cumulative "Chance", "Self", and "Others" scalings of events reported for the past year, nor the distress associated with each of the three causative components of events differed significantly between groups. These findings suggest that, given a comparable degree of distress experienced in the preceding year, the actual cause of the associated life events does not differentiate between neurotic and nonneurotic individuals from a general population sample.

7.8.6 Summary

The Life Events Inventory was developed specifically for use with Australian samples. It comprises 67 items, which encompass a broad range of life event experiences. It can be administered either as a self-report questionnaire or by an interviewer. The Inventory also provides objective scalings for the amount of distress and life change associated with each event.

Both the reliability and validity of the Inventory have been examined using Australian samples, and appear adequate, particularly with respect to cumulative scores. Demographic subgroups have demonstrated an acceptable level of consistency in their responses.

Therefore, the Inventory appears to be an appropriate instrument with which to assess the experience of life event stress, and is particularly suited for use in research conducted in Australia.

CHAPTER EIGHT

8.1 INTRODUCTION

The results reported in this chapter are based on comparisons between three individually age-matched groups of women, namely alcohol dependent, general population, and career women. Unless stated as otherwise in the tables, the samples used in the analyses comprised 53 women in each of the three groups. Throughout the tables, the alcohol dependent women are identified as ALCOHOL, the women drawn from the general population as GENERAL, and the career women as CAREER.

The two statistical techniques used most frequently to determine whether statistically significant differences existed between groups were the chi-square and analysis of variance. These analyses were performed using the subprogrammes CROSSTABS and ONEWAY from within the Statistical Package for the Social Sciences, or SPSS (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975). The finding of a significant difference between groups always implies a difference which is statistically significant at least at the 5% level of probability.

When either the chi-square or F-value was statistically significant, a posteriori tests were done to identify which specific groups differed significantly from each other. The significance of the difference between two percentages was tested by the use of the z statistic; Tukey's Honestly Significant Difference (HSD) test, computed as part of the SPSS subprogramme ONEWAY, assessed the difference between mean values. In the latter instance, only the 5% probability level was reported.

8.2 DEMOGRAPHIC CHARACTERISTICS

8.2.1 Age

As mentioned previously, every alcohol dependent woman was matched on age to the general population and career women serving as her specific controls. The mean ages of the three groups of women were 39.8, 39.9, and 39.8 years, respectively ($F(2,156)=0.00$, N.S.).

8.2.2 Religion

Table 28 presents the subjects' religion. Chi-square results indicated differences both overall and in the percentages of women stating their religious beliefs as being Roman Catholic, and atheist or agnostic. A posteriori tests showed that significantly more alcohol dependent women than career women were Roman Catholic ($p < .01$); significantly more career women were atheist or agnostic, when compared with alcohol dependent women ($p < .01$) or general population women ($p < .05$).

TABLE 28. Religion

	Alcohol	General	Career	
Roman Catholic	34.0%	18.9	9.4	$\chi^2=9.87$, 2 df, $p<.01$
Protestant	47.2	58.5	43.4	$\chi^2=2.62$, 2 df, N.S.
Other	0	1.9	3.8	$\chi^2=2.04$, 2 df, N.S.
Atheist or agnostic	18.9	20.8	43.4	$\chi^2=9.87$, 2 df, $p<.01$
	100.1	100.1	100.0	
				$\chi^2=18.27$, 6 df, $p<.01$

8.2.3 Marital Status

The women's marital status differed significantly, as shown in Table 29. Significantly fewer women drawn from the general population were single, compared with alcohol dependent women ($p < .05$) or career women ($p < .01$). A substantively lower percentage of alcohol dependent women than either general population or career women were married or in a de facto relationship ($p < .001$), whereas significantly more alcohol dependent women were separated or divorced, when compared with general population women ($p < .01$) or career women ($p < .001$). There was no significant difference between groups in the percentage of women who had been widowed.

TABLE 29. Marital Status

	Alcohol	General	Career	
Single	18.9%	3.8	20.8	$X^2=7.42, 2 \text{ df}, p<.05$
De facto	5.7	5.7	5.7	$X^2=23.01, 2 \text{ df}, p<.001$
Married	32.1	75.5	64.2	
Separated/divorced	35.8	11.3	7.5	$X^2=16.79, 2 \text{ df}, p<.001$
Widowed	7.5	3.8	1.9	$X^2=2.09, 2 \text{ df}, \text{N.S.}$
	100.0	100.1	100.1	
				$X^2=31.46, 8 \text{ df}, p<.001$

8.2.4 Socio-Economic Status

Several indicators of socio-economic status were used to compare the three groups of women. Table 30 presents results of comparisons based on the women's years of education, occupational level, and Index of Social Class (Brotherton, Kotler & Hammond, 1979). A posteriori comparisons indicated that according to these measures, the career group consisted of women of a significantly higher socio-economic status than either the alcohol dependent

TABLE 30. Indices of Socio-Economic Status -
Subjects' Education, Occupation, and Index of Social Class

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Years of education	10.0	2.3	11.1	3.2	17.3	3.5	F(2,156)=89.49, p<.001, MS _e =9.12
Occupational level ^a	3.2	1.9	3.8	1.7	6.0	0	F(2,156)=54.72, p<.001, MS _e =2.16
Index of Social Class ^b (N=43, 51, 42)	10.9	4.6	13.4	5.5	19.9	4.2	F(2,133)=38.83, p<.001, MS _e =23.53

^a Occupational stratification categories are derived from Broom, Jones and Zubrzycki (1968). These categories reflect the social class of occupation, and can range from 1 to 6, with higher scores denoting occupations of higher social class.

^b Index of Social Class (Brotherton, Kotler & Hammond, 1979) is based on subject's and spouse's educational levels, and spouse's occupational level. It can range from 3 to 22, with higher scores denoting higher levels of education and occupation. Single subjects are excluded from this calculation.

or general population groups. Although the alcohol dependent and general population women did not differ significantly in their mean years of education and occupational levels, the latter group scored significantly higher on the Index of Social Class. The alcohol dependent and general population women were deliberately matched on area of residence, but the career women resided in more affluent areas, as seen in Table 31.

Furthermore, the occupational levels of the subjects' parents differed significantly between groups, as seen in Table 32. A posteriori comparisons indicated that although the parents of alcohol dependent and general population women did not differ significantly, both fathers and mothers of career women were engaged in occupations of a significantly higher level than were those of the alcohol dependent women, and the occupational level of the fathers of career women was significantly higher than that of the fathers of the general population women.

TABLE 31. Socio-Economic Status - Area of Residence

	Alcohol	General	Career
Elite	9.4%	9.4	35.8
Comfortable	18.9	18.9	37.7
Average	26.4	26.4	20.8
Low	18.9	18.9	5.7
Very low	7.5	7.5	0
Country/transient ^a	18.9	18.9	0
	100.0	100.0	100.0

$$X^2=37.24, 10 \text{ df}, p<.001$$

Note: Over 200 suburbs within the greater Adelaide metropolitan area were ranked in order of their status ratings by the Flinders University's School of Social Sciences. These rankings were subsequently published in The News (Sawyer, 1973, July 23). This writer then divided the ranked suburbs into five categories: elite - highest 12%, comfortable - following 25%, average - following 33%, low - following 20%, very low - lowest 10%.

^a This category includes women who reside in areas outside of the greater Adelaide metropolitan area or those who have no permanent address.

TABLE 32. Occupational Level of Parents

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Father (N=48, 53, 52)	3.3	1.7	3.2	1.7	4.6	1.6	F(2, 150)=11.26, p<.001, MS _e =2.78
Mother (N=23, 20, 28)	2.3	2.1	3.4	1.8	4.4	1.6	F(2, 68)= 8.07, p<.001, MS _e =3.40

Note: Occupational stratification categories are derived from Broom et al. (1968). These categories reflect the social class of occupation, and can range from 1 to 6, with higher scores denoting occupations of higher social class.

Finally, significant group differences were evident also with respect to spouse's education and occupation (Table 33). A posteriori tests showed that the partners (either current husbands or de facto partners, or former husbands) of the career women had had a significantly greater number of years of education than those of the alcohol dependent or general population women, and were employed in occupations of a significantly higher level.

TABLE 33. Spouse's Education and Occupation

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Years of education (N=43, 51, 42)	10.5	2.8	11.8	4.0	16.4	4.1	F(2, 133)=29.71, p<.001, MS _e =13.58
Occupational level ^a (N=43, 51, 42)	3.4	1.8	4.1	1.6	5.6	1.0	F(2, 133)=22.19, p<.001, MS _e =2.26

Note: Single subjects are excluded from these calculations.
Spouse is, in order of priority, current husband,
current de facto partner, former husband.

^a Occupational stratification categories are derived from Broom et al. (1968). These categories reflect the social class of occupation, and can range from 1 to 6, with higher scores denoting occupations of higher social class.

8.2.5 Employment

The percentage of women who were employed at the time of interview differed significantly between groups (see Table 34). By virtue of the selection

TABLE 34. Employment : A

	Alcohol	General	Career	
Employed (N=53, 52, 53)	18.9%	46.2	100.0	$\chi^2=72.98$, 2 df, p<.001
Seeking employment, if not working (N=43, 29, 0)	14.0	10.3	-	$\chi^2=0.21$, 1 df, N.S.
Ever unemployed for >4 months	24.5	11.3	9.4	$\chi^2=5.59$, 2 df, N.S.

criteria, all career women were engaged in full-time employment. A significantly higher percentage of career women than either alcohol dependent or general population women were employed ($p < .001$), and significantly fewer alcohol dependent women than women sampled from the general population were working ($p < .01$). However, among women not in the workforce, there was no significant difference between the alcohol dependent and general population groups in the percentage seeking employment. Furthermore, the percentage of all women who had ever been unemployed for a continuous period of four or more months did not differ significantly between groups.

Table 35 indicates that although the total years of employment differed significantly, being greater among career women than among women from the general population, the total number of jobs did not differ significantly between the three groups.

TABLE 35. Employment : B

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Total period of employment (in years)	12.6	8.6	11.7	6.8	16.2	9.0	$F(2, 156)=4.35, p<.05, MS_e=66.83$
Total number of jobs	5.3	3.9	4.2	2.5	4.4	2.4	$F(2, 156)=1.99, N.S.$

8.2.6 Country of Birth

As seen in Table 36, the three groups of women did not differ significantly in their country of birth, with the majority having been born in Australia. Moreover, among those alcohol dependent, general population, and career women who did immigrate to Australia, there was no significant difference in their mean ages at doing so (15.5, 23.7, 21.1 years, respectively; $F(2,51) = 2.50$).

TABLE 36. Country of Birth

	Alcohol	General	Career
Australia	62.3%	71.7	64.2
United Kingdom	24.5	22.6	24.5
Europe	11.3	5.7	5.7
Other	1.9	0	5.7
	100.0	100.0	100.1

$\chi^2=5.45, 6 \text{ df}, \text{N.S.}$

8.3 FAMILY RELATIONSHIPS

8.3.1 Parental Deprivation

As evident in Table 37, there were no significant differences between the percentages of each group whose father or mother was deceased or whose parents were divorced or separated at the time of interview.

TABLE 37. Parental Loss

	Alcohol	General	Career	
Father deceased (N=47, 53, 51)	46.8%	49.1	49.0	$\chi^2=0.06, 2 \text{ df}, \text{N.S.}$
Mother deceased (N=52, 53, 53)	26.9	32.1	17.0	$\chi^2=3.30, 2 \text{ df}, \text{N.S.}$
Parents divorced/ separated	17.0	7.5	7.5	$\chi^2=3.29, 2 \text{ df}, \text{N.S.}$
Illegitimacy or loss of parent through death/ divorce/separation at the age of 16 or younger	24.5	9.4	7.5	$\chi^2=7.70, 2 \text{ df}, p<.05$

Furthermore, the mean ages of the subjects at the occurrence of any of these loss events did not differ significantly between groups, as illustrated by Table 38.

TABLE 38. Mean Age (in years) of Subjects at the Time of Parental Loss

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Death of father (N=22, 26, 25)	31.8	12.5	30.0	10.3	31.5	9.9	F(2, 70)=0.18, N.S.
Death of mother (N=14, 17, 9)	34.0	18.9	30.6	12.0	35.4	14.0	F(2, 37)=0.36, N.S.
Divorce/separation of parents (N=9, 4, 4)	7.2	9.2	14.0	15.7	12.5	10.3	F(2, 14)=0.64, N.S.

Note: Only those subjects who have lost a parent through death, divorce, or separation have been included in these analyses.

Table 39 indicates that among women who had lost a parent either through death, divorce, or separation, there were no significant differences in the percentages of each group who were 16 years old or younger at the time of each manner of loss.

TABLE 39. Percentage of Subjects who were aged 16 or younger at the Time of Parental Loss

	Alcohol	General	Career	
Death of father (N=22, 26, 25)	18.2%	7.7	0	$X^2=5.14$, 2 df, N.S.
Death of mother (N=14, 17, 9)	21.4	11.8	11.1	$X^2=0.70$, 2 df, N.S.
Divorce/separation of parents (N=9, 4, 4)	77.8	50.0	75.0	$X^2=1.08$, 2 df, N.S.

Note: Only those subjects who have lost a parent through death, divorce, or separation have been included in these analyses.

However, the use of a composite indicator of early parental loss, incorporating the death, divorce, or separation of parents at or prior to the age of 16, or illegitimate birth, reflects a significant difference between groups (Table 37): a significantly greater percentage of alcohol dependent women than either women in the general population or career women ($p < .05$) had lost a parent by the age of 16.

No significant difference was found between the percentages of the alcohol dependent, general population or career women who, at some time, lived with both their parents (90.6%, 96.2%, 98.1%, respectively; $X^2 = 3.42$, 2 df). However, a comparison of the total number of person-based living contexts in which each woman lived (e.g. with both parents, father, mother, other relatives, foster home etc.) until the stage of independent living did reflect a significant difference between groups. The number of such contexts was 1.7, 1.3, and 1.3 for the alcohol dependent, general population, and career women, respectively ($F(2,156)=4.82$, $p < .01$, $MS_e = 0.52$): the mean number of such contexts was significantly greater among the alcohol dependent women than among the other women.

Table 40 shows that the three groups did not differ significantly with respect to the percentage whose mothers worked when the subjects were growing up. Furthermore, among those whose mothers worked, there were no significant differences between groups in the numbers of mothers working either full-time or prior to the subject attending school; the mean age of the alcohol dependent, general population, and career women at the time when the mother began working also did not differ significantly (7.9, 7.1, 8.6 years, respectively; $F(2,68)=0.33$).

TABLE 40. Employment of Mothers

	Alcohol	General	Career	
Mother worked (N=52, 53, 53)	44.2%	37.7	52.8	$X^2=2.46, 2 \text{ df}, \text{N.S.}$
Of subjects whose mother worked:				
Mother worked full-time (N=22, 20, 28)	68.2	70.0	60.7	$X^2=0.53, 2 \text{ df}, \text{N.S.}$
Mother worked when subject aged 5 or younger (N=23, 20, 28)	52.2	35.0	32.1	$X^2=2.35, 2 \text{ df}, \text{N.S.}$

8.3.2 Parental Personality

The women were asked to use five adjectives to describe first their father's and then their mother's personality. Each woman's description was subsequently rated by the writer as being either positive, negative, mixed, or indifferent in affect. The percentages of women who rated their parents positively are presented in Table 41. No significant differences between groups were found for positive ratings of father's personality, but a significant difference was evident for that of mother's personality: significantly fewer alcohol dependent women than general population women ($p < .01$) described their mother in positive terms.

TABLE 41. Subject's Description of Parents' Personality

	Alcohol	General	Career	
Positive description of father (N=48, 51, 52)	58.3%	70.6	76.9	$X^2=4.13, 2 \text{ df}, \text{N.S.}$
Positive description of mother (N=49, 53, 52)	63.3	86.8	78.8	$X^2=8.08, 2 \text{ df}, p<.05$

8.3.3 Siblings

Data pertaining to the number of siblings of the three entire groups of women are presented in Table 42. A posteriori tests indicated that women drawn from the general population had a significantly higher mean number of living siblings, as well as a higher total mean number of siblings (which included those that were deceased) than did career women. The number of deceased siblings was significantly higher among both the alcohol dependent and general population women than among the career women. An examination of the sex of living siblings showed no significant differences between groups in the number of brothers, whereas the number of sisters did differ significantly, in that the general population women had more sisters than did the career women.

TABLE 42. Number of Siblings - All Subjects

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Living siblings	2.5	1.7	3.1	2.2	1.8	1.5	$F(2, 156)=6.23, p<.01, MS_e=3.30$
Deceased siblings	0.2	0.5	0.2	0.7	0.0	0.1	$F(2, 156)=3.86, p<.05, MS_e=0.23$
Total siblings	2.7	1.8	3.3	2.4	1.9	1.5	$F(2, 156)=7.77, p<.001, MS_e=3.73$
Living brothers	1.2	1.2	1.4	1.3	0.9	0.9	$F(2, 156)=2.74, N.S.$
Living sisters	1.2	1.2	1.7	1.6	0.9	1.1	$F(2, 156)=4.22, p<.05, MS_e=1.72$

When only those women with living siblings were compared (Table 43), significant group differences in the number of living siblings were again evident. As before, Tukey's HSD test showed that general population women had significantly more siblings than did career women. However, the mean number of brothers and sisters, respectively, did not differ significantly between the three groups.

TABLE 43. Number of Siblings - Subjects with Living Siblings

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Living siblings	2.8	1.6	3.2	2.1	2.2	1.4	F(2, 140)=3.82, p<.05, MS _e =3.02
Living brothers	1.4	1.2	1.5	1.3	1.1	0.9	F(2, 140)=1.39, N.S.
Living sisters	1.4	1.1	1.7	1.6	1.1	1.1	F(2, 140)=2.58, N.S.

Significantly fewer career women than either alcohol dependent women ($p < .01$) or general population women ($p < .05$) had at least one deceased sibling (1.9%, 22.6%, 15.1%, respectively; $\chi^2 = 10.20$, 2 df, $p < .01$). However, comparisons between these alcohol dependent, general population and career women showed no significant differences either in the mean number of deceased siblings (1.1, 1.6, 1.0, respectively; $F(2,18) = 1.98$) or in the women's mean age at the death of the (first) sibling (20.9, 20.9, 20.0 years, respectively; $F(2,18) = 0.001$).

As seen in Table 44, the birth order of the women did not differ significantly between groups.

TABLE 44. Birth Order

	Alcohol	General	Career
First born	28.3%	41.5	37.7
Middle born	37.7	35.8	24.5
Last born	28.3	18.9	20.8
Only child	5.7	3.8	17.0 ^a
	100.0	100.0	100.0

$\chi^2=10.33$, 6 df, N.S.

^a One woman in this group had no siblings other than a twin.

8.3.4 Marital and De Facto Relationships

The percentages of women who had ever been married or in a live-in relationship, either de facto or marital, were not significantly different between groups (see Table 45). However, a significant difference was apparent for the percentage of women ever involved in a de facto relationship: significantly fewer general population women than either alcohol dependent women ($p < .01$) or career women ($p < .05$) had ever had a de facto relationship.

TABLE 45. Marriages and De Facto Relationships : A

	Alcohol	General	Career	
Ever married	79.2%	92.5	77.4	$\chi^2=5.09$, 2 df, N.S.
Ever in a de facto relationship	32.1	11.3	28.3	$\chi^2=7.12$, 2 df, $p<.05$
Ever in a live-in relationship	90.6	98.1	86.8	$\chi^2=4.69$, 2 df, N.S.
If ever in a live-in relationship, still living with the first partner (N=48, 52, 46)	31.3	75.0	65.2	$\chi^2=21.18$, 2 df, $p<.001$

Note: A de facto relationship that progressed to marriage was considered individually as a de facto relationship and as a marriage, but only in terms of one relationship with respect to a live-in relationship.

A comparison of women who had ever been in a live-in relationship reflected that a substantively smaller percentage of alcohol dependent women than either general population women ($p < .001$) or career women ($p < .01$) were still living with their first partner (Table 45).

Table 46 presents analysis of variance results for variables relating to marital and de facto relationships. Comparisons of the mean number of marriages showed no significant group differences, either among all women or among only those who had ever been married. Among the latter, the age at first marriage differed significantly: career women were significantly older than general population women at that time.

TABLE 46. Marriages and De Facto Relationships : B

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
No. of marriages	0.9	0.5	1.0	0.3	0.9	0.6	F(2, 156)=0.68, N.S.
No. of de facto relationships	0.5	0.9	0.2	0.5	0.3	0.5	F(2,156)=3.46, p<.05, MS _e =0.44
No. of live-in relationships	1.3	1.0	1.1	0.4	1.1	0.6	F(2, 156)=2.14, N.S.
If ever married: (N=42, 49, 41)							
No. of marriages	1.1	0.3	1.0	0.2	1.1	0.3	F(2, 129)=1.01, N.S.
Age (in years) at first marriage	21.7	4.2	21.1	2.3	23.4	4.1	F(2, 129)=4.77, p<.05, MS _e =12.97
If ever in a de facto relationship: (N=17, 6, 15)							
No. of de facto relationships	1.5	1.1	1.3	0.5	1.1	0.3	F(2, 35)=1.46, N.S.
If ever in a live-in relationship: (N=48, 52, 46)							
No. of live-in relationships	1.5	0.9	1.1	0.4	1.2	0.5	F(2, 143)=3.70, p<.05, MS _e =0.41
Age (in years) at first live-in relationship	20.8	3.7	20.8	2.4	23.4	4.5	F(2, 143)=8.08, p<.001, MS _e =13.12
Length (in years) of first live-in relationship	13.9	9.4	17.7	9.2	13.8	9.9	F(2, 143)=2.78, N.S.

Note: A de facto relationship that progressed to marriage was considered individually as a de facto relationship and as a marriage, but only in terms of one relationship with respect to a live-in relationship.

Although the number of de facto relationships differed significantly between groups if all women were included in the analyses, when comparisons were restricted to only those women who had had de facto relationships,

these significant differences were no longer evident. The converse pattern was apparent with respect to the number of live-in relationships: there was no significant difference between the groups as a whole. However, comparisons between women who had ever been in a live-in relationship were significant with respect to the number of live-in relationships and the age at first such relationship, but not for the duration of the first live-in relationship: alcohol dependent women had had a significantly greater number of live-in relationships than the general population women, and career women were significantly older than either alcohol dependent or general population women at the time of their first live-in relationship.

Of the 20 alcohol dependent, 43 general population and 36 career women currently in a live-in relationship, 75.0%, 97.7%, and 100.0%, respectively, reported that they were satisfied with that relationship. The difference between groups was significant ($X^2 = 15.98$, 2 df, $p < .001$): significantly fewer alcohol dependent women than either general population or career women ($p < .01$) were satisfied with their marital or de facto relationship.

8.4 FAMILIAL ALCOHOL DEPENDENCE AND PSYCHIATRIC ILLNESS

8.4.1 Mental Health Problems

The occurrence of a period of inpatient or outpatient psychiatric treatment, a nervous breakdown, suicide, drinking problems, or treatment related to alcohol or drug problems was used as an indicator of the existence of mental health problems among subjects' relatives. As evident in Table 47, each analysis was restricted to only those subjects who had that particular type of relative.

TABLE 47. Mental Health Problems among Specific Relatives

	Alcohol	General	Career	
Fathers (N=48, 53, 52)	29.2%	20.8	13.5	$X^2=3.72$, 2 df, N.S.
Mothers (N=52, 53, 53)	15.4	11.3	3.8	$X^2=4.01$, 2 df, N.S.
Parents ^a (N=52, 53, 53)	34.6	30.2	17.0	$X^2=4.48$, 2 df, N.S.
Brothers ^b (N=39, 40, 32)	28.2	15.0	9.4	$X^2=4.60$, 2 df, N.S.
Sisters ^c (N=37, 40, 31)	29.7	7.5	6.5	$X^2=9.94$, 2 df, $p<.01$
Siblings ^d (N=49, 51, 45)	40.8	17.6	11.1	$X^2=13.01$, 2 df, $p<.01$
Current partners ^e (N=20, 43, 37)	25.0	7.0	2.7	$X^2=8.26$, 2 df, $p<.05$
Previous partners ^f (N=33, 13, 16)	45.5	30.8	31.3	$X^2=1.35$, 2 df, N.S.

Note: The percentages refer to the percentages of women, of those having the specified relatives, whose relatives have experienced mental health problems. These include a history of inpatient or outpatient psychiatric treatment, nervous breakdown, completed suicide, drinking problems, or treatment related to alcohol or drug abuse.

^a Excludes women whose parents were both not known.

^b Excludes women who have no brothers or whose only brother(s) died at or prior to the age of 16.

^c Excludes women who have no sisters or whose only sister(s) died at or prior to the age of 16.

^d Excludes women who have no siblings or whose only sibling(s) died at or prior to the age of 16.

^e Husbands or de facto partners.

^f Partners with whom the women are no longer living, due to separation, divorce, or death of the partner.

There were no statistically significant differences between the three groups of women in the percentages whose fathers, mothers, or either parent had experienced at least one of the problems mentioned above. However, although not significantly different, substantively fewer mothers of career women than of alcohol dependent women had experienced such problems.

An examination of the existence of these problems among siblings showed that the groups did not differ significantly with respect to the percentages whose brothers had any problems, although once again substantively fewer career women than alcohol dependent women reported brothers with these problems. However, the percentages of women with affected sisters differed significantly between groups: the sisters of significantly more alcohol dependent women than either general population or career women ($p < .05$) were reported to have experienced one or more of these problems. Moreover, significant intergroup differences were also apparent when women with siblings of either sex were compared: alcohol dependent women were again more likely than general population women ($p < .05$) and career women ($p < .01$) to have at least one affected sibling.

The percentages of current husbands or de facto partners with these problems differed significantly between groups: a significantly higher percentage of current partners of alcohol dependent women than of general population women ($p < .05$) or career women ($p < .01$) were reported to have had some form of mental health problem. However, there was no significant difference between groups in the percentages of women whose previous partners had experienced problems of this nature.

8.4.2 Alcohol Dependence

Table 48 depicts the prevalence of alcohol-related problems in the women's relatives.

TABLE 48. Alcohol-Related Problems among Specific Relatives

	Alcohol	General	Career	
Fathers (N=48, 53, 52)	27.1%	20.8	7.7	$\chi^2=6.60$, 2 df, $p<.05$
Mothers (N=52, 53, 53)	5.8	3.8	0	$\chi^2=2.95$, 2 df, N.S.
Parents ^a (N=52, 53, 53)	26.9	24.5	7.5	$\chi^2=7.47$, 2 df, $p<.05$
Brothers ^b (N=39, 40, 32)	23.1	7.5	3.1	$\chi^2=7.84$, 2 df, $p<.05$
Sisters ^c (N=37, 40, 31)	18.9	5.0	0	$\chi^2=8.83$, 2 df, $p<.05$
Siblings ^d (N=49, 51, 45)	30.6	9.8	2.2	$\chi^2=16.66$, 2 df, $p<.001$
Current partners ^e (N=20, 43, 37)	20.0	2.3	2.7	$\chi^2=8.69$, 2 df, $p<.05$
Previous partners ^f (N=33, 13, 16)	36.4	30.8	12.5	$\chi^2=3.00$, 2 df, N.S.

Note: The percentages refer to the percentages of women, of those having the specified relatives, whose relatives have experienced alcohol-related problems. These include a history of drinking problems, as perceived by the subject, or treatment related to alcohol abuse.

^a Excludes women whose parents were both not known.

^b Excludes women who have no brothers or whose only brother(s) died at or prior to the age of 16.

^c Excludes women who have no sisters or whose only sister(s) died at or prior to the age of 16.

^d Excludes women who have no siblings or whose only sibling(s) died at or prior to the age of 16.

^e Husbands or de facto partners.

^f Partners with whom the women are no longer living, due to separation, divorce, or death of the partner.

The percentages of women with mothers and previous partners reported to have had such problems did not differ significantly between groups, whereas significant differences were evident for all the other types of relatives considered. A posteriori tests indicated that significantly more alcohol dependent women than career women had fathers ($p < .01$), a parent of either sex ($p < .01$), brothers ($p < .05$), sisters ($p < .05$), a sibling of either sex ($p < .001$), or a current partner ($p < .05$) with alcohol-related problems. Alcohol dependent women were significantly more likely than general population women to have a sibling of either sex ($p < .01$) or a current partner ($p < .05$) with alcohol-related problems. The only significant difference between the general population and career women was that significantly more of the former reported a parent of either sex as having an alcohol-related problem ($p < .05$).

8.4.3 Psychiatric Treatment

The differences in prevalence of psychiatric treatment among relatives of the women were also examined. As seen in Table 49, the prevalence of inpatient or outpatient psychiatric treatment or nervous breakdown (collectively referred to as psychiatric treatment) within each subgroup of relatives did not differ significantly between the three groups of women.

TABLE 49. Psychiatric Treatment among Specific Relatives

	Alcohol	General	Career	
Fathers (N=48, 53, 52)	2.1%	1.9	5.8	$X^2=1.56$, 2 df, N.S.
Mothers (N=52, 53, 53)	9.6	9.4	3.8	$X^2=1.66$, 2 df, N.S.
Parents ^a (N=52, 53, 53)	9.6	9.4	9.4	$X^2=0.001$, 2 df, N.S.
Brothers ^b (N=39, 40, 32)	5.1	7.5	6.3	$X^2=0.19$, 2 df, N.S.
Sisters ^c (N=37, 40, 31)	13.5	7.5	6.5	$X^2=1.24$, 2 df, N.S.
Siblings ^d (N=49, 51, 45)	14.3	11.8	8.9	$X^2=0.66$, 2 df, N.S.
Current partners ^e (N=20, 43, 37)	5.0	4.7	0	$X^2=1.82$, 2 df, N.S.
Previous partners ^f (N=33, 13, 16)	12.1	7.7	6.3	$X^2=0.50$, 2 df, N.S.

Note: The percentages refer to the percentages of women, of those having the specified relatives, whose relatives have undergone psychiatric treatment. This includes a history of nervous breakdown, or inpatient or outpatient treatment not related to substance abuse.

^a Excludes women whose parents were both not known.

^b Excludes women who have no brothers or whose only brother(s) died at or prior to the age of 16.

^c Excludes women who have no sisters or whose only sister(s) died at or prior to the age of 16.

^d Excludes women who have no siblings or whose only sibling(s) died at or prior to the age of 16.

^e Husbands or de facto partners.

^f Partners with whom the women are no longer living, due to separation, divorce, or death of the partner.

8.5 MENTAL HEALTH

8.5.1 Depression

Table 50 presents the results of two measures of depression, namely the degree of depression as measured by the Self-Rating Depression Scale or SDS (Zung, 1965), and the self-reported frequency of feeling down or depressed. Both indices differed significantly between groups: alcohol dependent women achieved significantly higher scores on the SDS, and also reported a higher frequency of feeling down than did either of the two other groups of women.

TABLE 50. Depression : A

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Depression score ^a (N=52, 53, 53)	47.6	9.8	34.2	7.5	31.0	5.6	F(2, 155)=66.79, p<.001, MS _e =60.75
Frequency of feeling down ^b	2.3	1.0	3.2	0.9	3.2	0.7	F(2, 156)=20.93, p<.001, MS _e =0.72

^a Raw score on the Self-Rating Depression Scale (Zung, 1965). It can range from 20 to 80, with higher scores denoting higher levels of depression.

^b Range is 1 (always, or almost always) to 5 (never), with lower scores denoting higher frequency.

Although the percentages of women who reported ever feeling down did not differ significantly between groups, among those who responded affirmatively, a significant intergroup difference was evident with respect to the percentages for whom that feeling was usually associated with something specific in their lives (Table 51). Significantly fewer alcohol dependent women than career women ($p < .01$) were generally able to identify a specific cause for feeling down. An examination of the nature of these causes revealed that alcohol dependent women reported familial or relationship

problems (33%), premenstruation (13%), and loneliness (13%) as the most common precipitants for their feelings of depression. General population and career women identified family/relationship problems (39% and 32%, respectively), premenstruation (27% and 21%), and work (18% and 43%) as the primary precipitants.

TABLE 51. Depression : B

	Alcohol	General	Career	
Ever feel down	98.1%	94.3	92.5	$\chi^2=1.84, 2 \text{ df}, \text{N.S.}$
Specific precipitant of feeling down, among subjects who ever feel down (N=52, 50, 49)	75.0	88.0	95.9	$\chi^2=9.45, 2 \text{ df}, p<.01$

8.5.2 Psychiatric Disorders

The selection criteria for inclusion in the general population or career samples excluded women with a history of psychiatric illness. However, 21 (39.6%) of the 53 alcohol dependent women reported a history of psychiatric treatment independent of any treatment for alcohol dependence, of whom 16 (76.2%) had been hospitalized in relation to their psychiatric problems. Moreover, 16 alcohol dependent women (30.2%) were diagnosed as having a current psychiatric problem other than alcohol dependence: the specific diagnoses are presented in Table 52.

TABLE 52. Current Psychiatric Diagnoses of Alcohol Dependent Women

	% (N=53)
None	70
Organic Brain Syndrome	2
Psychosis	6
Neurosis	9
Personality Disorder	11
Substance Abuse (other than alcohol)	2
	100

Note: These diagnoses are in addition to a diagnosis of alcohol dependence.

8.5.3 Suicide

The number of women reporting suicidal ideation and suicide attempts differed significantly between groups, as evident from Table 53. A posteriori tests revealed that significantly more alcohol dependent women than either general population ($p < .001$) or career women ($p < .05$) had at some time thought of committing suicide. Furthermore, significantly more career than general population women ($p < .01$) had considered it.

TABLE 53. Suicide - Ideation and Attempts

	Alcohol	General	Career	
Suicidal ideation	62.3%	17.0	39.6	$\chi^2=22.71, 2 \text{ df}, p<.001$
Suicide attempt	39.6	5.7	1.9	$\chi^2=34.55, 2 \text{ df}, p<.001$

Although very few general population and career women had ever attempted to commit suicide, significantly more alcohol dependent women had attempted to do so ($p < .001$). Among women who had ever attempted suicide, the mean number of suicide attempts for the alcohol dependent group was 2.9, whereas the non-alcohol-dependent women had attempted to take their own life only once.

Given the relatively high incidence of current or past psychiatric problems as well as suicidal ideation or attempts among the alcohol dependent women, the relationship between these two factors was examined. However, the results indicated that alcohol dependent women who were diagnosed as having a current psychiatric problem or who had a history of psychiatric treatment were no more likely to have either thought of committing suicide or actually attempted to do so than were the other alcohol dependent women.

8.5.4 Drug Use and Abuse

Regular usage of either prescription or nonprescription and licit or illicit drugs was defined as at least monthly use over a minimum period of six months prior to interview, or in the case of alcohol dependent women, prior to hospitalization. Due to seasonal variation in the use of antihistamines, the use of this category of drugs was not considered in any of the analyses presented in this section.

There was a significant difference between groups in the percentages of women reporting regular usage of drugs ($X^2 = 6.17, 2 \text{ df}, p < .05$). A posteriori tests showed that the percentage of drug users among the alcohol dependent women (32.1%) did not differ significantly from either of the two other groups, although a significantly higher percentage of general population women than career women were regular users (45.3% and 22.6%, respectively,

$p < .05$). An examination of the regular drug users indicated no significant differences between groups with respect to the percentages reporting the use of at least three drugs ($X^2 = 5.24, 2 \text{ df}$).

Table 54 depicts the use of specific types of drugs by the women who were defined as regular drug users. Alcohol dependent women were most likely to use drugs within the sedative category, followed by antidepressants, whereas analgesics and, to a lesser degree, drugs within the diuretic category, were most commonly used by the general population and career women.

TABLE 54. Use of Specific Types of Drugs

	Alcohol (N=17)	General (N=24)	Career (N=12)	
Sedatives, hypnotics, anxiolytics	64.7% ^a	12.5	8.3	$X^2=16.41, 2 \text{ df}, p<.001$
Antidepressants	35.3	4.2	0	$X^2=10.77, 2 \text{ df}, p<.01$
Analgesics	17.6	58.3	25.0	$X^2=8.08, 2 \text{ df}, p<.05$
Diuretics, β -blockers, antihypertensives	5.9	29.2	16.7	$X^2=3.57, 2 \text{ df}, \text{N.S.}$
Cannabis	17.6	4.2	0	$X^2=3.86, 2 \text{ df}, \text{N.S.}$
Other illicit drugs	5.9	0	0	$X^2=2.16, 2 \text{ df}, \text{N.S.}$

Note: Only those subjects who regularly used drugs have been included in these analyses.

^a Two subjects in this group used barbiturate sedatives.

Among regular drug users, significant intergroup differences were evident only for the percentages using sedatives, antidepressants, and analgesics: significantly more alcohol dependent women than either general population or career women reported the regular usage of sedatives/hypnotics/anxiolytics ($p < .001$ and $p < .01$, respectively) and antidepressants ($p < .01$ and

$p < .05$, respectively), whereas significantly fewer alcohol dependent women than general population women regularly used analgesics ($p < .01$).

Previous treatment for drug-related problems was reported by 11.3% of the alcohol dependent women, but by none of the women in either of the two control groups ($X^2 = 12.47$, 2 df, $p < .01$).

As evident from Table 55, the percentages of women who were current smokers differed significantly between groups: significantly more alcohol dependent women than either general population or career women ($p < .001$) smoked.

TABLE 55. Cigarette-Smoking Behaviour

	Alcohol	General	Career	
Smoke	75.5%	32.1	26.4	$X^2=30.89$, 2 df, $p<.001$
Smoke more when drinking alcohol, among subjects who smoke (N=41, 17, 14)	82.9	82.4	78.6	$X^2=0.14$, 2 df, N.S.

Moreover, among smokers, the degree of smoking also differed significantly between groups ($F(2,68) = 7.41$, $p < .01$, $MS_e = 1.50$): alcohol dependent women were significantly heavier smokers than the general population or career women. Nevertheless, the tendency towards heavier smoking whilst drinking alcohol was evident in all three groups and no significant intergroup differences were found in this regard (see Table 55).

8.6 OBSTETRIC AND GYNAECOLOGICAL HISTORIES

8.6.1 Children

Table 56 indicates that the percentages of women who have borne live children differed significantly between groups. When all women were considered, it was found that significantly more general population women than either alcohol dependent ($p < .05$) or career women ($p < .001$) had borne live children, whereas when the analyses were restricted only to ever-married women and single mothers, no significant differences were evident between the alcohol dependent and non-alcohol-dependent groups; however, significantly more general population than career women ($p < .01$) had borne children.

TABLE 56. Percentages of Women who have Borne Live Children

	Alcohol	General	Career	
All women	69.8%	86.8	52.8	$\chi^2=14.50, 2 \text{ df}, p<.001$
Ever-married women or single mothers (N=43, 51, 41)	86.0	90.2	68.3	$\chi^2=8.09, 2 \text{ df}, p<.05$

Further comparisons between groups of women who had borne live children are presented in Table 57. There were no significant differences between these alcohol dependent, general population, and career women in the number of children living with the subject, the number of daughters, surviving children, deceased children, and children born alive. The results of analyses of variance were statistically significant for the number of children living apart from the subject, the number of sons, and the woman's age at having her first (still living) child.

TABLE 57. Number of Children - Subjects who have Borne Live Children

	Alcohol (N=37)		General (N=46)		Career (N=28)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
No. of children living with subject	1.2	1.3	1.8	1.2	1.4	1.0	F(2, 108)=2.54, N.S.
No. of children not living with subject ^a	1.7	1.7	0.7	1.1	0.9	1.4	F(2, 108)=5.67, p<.01, MS _e =1.92
No. of surviving sons ^a	1.6	1.3	1.2	0.8	1.1	0.9	F(2, 108)=3.17, p<.05, MS _e =1.01
No. of surviving daughters ^a	1.3	1.1	1.3	1.1	1.3	1.1	F(2, 108)=0.02, N.S.
No. of surviving children ^a	2.9	1.7	2.5	1.1	2.3	1.2	F(2, 108)=2.01, N.S.
No. of deceased children	0.1	0.4	0.0	0.2	0.1	0.3	F(2, 108)=0.94, N.S.
No. of children born alive ^a	3.1	1.9	2.5	1.0	2.4	1.2	F(2, 108)=2.25, N.S.
Subject's age at having oldest surviving child ^a	22.5	3.8	23.2	3.2	25.2	3.8	F(2, 108)=4.84, p<.01, MS _e =12.71

^a Includes children who have been given up for adoption.

A posteriori tests indicated that alcohol dependent women had significantly more children not living with them than did general population women and that career women were significantly older than either alcohol dependent or general population women at the time of having their first child; however, significant intergroup differences with respect to the number of sons were no longer evident.

Three alcohol dependent women, as well as one general population and one career woman had given up children for adoption. One alcohol dependent woman had had three children adopted out, the general population woman two children, and the remaining three women had each given up one child for adoption.

8.6.2 Obstetric and Gynaecological Problems

Table 58 shows that significant differences between groups were evident in the percentages of women reporting miscarriage, abortion, hysterectomy, or menopause, but not in the percentages reporting stillbirth, sterilization or the existence of other obstetric/gynaecological problems.

TABLE 58. Experience of Specific Obstetric or Gynaecological Events

	Alcohol	General	Career	
Miscarriage	18.9%	37.7	15.1	$\chi^2=8.58, 2 \text{ df}, p<.05$
Abortion	20.8	5.7	7.5	$\chi^2=7.14, 2 \text{ df}, p<.05$
Stillbirth	7.5	5.7	0	$\chi^2=3.89, 2 \text{ df}, \text{N.S.}$
Sterilization	28.3	22.6	11.3	$\chi^2=4.82, 2 \text{ df}, \text{N.S.}$
Hysterectomy	5.7	20.8	9.4	$\chi^2=6.22, 2 \text{ df}, p<.05$
Menopause	34.0	20.8	13.2	$\chi^2=6.68, 2 \text{ df}, p<.05$
Other obstetric/ gynaecological problems	3.8	9.4	3.8	$\chi^2=2.12, 2 \text{ df}, \text{N.S.}$

A posteriori tests indicated that significantly more general population women than either alcohol dependent ($p < .05$) or career women ($p < .01$) reported having had a miscarriage, whilst abortions were reported by significantly more alcohol dependent women than general population or career women ($p < .05$). A significantly higher percentage of women drawn from the general population than alcohol dependent women ($p < .05$) had had a hysterectomy, and significantly more alcohol dependent women than career women ($p < .05$) had reached menopause.

Neither the mean age at onset of menstruation or menopause (see Table 59), nor the percentages having experienced problems related to menstruation or menopause (see Table 60) differed significantly between the three groups of women.

TABLE 59. Age (in years) at Onset of Menstruation and Menopause

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Menstruation	13.0	1.9	13.1	1.6	13.0	1.7	$F(2, 156)=0.05, \text{N.S.}$
Menopause (N=18, 11, 7)	43.6	4.9	48.1	5.9	45.9	7.7	$F(2, 33)=2.07, \text{N.S.}$

TABLE 60. Menstruation and Menopause - Problems and Changes in Drinking

	Alcohol	General	Career	
Menstrual problems	56.6%	64.2	50.9	$\chi^2=1.90$, 2 df, N.S.
Menopausal problems (N=18, 11, 7)	22.2	54.5	28.6	$\chi^2=3.30$, 2 df, N.S.
Change in drinking:				
During menstrual cycle	34.0	5.7	0	$\chi^2=30.61$, 2 df, $p<.001$
With onset of menopause (N=18, 11, 7)	27.8	0	0	$\chi^2=5.81$, 2 df, N.S.

8.6.3 Relationship between Drinking and the Menstrual Cycle

Table 60 shows that the number of women reporting heavier drinking during some phase of the menstrual cycle differed significantly between groups: significantly more alcohol dependent women than either general population or career women ($p < .001$) reported that they did so, and 16 of these 18 alcohol dependent women stated that this occurred premenstrually.

Although more than one quarter of the alcohol dependent women but none of the non-alcohol-dependent women who had experienced the onset of menopause reported a change in their drinking at that time, the difference was not statistically significant.

8.6.4 Contraception

A comparison between the 29 alcohol dependent, 24 general population and 39 career women who were still potentially able to conceive revealed that 31.0%, 54.2%, and 64.1%, respectively, actually practised contraception ($\chi^2 = 7.40$, 2 df, $p < .05$); significantly more career women than alcohol dependent women ($p < .01$) did so. The majority of contracepting women in each of the three groups used an oral contraceptive.

8.7 DRINKING PRACTICES

8.7.1 Introduction

Several aspects of the drinking practices of alcohol dependent women have been studied in the course of this thesis. First, the drinking patterns of the alcohol dependent women have been compared with those of the women drawn from the general population and the career women. These series of analyses have been restricted to only those women who reported drinking at least occasionally. Therefore, three general population women, or 5.7% of that sample, who maintained that they always abstained from alcohol have been excluded from the analyses reported in Sections 8.7.2 to 8.7.7.

Secondly, the ages at onset of various stages of drinking were examined. Although several aspects of the alcohol dependent women's drinking history were amenable for comparison with non-alcohol-dependent women, for the most part the investigation of drinking history focusses exclusively on the alcohol dependent women. Similarly, the section on severity of drinking is restricted to alcohol dependent women, except that the results relating to alcoholism screening inventories are presented for all three groups.

Finally, results pertaining to stress-related drinking are presented in a later section which focusses on stress. Section 8.9.2 examines the alcohol dependent women's perceived precipitants of increased drinking, and Section 8.9.3 describes the association between emotional states and drinking among alcohol dependent, general population, and career women.

8.7.2 Quantity

Table 61 demonstrates that more than one half of the alcohol dependent women reported drinking the equivalent of at least 150 g of ethanol

per average drinking occasion, whereas no other women did so. On the other hand, the majority of general population and career women, but no alcohol dependent women, reported an average intake of no more than 20 g of ethanol. The quantity of alcohol consumed by general population and career women did not differ significantly.

TABLE 61. Quantity Consumed per Average Drinking Occasion

	Alcohol (N=53)	General (N=50)	Career (N=53)
≥15 standard drinks	52.8%	0	0
9-14 standard drinks	24.5	2.0	0
6-8 standard drinks	15.1	10.0	5.7
3-5 standard drinks	7.5	26.0	26.4
≤2 standard drinks	0	62.0	67.9
	99.9	100.0	100.0

$\chi^2=119.30$, 8 df, $p<.001$

General vs. Career: $\chi^2=1.82$, 3 df, N.S.

Note: Each standard drink contains 10 g of ethanol.

8.7.3 Frequency and Periodicity of Drinking

Almost one half of the alcohol dependent women and one third of the career women reported daily drinking (Table 62). A posteriori comparisons revealed that significantly fewer general population women than either alcohol dependent ($p < .001$) or career women ($p < .01$) reported daily drinking, and conversely, that drinking monthly or less often was reported by significantly more general population women than alcohol dependent ($p < .05$) or career women ($p < .001$).

TABLE 62. Drinking Frequency

	Alcohol (N=53)	General (N=50)	Career (N=53)	
Daily	47.2%	10.0	32.1	$\chi^2=17.03, 2 \text{ df}, p<.001$
4-6 days per week	17.0	8.0	17.0	
2-3 days per week	20.8	30.0	34.0	
2-4 days per month	3.8	22.0	13.2	
Monthly, or less often	11.3	30.0	3.8	$\chi^2=14.83, 2 \text{ df}, p<.001$
	100.1	100.0	100.1	
	$\chi^2=34.88, 8 \text{ df}, p<.001$			
	General vs. Career: $\chi^2=19.50, 4 \text{ df}, p<.001$			

Table 63 indicates that the majority of alcohol dependent women reported that they drank to excess at least once a week; this manner of drinking was reported by significantly more alcohol dependent women than general population or career women ($p < .001$).

TABLE 63. Frequency of Excessive Drinking

	Alcohol (N=53)	General (N=50)	Career (N=53)	
Weekly, or more often	71.7%	2.0	0	$\chi^2=93.41, 2 \text{ df}, p<.001$
1-3 days per month	18.9	2.0	5.7	
A few times per year, or less often	9.4	54.0	79.2	
Never	0	42.0	15.1	$\chi^2=30.64, 2 \text{ df}, p<.001$
	100.0	100.0	100.0	
	$\chi^2=132.04, 6 \text{ df}, p<.001$			
	General vs. Career: $\chi^2=11.01, 3 \text{ df}, p<.05$			

As expected, alcohol dependent women did not report never drinking to excess; a posteriori tests showed that significantly more general population ($p < .001$) and career women ($p < .01$) than alcohol dependent women stated that they never drank excessively, and that general population women were significantly more likely than career women ($p < .01$) to report no instances of excessive drinking.

Binge drinking was reported by 58.5% of the alcohol dependent women, one general population woman and no career women ($X^2 = 71.07$, 2 df, $p < .001$). The frequency of binge drinking among the alcohol dependent women is depicted in Table 64.

TABLE 64. Frequency of Binge Drinking among Alcohol Dependent Women

	% (N=31)
>2 times per week	9.7
2-4 times per month	38.7
1-12 times per year	45.2
Less than annually	6.5
	100.1

Note: Only those alcohol dependent women who reported episodes of binge drinking have been included in this table.

8.7.4 Drinking Company

As illustrated in Table 65, alcohol dependent women were most likely to drink alone; they were also significantly more likely to do so than the other two groups of women ($p < .001$). There were no significant differences between general population and career women with respect to predominant drinking company.

TABLE 65. Predominant Drinking Company

	Alcohol (N=53)	General (N=50)	Career (N=53)	
Alone	86.8%	0	3.8	$X^2=118.44$, 2 df, $p<.001$
Husband or partner	3.8	30.0	37.7	
Small group of friends	3.8	14.0	24.5	
Large group of friends	5.7	56.0	34.0	
	100.1	100.0	100.0	
	$X^2=125.13$, 6 df, $p<.001$			
	General vs. Career: $X^2=6.61$, 3 df, N.S.			

8.7.5 Location of Drinking

Table 66 presents the women's most frequent drinking locations. The majority of women in each group reported drinking predominantly within their own home; a posteriori tests revealed that a significantly higher percentage of alcohol dependent women than either career ($p < .01$) or general population women ($p < .001$) did so. The percentage of women in each group who drank primarily in hotels did not differ significantly between groups. Again, general population and career women did not differ significantly with respect to where they most commonly drank.

TABLE 66. Predominant Drinking Location

	Alcohol (N=53)	General (N=50)	Career (N=53)	
Own home	83.0%	50.0	60.4	$\chi^2=12.96, 2 \text{ df}, p<.01$
Friend's home	1.9	28.0	24.5	
Hotel	15.1	6.0	7.5	$\chi^2=2.84, 2 \text{ df}, \text{N.S.}$
Club, discotheque	0	10.0	3.8	
Restaurant	0	6.0	3.8	
	100.0	100.0	100.0	
	$\chi^2=27.65, 8 \text{ df}, p<.001$			
	General vs. Career: $\chi^2=2.44, 4 \text{ df}, \text{N.S.}$			

8.7.6 Type of Alcohol

The type of alcohol which was predominantly consumed by the women is depicted in Table 67.

TABLE 67. Predominant Beverage Type

	Alcohol (N=53)	General (N=50)	Career (N=53)	
Beer	26.4%	8.0	1.9	$\chi^2=16.11, 2 \text{ df}, p<.001$
Wine	32.1	66.0	81.1	$\chi^2=27.73, 2 \text{ df}, p<.001$
Spirits	32.1	24.0	15.1	$\chi^2=4.23, 2 \text{ df}, \text{N.S.}$
Fortified wine	9.4	2.0	1.9	$\chi^2=4.58, 2 \text{ df}, \text{N.S.}$
	100.0	100.0	100.0	
	$\chi^2=32.95, 6 \text{ df}, p<.001$			
	General vs. Career: $\chi^2=3.83, 3 \text{ df}, \text{N.S.}$			

No significant differences were apparent with respect to spirits or fortified wines, although significant intergroup differences were evident with respect to beer and wine. Significantly more alcohol dependent women than either general population ($p < .05$) or career women ($p < .001$) predominantly drank beer, whereas significantly fewer of the former reported wine as their predominant drink ($p < .001$). No significant differences in this regard were evident between general population and career women.

8.7.7 Relationship between Age and Drinking Pattern

Further analyses examined whether any of the drinking pattern variables described above varied with age. The women within each of the three groups were divided into four age categories, namely those in their twenties, thirties, forties, and fifties or sixties. The only significant age-based comparison was for the existence of binge drinking within the group of alcohol dependent women ($\chi^2 = 12.60$, 3 df, $p < .01$): significantly fewer women in the oldest age group than in any of the three other age groups reported binge drinking ($p < .01$, for each of the three comparisons).

8.7.8 Drinking History

8.7.8.1 Stages in the Drinking History

The mean ages of the women at the occurrence of particular stages of their drinking histories are portrayed in Table 68.

TABLE 68. Age (in years) at Stages of Drinking History

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Onset of social drinking (N=51, 51, 53)	22.3	6.9	20.4	5.5	18.1	2.7	F(2, 152)=8.26, $p < .001$, $MS_e=28.40$
First hangover (N=50, 32, 45)	26.8	9.5	22.4	7.0	22.1	5.4	F(2, 124)=5.51, $p < .01$, $MS_e=58.17$
Onset of heavy drinking	31.8	10.1	-	-	-	-	
Onset of problem drinking	33.8	9.6	-	-	-	-	
First treatment	36.3	9.2	-	-	-	-	
Interview	39.8	9.6	39.9	10.0	39.8	9.6	F(2, 156)=0.00, N.S.

It should be noted that these ages are based on self-reports, and as such, are subjective in nature. Both the age at onset of social drinking and the age at first hangover differed significantly between groups: alcohol dependent women were significantly older than career women at the time they began to drink socially and they also reported experiencing their first hangover at a significantly later age than both general population and career women. The mean ages of the three groups of women at the time of interview did not differ significantly.

The mean age of the alcohol dependent women at the reported time of onset of heavy drinking was 31.8 years, whereas problem drinking commenced an average of two years later, and treatment for alcohol-related problems was first sought, on average, after another 2.5 years.

8.7.8.2 Initial Alcohol-Related Problems

The alcohol dependent women were asked to describe up to two symptoms which they felt initially indicated the existence of alcohol-related problems (see Table 69 and Appendix 17).

TABLE 69. Nature of Initial Alcohol-Related Problems of Alcohol Dependent Women

	% (N=82)
Social problems	35.4
Change in drinking habits	32.9
Physical problems	19.5
Mood-related problems	12.2
	100.0

Note: Each woman was able to nominate up to two problems. Therefore the values denote the percentages, of the 82 nominated problems, which are represented by each general problem category. The percentages of women reporting each specific problem within each of these categories are presented in Appendix 17.

Social problems, such as the effect of drinking on relationships or work, and changes in drinking habits, such as the recognition of excessive drinking, were most frequently nominated. However, approximately 20% of the problems related to physical well-being, whereas about 12% related to mood changes.

8.7.8.3 Initial Treatment Source

Table 70 describes the type of agency through which the alcohol dependent women first sought treatment. The most common initial treatment contact, reported by almost 40% of the women, was in fact an alcohol treatment agency.

TABLE 70. Initial Treatment Contact
of Alcohol Dependent Women

	% (N=53)
Alcohol treatment agency	39.6
General medical service	30.2
Psychiatric service	13.2
Other medical service	3.8
Non-medical professional	9.5
Telephone counselling service	3.8
	100.1

Note: The specific agencies within each of these categories are presented in Appendix 18.

8.7.9 Severity of Drinking

8.7.9.1 Consequences of Drinking

The prevalence of 13 specific consequences of drinking was examined. As seen in Table 71, the majority of women reported having experienced blackouts and gross tremor. Even the physiological consequence least commonly reported by these women, namely delirium tremens, had nevertheless been experienced by more than one quarter of this sample. Other consequences related to drinking which were experienced by the majority of women were depression and familial disruption. Of the specified consequences, this sample of women had experienced a mean of 2.7 physiological and 2.9 other consequences. Only one woman reported not having experienced any of the effects of drinking under consideration, although five and two women denied the experience of any physiological and nonphysiological consequences, respectively.

TABLE 71. Percentages of Alcohol Dependent Women Experiencing Specific Consequences of Drinking

	%
	(N=53)
Physiological consequences	
Blackouts	77.4
Gross tremor	62.3
Hallucinosiis	41.5
Medical contra-indications	37.7
Withdrawal seizures	28.3
Delirium tremens	26.4
Other consequences related to drinking	
Depression	88.7
Familial disruption	69.8
Physical aggression	35.8
Suicide attempts	32.1
Motor vehicle accidents, violations	22.6
Police record	20.8
Job loss	17.0

8.7.9.2 Alcoholism Screening Inventories

Table 72 indicates that the mean scores on both alcoholism screening inventories, namely Selzer et al.'s (1975) revised MAST and Manson's (1949) Alcadd Test, differed significantly between groups.

TABLE 72. Mean Scores on Alcoholism Screening Inventories

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
MAST ^a	36.1	6.9	0.7	1.9	1.2	2.0	F(2, 156)=1177.31, p<.001, MS _e =18.52
Alcadd Test ^b							
Total score	34.6	10.6	5.9	4.2	8.8	5.0	F(2, 156)=256.28, p<.001, MS _e =51.70
'Regularity of drinking' scale	6.3	3.0	0.4	0.7	1.1	1.2	F(2, 156)=150.27, p<.001, MS _e =3.67
'Preference for drinking' scale	5.0	2.9	1.8	1.7	2.6	1.7	F(2, 156)=32.92, p<.001, MS _e =4.57
'Lack of controlled drinking' scale	12.3	3.8	0.7	1.0	1.3	1.4	F(2, 156)=397.98, p<.001, MS _e =5.72
'Rationalization of drinking' scale	12.0	4.4	2.7	1.8	4.1	2.3	F(2, 156)=140.51, p<.001, MS _e =9.52
'Excessive emotionality' scale	12.1	4.0	1.9	1.8	2.3	2.0	F(2, 156)=224.54, p<.001, MS _e =7.83

^a Revised Michigan Alcoholism Screening Test (Selzer et al., 1975)

^b Manson (1949)

As would be expected, the alcohol dependent women obtained much higher overall scores on both tests than did either the general population or career women. Similarly, intergroup comparisons indicated that the alcohol dependent women had a mean score on each of the five Alcadd scales that was significantly higher than that of the other women. No significant differences were found between the general population and career samples.

8.8 SEX ROLE IDENTITY

8.8.1 Conscious Role Identification

Table 73 presents data relating to the satisfaction derived from, and the perceived importance of, four specific roles: those of homemaker, mother, wife or partner, and worker (in paid employment). Significant group differences were evident for each of the roles in terms of the degree of satisfaction derived from them. However, the groups did not vary significantly with respect to the degree of importance they placed on the roles of motherhood and partnering, whereas the importance attached to the roles of homemaker and being a working person differed significantly between groups.

TABLE 73. Satisfaction derived from, and Importance attached to, Specific Roles

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Satisfaction derived from role of:							
Homemaker	2.3	1.3	1.8	1.1	2.4	1.3	F(2, 156)=3.27, p<.05, MS _e =1.56
Mother (N=53, 53, 52)	1.8	1.4	1.4	0.7	1.9	1.2	F(2, 155)=3.37, p<.05, MS _e =1.37
Wife, partner (N=52, 53, 52)	1.8	1.3	1.3	0.6	1.7	0.8	F(2, 154)=4.23, p<.05, MS _e =0.85
Working person	1.8	1.1	1.6	0.8	1.4	0.5	F(2, 156)=4.33, p<.05, MS _e =0.68
Importance attached to role of:							
Homemaker	1.7	1.0	1.8	1.1	2.3	1.3	F(2, 156)=5.09, p<.01, MS _e =1.33
Mother	1.9	1.5	1.4	1.0	1.9	1.3	F(2, 156)=2.25, N.S.
Wife, partner (N=52, 53, 52)	1.6	1.1	1.3	0.7	1.6	1.0	F(2, 154)=2.29, N.S.
Working person	1.9	1.1	2.4	1.4	1.3	0.6	F(2, 156)=14.97, p<.001, MS _e =1.18

Note: The scores can range from 1 to 5, with lower scores denoting higher levels of satisfaction or importance.

Tukey's a posteriori comparisons indicated that alcohol dependent women did not differ significantly from either general population or career women in the amount of satisfaction they derived, or perceived they would potentially derive, from the roles of homemaker and mother. However,

women drawn from the general population reported a significantly higher degree of satisfaction associated with these two roles than did career women. General population women obtained a significantly higher mean satisfaction rating on the partnering role than did alcohol dependent women, and career women found the role of a working person significantly more satisfying than did alcohol dependent women.

Both alcohol dependent and general population women attached significantly more importance to the role of homemaker than did career women. The perceived importance of the role of a working person was significantly greater among career women than among alcohol dependent women, who in turn attached significantly more importance to this role than did general population women.

8.8.2 Sex Role Style

The Bem Sex-Role Inventory or BSRI (Bem, 1974) was modified to enable measurement of ideal conscious sex role identity, and hence the degree of conflict between perceived and ideal identity. This was achieved by having the women complete the BSRI twice, once for their perceived self, and again for their ideal self.

As seen in Table 74, significant differences between groups were obtained for the perceived and ideal measures of both masculinity and femininity. Tukey's a posteriori comparisons indicated that the career sample had a significantly higher mean perceived masculinity score than did the general population sample, who in turn achieved a significantly higher mean score than the alcohol dependent sample. Moreover, the career group obtained a significantly higher ideal masculinity score than did either of the other two groups.

TABLE 74. Bem Sex-Role Inventory - Mean Scores

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Masculinity:							
Perceived (N=51, 52, 53)	3.4	1.1	4.3	0.8	4.7	0.6	F(2, 153)=32.79, p<.001, MS _e =0.69
Ideal (N=51, 52, 52)	5.0	0.7	5.0	0.7	5.3	0.5	F(2, 152)=4.99, p<.01, MS _e =0.37
Femininity:							
Perceived (N=51, 52, 53)	4.8	0.8	5.1	0.6	4.8	0.6	F(2, 153)=4.14, p<.05, MS _e =0.43
Ideal (N=51, 52, 52)	5.4	0.4	5.5	0.5	5.2	0.5	F(2, 152)=5.65, p<.01, MS _e =0.21

Note: The scores can range from 1 to 7, with higher scores denoting higher levels of masculinity or femininity.

The perceived and ideal femininity scores of the alcohol dependent women did not differ significantly from those of either the general population or career women, although the women drawn from the general population scored significantly higher on both these scales than did the career women.

Table 75 indicates that the association between group and perceived sex role type was statistically significant, whereas that between group and ideal sex role type was not. Further comparisons pertaining to perceived sex role type showed that a significantly greater percentage of career women than either alcohol dependent or general population women ($p < .001$) were classified as masculine, whereas significantly fewer career women than either alcohol dependent ($p < .01$) or general population women ($p < .001$) were categorized as feminine. Alcohol dependent women were significantly more likely than either general population ($p < .01$) or career women ($p < .001$) to be classified as undifferentiated, but were significantly less likely than either of the non-alcohol-dependent samples ($p < .05$) to attain an androgynous classification.

TABLE 75. Bem Sex-Role Inventory - Sex Role Type

	Alcohol	General	Career	
Perceived sex role type (N=51, 52, 53)				
Masculine	9.8%	15.4	50.9	$X^2=27.37, 2 \text{ df}, p<.001$
Feminine	35.3	36.5	9.4	$X^2=12.50, 2 \text{ df}, p<.01$
Androgynous	11.8	30.8	30.2	$X^2= 6.53, 2 \text{ df}, p<.05$
Undifferentiated	43.1	17.3	9.4	$X^2=18.09, 2 \text{ df}, p<.001$
	100.0	100.0	99.9	
	$X^2=48.35, 6 \text{ df}, p<.001$			
Ideal sex role type (N=51, 52, 52)				
Masculine	17.6%	9.6	21.2	
Feminine	5.9	11.5	0	
Androgynous	72.5	76.9	78.8	
Undifferentiated	3.9	1.9	0	
	99.9	99.9	100.0	
	$X^2=10.40, 6 \text{ df}, \text{N.S.}$			

Note: The median masculinity (M) and femininity (F) scores of the entire sample for perceived-self were 4.17 and 5.00, respectively. Using perceived- and ideal-self BSRI completions, respectively, subject's perceived and ideal sex role type was classified as masculine if $M \geq 4.17$ and $F < 5.00$, feminine if $M < 4.17$ and $F \geq 5.00$, androgynous if $M \geq 4.17$ and $F \geq 5.00$, and undifferentiated if $M < 4.17$ and $F < 5.00$.

8.8.3 Unconscious Gender Identity

The total score on the 11-item version (Cochrane et al., 1966) of the Drawing Completion Test or DCT (Franck & Rosen, 1949), purportedly a measure of unconscious gender identity, did not differ significantly between groups, as seen in Table 76.

TABLE 76. Drawing Completion Test - Mean Scores

	Alcohol (N=52)		General (N=53)		Career (N=53)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Total test score	4.96	1.79	5.30	1.77	5.72	1.77	$F(2, 155)=2.38, \text{N.S.}$
Number of abstract completions	7.79	2.94	7.26	3.43	5.72	3.61	$F(2, 155)=5.48, p<.01, MS_e=11.16$
Number of content completions	3.02	2.87	3.64	3.49	5.13	3.60	$F(2, 155)=5.58, p<.01, MS_e=11.12$

Note: Cochrane, Parkman and Strodtbeck's (1966) 11-item version of the test was utilized. The total test score can range from 0 to 11, with higher scores denoting higher levels of femininity. The number of either abstract or content completions can range from 0 to 11.

However, the mean frequency with which specific types of completions were utilized, namely abstract or content, varied significantly between groups: career women were significantly more likely than alcohol dependent women to use content completions, and significantly less likely than either alcohol dependent or general population women to complete the drawings in an abstract manner.

Table 77, which depicts the classification of unconscious gender type by group, shows that the groups of women did not differ significantly with respect to nature of unconscious gender identity.

TABLE 77. Drawing Completion Test - Sex Role Type

	Alcohol (N=52)	General (N=53)	Career (N=53)
Extreme masculine	7.7%	3.8	1.9
Masculine	57.7	50.9	41.5
Feminine	32.7	39.6	49.1
Extreme feminine	1.9	5.7	7.5
	100.0	100.0	100.0
	$\chi^2=6.91, 6 \text{ df}, \text{N.S.}$		

Note: Cochrane et al.'s (1966) 11-item version of the test was utilized. The total test score can range from 0 to 11, with higher scores denoting higher levels of femininity. Classification into sex role type was as follows: score of 0 to 2 - extreme masculine; 3 to 5 - masculine; 6 to 8 - feminine; 9 to 11 - extreme feminine.

8.8.4 Sex Role Identity Conflict

Three types of sex role identity conflict were defined. The first constituted conflict between perceived and ideal conscious role, as indicated by the lack of an exact match between them; roles of homemaker, mother, wife/partner, and worker, or any combination thereof, were considered.

The second manner of conflict was that between perceived and ideal sex role style, defined on the basis of fourfold categorization of BSRI responses; conflict was interpreted as the lack of an exact match between perceived and ideal type. Finally, conflict between perceived sex role style and unconscious gender identification was examined. This was evidenced by a feminine classification on the basis of perceived-self BSRI responses and either an extreme masculine or masculine classification on the DCT, or a masculine classification on the basis of perceived-self BSRI responses and either an extreme feminine or feminine classification on the DCT. Only those women who, from perceived-self BSRI responses, were categorized as either feminine or masculine, as opposed to androgynous or undifferentiated, were included in this latter analysis.

Table 78 indicates that no significant differences were observed with respect to the proportion of women exhibiting conflict between their perceived and ideal conscious roles. However, significant differences were evident with respect to conflict between perceived and ideal sex role style, and between perceived sex role style and unconscious gender identification.

TABLE 78. Percentages of Women Exhibiting Sex Role Identity Conflict

	Alcohol	General	Career	
Conflict between:				
Perceived and ideal conscious role	69.8%	54.7	47.2	$\chi^2=5.76$, 2 df, N.S.
Perceived and ideal sex role style ^a (N=51, 52, 52)	80.4	59.6	50.0	$\chi^2=10.67$, 2 df, $p<.01$
Perceived sex role style and unconscious gender identification ^b (N=23, 26, 21)	78.3	53.8	33.3	$\chi^2=9.04$, 2 df, $p<.05$

a On the basis of BSRI sex role type.

b On the basis of BSRI sex role type and DCT sex role type. Only subjects classified as either masculine or feminine on the BSRI were included in this analysis.

Significantly more alcohol dependent women than either general population ($p < .05$) or career women ($p < .01$) showed a lack of congruence between perceived and ideal sex role style. Furthermore, alcohol dependent women whose perceived sex role style was categorized as either masculine or feminine were significantly more likely than the comparable group of career women ($p < .01$) to exhibit conflict between perceived sex role style and unconscious gender identification, although neither of these groups differed significantly from the general population women.

The degree of difference between perceived and ideal masculinity and perceived and ideal femininity on the basis of BSRI responses was also investigated, the results of which are presented in Table 79.

TABLE 79. Difference between Perceived and Ideal Masculinity and Femininity Scores on the Bem Sex-Role Inventory

	Alcohol (N=51)		General (N=52)		Career (N=52)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Masculinity	1.6	1.0	0.7	0.5	0.6	0.5	$F(2, 152)=32.52, p<.001, MS_e=0.50$
Femininity	0.7	0.7	0.5	0.5	0.5	0.3	$F(2, 152)=4.29, p<.05, MS_e=0.27$

Note: The difference scores can range from 0 to 6, with higher scores denoting larger differences.

Both these measures differed significantly between groups: for both masculinity and femininity, the difference between perceived and ideal scores was significantly greater among alcohol dependent women than among general population or career women.

8.9 STRESS AND ALCOHOL

8.9.1 Introduction

The relationship between stress and drinking among alcohol dependent women was assessed in three major ways. The first approach used a life events inventory to assess the number of stressful life events, and the amount of associated distress and life change, experienced by alcohol dependent, general population and career women during five overlapping periods of their lives. These time periods were related to the alcohol dependent women's ages at onset of heavy and problem drinking. Section 8.9.2 presents these results.

The approach outlined above relied upon an objective measure of stress, namely the life events inventory. In contrast however, Section 8.9.3 considers the alcohol dependent women's reports of factors perceived to be related to the onset of problem drinking.

The final approach investigates how subjective reactions to stress, namely emotions, are related to the consumption of alcohol. The three groups of women were questioned about their drinking practices in association with each of 18 specific emotions, and the results pertaining to these analyses are presented in Section 8.9.4.

8.9.2 Stressful Life Events

The experience of stressful life events was assessed using a modified version of Tennant and Andrews (1976) Life Events Inventory. The modifications are described in Section 6.4.3.8, and Section 7.8 provides a review of the Inventory.

Section 6.4.3.8 also summarized the aspects of the experience of stressful life events that were considered during the analyses. To recapitulate, three indices of life event stress were used, namely the degree of distress and life change associated with the events (using Tennant & Andrews' (1976) scalings), as well as the number of experienced events. The experience of events was analysed separately for each of five time periods. Finally, three different categorizations of life events were examined: controllable versus uncontrollable events; events defined as being threats to a woman's sense of female adequacy (either biologically or psychologically based) versus events posing no such threat; and, all events irrespective of their qualitative nature.

The analyses presented here were undertaken using 52 individually age-matched triplicates of women. Table 80 displays significant group differences arising from a posteriori comparisons of, respectively, the amounts of distress and life change associated with stressful life events experienced by the three samples, as well as the number of events experienced. The means, F-values, and probabilities underlying these comparisons are presented in Appendices 19, 20, and 21.

Due to the large number of analyses, the individual results will not be described, except for their representation in the table and appendices mentioned above. However, several patterns emerge from the table.

TABLE 80. Stressful Life Events - Results of a posteriori Comparisons

	Period 1 ^a	Period 2 ^b	Time Span Period 3 ^c	Period 4 ^d	Period 5 ^e
<u>A: DISTRESS</u>					
<u>Type of Life Event</u>					
I. Controllable - Uncontrollable					
Controllable	N.S.	A > G	N.S.	A > G,C	A > G,C
Uncontrollable	A,G > C	A > G	A,G > C	N.S.	A,G > C
II. Threats to female adequacy					
Biological	G > C	N.S.	N.S.	N.S.	G > C
Psychological	N.S.	A > G	A > G	A > G,C	A > G,C
Biological or psychological	N.S.	N.S.	N.S.	A > C	A > G,C
Non-threat	G > C	A > G,C	A,G > C	N.S.	A,G > C
III. All	G > C	A > G,C	A,G > C	A > C	A,G > C
<u>B: LIFE CHANGE</u>					
<u>Type of Life Event</u>					
I. Controllable - Uncontrollable					
Controllable	N.S.	N.S.	N.S.	A > G	A > G,C
Uncontrollable	A,G > C	A > G,C	A,G > C	N.S.	A,G > C
II. Threats to female adequacy					
Biological	N.S.	N.S.	N.S.	N.S.	A,G > C
Psychological	N.S.	A > G	A > G	A > C	A > G,C
Biological or psychological	N.S.	N.S.	A > C	A > C	A > G,C
Non-threat	N.S.	N.S.	N.S.	N.S.	A > C
III. All	N.S.	N.S.	A > C	N.S.	A > C
<u>C: NO. OF EVENTS</u>					
<u>Type of Life Event</u>					
I. Controllable - Uncontrollable					
Controllable	N.S.	N.S.	N.S.	A > G	A > G
Uncontrollable	G > C	N.S.	A,G > C	N.S.	A,G > C
II. Threats to female adequacy					
Biological	N.S.	N.S.	N.S.	N.S.	A,G > C
Psychological	N.S.	A > G,C	A > G	A > C	A > G,C
Biological or psychological	N.S.	N.S.	N.S.	A > C	A > C
Non-threat	N.S.	N.S.	N.S.	N.S.	N.S.
III. All	N.S.	N.S.	N.S.	N.S.	A > C

Note: The means, standard deviations and F-values associated with each analysis of variance are presented in Appendices 19, 20, and 21. The results of a posteriori comparisons presented above are based on Tukey's HSD comparisons, at a 0.05 level of significance. A, G, and C denote, respectively, the alcohol dependent, general population, and career samples, whereas N.S. denotes a nonsignificant difference.

^a Among alcohol dependent women, time span from childhood to reported onset of heavy drinking, and corresponding time span for each individually age-matched control woman.

^b Among alcohol dependent women, time span between reported onset of heavy drinking and problem drinking, and corresponding time span for each individually age-matched control woman.

^c Among alcohol dependent women, time span from childhood to reported onset of problem drinking, and corresponding time span for each individually age-matched control woman.

^d Among alcohol dependent women, time span between reported onset of problem drinking and interview, and corresponding time span for each individually age-matched control woman.

^e Time span from childhood to interview.

First, it is evident that in no instance did alcohol dependent women, as a group, experience either significantly less distress or life change associated with life events, or significantly fewer events, than either the general population or career groups. Furthermore, the general population group never experienced significantly less life event stress, as assessed by any of the three indices, than did the career group.

An examination of the three measures of life event experience, namely distress, life change, and number of events indicated that the largest number of significant differences between the alcohol dependent and non-alcohol-dependent groups, and between the general population and career groups, were obtained using distress, rather than either of the other measures.

A further consideration related to the time period during which differences between groups were most frequent. The table indicates that the greatest number of significant differences between alcohol dependent and general population women occurred for distress associated with stressful life events experienced in the time period corresponding to the interval between onset of heavy and problem drinking among the alcohol dependent women (i.e. Period 2). Significant differences between alcohol dependent and career women occurred most frequently with respect to the amount of life event stress, in the form of either distress, life change, or number of events, experienced over the entire duration of the women's lives (i.e. in Period 5).

Finally, alcohol dependent and general population women did not differ significantly with respect to either the reported overall number of stressful life events or the overall degree of life change experienced during any of the five time periods which were examined. However, when specific categories of life events were considered, differences between the alcohol

dependent and general population samples did in fact become evident. In particular, alcohol dependent women were more likely than general population women to experience life event stress, in the form of either distress, life change, or number of events, associated with either controllable events or those constituting a psychological threat to female adequacy. Furthermore, such differences were evident only during the time periods corresponding to after the onset of heavy drinking. In contrast however, significant differences between alcohol dependent and career women were most frequently evident with respect to the degree of life change associated with uncontrollable events and the degree of overall distress.

8.9.3 Precipitants of Problem Drinking

Several factors relating to the onset of problem drinking were examined within the sample of alcohol dependent women.

The women were asked to describe the circumstances surrounding their lives prior to the onset of problem drinking. Classification of these indicated that the three most commonly reported circumstances related to difficulties within the family or relationships, lifestyles, and emotional states such as loneliness or depression (see Table 81 and Appendix 22).

Table 82 indicates that approximately 55% of the women believed that a specific life event precipitated their drinking problem; the remainder of the sample was equally divided in reporting either an ongoing emotional state as a precipitant, or no precipitant at all. The nature of the precipitating events is depicted in Table 83 and Appendix 23: difficulties within the sphere of the family or relationships were most commonly reported, and life events related to morbidity or mortality were also frequently mentioned.

TABLE 81. Categories of Factors influencing the Lives of Alcohol Dependent Women prior to the Onset of Problem Drinking

	% (N=87)
Family or relationship difficulties	20.7
Lifestyle	19.6
Emotional	17.3
Husband's absence	8.0
Work-related problems	8.0
Bereavement	6.9
Excessive drinking of family members	4.6
Physical illness of self or others	3.4
Excessive socializing	3.4
Problems related to homosexuality	2.3
Financial problems	2.3
Absence of drugs	1.1
Nothing in particular	2.3
	99.9

Note: Each women was able to nominate up to two factors. Therefore the values denote the percentages, of the 87 nominated factors, which are represented by each category. The number of women reporting each specific factor within each of these categories is presented in Appendix 22.

TABLE 82. Perceived Precipitants of Problem Drinking reported by Alcohol Dependent Women

	% (N=53)
Specific event ^a	54.7
Ongoing emotional state	22.6
No precipitant	22.6
	99.9

^a Details of these events are provided in Table 83 and Appendix 23.

TABLE 83. Categories of Specific Events reported by Alcohol Dependent Women as Precipitants of Problem Drinking

	% (N=29)
Family or relationship difficulties	41.4
Physical illness of self or others	17.2
Bereavement	17.2
Problems related to homosexuality	10.3
Work-related problems	6.9
Geographic uprooting	6.9
	99.9

Note: The specific events within each of these categories are presented in Appendix 23.

8.9.4 Emotional States associated with Drinking

The three groups of women completed a questionnaire examining whether they ever drank in association with each of 18 specific emotional states. (The questionnaire is presented in Appendix 11, and Section 7.4 outlines its development.) If the women ever drank in conjunction with a specific emotion, they were also asked to report the frequency of drinking in relation to the occasions when they experienced that particular emotion, as well as the frequency of excessive drinking in relation to the occasions when they drank in response to that emotion. Women who stated that their drinking was always independent of their emotions (e.g. women who always drank with their evening meal, irrespective of how they were feeling at the time), and those (general population) women who never drank were excluded from the analyses reported in this section.

Table 84 shows the percentages of women who ever drank in association with the specified emotions; significant intergroup differences between groups were obtained for each of these emotions.

TABLE 84. Prevalence of Drinking in Association with Specific Emotional States

	Alcohol (N=53)	General (N=44)	Career (N=48)	
Aggression	56.6%	2.3	29.2	$\chi^2=33.27$, 2 df, $p<.001$
Anger	75.5	13.6	35.4	$\chi^2=39.30$, 2 df, $p<.001$
Anxiety (N=52, 44, 48)	86.5	25.0	62.5	$\chi^2=37.75$, 2 df, $p<.001$
Boredom	75.5	11.4	41.7	$\chi^2=40.24$, 2 df, $p<.001$
Burden	64.2	9.1	52.1	$\chi^2=31.84$, 2 df, $p<.001$
Confusion	56.6	4.5	20.8	$\chi^2=33.97$, 2 df, $p<.001$
Depression	92.5	22.7	54.2	$\chi^2=48.77$, 2 df, $p<.001$
Dissatisfaction	58.5	4.5	33.3	$\chi^2=31.28$, 2 df, $p<.001$
Excitement	28.3	36.4	62.5	$\chi^2=12.93$, 2 df, $p<.01$
Frustration	75.5	9.1	39.6	$\chi^2=43.55$, 2 df, $p<.001$
Guilt	64.2	2.3	18.8	$\chi^2=48.11$, 2 df, $p<.001$
Happiness	39.6	84.1	87.5	$\chi^2=33.73$, 2 df, $p<.001$
Helplessness	66.0	6.8	27.1	$\chi^2=39.04$, 2 df, $p<.001$
Loneliness	83.0	9.1	29.2	$\chi^2=59.10$, 2 df, $p<.001$
Rejection	77.4	6.8	35.4	$\chi^2=50.39$, 2 df, $p<.001$
Sadness	67.9	9.1	39.6	$\chi^2=34.52$, 2 df, $p<.001$
Tension	79.2	25.0	72.9	$\chi^2=34.15$, 2 df, $p<.001$
Upset	84.9	20.5	50.0	$\chi^2=40.59$, 2 df, $p<.001$

A posteriori comparisons indicated that significantly more alcohol dependent women than general population women drank in response to each of the emotions ($p < .001$), with the exception of happiness where the converse was true ($p < .001$), and excitement, in response to which drinking did not differ significantly between the two groups.

Comparisons between alcohol dependent and career women reflected no significant differences in the percentages of women drinking in response to feeling burdened or tense. However, more alcohol dependent women than career women reported drinking in relation to anger, boredom, confusion, depression, frustration, guilt, helplessness, loneliness, rejection, feeling upset (all $p < .001$), aggression, anxiety, sadness (all $p < .01$), and dissatisfaction ($p < .05$). In contrast however, significantly more career women than alcohol dependent women drank when feeling happy or excited ($p < .001$).

The percentages of general population and career women who ever drank in response to feeling happy did not differ significantly. However, significantly more career women than women drawn from the general population drank in association with all the other emotions, namely, aggression, anxiety, dissatisfaction, frustration, rejection, sadness, tension, feeling burdened (all $p < .001$), boredom, depression, feeling upset (all $p < .01$), anger, confusion, excitement, guilt, helplessness, and loneliness (all $p < .05$).

Two types of measures were devised to incorporate simultaneously the proportion of each sample who drank in response to a particular emotion, with the two aspects of the frequency of that drinking, as described earlier. The first measure comprised the product of the percentage of each sample who reported drinking in association with a specific emotion, and the mean frequency of drinking in relation to the experience of that emotion. The second measure incorporated the percentage drinking and the mean frequency of excessive drinking in relation to the drinking occasions associated with that emotion.

Figures 2 and 3 depict, for each sample, the relative size of the indices associated with each of the 18 emotions.

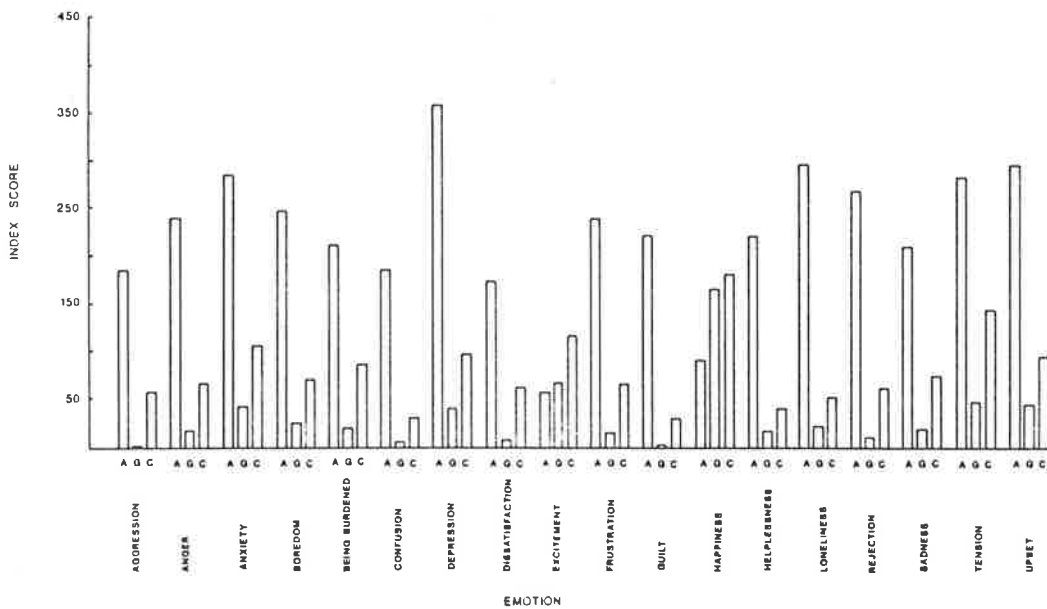


FIGURE 2. Alcohol dependent (A), general population (G), and career (C) samples' indices of drinking frequency in association with each of 18 emotions (Index Score = % of sample drinking x mean frequency of drinking in relation to the experience of that emotion)

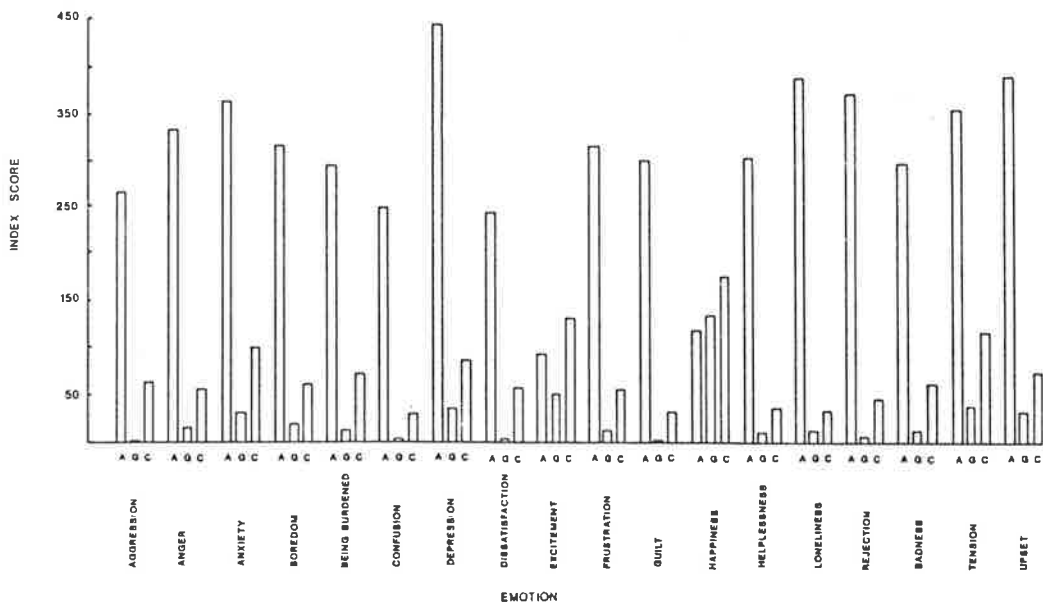


FIGURE 3. Alcohol dependent (A), general population (G), and career (C) samples' indices of frequency of excessive drinking in association with each of 18 emotions (Index Score = % of sample drinking x mean frequency of excessive drinking in relation to the drinking occasions associated with that emotion)

Furthermore, for each type of measure and within each group, the 18 indices were ranked in accordance with size. Spearman's ranked correlational analyses were then performed between pairs of groups, the results of which are presented in Table 85. The rank correlation coefficients reflect, for each pair of groups, the degree of similarity in their emotion-based drinking behaviours: there were no significant correlations for either of the two measures when alcohol dependent women were compared with either general population or career women, whereas the drinking behaviours of the general population and career women were significantly and positively correlated ($p < .001$).

TABLE 85. Intergroup Comparisons of Drinking in Response to Emotions - Rank-Order Correlation Coefficients

	Alcohol vs. General	Alcohol vs. Career	General vs. Career
<u>Measure</u>			
Percentage drinking by mean frequency of:			
Drinking	0.22 (N.S.)	0.09 (N.S.)	0.87 ($p < .01$)
Excessive drinking	0.20 (N.S.)	-0.08 (N.S.)	0.79 ($p < .01$)

8.10 SOCIAL SUPPORT

Tables 86 and 87 depict both the overall and individual item results obtained from the Social Environment Questionnaire or SEQ-II (Winefield, 1979b, 1982), which was used as a measure of social support.

TABLE 86. Social Support : A.

	Alcohol		General		Career		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Social Support Index score ^a (N=52, 53, 53)	15.1	8.6	24.5	7.9	24.9	7.1	F(2, 155)=25.84, p<.001, MS _e =61.99
Number of others in household, if not living alone (N=41, 52, 46)	2.3	1.2	2.7	1.5	2.3	1.4	F(2, 136)=1.56, N.S.
Number of confidants in household, if confiding in people in household (N=26, 47, 43)	1.2	0.5	1.4	0.8	1.3	0.5	F(2, 113)=0.78, N.S.
Number of confidants outside of household, if confiding in people outside of household (N=42, 50, 49)	4.4	4.2	4.2	2.9	5.4	3.1	F(2, 138)=1.94, N.S.
Number of others confiding in subject, if subject acts as confidante to others (N=46, 53, 52)	5.1	3.2	6.0	4.0	6.8	3.3	F(2, 148)=2.75, N.S.

^a The Social Support Index (SSI) score is derived from the responses to four questions of the Social Environment Questionnaire or SEQ-II (Winefield, 1979b, 1982). Its derivation is explained in Section 7.1.1. The SSI score can range from 2 to 36, with higher scores denoting higher levels of social support.

TABLE 87. Social Support : B

	Alcohol	General	Career	
Lives alone	22.6%	1.9	13.2	$\chi^2=10.41$, 2 df, p<.01
Able to confide in someone in household, if not living alone (N=41, 52, 46)	63.4	90.4	93.5	$\chi^2=17.08$, 2 df, p<.001
Able to confide in someone outside of household	79.2	94.3	92.5	$\chi^2=7.14$, 2 df, p<.05
Able to confide in at least one person	90.6	100.0	98.1	$\chi^2=7.27$, 2 df, p<.05
Acts as confidante to others	86.8	100.0	98.1	$\chi^2=11.32$, 2 df, p<.01
Feels it is at least usually helpful to confide in someone (N=49, 53, 53)	49.0	81.1	75.5	$\chi^2=13.87$, 2 df, p<.001
Feels she has at least an average number of friends (N=51, 53, 53)	49.0	73.6	77.4	$\chi^2=11.05$, 2 df, p<.01
Confident of making a good initial impression on someone (N=52, 53, 53)	51.9	83.0	84.9	$\chi^2=18.40$, 2 df, p<.001

The Social Support Index, derived from the SEQ-II (Section 7.1.1 details its derivation), differed significantly between groups: alcohol dependent women had significantly lower levels of social support than did either the general population or career women.

An examination of the individual items of the SEQ-II indicated that significant group differences were obtained for the percentages of women living alone, being able to confide in others both in and outside the household or in either situation, acting as confidantes to others, and perceiving that confiding in someone is beneficial. The percentages of women who felt that they had at least an average-sized friendship network differed significantly between groups, as did the confidence of making a positive initial impression on another person. However, no significant intergroup differences were evident with respect to the number of people living in the woman's household, the number of people in whom the woman confided, or the number confiding in her.

A posteriori comparisons on the variables mentioned above revealed that significantly fewer general population women than either alcohol dependent ($p < .01$) or career women ($p < .05$) lived alone. Among those women not living alone, significantly fewer alcohol dependent women than either general population ($p < .01$) or career women ($p < .001$) were able to confide in someone living in the same household. However, as mentioned previously, neither the mean number of people living in the household, nor the number of such people in whom the woman confided, differed significantly between the three groups of women who did not live alone.

The alcohol dependent women were also significantly less likely to confide in people outside of their household, when compared with either the general population or career women ($p < .05$), although among those women who did so, there was no significant difference between groups in the number of such confidants. An examination of the percentages of each group who were able to confide in at least one person, either within or outside of the household, showed that the vast majority of women within each group were

able to do so; the difference between the alcohol dependent and general population women was nevertheless significant ($p < .05$), with more of the latter reporting the existence of confidants. Significantly fewer alcohol dependent women than either general population or career women ($p < .01$) reported that others confided in them; however the actual number of people confiding in these women did not differ significantly between groups. The majority of non-alcohol-dependent women felt that confiding in someone was at least usually helpful, whereas less than one half of the alcohol dependent women felt this way: a significant difference was apparent between the alcohol dependent and both the general population ($p < .01$) and career groups ($p < .001$).

Significantly more general population and career women than alcohol dependent women ($p < .01$) perceived themselves as having at least an average number of friends, and alcohol dependent women were significantly less likely than either of the non-alcohol-dependent samples of women ($p < .001$) to feel confident of making a good initial impression on someone.

CHAPTER NINE

9.1 INTRODUCTION

9.1.1 Introduction

This chapter summarizes the chief findings of the current research and illustrates how they relate to the outcomes of earlier studies. Where appropriate, avenues for further research are suggested. As in earlier chapters, this chapter is again divided into sections and subsections, with each section independently addressing one topic.

9.1.2 General Methodological Considerations

Major methodological considerations that are of specific importance to particular topics are discussed in detail in the final subsections of the relevant sections. However, at this point attention should be drawn briefly to the following methodological issues which are pertinent to the conduct and outcome of this study.

First, only women who were inpatients in either of the two inpatient treatment programmes available in Adelaide at the time of the conduct of the study were eligible as subjects. Alcohol dependent women who were not undergoing treatment, as well as women seeking treatment through other avenues, for example as outpatients or through private psychiatric hospitals, are therefore not represented. Consequently, it must be recognized that the sample of alcohol dependent women included in the study comprises only a very specific proportion of the population of alcohol dependent women in the community. As such, the findings of this study cannot be interpreted as being indicative of alcohol dependent women in general.

Secondly, the sample of women drawn from the general population was matched on the basis of age and suburb or area of residence to the sample of alcohol dependent women. Therefore, although the general population women represent adequate controls for the alcohol dependent women, they cannot be interpreted as being entirely representative of the non-alcohol-dependent female population.

Finally, the study has relied entirely on the cooperation of the subjects to give honest responses throughout the interview and in the questionnaires. Obviously, the ability of the interviewers to establish rapport and encourage honest participation plays a significant role in eliciting reliable information from the subjects in the study. Given that several interviewers were involved in the study, the possibility arises that interviewers differed in this regard. On the other hand, however, the involvement of more than one interviewer allows for an interpretation of the findings which is not dependent upon the ability, talents or bias of any particular interviewer. In other words, the internal validity of the findings is increased (Cook & Campbell, 1979).

9.2 DEMOGRAPHIC CHARACTERISTICS

9.2.1 Age

As reported in Section 2.1.2, most studies found that the mean age of the alcohol dependent women at the time of investigation was between 40 and 46 years; the five principal Australian studies reported mean ages ranging from 43.7 to 46.9 years. The alcohol dependent women in this study had a mean age of 39.8 years, which lies at the lower end of the age spectrum in previous studies. This finding may reflect an increasing tendency of alcohol dependent women to seek treatment earlier, or alternatively, the lower mean

age may indicate an earlier onset of dependence. Unfortunately, there is insufficient evidence to choose between these alternative interpretations.

9.2.2 Religion

Approximately one third of the alcohol dependent women in the current study professed to be of the Roman Catholic faith; just under one half, Protestant; and one fifth, atheist or agnostic. The religious affiliations of the women drawn from the general population did not differ significantly from those of the alcohol dependent women. This finding of no significant difference concurs with the results of overseas studies, although as previously mentioned, the specific religious adherence showed considerable variation between studies. On the other hand, the career women in the current study presented a markedly different religious structure to that of the alcohol dependent women, with significantly more being atheist or agnostic, and significantly fewer being Roman Catholic.

9.2.3 Marital Status

The findings of this study with respect to marital status reflect those of the majority of overseas and Australian studies: a disproportionately high percentage of alcohol dependent women were divorced or separated at the time of study. The actual percentage of divorced or separated alcohol dependent women in this study (35.8%) fell within the range most commonly found in the other studies.

Comparisons between alcohol dependent women and women from the general population indicated that in both this and almost all other studies, the former were significantly less likely to be married and conversely, significantly more likely to be divorced or separated than the latter. Furthermore, compared with the general population controls, the alcohol dependent women in this study

were significantly more likely to have never married and almost twice as likely to be widowed, although the latter difference was not significant. Previous studies similarly reported a tendency towards an increased likelihood of either widowhood or never having married among alcohol dependent women, compared with women in the general population.

The outcome of comparisons between alcohol dependent and career women paralleled those between alcohol dependent and general population women, with one exception: a similar percentage of both alcohol dependent and career women had never married, and this percentage was significantly higher than among the general population women. Given that all groups were matched with respect to age, it is possible that some career women were delaying marriage until their careers were established more fully, or had goals or personal circumstances that in some way lessened the likelihood of marriage.

9.2.4 Socio-Economic Status

9.2.4.1 Education

The mean number of years of education of the alcohol dependent and general population women investigated in the current study did not differ significantly, supporting the results obtained in previous comparisons. However, only about 8% of this sample of alcohol dependent women had received any tertiary education, compared with approximately 23% of the general population women. Although comparable to that obtained in other Australian studies, this proportion is considerably less than that evident in overseas research, and points to a generally lower level of education among women receiving inpatient treatment for alcohol dependence in Australia, compared with that of alcohol dependent women, from similar treatment facilities, studied overseas.

9.2.4.2 Occupation and Employment

The occupational levels of the alcohol dependent and general population women did not differ significantly. They ranged across the entire spectrum, from factory and domestic to professional, with the mean level of both groups being within the middle categories of occupational strata.

Significantly fewer alcohol dependent than general population women were employed at the time of investigation, although among those who were not working, there was no significant difference between groups in the percentage of women seeking employment.

Housewives comprised 70% and 49% of the alcohol dependent and general population women, respectively. With respect to alcohol dependent women, these results are again more similar to those of other Australian studies than to overseas studies. In addition to showing relatively lower percentages of housewives within their samples, the overseas studies also reflected a tendency towards a lower proportion of housewives among alcohol dependent women, compared with normal women.

The current study additionally investigated several other aspects of employment history that have not been reported previously. In particular, the total number of jobs reported by the three groups of women did not differ significantly, nor did the percentages of women reporting longer periods of active unemployment. Furthermore, the alcohol dependent and general population women did not differ significantly in their total duration of employment.

Several interpretations of these results are possible. On the one hand, they could indicate that the alcohol dependent women's employment histories are in fact not characterized by instability, as is often assumed. Alternatively, they may suggest that these alcohol dependent women have of their own accord recently withdrawn from the workforce, perhaps as a direct result of their

excessive drinking, and before experiencing the "hired and fired" phenomenon typical of job instability. The findings of a relatively large proportion of alcohol dependent women who are neither working nor seeking employment and of the relatively low proportion of married women who, in the normal course of events, are those least likely to be working, lend further support to this latter interpretation. However, more detailed investigations of the employment histories of alcohol dependent women are necessary to elucidate clearly which, if either, of these alternatives is correct.

9.2.4.3 Other Indices of Socio-Economic Status

Other indices of socio-economic status, namely the Index of Social Class of ever-married women and status rating of area of residence, as well as occupational level of parents, and education and occupation of spouses (the results of which were presented in Section 8.2.4) further support the previously discussed occupation- and education-based findings that the alcohol dependent women in this study were predominantly from the middle to lower-middle socio-economic strata. Furthermore, the sample drawn from the general population comprised women of a similar socio-economic make-up, although the career women, by virtue of their selection criteria, represented a considerably higher socio-economic standing.

9.2.5 Country of Birth

Approximately 62% of the alcohol dependent women in the current series were born in Australia and 25% were born in the United Kingdom. Although the three groups of women in this study did not differ significantly with respect to their country of birth, the proportion of alcohol dependent women who were born in Australia is somewhat lower than in previous Australian studies, which reported that between 82% and 88% had been

born in this country. Given that these previous studies were undertaken in other Australian states, these differences may arise from regional variations.

9.3 FAMILY RELATIONSHIPS

9.3.1 Parental Deprivation

The current study is one of very few that have compared the existence of parental absence between alcohol dependent and non-alcohol-dependent women.

The results provide some evidence that parental absence is more common among alcohol dependent women than among their non-alcohol-dependent controls. In this context, absence was defined as the woman's birth being illegitimate, or the loss of either parent through death, divorce, or separation prior to the age of 16. The finding that, compared with general population or career women, alcohol dependent women also experienced a significantly higher number of different living contexts prior to the age at which they lived independently further highlights their less stable home backgrounds.

However, the total proportion of alcohol dependent women reporting childhood or adolescent parental loss is relatively low (i.e. approximately one quarter). Although direct comparisons between this and previous studies are generally not possible due to the lack of definition or its inconsistency (as discussed in Section 2.2.1), the proportion of affected alcohol dependent women in this study appears to be lower than that evident in previous studies.

The results of this study indicated no differences in the employment pattern of the mothers of the three groups of women. Therefore, the alcohol dependent women were not subjected to a greater degree of daily maternal

absence due to working than were either the general population or career women.

9.3.2 Parental Personality

A similar percentage of alcohol dependent women positively evaluated their father's and mother's personality. Furthermore, the percentage of women positively describing their father did not differ significantly between the three groups of women in the current study, but significantly fewer alcohol dependent than general population women described their mother in positive terms. However, perhaps the most important point is that the majority of women in each of the three samples described their parents in positive terms, suggesting that the perception of parental personality as being nonpositive is unlikely to be an important aetiological factor in the development of female alcohol dependence.

Previous studies have not compared alcohol dependent with non-alcohol-dependent women on aspects of parental personality, although several have suggested stronger paternal rather than maternal attachments among the former, in contrast to the indications from the current study.

9.3.3 Siblings

The current study showed that alcohol dependent women and women drawn from the general population were similar with respect to the size and sex composition of their family of origin, although some differences between general population and career women were evident. Furthermore, the three groups of women did not exhibit any significant differences with respect to birth order, supporting the previous outcomes of comparisons between alcohol dependent women and other samples. The percentages of alcohol dependent

women who were first-, middle-, or last-born, or only children, fell within the ranges indicated by previous studies and described in Section 2.2.3.

9.3.4 Marital and De Facto Relationships

Although previous studies have generally reported a higher incidence of multiple marriages among alcohol dependent women than among non-alcohol-dependent women, the results of the current study reflected no significant intergroup differences in the actual number of marriages, irrespective of whether the comparisons included or excluded never-married women.

However, alcohol dependent women who had ever been in a live-in relationship, either marital or de facto, were significantly less likely than either general population or career women still to be in that relationship, and conversely, had experienced significantly more such relationships than had general population women. The age at which they first entered such a relationship was, however, similar to that of the general population women.

These results suggest the need to consider de facto relationships when examining the marital histories of alcohol dependent women. Not only had a sizeable proportion of women in both the alcohol and career samples been in a de facto relationship at some stage, but also significantly more of these women than women drawn from the general population had had such a relationship.

The duration of the first live-in relationship showed no statistically significant differences between groups, although on average it was almost four years shorter among alcohol dependent women than among general population women; this suggests that the onset of relationship breakdowns among alcohol dependent women generally occurred in later years. In fact,

an examination of the mean age at which alcohol dependent women first entered a live-in relationship (20.8 years) and its duration (13.9 years) points to the onset of such breakdowns coinciding approximately with the mean age at the onset of problem drinking (33.8 years). Given that heavy drinking began on average a couple of years earlier, it is plausible that in many instances the breakdown of a relationship resulted at least in part from the woman's increased drinking.

As discussed in Section 2.2.4, even among married alcohol dependent women, marital disharmony is not only common, but in fact evident in the majority of these women. However, the results of the present study indicate that although significantly fewer alcohol dependent women than either general population or career women report being satisfied with their current live-in relationship, three quarters are nevertheless satisfied with that relationship.

9.4 FAMILIAL ALCOHOL DEPENDENCE AND PSYCHIATRIC ILLNESS

9.4.1 Alcohol Dependence

The results of the current study showed that approximately 27% and 6% of, respectively, the fathers and mothers of alcohol dependent women were reported to have a history of drinking problems or treatment related to alcohol abuse. The corresponding figures for women drawn from the general population were approximately 21% and 4%, and for career women, 8% and 0%. Therefore, and in accordance with previous studies, prevalence of alcohol-related problems was higher among fathers than among mothers, irrespective of the nature of the sample. Furthermore, the percentages of alcohol dependent women reporting fathers or mothers with problems fell within the ranges indicated by these earlier studies.

However, in contrast to the frequently published assertions that alcohol dependent women are much more likely than non-alcohol-dependent women to have parents, and in particular fathers, who were alcoholic, in the current study the alcohol dependent women and women drawn from the general population did not differ significantly with respect to reporting paternal, maternal, or parental drinking problems. However, significantly fewer career women than alcohol dependent women reported such problems in fathers or in a parent of either sex; career women were also significantly less likely to report a parent with drinking problems than were general population women.

These findings highlight the need for extreme caution in perpetuating commonly held beliefs that are in fact substantiated by only a relatively few studies. The findings also stress the urgent need for further studies which compare the prevalence of familial alcohol dependence between alcohol dependent women and varied samples of non-alcohol-dependent women, to clarify the relative influence of familial alcohol abuse on the development of alcohol dependence. Furthermore, these results accentuate the realization that the characteristics of the sample of non-alcohol-dependent women used in any comparison may markedly influence the nature of the results and therefore any inferences that may be drawn from them.

The current study also investigated the percentages of women having brothers, sisters, or siblings (of either sex) with alcohol-related problems, among those women having that particular type of relative. Differences between the alcohol dependent and non-alcohol-dependent women in this regard were more marked than had been apparent when parents were the subject of investigation. Alcohol dependent women were significantly more likely to have a sibling with such problems than were either general population

or career women. Although only alcohol dependent and career women showed statistically significant differences between the percentages having affected brothers and sisters, the differences between the former and general population women were nevertheless also substantive. Furthermore, the general population women were substantively, although not statistically significantly, more likely to have a sibling with alcohol-related problems than were the career women. However, a comparison between these and earlier results is not possible, as a review of the literature revealed no previous studies which had compared the prevalence of sibling alcohol dependence between alcohol dependent women and non-alcohol-dependent women who were not in psychiatric treatment.

As previously discussed in Section 2.3.2, sibling alcohol dependence has been defined either as the percentage of subjects with affected siblings or as the percentage of affected siblings among all siblings. The present study used a further refinement of the former definition: the percentage of subjects with affected siblings among only those subjects who actually had such a relative. Of previous studies of alcohol dependent women, those using the former definition were generally more likely than those using the latter to report relatively small differences between affected brothers and sisters. In accordance with this, the current study did not reflect large variations in any of the three samples between the percentages of women with either affected brothers or sisters.

In this study, one in five alcohol dependent women currently living with a partner reported that he had alcohol-related problems, whereas non-alcohol-dependent women, irrespective of type, were significantly less likely to do so. When the analyses focussed on women who had had partners with whom they were no longer living, more than one third of these alcohol

dependent women were found to have at least one affected previous partner; however, the differences between groups were not significant. These results suggest that non-alcohol-dependent women are less likely than alcohol dependent women to enter into another relationship with a partner who already had or subsequently develops alcohol-related problems.

As was the case with siblings, previous comparisons between alcohol dependent and non-alcohol-dependent normal women have not examined the prevalence of alcohol-related problems among partners, suggesting once again the need for more studies which compare these groups of women with respect to the prevalence of alcohol dependence among specific types of family members.

9.4.2 Psychiatric Treatment

The sample sizes within the current study were considered to be too small to enable intergroup comparisons of the prevalence of specific types of psychiatric illnesses within particular relatives. Instead, the prevalence of psychiatric treatment, defined as a history of nervous breakdown, or outpatient or inpatient psychiatric treatment unrelated to substance abuse, was examined.

Although statistical tests were not undertaken, a comparison of the results pertaining to alcohol-related problems and to psychiatric treatment among relatives points to a greater likelihood of male relatives of alcohol dependent women to have experienced the former rather than the latter. Furthermore, alcohol dependent women were more likely to report mothers or sisters rather than fathers or brothers as having had psychiatric treatment.

Irrespective of the type of relative under consideration, the three groups of women did not differ significantly with respect to the proportions

reporting a history of psychiatric treatment among relatives. The current study appears to be the first to compare the prevalence of psychiatric treatment among relatives of alcohol dependent and non-alcohol-dependent normal women, once again accentuating the need for further studies in this area.

9.4.3 Methodological Considerations

All of the findings reported in this section were derived from data based on the subjects' perceptions of alcohol-related problems or nervous breakdown among relatives, and their recall of relatives undergoing treatment. Consequently, the writer concedes that the data are subjective in nature and therefore open to distortion, and as such, of poorer quality than data obtained through more direct means, such as interviewing the relatives.

Furthermore, the possibility arises that the three samples of women may have differed in the accuracy with which they reported familial illness, for example due to deficiency of memory among alcohol dependent women or to increased denial among the non-alcohol-dependent women because of the perceived stigma of having affected relatives. However, given the paucity of previous comparisons between alcohol dependent women and women drawn from the general population with respect to the prevalence of familial illness, it was felt that the inclusion of these aspects into the current study was nevertheless worthwhile, as an incentive for the conduct of further, methodologically more objective studies.

9.5 MENTAL HEALTH

9.5.1 Depression

Most of the studies that have investigated the degree of depression among alcohol dependent women, as measured by depression scales, have done so only at the time of treatment, and therefore do not provide any indications of the chronological sequence between depression and alcohol dependence. Nevertheless, this information is potentially valuable in identifying whether depression is an area that needs to be addressed in the treatment regime.

The few previous comparisons between alcohol dependent and non-alcohol-dependent normal women have provided equivocal results. However, the results of the present study support the notion that at the time of treatment, alcohol dependent women are more depressed than are normal women, in terms of both the degree of depression, as measured by the Self-Rating Depression Scale (SDS; Zung, 1965), and the self-reported frequency of feeling down or depressed. The mean SDS score of the alcohol dependent women in this study was comparable to that of Winefield's (1979b) sample of depressed female patients, whereas the scores of both samples of non-alcohol-dependent women were similar to scores obtained by mature-age female university students (Winefield, 1979b) and female employees (Zung, 1971).

Although several previous studies have found that the majority of alcohol dependent women reported drinking to relieve depression, this issue was not addressed specifically in the current study. Nevertheless, the vast majority of the current sample of alcohol dependent women did report that they drank when feeling depressed. Furthermore, the ranking by magnitude of indices which incorporated the proportion of alcohol dependent women who

drank in association with each of 18 specific emotions, and either the frequency of drinking in relation to the experience of that emotion, or the frequency of excessive drinking in relation to the drinking occasions associated with that emotion, indicated that of the 18 emotions, depression was the one with which drinking was most strongly associated.

Family or relationship problems were the most commonly cited precipitants of depression among both alcohol dependent women and women drawn from the general population, which, with respect to alcohol dependent women, was in accordance with the results of the one previous study which also addressed this aspect. Career women, however, most frequently cited work as the reason for their feelings of depression.

9.5.2 Psychiatric Illness

As in several previous studies, women with psychiatric problems were excluded from the samples of non-alcohol-dependent women used as control groups in the current study. However, the current psychiatric diagnoses of the alcohol dependent women were obtained. These diagnoses reflect the opinions of the attending psychiatrists or medical officers and were not derived from detailed systematic interviews by the writer, nor do they necessarily represent primary or secondary diagnoses.

Approximately 70% of these women were not given any additional diagnoses, and as such, can be interpreted as having primary alcohol dependence. Furthermore, it is likely that at least some of the women given an additional diagnosis were nevertheless primarily alcohol dependent. Therefore, the present sample includes a higher proportion of women with primary alcohol dependence than was evident in those previous studies that recorded the existence of other psychiatric diagnoses. However, given that the data

pertaining to psychiatric diagnosis are certainly not as reliable as in some of the previous studies, this finding is, at best, only very tentative.

Within the current study, neurosis was the most common additional psychiatric diagnosis, followed closely by personality disorder. This finding is in general accordance with previous studies reporting secondary psychiatric diagnoses, although the actual proportion of women with these diagnoses is considerably lower in this study.

Finally, the proportion of alcohol dependent women within the current study who, at some earlier stage, had received psychiatric treatment for illnesses other than alcohol dependence was within the albeit wide range reported by other overseas studies. However, this proportion was more than double that found in the only other Australian study reporting such data.

9.5.3 Suicide

Alcohol dependent women within the current study were similar to previously studied samples of alcohol dependent women, with respect to both the proportion who had attempted suicide, and the proportion who had considered doing so.

Although the results of this study showed no relationship between current or prior psychiatric problems and suicidal ideation or attempts, they are not directly comparable to those of previous studies which in fact have indicated an association between prior suicidal behaviour and the nature of the primary psychiatric diagnoses of the alcohol dependent women: in this study, data pertaining to psychiatric problems were not broken down into specific types of disorders because of the relatively small sample size, and therefore any relationship between psychiatric problems and suicidal behaviour among these women may have been attenuated.

Previous studies of alcohol dependent women have not compared alcohol dependent and non-alcohol-dependent women with respect to suicidal thoughts and attempts. However, the results of the current study strongly indicate that both these aspects are much more common among the former than among either of the two non-alcohol-dependent groups. Furthermore, it is interesting to note that more than twice as many career women than women selected from the general population reported having considered suicide. A plausible explanation for this finding rests with the possibility that career women to a large extent have contemplated suicide from an hypothetical and intellectually-based rather than reality-based perspective, and that consequently these results in fact may not accurately reflect the proportion that have seriously considered actually ending their own lives. The findings of several previous studies support the results pertaining to suicidal behaviour obtained from the general population women. In particular, Schwab, Warheit and Holzer (1972) found that 15.9% of a probability sample of 1645 individuals had contemplated suicide seriously at some time in their lives, and Bell, Lin, Ice and Bell (1978) reported that 3.5% of 1010 white females obtained from a household probability sample had attempted suicide.

9.5.4 Drug Use

Lack of uniformity between studies with respect to the definition of drug use and abuse prevents the comparison of the results of this study with those of previous studies.

However, given the almost complete lack of previous data derived from comparisons between alcohol dependent and non-alcohol-dependent women, the findings of the current study are illuminating. Alcohol dependent women were not found to differ significantly from either general population

or career women with respect to either the proportion regularly using drugs (as defined in Section 8.5.4), or among regular users, the proportion of polydrug users. However, the women drawn from the general population were significantly more likely to be regular users of drugs than were career women.

Nevertheless, the nature of drugs used did vary between groups. Almost two thirds of the regular users among the alcohol dependent women took sedatives, hypnotics, or anxiolytics, whereas over one third used anti-depressants, which in each case was a significantly higher proportion than among either of the non-alcohol-dependent samples. On the other hand, significantly fewer regular drug users among the alcohol dependent sample used analgesics than did their general population counterparts, and a similar trend, although not statistically significant, was apparent with respect to antihypertensive drugs.

Although no statistically significant differences were evident between the three groups of drug-using women with respect to the regular use of cannabis or other illicit drugs, there was, nevertheless, a tendency towards greater use of cannabis among alcohol dependent women. However, fewer than one in five of the drug-using alcohol dependent women reported cannabis use, which was well below the proportion of marijuana users within Schuckit and Morrissey's (1979a) sample, who were of a similar age to the women in the current study.

With the exception of the study by Jones-Saumty et al. (1981), which found that more than twice as many alcohol dependent women than normal control women were smokers, other studies have ignored this aspect of the alcohol dependent women's drug-using behaviours. The current study supported

the above finding, as well as additionally noting that even among smokers, alcohol dependent women were significantly heavier smokers than either of the two control groups of women. Moreover, approximately four out of every five smokers within each of the groups reported increased smoking in conjunction with alcohol use.

In summary, the major finding of this study was that although alcohol dependent women were similar to both general population and career women with respect to the proportion of regular drug users, they were much more likely than the non-alcohol-dependent women to use drugs within the sedative and antidepressant categories. Given that previous studies have indicated that such drugs are most often obtained by prescription, this finding has obvious implications for the long-term efficacy of prescribing these drugs to women already seriously affected by the actions of another drug, namely alcohol.

However, reports of regular usage of illicit drugs, and in particular, those other than cannabis, were almost nonexistent. In combination, these findings may reflect cohort differences in the choice of drugs, and as such, some future research should be directed at comparing the type of polydrug use between older and younger samples of alcohol dependent women. Furthermore, comparisons between solely drug-abusing and non-drug-abusing but alcohol dependent women drawn from the same cohort may provide more information regarding the aetiology of drug dependence, both to licit and illicit drugs, as opposed to alcohol dependence.

9.6 OBSTETRIC AND GYNAECOLOGICAL HISTORIES

9.6.1 Children

Approximately 70% of the alcohol dependent women in this study had borne children, which is a similar proportion to that reported in studies published in the previous decade. However, although other studies have reported no significant differences between the percentages of alcohol dependent and non-alcohol-dependent women with children, this study found that significantly fewer alcohol dependent than general population women had children.

Both this and other studies have reported that alcohol dependent women are less likely than normal control women to have ever married. Therefore, it is possible that they are also less frequently exposed to conditions favouring not only conception but also the rearing of children. Consequently, the percentages of women having children were recalculated, taking into consideration only those women who had ever married or borne children when single. These results, namely that the percentage of mothers among this latter group of alcohol dependent women did not differ significantly from that among the corresponding groups of either general population or career women, points to the likelihood that the earlier finding, arising from a comparison between the entire groups of women, was an artefact of the differential proportions of ever-married women within the three groups.

Comparisons between alcohol dependent and general population women who had borne children indicated that the mean number of children not living with their mothers was higher among the alcohol dependent women. This finding needs further verification, and if supported, raises the question of why this is the case, with its implications for the effect on children of maternal alcohol dependence.

The definition of the sample used to calculate the mean number of children has varied between studies, but nevertheless previous studies recorded either no differences between alcohol dependent and normal women, or a tendency towards fewer children among the former. In contrast, this study reflects a tendency, albeit not a statistically significant one, for mothers who are currently alcohol dependent to have borne more children than non-alcohol-dependent mothers.

9.6.2 Obstetric Problems

The reported incidence of stillbirth and abortion among the alcohol dependent women in the current study is comparable to that found in the majority of previous studies. Furthermore, both this and previous studies have found no significant differences between alcohol dependent and non-alcohol-dependent women with respect to the prior experience of stillbirths. Previous findings regarding intergroup differences with respect to abortions have been equivocal, although this study found that more than three times as many alcohol dependent than general population women reported having had at least one abortion.

Previous reports of miscarriage among alcohol dependent women have ranged from 4% to 48%, and in this study, was 19%. However, in contrast to the results of previous studies, which found no significant differences between their alcohol dependent and non-alcohol-dependent samples, the current research has shown that women drawn from the general population were approximately twice as likely than alcohol dependent women to report having miscarried. The latter group, however, did not differ significantly from the career group.

Finally, the overall experience of other obstetric/gynaecological problems was relatively low in all three groups, and although no statistically significant differences were evident, women drawn from the general population were again more than twice as likely to report such problems than were either the alcohol dependent or career women.

9.6.3 Menstruation

Although more than one half of the women in each of the current study's three groups reported experiencing problems related to menstruation, the percentages of such women did not differ significantly between groups. This finding contrasts with those of earlier studies, which generally found that alcohol dependent women were more likely than non-alcohol-dependent women to report menstrual problems. The mean age at the onset of menstruation was similar within each of the groups in this study.

In accordance with previous studies, an association between drinking and the menstrual cycle was evident among the alcohol dependent women, but not among the control samples; one third of the alcohol dependent women reported such an association and most of these noted that drinking increased premenstrually, supporting the results of other studies.

9.6.4 Hysterectomy and Menopause

In the current study, the percentage of alcohol dependent women who had reached menopause was within the range observed in other studies. However, the proportion of alcohol dependent women who reported having had a hysterectomy was markedly lower than each of the previously reported proportions. Furthermore, it is interesting to note that although the mean age of the normal women in this and the two previous comparative studies did

not differ by more than three years, the current study reflected a relatively lower incidence of hysterectomy but a higher incidence of menopause within the general population women, compared with the normal women in the other studies. Although the relatively lower rates of hysterectomy among alcohol dependent and normal women, relative to their overseas counterparts, may be attributable to differential criteria for surgical intervention in the different countries, the reasons for the differences between the normal samples with respect to menopause cannot be readily identified.

The two previous studies that have compared alcohol dependent and non-alcohol-dependent women regarding their experience of menopause and hysterectomy both noted that more of the former than of the latter women had reached menopause, whereas the reverse was true with respect to hysterectomy. Only one of the two studies, however, found the differences to be statistically significant. A similar trend was evident in this study, although statistically significant differences were observed only between the alcohol dependent and general population women with respect to hysterectomy, and between the alcohol dependent and career women with respect to menopause.

The age at onset of menopause did not differ significantly between the three groups of women. However, more than one half of the menopausal women from the general population sample reported problems associated with menopause, but only approximately one fifth of the menopausal alcohol dependent women did so. Furthermore, more than one quarter of the menopausal alcohol dependent women but none of the menopausal non-alcohol-dependent women reported changes in their drinking habits with the onset of menopause. These differences, however, did not reach statistical significance because of the relatively small number of menopausal women within each of the samples. Nevertheless, the proportion of alcohol dependent women reporting the

phenomenon of increased drinking at reaching menopause is similar to that found in several earlier studies.

9.6.5 Summary

The results of this study provide no evidence that alcohol dependent women have experienced more obstetric/gynaecological problems than age-matched control women, with the exception of the percentage reporting deliberate abortions. However, the decision to undergo an abortion is one of choice, and as such differs markedly from the experience of, for example, miscarriage or stillbirth.

9.6.6 Methodological Considerations

Several methodological shortcomings can be identified within both this and other studies. In particular, the temporal sequence of individual events was not addressed, preventing the determination of whether they preceded or followed the onset of alcohol dependence. However, the results presented in Table 80, which were obtained from an analysis of the experience of stressful life events throughout various periods of the lives of the three groups of women used in the current study provide some indications of the temporal sequence between obstetric/gynaecological events and drinking. Specifically, one of the methods of coding the nature of events (which was discussed in more detail in Section 6.4.3.8) focussed upon the experience of stressful life events which may be interpreted as constituting a threat to feelings of female biological adequacy. Events such as miscarriage, stillbirth, hysterectomy, and menopause were included within this category. The results show that the number of such events experienced by alcohol dependent and general population women did not differ significantly during any of the

specific time periods examined. In fact, the only significant difference between any of the three groups was that career women experienced significantly fewer such events throughout their entire lives than did either alcohol dependent or general population women.

Although this method of analysis is not sufficient to reflect any inter-group differences with respect to the temporal sequence of specific types of obstetric/gynaecological events, the results suggest that the experience of obstetric/gynaecological events in general does not differ between alcohol dependent women and women drawn from the general population, irrespective of the specific stage of the alcohol dependent women's drinking career under investigation. Again, however, it should be stressed that these analyses examined only those types of obstetric/gynaecological events that were considered as potentially posing a threat to a woman's sense of biological adequacy.

This method of analysis highlights another problem encountered within this area of research, namely the interdependency between certain obstetric events. Thus the experience of miscarriage or stillbirth is obviously possible only if conception has occurred previously. Given the possibility that, for whatever reasons, alcohol dependent and non-alcohol-dependent women may differ in both the proportion of such women actually conceiving, and the frequency of conceptions, the most valid manner of examining differences between these women with respect to the experience of certain obstetric events would allow for factors influencing the potential experience of such events. However, given that the issue is not only whether alcohol dependent and non-alcohol-dependent women differ in the frequency with which they experience certain obstetric/gynaecological events, but also, and more importantly, at what stage these events occur in the life histories of the

alcohol dependent women, the ideal research methodology increases in its complexity. The use of a design which follows a cohort of adolescents and documents the experience of obstetric/gynaecological events, including attempts at conception and subsequent problems in the pregnancy, as well as the development of alcohol-related problems, is necessary to assess precisely the interrelationships between drinking and obstetric/gynaecological problems. Furthermore, allowance should also be made for factors such as nutrition or smoking which may independently influence the occurrence of problems. The methodological inadequacies inherent in the research done to date prevent an accurate understanding of these interrelationships, although there are no overwhelming indications resulting from both this and previous studies that alcohol dependent women are much more likely to experience obstetric/gynaecological problems than are other women.

9.7 DRINKING PRACTICES

9.7.1 Drinking Patterns

The results of the current study indicate that just over one half of the alcohol dependent women report drinking at least 150 g of ethanol per average drinking occasion, and about 72% drink excessively at least weekly. Approximately 47% report daily alcohol consumption. Of the 58% who also partake in binge drinking, almost one half state that binge drinking occurs at least twice a month. More than four fifths of the women predominantly drink alone, and a similar proportion report drinking predominantly at home. The proportion of women mainly drinking wine, namely 32%, is the same as that predominantly consuming spirits; over one quarter stated that they were mainly beer drinkers.

In general, the drinking practices of the alcohol dependent women in this study are similar to those of the women who have been studied previously, with the exception of fewer women in the current study reporting daily drinking. However, a direct comparison of the quantity of consumption is not possible, because most previous studies reported mean daily intake of alcohol, as opposed to the conceptually different measure of intake per drinking occasion used in this study. Nevertheless, given that almost two thirds of the women in this study reported drinking on at least four days per week, it would appear that the average daily consumption would fall within the range reported in other studies. However, the one previous study utilizing the same definition reported a much higher consumption than is evident in this study, and given that the majority of their sample were daily drinkers, the levels of consumption appear excessive, even in comparison with the other studies.

Although some previous studies noted that older alcohol dependent women were more likely to drink alone but less likely to drink in bars than their younger counterparts, the results of the current study did not support these findings. In fact, the only age-based difference in this study was with respect to binge drinking, with significantly fewer alcohol dependent women in their fifties or sixties reporting occasions of binge drinking than women in either their twenties, thirties, or forties.

Comparisons between alcohol dependent and non-alcohol-dependent women have been ignored previously, except that several studies have noted that the latter were less likely to drink on a daily basis. The results of this study reflected significant differences between alcohol dependent women and women drawn from the general population on every aspect of their drinking patterns. Although the proportion of alcohol dependent and career women

reporting daily drinking showed no statistically significant differences, all other aspects of drinking varied between these two samples.

The comparisons between the alcohol dependent and non-alcohol-dependent women revealed that, as would be expected, the non-alcohol-dependent women consumed a substantively lower quantity of alcohol per average drinking occasion, with the majority reporting an intake not in excess of 20 g of ethanol. Daily drinking was less frequent among the non-alcohol-dependent women, although, as mentioned above, only the general population women differed significantly from the alcohol dependent women in this regard. Moreover, the career women reported a significantly higher frequency of drinking than did the general population women. As expected, excessive drinking was also less frequent among the non-alcohol-dependent women, with the vast majority reporting that they drank excessively no more than a few times per year, if at all. However, career women were significantly less likely than general population women to report never drinking to excess. The non-alcohol-dependent women were most unlikely to drink predominantly alone, in contrast to the alcohol dependent women. Although the majority of women in each of the three groups reported drinking predominantly at home, the non-alcohol-dependent women were nevertheless significantly less likely to do so than were the alcohol dependent women. However, the proportion of each group who reported drinking in hotels did not differ significantly. In contrast to the alcohol dependent women who as a group showed no marked preference for any particular type of alcohol, at least two thirds of the non-alcohol-dependent women reported that they predominantly drank wine. Significantly fewer non-alcohol-dependent than alcohol dependent women stated that beer was their predominant drink, although no intergroup differences were evident with respect to spirits or fortified wines.

Data from the National Heart Foundation of Australia or NHF (1980, 1983) and Australian Bureau of Statistics or ABS (1984) surveys of the drinking habits of the general population of women resident in, respectively, either the capital cities of Australian states or throughout South Australia were presented in Section 2.7. Given not only the vast difference in size between the current sample of general population women and the samples accessed by the surveys mentioned above, but also the variations in the definition of drinking women, in the categorization of responses, and in the age range of the samples, detailed comparisons between the results of the studies are not warranted.

However, a substantively smaller proportion of general population women in the current study than in the NHF studies reported that they did not drink alcohol. Nonetheless, the majority of drinkers among the women in all four general population samples report an average consumption not exceeding 20 g of alcohol. This was evident irrespective of whether consumption was calculated as the average per drinking occasion, as in the current and NHF studies, or as the average daily consumption, as in the ABS survey. Furthermore, comparable proportions of women defined as drinkers within the context of the respective studies reported daily drinking, although the majority claimed that they drank no more than twice a week. Finally, the type of beverage consumed by the women in both the current and ABS studies followed the same order of predominance, namely wine, spirits, beer, and fortified wines.

These crude comparisons between the samples of general population women, namely from the current study and from the NHF and ABS surveys, nevertheless serve to indicate that the differences evident in this study between the alcohol dependent women and the drinking women drawn from the general population are borne out even when much larger and more representative samples of general population women are used as the basis for comparison.

9.7.2 Drinking History

9.7.2.1 Stages in the Drinking History

Earlier comparisons between alcohol dependent and non-alcohol-dependent women have not investigated the ages at which women began drinking, or first experienced some indicator of excessive drinking, such as hangover.

Within this study, the comparative data on the early stages of drinking history indicated that alcohol dependent women were older than either general population or career women at the reported mean ages at which they began either to drink socially or first experienced a hangover; however, a statistically significant difference between the alcohol dependent and general population women was attained only with respect to social drinking. It is also interesting to note that the mean duration of time between onset of social drinking and first hangover was twice as long among both alcohol dependent and career women than among the women drawn from the general population.

Given the retrospective nature of this information, it is possible that differential recall may account for some of the difference between alcohol dependent and non-alcohol-dependent women. On the other hand, the alcohol dependent women may consciously have reported a later age at onset of social drinking and hangover in an effort to diminish the perceived duration of their drinking careers. These findings therefore need to be substantiated by other studies before any importance is ascribed to the apparent differences between the alcohol dependent and non-alcohol-dependent women's early drinking histories.

The ages at which the alcohol dependent women within the current study report the onset of later stages of their drinking careers are within

the ranges reported by previous studies. However, as discussed in Section 2.9.6, the wide range of definitions of these stages prohibits any precise comparisons between studies. Nevertheless, the data obtained in this study support the notion of a relatively short duration of time between the onset of heavy drinking, problems, and the seeking of treatment.

9.7.2.2 Initial Alcohol-Related Problems

Few, if any, previous studies have investigated the specific types of alcohol-related problems first perceived by alcohol dependent women. However, an awareness of the nature of such problems by workers in, for example, the medical, paramedical, and employment fields can lead to the earlier recognition of alcohol-related problems in clients, thus facilitating earlier intervention.

The results of this study indicated that approximately one in every three initial signs of problem drinking nominated by the alcohol dependent women related to social problems, and in particular to the effects of drinking on relationships, personal functioning, and work. A similar proportion of symptoms related to the awareness of a change in drinking habits, such as increased consumption. Physical problems and mood-related problems constituted a smaller, although nevertheless significant, proportion of the initial symptoms of alcohol-related problems.

These results therefore suggest that although an awareness of changing drinking patterns and physical consequences of drinking, namely effects directly linked to drinking behaviours, were common cues to the existence of a drinking problem, less direct effects, such as the influence of drinking on either interpersonal or intrapersonal functioning, served as the initial indicators of problem drinking for a substantial proportion of the alcohol dependent women.

Changes in an individual's mode of functioning are probably less easy to conceal and, therefore, more easily recognized by others than are the direct effects of alcohol. Consequently, the former cues are potentially of greater value in the early detection of alcohol-related problems, provided that professionals with whom the women may come into contact are able to recognize and act upon them.

9.7.2.3 Initial Treatment Source

The nature of services which constituted the alcohol dependent women's initial treatment contact provides valuable information regarding the categories of professionals who need to be especially aware of alcohol-related problems. The results of the current study show that approximately 40% of the women did in fact approach a specialist alcoholism treatment agency. However, 60% of the women did not, and in essence, relied upon an appropriate referral, and perhaps even recognition of the existence of a problem. A general medical service, namely either a general practitioner or a public hospital, was approached by one half of the women whose initial contact was not an alcoholism treatment agency. This highlights the particular need for general medical personnel to be aware of the possible existence of alcohol-related problems and the means of early diagnosis. It is interesting to note that until 1986, the major public hospital in Adelaide did not even have an Alcohol Unit, with trained personnel available on a full-time basis for assessment of patients. Approximately 15% of the women initially contacted nonmedical professionals, indicating that the education of professionals with respect to early detection and intervention needs to extend beyond the medical services.

Finally, it should be noted that these data do not identify the number of women in the current study who, at an earlier stage, may have unsuccessfully approached various services. Given the common inhibition of individuals

with alcohol-related problems to make known the existence of such problems explicitly, their early recognition is therefore often dependent upon the skills of the caregiver.

9.7.3 Severity of Drinking

9.7.3.1 Physiological Consequences

In accordance with previous studies relating to the physiological consequences of drinking among alcohol dependent women, the current study found that blackouts were the most commonly reported consequence; the proportion of women reporting blackouts was within the range evident in earlier studies. Tremors were experienced by over 60% of the women, a proportion similar to that found by several previous studies. However, more women in the current study reported hallucinations or withdrawal seizures than was evident in the majority of previous studies, whereas the proportion reporting delirium tremens or complications such as liver damage fell within the upper ranges derived from previous studies.

In general, the results suggest that the alcohol dependent women sampled in the context of the current study are certainly no less likely, and perhaps even more likely, than earlier samples of alcohol dependent women to have suffered physiological consequences of drinking. If, as suggested earlier, these consequences can be interpreted as indicators of the severity of dependence, the current sample includes an alarmingly high proportion of women whose drinking has resulted in marked physiological side-effects, indicative of a well-established pattern of dependence.

9.7.3.2 Psychosocial Consequences

Similar proportions of alcohol dependent women in both the current and earlier studies experienced the psychosocial consequences under investigation.

However, the definition of familial disruption in the current study was more extensive than that in previous studies, allowing for conflicts within the family as well as separation or divorce. This accounted, at least in part, for the observed higher proportion, namely almost 70% of the women, reporting this consequence.

In general, the results suggest that the alcohol dependent women's drinking has, in many instances, incurred external sanctions. The experience of these psychosocial consequences thus reflects a pattern of drinking that has influenced the women's functioning in several spheres of their lives, including those of the family, their contact with the law, and employment. These results support those pertaining to the physiological consequences: a significant proportion of the alcohol dependent women included in this study exhibit an advanced pattern of dependence.

9.7.3.3 Alcoholism Screening Inventories

The present sample of alcohol dependent women obtained mean total and scale scores on the Alcadd Test (Manson, 1949) which lay between those obtained by Manson's (1949) and Fowler and Bernard's (1965) female samples. This observation is in accordance with expectation, given the composition of the respective samples. Specifically, Manson's sample comprised approximately one third inpatients and two thirds AA members, whereas Fowler and Bernard's sample was entirely outpatient. Members of AA have been noted to score higher than active alcoholics, possibly accounting for the higher score obtained by Manson's sample.

As in earlier studies, the non-alcohol-dependent women's scores were significantly lower than those of the alcohol dependent women. Although the mean scores of the career women were generally higher than those of

the general population controls, these differences were not statistically significant.

The results of the current study are unique with respect to alcohol dependent women's responses to the revised MAST (Selzer et al., 1975), given the almost complete lack of previous relevant studies. All of the alcohol dependent women scored in excess of 10, compared with 93% in the one earlier study. Paralleling the results obtained with the Alcadd Test, the mean MAST scores of the alcohol dependent women were significantly higher than those of the general population and career women, who in turn did not differ significantly from each other.

The results obtained from these two screening inventories support those arising from an examination of the consequences of drinking, in confirming the advanced nature of alcohol dependence evident within the current sample of alcohol dependent women.

9.8 SEX ROLE IDENTITY

9.8.1 Introduction

The current study has compared the nature of sex role identity on the conscious, stylistic, and unconscious levels between three samples of women. Furthermore, several aspects of conflict, both within and between levels of identification, have been investigated.

A sample of career women was included in the study because it was felt that these women were more likely to adopt a masculine style of functioning than were women drawn from the general population. It is apparent from Sections 3.6.2 and 3.6.3 that previous studies have provided contradictory results with respect to the nature of both conscious and

unconscious sex role identity among alcohol dependent women. As such, the results of comparisons between alcohol dependent and career women could potentially clarify the significance of the direction of sex role identification.

9.8.2 Conscious Role Identification

Sex role identity at the highest level of consciousness was assessed by the perceived degree of satisfaction with, and importance of, various roles, namely those of homemaker, mother, partner, and worker (in paid employment). In general, the results indicate that the alcohol dependent women showed more similarity to the career women than to the general population women, with respect to the perceived degree of satisfaction with, and importance of, the four roles under investigation. However, it should also be stressed that although some intergroup differences were evident with respect to the actual degree of satisfaction and importance, the mean ratings indicated that the most "feminine" roles, namely those of partner and mother, were nevertheless perceived as being both satisfying and important by the women in each of the three groups. Moreover, when asked to specify their ideal major role, 72%, 83%, and 74% of, respectively, the alcohol dependent, general population, and career women specifically included either partner or mother as a component of that role.

Within each group it is also interesting to note the relative satisfaction and importance of the roles. In this regard, the alcohol dependent and general population groups were in fact quite similar to each other, with the role of partner achieving the highest or equally highest satisfaction and importance rating. In contrast, the career women's ratings indicated that the role of a working person was perceived to be not only the most satisfying but also the most important. However, it must be noted that these trends were derived

from the original ratings of satisfaction and importance, and not from the women's specific rating of the roles vis a vis each other.

9.8.3 Sex Role Style

9.8.3.1 Introduction

In this study, a modification of the Bem Sex-Role Inventory or BSRI (Bem, 1974) was used as a measure of several aspects of sex role style, including both the perceived and ideal degree of masculine and feminine identification. These results are discussed in the following subsection.

In addition, the women were categorized as either masculine, feminine, androgynous, or undifferentiated on the basis of their BSRI responses, both for their perceived and ideal selves. A discussion of the sex role type of the women is presented in Section 9.8.3.3.

9.8.3.2 Degree of Masculine and Feminine Identification on the Basis of the BSRI

The alcohol dependent women were found to be significantly less masculine than both samples of control women in terms of their perceived selves, although the degree of their ideal masculinity differed only from that of the career women. The degree of femininity showed a tendency to be higher among the general population women than among the alcohol dependent women, although once again ideal identification was similar. On the other hand, the scores of the career women indicated a significantly greater degree of both perceived and ideal masculinity than evident in the other two groups. Conversely, the career women showed a significantly lower level of both perceived and ideal feminine identification than did the women drawn from the general population, although the responses of the former group were similar to those of the alcohol dependent women.

The results of the present study appear to differ from those of Kroft and Leichner (1987) who, in a comparison between groups of women who were alcohol dependent, remitted alcoholics, social drinkers, and abstainers, found no significant intergroup differences in either actual or ideal masculinity or femininity. However, the women's mean BSRI scores on these measures were not published, thus preventing a more detailed comparison of the scores obtained in the two studies. Moreover, the analyses of Kroft and Leichner, unlike those of the present study, involved the statistical removal of the effects of demographic characteristics and depression on the dependent measures.

Sections 7.7.7.1 and 7.7.7.2 presented an overview of, respectively, women's and alcoholics' scores on the BSRI. It was noted that non-American studies of women generally reflected lower mean scores on both the Masculinity and Femininity scales of the BSRI than did American studies. The following paragraphs address the BSRI results of the current study within the context of these other studies.

The mean BSRI masculinity and femininity scores of the current sample of alcohol dependent women were lower than those reported by Beckman (1978b) in the one previous study of alcohol dependent women which addressed this issue. However, it should also be noted that although Beckman's reported mean masculinity score was within the range obtained in other American studies of non-alcohol-dependent women, the corresponding score of the current sample was lower than that of any female samples identified in the literature. On the other hand, the mean femininity score of the alcohol dependent women in the current study was within the range reported by non-American studies of non-alcohol-dependent women, whereas the corresponding score of Beckman's sample was higher than that evident in other studies of non-alcohol-dependent women.

In combination, these results imply that the BSRI scores of alcohol dependent women were not typical of those of other women, particularly with respect to masculinity in the current study, and femininity in Beckman's (1978b) study. However, further studies are necessary in an attempt to replicate these findings, and to establish whether any factors specific to either American or Australian samples of alcohol dependent women are responsible for this outcome.

The mean masculinity and femininity scores of both the general population and career women in the current study were within the overall range reported by either American or non-American studies of non-alcohol-dependent women. However, although the masculinity scores of the general population women were more typical of those of British or Australian samples and their femininity scores more closely resembled those of American samples, the scores of the career women reflected the reverse pattern.

However, attention must be drawn to the fact that the current study highlighted problems with respect to the interpretation of, and response to, the BSRI femininity item "Does not use harsh language", as outlined in Section 6.4.3.7. Consequently, this item was discarded and femininity was scored as the mean rating on the remaining 19 items. Therefore, the BSRI femininity scores obtained in this and other studies are not strictly comparable.

9.8.3.3 Sex Role Type on the Basis of the BSRI

Comparisons between groups with respect to the percentages of women in each group categorized as being masculine or feminine on the basis of their perceived-self completions showed no statistically significant differences between the alcohol dependent and general population groups, whereas the career women were significantly more likely to be classified as

masculine, and conversely, significantly less likely to achieve a feminine classification than were either of the other two groups of women. However, in comparison with either the general population or career samples, significantly fewer alcohol dependent women were classified as androgynous, and conversely, significantly more were classified as undifferentiated.

In terms of perceived self, the single most common classification for the alcohol dependent, general population, and career women was, respectively, undifferentiated, feminine, and masculine. Moreover, alcohol dependent women were almost four times more likely to be classified as undifferentiated than as androgynous, whereas the androgynous classification was more frequent than the undifferentiated classification within both of the non-alcohol-dependent samples. In contrast, however, the three groups of women did not differ significantly in their ideal sex role type classification, with approximately three quarters of the women within each group achieving an androgynous classification.

Other studies have similarly reported an overrepresentation of undifferentiated women among addicted samples. For example, both Beckman (1978b) and Kroft and Leichner (1987) noted that in comparison with non-alcohol-dependent normal women, alcohol dependent women appeared to be less likely to exhibit highly distinctive sex-role-related traits in terms of response style. Whether this aspect of sex role identity relates in some way to the maintenance of maladaptive drinking behaviours is perhaps the area most deserving of further research.

9.8.4 Unconscious Gender Identity

Sex role identity at the lowest level of consciousness was assessed by means of responses to 11 items of the Drawing Completion Test or DCT

(Franck & Rosen, 1949). The three samples of women did not differ significantly with respect to either their total test score or the percentage attaining an extreme feminine, feminine, masculine, or extreme masculine classification. Nevertheless, compared with the general population and career women, the alcohol dependent women's mean score on the test reflected a trend towards a higher degree of masculinity. Furthermore, these women were somewhat less likely to be classified as extreme feminine, and conversely, somewhat more likely to achieve an extreme masculine classification.

The current sample of alcohol dependent women obtained a mean score of 4.96, whereas other studies of alcohol dependent women have reported means of 5.03 (Anderson, 1980), 5.06 (Wilsnack, 1973), and 6.11 (Beckman, 1978b). The general population and career women achieved means of 5.30 and 5.72 respectively, whereas the previously reported mean scores of non-alcohol-dependent samples of women have ranged from 5.31 to 6.63. Therefore, the mean scores of both the alcohol dependent and general population women in the present study fall slightly below the ranges evident from previous studies of comparable samples. However, this study, and each of the three previous studies of alcohol dependent women referred to above, have all shown that the mean scores of the samples of alcohol dependent women were somewhat more masculine than those of the non-alcohol-dependent women, although this difference achieved statistical significance only in Wilsnack's study.

9.8.5 Composite Sex Role Identity

In summary, the findings from this study relating to the nature of alcohol dependent women's sex role identity generally support those of other studies. First, these women positively valued those roles which under societal norms

are considered to be traditionally feminine, namely those of partner and mother. Secondly, on the basis of BSRI responses, both the degree of feminine stylistic response of these women, and the proportion classified as being of a feminine sex role type, were similar to that of non-alcohol-dependent women drawn from the general population. Finally, the alcohol dependent women's degree of unconscious masculine gender identity, as measured by the DCT, was remarkably similar to that obtained in previous studies of alcohol dependent women. These women were also somewhat, but by no means overwhelmingly, more masculine in this regard than the non-alcohol-dependent women, paralleling the trend observed in earlier studies.

It is the opinion of this writer, however, that the practical implications of whether or not one's role preferences or unconscious gender identifications are masculine or feminine are very limited. On the other hand, an individual's sex role style, in terms of those aspects of interpersonal functioning assessed by the BSRI, is more susceptible to change.

As discussed in Section 9.8.3.3, alcohol dependent women were significantly more likely to be undifferentiated, and conversely, significantly less likely to be androgynous with respect to their perceived sex role style than were non-alcohol-dependent women. In other words, a substantial proportion of these women did not exhibit distinctive sex-role-related traits, irrespective of whether these were masculine or feminine in nature. Therefore, if future research is able to substantiate further that alcohol dependent women are characterized by a lack of the most adaptive and positively valued masculine and feminine traits, the practical consequences lie in the possibility of learning more adaptive modes of functioning during treatment.

The comparisons between the general population and career women generally indicated differences between these two samples of women,

particularly with respect to the nature of their responses to the BSRI. In essence, the career women exemplify women whose sex role identification differs from that of the female population in general, but who nevertheless show no signs of alcohol-related problems. These findings are particularly relevant in this context because they highlight that the actual direction of sex role identity per se cannot in itself be an instrumental component of pathological drinking.

9.8.6 Sex Role Identity Conflict

Several researchers have previously suggested that the sex role identity of alcohol dependent women may be idiosyncratic not so much with respect to its actual nature, but rather in its lack of congruence, either within or between levels of identity.

The current study investigated three areas of potential conflict pertaining to sex role identification: conflict between perceived and ideal role, between perceived and ideal sex role style (i.e. BSRI responses), and between perceived sex role style and unconscious gender identification (i.e. BSRI and DCT responses). Although a significantly greater number of alcohol dependent women than both general population and career women showed indications of conflict in only one of the three areas under investigation, in each instance the proportion of women exhibiting conflict was nevertheless highest within the alcohol dependent sample. Moreover, no significant differences were evident between the two non-alcohol-dependent samples. However, it should also be noted that the majority of women in both the alcohol dependent and general population samples did in fact exhibit a lack of congruence between each of these pairs of measures, whereas only between one third and one half of the career women did so.

The actual degree of difference between perceived and ideal identification with respect to both masculinity and femininity, as assessed by the BSRI, was also examined. Both these measures reflected a significantly greater degree of conflict among the alcohol dependent women, compared with either of the non-alcohol-dependent samples. In contrast, however, the results of Kroft and Leichner (1987) suggested that alcohol dependent and non-alcohol-dependent women did not differ significantly in the amount of conflict between actual and ideal masculinity or femininity. Nevertheless, all groups did in fact exhibit significant masculine conflict, whereas significant feminine conflict was evident among both the alcohol dependent and social-drinking women, but not among the remitted alcoholics and abstainers.

In summary, the results of the present study and in particular the finding that the career women, who are unequivocally the least traditional of the three samples in terms of sex role identification, were nevertheless the least likely to experience conflict, lend some support to the argument that lack of congruence rather than direction of identification per se is the more pertinent issue of sex role identity among alcohol dependent women.

9.8.7 Methodological Considerations

The general problems confronting the measurement of sex role identity have been discussed earlier, in Section 3.2.2. In summary, these related to, first, the criterion upon which such measurement is based, namely the differentiation of the responses of males and females; secondly, the frequent confounding of one level of identification with another within any specific test; and finally, the reliance upon projective techniques in the measurement of gender identity, with the associated problems of interpretation.

Further issues are relevant specifically to the study of sex role identity among alcohol dependent women, as discussed in Section 3.6.5. To recapitulate, most studies, including the present one, have assessed the sex role identity of alcohol dependent women as it was perceived at the time of investigation. Consequently, these studies cannot determine the aetiological significance of sex role identity in the development of alcohol dependence. Furthermore, these studies give no indications of how sex role identity has been affected, either by the development of alcohol dependence or by factors such as depression or self-esteem.

Studies of the sex role identity of alcohol dependent women have varied in their choice of measurement techniques. Given that the attempt to compare the outcome of the current study with those of earlier studies is restricted by the lack of comparability of measures, it must be recognized that such comparisons are, at best, indicative only of very general trends.

Moreover, even when identical instruments have been used, such as the BSRI, the results are not exactly comparable. Specifically, this study identified problems relating to the use of one item of the BSRI's Femininity scale, as outlined in Section 6.4.3.7, leading to its exclusion during the scoring process. The writer felt that although there would be some cost in doing so, with respect to the loss of a degree of comparability with other studies, it was nevertheless justified on the grounds of clarity, given that the primary aim was to compare the masculinity and femininity scores of the three groups of women within the current study.

Furthermore, categorization of sex role type on the basis of BSRI responses depends on the overall sample means, which obviously differ from study to study. Therefore, a woman who, in this study, was classified as,

for instance, feminine, would not necessarily achieve the same classification in the context of other studies, given identical BSRI responses. Consequently, any more detailed interpretation of the differing proportions of women achieving a classification of either masculine, feminine, androgynous, or undifferentiated is meaningful only within the context of the one study.

9.9 STRESS AND ALCOHOL

9.9.1 Introduction

Several aspects of the potential relationship between stress and alcohol among alcohol dependent women have been addressed in the current study. First, a structured life events inventory was used to elicit the nature of stressful life events experienced by each of three groups of women. Further refinements included separate analyses of the number of events and the associated degree of distress and life change, using each of three qualitatively different categorizations of life events, during each of five time periods (see Sections 6.4.3.8 and 8.9.2). Secondly, the alcohol dependent women's perceptions of the circumstances surrounding their lives prior to the onset of problem drinking were examined, as were their perceptions of specific precipitants. Finally, the association between specific mood states and drinking among each of the three samples was investigated.

Although the former factors were geared towards establishing the relationship between stress and the onset of drinking problems, the third aspect focussed only on the more recent relationship between emotional state and drinking. Furthermore, only the first and last aspects involved a comparison between alcohol dependent women and their non-alcohol-dependent counterparts.

9.9.2 Stressful Life Events and Drinking

Although the results of the current study presented earlier in Section 8.9.2 referred to five overlapping time periods of the women's lives, the present discussion focusses only upon the three mutually exclusive time periods, namely those corresponding to the alcohol dependent women's lives to the reported onset of heavy drinking, between the onset of heavy and problem drinking, and from the onset of problem drinking to the point of interview.

There was no evidence to suggest that alcohol dependent women experienced more stress associated with life events occurring prior to the reported onset of heavy drinking, than did women drawn from the general population during a corresponding period of time. This lack of difference was apparent, irrespective of whether the degree of distress and life change, or the actual number of life events was considered. Furthermore, the nature of the reported life events (i.e. whether all life events were considered simultaneously, or were differentiated on the basis of either an individual's control over their occurrence, or the nature of their potential threat to feelings of female adequacy) also did not differ between the alcohol dependent and general population women.

However, significant differences between alcohol dependent and general population women were evident when the analyses focussed upon the experience of stressful life events during the period corresponding to the time span between the alcohol dependent women's reported onset of heavy and problem drinking. These differences were most apparent in relation to the degree of distress associated with life events, rather than with respect to either the degree of life change or the number of events. Moreover, differences with respect to distress were evident for each type of life event categorization, with the exception of those involving biological threat-to-female-adequacy events.

Finally, neither the total number of events experienced during the time span equivalent to that between the alcohol dependent women's onset of problem drinking and interview nor the associated degree of distress and life change differed significantly between the alcohol dependent and general population women. The former group did however report experiencing significantly more events which were independently deemed to be controllable. Furthermore, alcohol dependent women experienced significantly more distress and life change associated with these events than did general population women.

In summary, the present study provides no support for the contention that the development of heavy drinking among women is a consequence of the premorbid experience of a greater number of stressful life events, as has been commonly suggested in the literature. However, there are indications that once the alcohol dependent women's drinking had progressed to the point of being heavy, their experience of life events did in fact exceed that of non-alcohol-dependent women drawn from the general population.

Two alternative hypotheses for this latter finding are offered. First, the possibility arises that the experience of stressful life events during this time, namely once heavier drinking has begun, raises the likelihood of increased drinking in response to these further stressors in an effort to reduce the stress, as hypothesized by the Tension Reduction Hypothesis (TRH). Alternatively, given that a pattern of heavy drinking has already been established for whatever reason, the behavioural consequences of the women's drinking may increase the possibility of their experiencing a greater number of stressful life events. Furthermore, the resultant increase in stress may then cause a further deterioration in drinking pattern, leading to a continuation of such a cycle. The two hypotheses are therefore differentiated primarily by the

manner in which the experience of stressful life events is initially viewed, namely as a cause or consequence of excessive drinking.

The first hypothesis would logically encompass the view, based on the TRH, that compared with general population women, alcohol dependent women should have experienced an excess of stressful life events prior to the onset of heavy drinking. However, support for this notion was not evident within this study. Consequently the argument that many of the events experienced after the onset of heavy drinking are in fact consequences rather than causes of excessive drinking appears to be the more persuasive one, on the basis of the outcome of the current comparison between alcohol dependent women and women drawn from the general population.

The current study offers a unique contribution to this field in that it alone has compared alcohol dependent and non-alcohol-dependent women with respect to the experience of stressful life events during various corresponding phases of their lives. However, results from the sample of career women showed that as a group, they were the least likely of the three samples to experience stressful life events: this highlights one of the limitations of using a life events inventory in comparative studies, namely that the potential experience of many of the events included in such an inventory depends on the prior experience of other events. For example, if a woman has never married, she is obviously unable to experience subsequent marital problems or separation, and similarly, if conception has never occurred, events such as the birth of a child, abortion, or miscarriage cannot eventuate. The current study did not make any allowance for the proportion of women within each sample who were at risk of experiencing any particular life event. Given the indications of some demographic differences, especially with regard to the career women, a potential explanation for the observed lower level

of life events among the career women lies with the possibility that a lesser proportion of these women were in fact ever at risk of experiencing certain events.

On the other hand, one of the advantages of the adopted approach is that the questions regarding the experience of stressful life events were contextually separated from the phases of the interview which either specifically addressed the age at onset of various stages of the alcohol dependent women's drinking career or investigated the women's subjective feelings regarding the precipitants of their drinking problems. Previous studies have most commonly reported only the proportion of alcohol dependent women who attributed the onset of drinking problems to particular life events, and a discussion of the results of such an approach will follow. Very few studies have used a more objective methodology to assess the relationship between drinking and the experience of life event stress. In particular, Cramer and Blacker (1963) found that first intoxication commonly occurred soon after the experience of a stressful life event among women who first became intoxicated at a relatively late age, although no such association was evident among those women whose first intoxication occurred at a younger age. The results of the only other study (Morrissey & Schuckit, 1978) which has objectively examined alcohol dependent women's experience of life events were in accord with those of the present study: there was little evidence to suggest a temporal association between the experience of stressful life events and female alcohol dependence. Moreover, Cooke and Allan (1984) were also unable to show an association between life events and drinking within a general population sample of women.

9.9.3 Circumstances prior to, and Perceived Precipitants of, Problem Drinking

Within the current study the alcohol dependent women were asked to nominate up to two circumstances, if any, which they perceived as influencing their lives prior to the onset of problem drinking. As was evident from Table 81, the vast majority of these women were in fact able to identify at least one influential factor during this time period.

Circumstances relating to the family or a relationship constituted approximately one fifth of all reported factors, and included, for example, the breakdown of a marriage, problems with children, or rejection by a partner. Lifestyle circumstances, such as those involving changes in lifestyle or geographic moves, were mentioned with a similar frequency, as were emotional factors, such as loneliness or depression.

It becomes apparent that the factors influencing the lives of the alcohol dependent women prior to the onset of problem drinking were not necessarily discrete events such as a death in the family, but also included emotional states and ongoing situations including, for example, work dissatisfaction or arguments with a spouse. However, it should also be noted that in this context, there was no intended implication that these circumstances in any way necessarily contributed to the development of problem drinking.

Subsequently, the women were asked to nominate only one, if any, factor which they felt had specifically precipitated their problem drinking. Over three quarters of the women did specify a precipitant, but an examination of the nature of these indicated that for approximately 30% of these women, the perceived precipitants were ongoing emotional states such as loneliness or a feeling of inadequacy, rather than specific events. Furthermore, even many of the so-called specific events cannot in the true sense of the

word be described as discrete. For example, the breakup of a marriage or relationship does not usually occur at a single point in time, but rather is a culmination of various incidences or circumstances occurring over a protracted period of time. Nonetheless, the most commonly cited category of these "specific" precipitants was that of difficulties within the family or relationship, followed by their own or others physical illness, or the death of a family member.

Previous studies which adopted a methodology whereby the alcohol dependent women were asked to specify precipitants of their dependence also generally found that the majority of women were able to nominate a precipitant. As in the current study, these precipitants were most commonly continuous rather than discrete, and were most often related to familial or relationship problems.

The problems inherent in the interpretation of the meaning of perceived precipitants of alcohol dependence have been discussed in detail in Section 4.4.4.4, and will not be reiterated. Again, however, attention needs to be drawn to the importance of these methodological insufficiencies, which are evident in any study, including the present one, which utilizes a subjective appraisal of precipitants.

As discussed earlier, the use of a structured life events inventory gave no indication that alcohol dependent women experienced an excess of stressful life events before the development of heavy drinking, when compared with non-alcohol-dependent women. However, in the time period corresponding to that between the onset of heavy and problem drinking, alcohol dependent women did in fact show a significant excess of life event stress. The results discussed in this section nevertheless indicated that the majority of alcohol

dependent women perceived either a discrete or continuous event as precipitating problem drinking.

Unfortunately, the alcohol dependent women were not asked about perceived precipitants of heavy drinking, as distinct to problem drinking. As such, within the context of the current study, this methodological oversight prevents a direct comparison between the results obtained using the two differing approaches. Future research could be directed at incorporating a life events inventory approach to ascertain objectively the impact of such events on the development of various stages of drinking, as well as a subjective determination of the precipitants of these various stages. Moreover, subsequent studies also need to include control groups of non-alcohol-dependent women to determine the relative importance of stressful life events as an aetiological factor in the development of female alcohol dependence. A research design such as that suggested above should clarify whether an apparent relationship between drinking and life event stress is potentially influenced by the manner of determining the precipitants of various stages of drinking, and in particular whether subjective and objective approaches give rise to similar outcomes.

Nevertheless, an examination of the nature of the perceived precipitants of problem drinking in both this and other studies highlights that many of the stressors are continuous rather than discrete. This once again introduces the possibility that many of these stressors may have been exacerbated by the women's drinking per se.

9.9.4 Emotional States associated with Drinking

With one exception, previous studies of alcohol dependent women have not investigated the nature of any differences between alcohol dependent and non-alcohol-dependent women with respect to the specific emotional states

with which drinking episodes are associated. The results of the current study reflect marked differences between these women in terms of the emotions with which drinking is associated, the frequency of drinking in relation to these emotions, and the frequency of excessive drinking in relation to emotion-based drinking occasions.

Of the 18 emotional states considered in the current study, only two - happiness and excitement - can be interpreted as reflecting a positive state of mind. The results showed that the proportion of non-alcohol-dependent women, both from the general population and career samples, who ever drank in association with either of these two emotions was greater than that of alcohol dependent women, and in three of the four relevant comparisons, the difference was statistically significant. The reverse pattern was evident for the remaining 16 emotional states. Furthermore, of the 18 emotional states, the alcohol dependent women were least likely to drink in association with either happiness or excitement, whereas the general population women were most likely to drink as a consequence of precisely these two emotions. Although the career women, as a group, were in fact more likely to drink when tense rather than excited, both happiness and excitement were nevertheless among the three emotions with which drinking was most commonly associated within this sample. These results therefore strongly suggest a major difference between alcohol dependent and non-alcohol-dependent women with respect to the emotional precipitants of drinking. In particular, the drinking of non-alcohol-dependent women appears to be associated primarily with a positive state of mind, whereas among the alcohol dependent women, alcohol use appears to be defined in terms of coping with, or attempting to improve, less pleasant mood states.

Analyses which additionally considered the frequency of drinking and the frequency of excessive drinking in conjunction with the percentage of women drinking in association with any particular emotion further highlighted the lack of correlation between alcohol dependent and non-alcohol-dependent women in their emotion-based drinking practices. However, in this regard, both samples of non-alcohol-dependent women showed marked similarities to each other.

In a general sense, these results indicate that in contrast to non-alcohol-dependent women, alcohol dependent women use alcohol primarily as a coping mechanism, albeit a maladaptive one. At this point, however, it should also be stressed that these results are in no way intended to reflect the reasons for which the excessive use of alcohol was originally initiated. They merely highlight the more recent emotional precipitants of drinking episodes. Nevertheless, this research has obvious implications in the treatment of alcohol dependent women, whereby alternative means of coping with certain emotional states can be explored, in an attempt to break the cycle of drinking in response to such emotions.

Several previous studies have explored the psychological reasons for drinking among alcohol dependent women, but only the study by Scida and Vannicelli (1979) investigated the differences between alcohol dependent and non-alcohol-dependent women with respect to such factors. Although the specific nature of the mood states under consideration differed between the above-mentioned and current studies, a similar trend was nevertheless evident in both: alcohol dependent women were more likely to drink for reasons indicative of some form of psychological trauma, whereas non-alcohol-dependent women were more likely to report drinking within a positive or social context.

Furthermore, the present study found that among alcohol dependent women, depression, anxiety, loneliness, and being upset were most commonly associated with drinking. The majority of the previous studies of alcohol dependent women that have explored the emotional antecedents of drinking have identified precisely these same emotions as reasons for the women's drinking.

As mentioned earlier, there is little empirical evidence to suggest that alcohol does in fact reduce tension or otherwise elevate mood. However, the outcome of investigations into the psychological reasons for drinking among alcohol dependent women strongly suggests the possibility that alcohol is used in an attempt to cope with many types of emotions that may be invoked by stressful situations. This hypothesis is also reflected within Abrams' (1983) broad model of the antecedents and consequences of drinking, which was presented in Section 4.4.1.

9.10 SOCIAL SUPPORT

9.10.1 Social Support

In this study the major findings pertaining to the current social support of alcohol dependent women were in accordance with those of earlier studies. The majority of alcohol dependent women reported the existence of confidants, although significantly fewer alcohol dependent women than non-alcohol-dependent women did so. The results of this study also indicated that among women reporting confidants either within or outside of their household, the actual number of such confidants in either context did not differ significantly between the three groups of women.

It is interesting to note, however, that just under one half of the alcohol dependent women, compared with at least three quarters of the non-alcohol-dependent women, felt that it was at least usually helpful to talk things over with someone they felt close to when things were going wrong. Winefield (1979b) had previously noted that depressed and normal women did not differ significantly in the extent to which they believed talking over problems was helpful. Moreover, similar percentages of non-alcohol-dependent women in both the current study and that of Winefield reported benefits of confiding in others. Therefore, fewer alcohol dependent women than either normal or depressed women perceive benefits of utilizing the social supports available to them. This finding strongly suggests the need to explore the underlying reasons for the relative lack of perceived efficacy of using social support among the alcohol dependent women. Moreover, given the indications that alcohol was used by the alcohol dependent women predominantly as a coping mechanism, as discussed in Section 9.9.4, attention to this point during treatment may encourage the successful utilization of an adaptive coping mechanism, such as that of social support, rather than the continued reliance upon a maladaptive strategy such as drinking.

The importance of reciprocity of social support has previously been identified (e.g. Pattison et al., 1979). To this end, the current study also provided evidence that the vast majority of women in each of the samples felt that others confided in them, although once again this pattern was apparent in significantly fewer alcohol dependent than non-alcohol-dependent women. However, among those women who reported that they did in fact act as confidantes to others, the reported number of people confiding in them did not differ significantly between groups.

9.10.2 Social Networks

Several aspects of the social networks, rather than specifically the social supports, of the women were also investigated. As in earlier studies, significantly fewer alcohol dependent women than non-alcohol-dependent women reported feeling that they had at least an average number of friends. It is of interest to note that in this regard the perceptions of the depressed women studied by Winefield (1979b) were similar to those of the alcohol dependent women in this study. However, the non-alcohol-dependent women in the current study were somewhat more likely than Winefield's sample of normal women to report having at least an average-sized friendship network. The women were not asked to quantify specifically the extent of their friendship ties, and as such, these findings reflect the subjective, rather than objective, relative size of their social network. However, Pattison et al. (1979) had previously noted that, compared with normal individuals, alcohol dependent individuals did in fact possess a smaller personal social network. In conjunction with the current finding, this suggests the possibility that these networks are not only perceived as being deficient, but also that in reality they are less extensive. Furthermore, significantly fewer alcohol dependent women than non-alcohol-dependent women felt confident of making a good initial impression on meeting someone for the first time. Again, similarities were evident between the alcohol dependent women and Winefield's depressed women, whereas a larger proportion of non-alcohol-dependent women in the present study than normal women in Winefield's study reported being confident of making a positive impression.

In accordance with previous studies, these findings may suggest problems in the ease with which alcohol dependent women establish interpersonal ties. Furthermore, they add weight to the earlier proposition that

the social networks of these women are in fact more limited than those of non-alcohol-dependent normal women.

9.10.3 Implications

As is evident from the structure of the Social Environment Questionnaire or SEQ-II (Winefield, 1979b, 1982) which was used to assess the availability of social support, this study was merely able to investigate the current status of social support. No assumptions can therefore be made regarding either the nature of the support available to the alcohol dependent women at the time of the development of dependence, or the manner in which the availability and/or utilization of social support has altered during the course of the women's drinking. Only a longitudinal study could examine these specific issues in a satisfactory manner. Consequently, the question of the significance of social support, or more particularly its absence, as an aetiological factor in the development of female alcohol dependence is not addressed in the current study.

Nonetheless, the identification of relative deficiencies among alcohol dependent women in the availability, utilization, and perception of current social support is important in itself. It must be accepted that the current, weaker network of support may reduce the possibility of decreasing alcohol intake, because without such social supports, alcohol continues to be perceived as a stress-reducer, or maladaptively, as a coping mechanism. Therefore, as previously mentioned, these findings point to the need for some form of intervention during treatment, in an effort to replace the alcohol dependent women's reliance upon maladaptive coping mechanisms with the utilization of beneficial ones.

The work of Rook (1987), who studied normal community samples, suggests that companionship (or the size of the social network) may buffer the relationship between minor life events and psychological symptoms, whereas social support may buffer the relationship between symptoms and major life events. Since in the case of the alcohol dependent women in this study, the life events examined were of a major nature, social support may be the more important factor. However, the loss of a social network or companionship group, perhaps as a function of alcohol use, may add to the inability to cope with life events as they occur.

CHAPTER TEN

10.1 INTRODUCTION

The results presented in Chapter Eight and discussed in Chapter Nine focussed on the alcohol dependent, general population, and career women's status on specific variables in isolation. However, in order to examine the effects of certain variables, whilst simultaneously controlling for the confounding effects of other variables, a multivariate analytical technique is needed.

The purpose of the analyses reported in this chapter is to identify a set of variables that best differentiates between the alcohol dependent and general population women in the sample, using current alcohol dependence as the dependent variable. The awareness of such factors can potentially facilitate the earlier identification of alcohol dependent women, and as such, is of clinical relevance. At this point it should be noted that the likelihood of the development of alcohol dependence in particular women is not addressed. All the variables were measured at a time when alcohol dependence was already evident within the clinical sample. Consequently, it is likely that the course of dependence itself has served to influence these factors, and although they may also have some aetiological significance, this cannot be determined from the present study.

10.2 STATISTICAL METHODS

The dependent variable under consideration is dichotomous: the presence of alcohol dependence (i.e. in the clinical sample of alcohol dependent women) or its absence (i.e. in the sample of women drawn from the general population). The sample of career women is excluded from these analyses because the clinical relevance of these results lies in the prediction of the existence of

alcohol dependence among a heterogeneous sample of women such as those presenting to a general medical practice.

Unlike other multivariate statistical techniques, logistic regression analysis accommodates a dichotomous variable as the dependent variable. This technique was used to calculate the odds of alcohol dependence, which is defined as the probability that a woman is alcohol dependent, divided by the probability that she is not. The BMDP stepwise logistic regression programme "PLR" (Engelman, 1983) was used to compute the β 's or coefficient values and the constant value α of the linear logistic model

$$\log_e (\text{odds of alcohol dependence}) = \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \alpha$$

where the X_i s are independent variables to be used in the model and are entered by the user. As stated succinctly by Somers (1983), "the linear logistic model. . . relates the natural logarithm of the odds of [alcohol dependence] to the sum of a set of independent variables. . . each multiplied by its respective coefficient, plus a constant value" (p. 250).

10.3 DESCRIPTION OF VARIABLES AND SAMPLE

Variables considered in the series of analyses were included on the basis of their representation in previous research on alcohol dependent women, as reported in detail in Chapters Two to Five. Briefly, they reflect aspects of social support, sex role identity, life event stress, depression, instability, parental perception, familial and own use of alcohol, and other drug use.

The variables are described in Table 88, and the results of univariate comparisons between the alcohol dependent and general population women are presented in Table 89. To facilitate the interpretation of results, noncategorical variables were dichotomized by splitting around the median score of the combined sample of alcohol dependent and general population women.

TABLE 88. Description of Variables used in Logistic Regression Analyses

VARIABLE NAME	CODE	DESCRIPTION
CONTEXTS	high/low	number of person-based living contexts during childhood and adolescence
DESFATHER	nonpositive/positive	description of father's personality
DESMOTHER	nonpositive/positive	description of mother's personality
ALCPARENT	yes/no	alcohol dependent parent
ALCSIBLING	yes/no	alcohol dependent sibling
SUPPORT	low/high	Social Support Index score, as measured by Winefield's (1979b, 1982) Social Environment Questionnaire
MARRIAGES	high/low	number of de facto relationships and/or marriages
DEPRESSION	high/low	depression score, as measured by Zung's (1965) Self-Rating Depression Scale or SDS
MASCONFLICT	high/low	masculine sex-role identity conflict score, depicting the difference between perceived and ideal masculinity, as measured by a modification ^a of the Bem Sex-Role Inventory or BSRI (Bem, 1974)
SOCDRINK	high/low	self-reported age at onset of social drinking
SMOKE	yes/no	smoking of cigarettes
TOTALDIST	high/low	lifetime total distress associated with all types of stressful life events, measured using a modification of Tennant and Andrews' (1976) Life Events Inventory
CONDIST	high/low	lifetime total distress associated with "controllable" stressful life events
UNCONDIST	high/low	lifetime total distress associated with "uncontrollable" stressful life events
BIOLTHREATDIST	high/low	lifetime total distress associated with "biological threat to female adequacy" stressful life events
PSYCHTHREATDIST	high/low	lifetime total distress associated with "psychological threat to female adequacy" stressful life events
THREATDIST	high/low	lifetime total distress associated with "biological or psychological threat to female adequacy" stressful life events
NONTHREATDIST	high/low	lifetime total distress associated with "non-threat to female adequacy" stressful life events

^a Subjects were directed to describe their "ideal" selves, in addition to their "perceived" selves, using the BSRI items.

TABLE 89. Univariate Comparisons between Alcohol Dependent and General Population Women

VARIABLE	CODE	ALCOHOL (N=59)	GENERAL (N=59)	CHI-SQUARE ^a (1 df)	p
CONTEXTS ^b	high	44.1*	22.0	5.51	<.05
DEFATHER	nonpositive	41.2 (51) ^c	28.1 (57)	1.48	N.S.
DESMOTHER	nonpositive	38.2 (55)	11.9	9.29	<.01
ALCPARENT	yes	27.6 (58)	22.0	0.22	N.S.
ALCSIBLING	yes	27.8 (54)	8.9 (56)	5.40	<.05
SUPPORT ^b	low	70.7 (58)	30.5	17.46	<.001
MARRIAGES ^b	high	22.0	10.2	2.26	N.S.
DEPRESSION ^b	high	75.9 (58)	23.7	29.56	<.001
MASCONFLICT ^b	high	68.4 (57)	32.8 (58)	13.36	<.001
SOCDRINK ^b	high	52.6 (57)	40.4 (57)	1.27	N.S.
SMOKE	yes	76.3	28.8	24.78	<.001
TOTALDIST ^b	high	54.2	44.1	0.85	N.S.
CONDIST ^b	high	71.2	35.6	13.62	<.001
UNCONDIST ^b	high	42.4	59.3	2.75	N.S.
BIOLTHREATDIST ^b	high	49.2	49.2	0.03	N.S.
PSYCHTHREATDIST ^b	high	67.8	30.5	14.95	<.001
THREATDIST ^b	high	64.4	35.6	8.68	<.01
NONTHREATDIST ^b	high	49.2	50.8	0.00	N.S.

^a With correction for continuity

^b Variable was dichotomized by splitting around the median score of the combined sample of alcohol dependent and general population women.

^c N, if N≠59.

Separate logistic regressions were performed to identify which subset of variables best differentiated between alcohol dependent and general population women. The methods of categorizing stressful life events were described in Section 6.4.3.8. To recapitulate, these categorizations encompass the consideration of "all" (i.e. TOTALDIST), "controllable vs. uncontrollable" (i.e. CONDIST/UNCONDIST), and two variations of "threat to female adequacy" life events (i.e. BIOLTHREADIST/PSYCHTHREADIST/NONTHREATDIST and THREATDIST/NONTHREATDIST). It must be stressed that these sets of variables are not independent of each other; therefore, they cannot be considered simultaneously in any one logistic regression. Consequently, four parallel stepwise logistic regressions were performed, varying with respect to the nature of categorization associated with life event distress, as described above. Each analysis used the maximum likelihood method (MLR) of selecting the variable to be removed or entered at each step. The limits of p-values to remove and enter variables at each step were set at $p > 0.30$ and $p < 0.25$, respectively.

Fifty-nine age-matched pairs of alcohol dependent and general population women were initially examined. However, the sample used in the four regression analyses was reduced to 42 alcohol dependent and 51 general population women, because of the exclusion of subjects with missing values for any of the variables under consideration.

10.4 STEPWISE LOGISTIC REGRESSION ANALYSES

The variables entered at each step of the four regression analyses, as well as the values of the improvement chi-square and associated probability are presented in Table 90.

TABLE 90. Summary of Stepwise Addition of Variables into the Logistic Regression Models

MODEL	MANNER OF CATEGORIZATION OF DISTRESS ASSOCIATED WITH LIFE EVENTS	STEP NUMBER	VARIABLE ENTERED	IMPROVEMENT CHI-SQUARE	p
1	All events	1	DEPRESSION	37.885	.000
		2	SMOKE	16.863	.000
		3	MASCONFLICT	4.550	.033
		4	DESMOTHER	4.085	.043
		5	ALCSIBLING	1.530	.216
2	Controllable vs. uncontrollable events	1	DEPRESSION	37.885	.000
		2	SMOKE	16.863	.000
		3	MASCONFLICT	4.550	.033
		4	DESMOTHER	4.085	.043
		5	CONDIST	2.953	.086
3	"Biological threat to female adequacy" vs. "psychological threat to female adequacy" vs. non-threat events	1	DEPRESSION	37.885	.000
		2	SMOKE	16.863	.000
		3	MASCONFLICT	4.550	.033
		4	DESMOTHER	4.085	.043
		5	PSYCHTHREATDIST	2.304	.129
		6	BIOLTHREATDIST.	1.863	.172
		7	ALCSIBLING	1.694	.193
4	"Biological or psychological threat to female adequacy" vs. non-threat events	1	DEPRESSION	37.885	.000
		2	SMOKE	16.863	.000
		3	MASCONFLICT	4.550	.033
		4	DESMOTHER	4.085	.043
		5	ALCSIBLING	1.530	.216

The improvement chi-square tests whether prediction is significantly improved by the entrance of the variable at that step: the smaller the p-value the more significant the improvement of the model. The stepping process ends when no variable passes the remove and enter limits, which were defined earlier.

Table 91 indicated that in each of the four regression analyses, the model prior to the first nonsignificant p-value (i.e. $p > .05$) associated with the improvement chi-square contains the same four variables: DEPRESSION, SMOKE, MASCONFLICT, and DESMOTHER. This suggests that when the effects of other variables (i.e. those described earlier in Table 88) are simultaneously considered, depression, smoking, conflict between perceived and ideal masculine sex role identity, and nature of perception of mother's personality were statistically most strongly associated with the prediction of alcohol dependence within the present sample.

TABLE 91. Variables included in the Logistic Regression Model which best differentiated between Alcohol Dependent and General Population Women

VARIABLE	CODES	DESIGN VARIABLES	COEFFICIENT	S.E.	COEFF./S.E.
DEPRESSION	1 low $\leq 39^a$	-1	1.079	0.271	3.976
	2 high > 39	1			
SMOKE	1 yes	-1	-1.025	0.275	-3.726
	2 no	1			
MASCONFLICT	1 low $\leq 0.94^b$	-1	0.596	0.262	2.278
	2 high > 0.94	1			
DESMOTHER	1 positive	-1	0.520	0.338	1.537
	2 nonpositive	1			
constant			0.180	0.338	0.531

^a Depression score, as measured by the SDS.

^b Masculine sex role identity conflict score, depicting the difference between perceived and ideal masculinity (derived from BSRI responses).

It should also be noted that for each manner of categorizing the distress associated with life events, the degree of distress did not contribute in a statistically significant manner to the differentiation between the alcohol dependent and general population women in the sample.

10.5 APPROPRIATENESS OF THE MODEL

10.5.1 The Model

A further logistic regression was performed to test the goodness of fit of a model containing the variables DEPRESSION, SMOKE, MASCONFLICT, and DESMOTHER on the largest possible number of women from the original sample of 59 age-matched pairs of women, namely 52 alcohol dependent and 58 general population women. No other variables were considered in this analysis, and the four variables described above were forced into the model.

Table 91 provides information on the coding of the variables, as well as the β coefficients and standard errors output by the computer programme. The model arising from this analysis is:

$$\begin{aligned} \text{Log}_e (\text{odds of alcohol dependence}) = & \\ & 1.079 (\text{DEPRESSION}) - 1.025 (\text{SMOKE}) + 0.596 (\text{MASCONFLICT}) \\ & (3.976) \qquad \qquad (3.726) \qquad \qquad (2.278) \\ & + 0.520 (\text{DESMOTHER}) + 0.180 \\ & (1.537) \end{aligned}$$

This model indicates that the odds of alcohol dependence in a woman who smokes, exhibits high levels of depression and conflict between perceived and ideal masculinity, and who describes her mother's personality in nonpositive terms is 30.0.

Under each coefficient in parentheses is the absolute value of the coefficient divided by its standard error. This value can be interpreted approximately as a t-statistic, whereby values less than about 2.0 indicate that the size of the associated coefficient does not differ significantly from zero. Thus, the coefficient of the variable DESMOTHER is not statistically significantly different from zero, although the variable itself was found to improve prediction significantly on the basis of the stepwise logistic regression described earlier.

10.5.2 Goodness of Fit of the Model

The goodness of fit of the model described in the preceding section was assessed using Lemeshow and Hosmer's (1982a) \hat{H}_g^* statistic. \hat{H}_g^* was computed from the observed and expected frequencies of both alcohol dependent and general population women, distributed over six strata according to the estimated probability of alcohol dependence. (These estimated probabilities comprise part of the BMDP PLR output.) Lemeshow and Hosmer maintain that provided the grouping of probabilities does not result in empty cells (1982b), small cell frequencies should not adversely affect the distributional properties of the \hat{H}_g^* statistic (1982a). The distribution of \hat{H}_g^* is approximated by chi-square, with $g-2$ degrees of freedom, where g reflects the number of probability intervals used in the derivation of the statistic; the higher the associated probability, the better the model's goodness of fit. The model described above was shown to corroborate the data closely ($\hat{H}_g^* = 0.928$, 4 df, $.90 < p < .95$); the derivation of the \hat{H}_g^* statistic for this model is presented in Appendix 24. The obtained value of \hat{H}_g^* suggests that the four variables, as a set, adequately differentiate between the alcohol dependent and general population women in the sample.

10.5.3 Odds Ratios

Adjusted odds ratios for each variable may be calculated from the β coefficients output by the BMDP PLR programme. Lemeshow and Hosmer (1984) point out that where variables take on the codes of 1 or 2, and are assigned design variables of -1 and 1, respectively, by the BMDP programme, the odds ratio is calculated as $e^{2x\beta}$. The adjusted odds ratio reflects the independent contribution of a specific variable to the prediction of, in this instance, alcohol dependence, whilst simultaneously controlling for the confounding effects of the remaining variables. On the other hand, the crude or unadjusted odds ratios consider each variable only in isolation.

Table 92 presents both the crude and adjusted odds ratios for each of the four variables in the model. These are seen to be similar, indicating that the multivariate findings support those of univariate analyses. The results indicate that the odds of being alcohol dependent are 8.7 times higher among women with high levels of depression, as opposed to women with low levels, given identical category scores on the remaining three variables. Similarly, smoking versus not smoking, high versus low levels of masculine sex role identity conflict, and nonpositive versus positive perception of mother's personality increase the odds of being alcohol dependent 7.8, 3.3, and 2.8 times, respectively, if in each case the three other variables in the model are held constant.

TABLE 92. Odds Ratios derived for Variables included in the Logistic Regression Model

VARIABLE	ODDS RATIO	
	CRUDE	ADJUSTED
DEPRESSION	9.4	8.7
SMOKE	7.2	7.8
MASCONFLICT	4.2	3.3
DESMOTHER	4.6	2.8

Note: 52 alcohol dependent and 58 general population women were used in these calculations.

10.6 DISCUSSION

The results presented in Section 8.7.83 indicated that almost one third of the alcohol dependent women initially approached a general medical service whilst seeking treatment. This suggests that doctors, either within a hospital system or in private practice, are potentially well situated to intervene when alcohol dependence is suspected. Obviously, merely asking a woman whether she is experiencing any problems related to alcohol is the most direct means of identifying alcohol dependent women. However, given the reluctance of many women to disclose their dependence openly, this approach is of limited utility.

Previous studies of alcohol dependent women have not focussed upon the prediction of the existence of alcohol dependence among women, although Fortin and Evans (1983) did identify factors correlating with the length of time from first intoxication to loss of control over drinking. However, means of facilitating the identification of current alcohol dependence are particularly relevant and important from a clinical perspective.

Consequently, the multivariate analyses, the results of which were presented earlier in this chapter, were aimed at providing a method of screening for the potential existence of alcohol dependence in women, by identifying those factors which best differentiated alcohol dependent women from women drawn from the general population. The analyses showed that, statistically, the best differentiation between alcohol dependent and general population women resulted from a consideration of only 4 factors, out of an initial 12. (These 12 factors were described in Table 88.) The four best predictors of alcohol dependence were: (1) high levels of depression (as measured by Zung's (1965) Self-rating Depression Scale), (2) cigarette smoking, (3) high levels of conflict between perceived and ideal masculine sex role style (as measured

by a modified version of Bem's (1974) Bem Sex Role Inventory), and, (4) a nonpositive description of mother's personality.

In essence, the results indicated that a woman with each of the above characteristics was 30 times more likely to be alcohol dependent than a woman who exhibited low levels of depression and sex role conflict, did not smoke, and described her mother in positive terms. Furthermore, the adjusted odds ratios which were calculated for each of the four factors indicated that even if two women were similar with respect to their smoking behaviour, sex role conflict, and perception of mother, but differed with respect to their level of depression, the woman with a high level of depression was almost nine times more likely to be alcohol dependent than the woman with a low level of depression. The likelihood of alcohol dependence was almost eight times higher among smokers than among nonsmokers in this sample, given a similar response to the remaining three variables. It is interesting to note that two decades earlier, Senseman (1966), describing how to recognize the female alcoholic, suggested that "excessive smoking in a female is in itself an alerting sign for further investigation" (p. 40). Finally, high as opposed to low levels of sex role conflict and nonpositive as opposed to positive perception of maternal personality each increased the likelihood of alcohol dependence approximately threefold, if in each case the responses to the other three variables were similar.

Obviously, an appraisal of a woman's responses to these four factors is by no means a definitive manner of establishing whether or not she is alcohol dependent. However, these factors may provide a means of unobtrusive initial screening. The factors do not either directly or obviously relate to drinking, and as such hold a distinct advantage over, for example,

alcoholism screening inventories, which with their higher face validity, are more open to denial and consequent falsification of responses. Furthermore, the statistical model incorporating these four factors was shown, on the basis of goodness of fit, to differentiate adequately between alcohol dependent and general population women.

Although the results are encouraging, it remains to be seen whether they can be successfully replicated. It certainly appears that further work along these lines is warranted, given the current lack of any adequate and simple means of predicting the existence of alcohol dependence among women.

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APPENDIX 1. Letter to the Medical Director of the Alcohol and Drug Addicts Treatment Board



THE UNIVERSITY OF ADELAIDE

BOX 498, G.P.O., ADELAIDE, SOUTH AUSTRALIA 5001

Telephone: 223 4333 (Area Code 08) Telegraphic Address: UNIVAD

Department of Psychology

20th August 1979

Dr Gabrynowicz,
Medical Director,
Alcohol and Drug Addicts (Treatment) Board,
161 Greenhill Road,
PARKSIDE, S.A. 5063

Dear Dr Gabrynowicz,

I am writing to you in the hope that you may be able to assist us in conducting some research currently under way in this Department. Ms Oksana Holubowycz, a Ph.D. candidate currently under my supervision in this Department, is engaged in developing research on female alcoholics, her main interests being in the identification of predisposing and precipitating factors. It will of course be essential for her in the future to have access to a population of women who are seeking help.

I would be grateful if you could arrange for an appointment in order that Ms Holubowycz may discuss with you various aspects of her work. I may be contacted at the Department of Psychology, 223-4333 (ext. 2266), should you wish to have any further information and Ms Holubowycz may be contacted by telephone on extension 2259.

I hope that you may be able to make an appointment and I look forward to hearing from you at your earliest convenience.

Yours faithfully,

J.M. Innes,
Senior Lecturer in Social Psychology

APPENDIX 2. Letter to the Medical Superintendent of Hillcrest Hospital



THE UNIVERSITY OF ADELAIDE

BOX 498, G.P.O., ADELAIDE, SOUTH AUSTRALIA 5001

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Department of Psychology

22nd November 1979

Dr A. Czechowicz,
Hillcrest Hospital,
Fosters Road,
GILLES PLAINS, S.A. 5086

Dear Dr Czechowicz,

I am writing to you in the hope that you may be able to assist us in conducting some research currently under way in this Department. Ms Oksana Holubowycz, a Ph.D. candidate currently under my supervision in this Department, is engaged in developing research on female alcoholics, her main interests being in the identification of predisposing and precipitating factors. It will of course be essential for her in the future to have access to a population of women who are seeking help. We have approached the Alcohol and Drug Addicts (Treatment) Board for help and in the course of this we were given your name as a person whom we could approach for help.

I would be grateful if you could arrange for an appointment in order that Ms Holubowycz may discuss with you various aspects of her work, to give a clearer impression than is possible by letter of what she intends and hopes to do in this area. I may be contacted at the Department of Psychology, 223-4333 (ext. 2266), should you wish to have any further information and Ms Holubowycz may be contacted by telephone on extension 2259.

I hope that you may be able to make an appointment and I look forward to hearing from you at your earliest convenience.

Yours faithfully,

J.M. Innes,
Senior Lecturer in Social Psychology

APPENDIX 3. Letter of Introduction carried whilst Doorknocking



THE UNIVERSITY OF ADELAIDE

BOX 498, G.P.O., ADELAIDE, SOUTH AUSTRALIA 5001

Telephone: 223 4333 (Area Code 08) Telegraphic Address: UNIVAD

Psychology Department

4 June, 1982

This is to introduce Oksana Holubowycz who is a post-graduate student within the Department of Psychology at the University of Adelaide. Oksana's research has the full approval of the Department as well as the University's Board of Research Studies. Any information that is collected is completely anonymous, and no names are recorded on any of the data sheets.

J.M. Innes

APPENDIX 4. Example of Letter to Personnel Managers of Retail Stores



THE UNIVERSITY OF ADELAIDE

BOX 498, G.P.O., ADELAIDE, SOUTH AUSTRALIA 5001
 Telephone: 223 4333 (Area Code 08) Telegraphic Address: UNIVAD

Department of Psychology

3 March, 1981

Personnel Manager,
 David Jones (Aust) Pty. Ltd.,
 44 Rundle Mall,
 ADELAIDE, S.A. 5000

Dear Sir/Madam,

I am writing to you in the hope that you may be able to assist us in conducting some research currently under way in this Department. Ms Oksana Holubowycz, a Ph.D. candidate currently under my supervision in this Department, hopes to gain access to a group of women who are actively involved in careers of an executive nature, and a further group who are working as shop floor assistants. A large retail organization such as David Jones obviously provides a large number of women in such positions and we would hope that you would be able to provide us with the opportunity to contact such people.

I would be grateful if you could arrange for an appointment in order that Ms Holubowycz may discuss with you various aspects of her work, as well as the possibility of gaining access to women in your employ. There would of course be benefit to your organization, indirectly at least, in that we would have some data that would be relevant to your personnel structure. I must add, of course, that any data we might get from your employees would be confidential and anything we could pass on to you would be of a general nature and not in any way concerned with individuals. Ms Holubowycz, should you contact her, would be able to give more information on these and related points. I may be contacted at the Department of Psychology, 223-4333 (ext. 2266), should you wish to have any further information, and Ms Holubowycz may be contacted by telephone on ext. 2738, or 272-5960.

I hope that you may be able to make an appointment and I look forward to hearing from you at your earliest convenience.

Yours faithfully,

Dr. J.M. Innes,
 Senior Lecturer in Psychology

APPENDIX 5. Letter of Introduction forwarded to Career Women



THE UNIVERSITY OF ADELAIDE

BOX 498, G.P.O., ADELAIDE, SOUTH AUSTRALIA 5001
Telephone :08 2234333 Telegraphic Address: UNIVAD AA89141

Department of Psychology

As part of my doctoral thesis in psychology at the University of Adelaide, I am interviewing different groups of women in an effort to understand better the situations and attitudes of women today. One of the groups I hope to interview are women who are actively involved in careers. If you would be willing to participate in an interview, which would take approximately an hour to complete, please fill in the attached form and return it to me. From our research funds, it may be possible to make a small remuneration. Should you wish to have any further information, I may be contacted on 272-5960, or on 223-4333, extension 2738.

Oksana Holubowycz

APPENDIX 6. Screening Questionnaire forwarded to Career Women

Occupation: _____

full-time

part-time

Date of birth: _____

Suburb of residence: _____

Country of birth: _____

Have you ever received treatment for any form of:

	YES	NO
drug abuse	<input type="checkbox"/>	<input type="checkbox"/>
alcohol abuse	<input type="checkbox"/>	<input type="checkbox"/>
psychiatric disorder	<input type="checkbox"/>	<input type="checkbox"/>

Contact phone no. (private): _____

Name (this is only to enable me to contact you -
complete confidentiality will be maintained):

APPENDIX 7. Interview Schedule

GROUP NO: ____; SUBJECT CODE NO: ____

TREATMENT AGENCY: _____

INPATIENT _____ OUTPATIENT _____

INTERVIEW START:

FINISH:

INTERVIEWER: _____

DATE: _____

DEMOGRAPHIC DETAILS:

Group: _____ women in treatment for drinking problems

_____ psychiatric control women

_____ career women

_____ normal control women

Age: _____ years

_____ year of birth

Suburb of residence: _____

In what country were you born? _____

(If not in Australia): At what age did you come to Australia? _____

What is your father's national background? _____

What is your mother's national background? _____

What is your religious preference? _____

Current marital status: _____ single _____ separated

_____ de facto _____ widowed

_____ married _____ divorced

(If de facto): Have you ever been married before? _____ Yes

_____ No

(If ever married): How old were you when you first got married? _____

APPENDIX 7. (continued)

Have you previously been divorced, separated or widowed? Yes No

(If yes): How long did each of your marriage/s last?

length resulted in: (e.g. divorce) when? (year)

Have you previously had any de facto relationships? Yes No

(If yes): How long did each of these last?

length when did it finish? (year)

(If married or de facto): How satisfying do you find your marital/marital type relationship?

- very satisfying
- fairly satisfying
- neither satisfying nor unsatisfying
- fairly unsatisfying
- very unsatisfying

EDUCATION:

Self: How many years of formal education have you had? (Full-time equivalent):

	completed	not completed
primary	_____	_____
secondary	_____	_____
tertiary	_____	_____
technical	_____	_____

Spouse: (answer for present partner if married or de facto, and for your last husband if divorced, separated or widowed)

Years of formal education: _____

	completed	not completed
primary	_____	_____
secondary	_____	_____
tertiary	_____	_____
technical	_____	_____

APPENDIX 7. (continued)

WORK FACTORS:

Are you currently employed? Yes No

(If yes):

What is your present occupation? _____

How long have you worked there? _____

How satisfying do you find your work?

- very satisfying
 fairly satisfying
 neither satisfying nor unsatisfying
 fairly unsatisfying
 very unsatisfying

Do you feel you do your job well? Yes
 No
 Don't know

Would you like to change your job? Yes No

(If yes): What work would you like to do? _____

(If no):

What was the last job you had? _____

When did you stop working at this job? _____

Why did you stop? _____

How satisfying did you find that job?

- very satisfying
 fairly satisfying
 neither satisfying nor unsatisfying
 fairly unsatisfying
 very unsatisfying

Are you currently seeking employment? Yes No

(If yes): For how long have you been unemployed, and looking for work? _____

APPENDIX 7. (continued)

Currently, what is your primary activity? _____

How satisfying do you find this activity?

_____ very satisfying
 _____ fairly satisfying
 _____ neither satisfying nor unsatisfying
 _____ fairly unsatisfying
 _____ very unsatisfying

What jobs have you had previously?

job length of time when did you finish

Have you ever been unemployed, and seeking work for a continuous period of four or more months? _____ Yes _____ No

(If yes): period of unemployment when (year)

(If married or de facto): What is your husband's (partner's) present occupation? _____

(If unemployed):

What was the last job he had? _____

When did he stop working at this job? (year) _____

(If divorced, separated or widowed): What was your husband's occupation?

(If unemployed):

What was the last job he had? _____

SOCIAL FACTORS:

Do you have any interests apart from home and work? _____ Yes _____ No

(If yes): What are these interests? _____

[Administration of Winefield's (1979b, 1982) Social Environment Questionnaire (SEQ-II): see Appendix 8]

APPENDIX 7. (continued)

PARENTS:

Is your father still living? ___ Yes ___ No

(If no): How old were you when he died? _____

Could you use five adjectives to describe your father?

(1) _____ (4) _____

(2) _____ (5) _____

(3) _____

Is your mother still living? ___ Yes ___ No

(If no): How old were you when she died? _____

Could you use five adjectives to describe your mother?

(1) _____ (4) _____

(2) _____ (5) _____

(3) _____

(If one parent died): Did your father/mother remarry? ___ Yes ___ No

(If yes): How old were you when they remarried? _____

Were your parents divorced or separated? ___ Yes ___ No

(If yes):

How old were you when they got divorced/separated? _____

Did your father remarry? ___ Yes ___ No

(If yes): How old were you when he remarried? _____

Did your mother remarry? ___ Yes ___ No

(If yes): How old were you when she remarried? _____

What is/was your father's usual occupation? _____

Does/did your mother work? ___ Yes F/T: ___ P/T: ___ casual: ___

___ No

(If yes):

What is/was her usual occupation? _____

How old were you when she started working? _____

APPENDIX 7. (continued)

With which of the following did you live when you were growing up? For how long did you live with them?

	length of time	when
<input type="checkbox"/> both parents	_____	_____
<input type="checkbox"/> father	_____	_____
<input type="checkbox"/> mother	_____	_____
<input type="checkbox"/> grandparent/s	_____	_____
<input type="checkbox"/> other relative/s	_____	_____
<input type="checkbox"/> private foster home	_____	_____
<input type="checkbox"/> children's hostel	_____	_____
<input type="checkbox"/> other; specify:	_____	_____
_____	_____	_____

SIBLINGS:

How many brothers and sisters do you have? _____

Details: sex present age

Did you have any brothers and/or sisters who have since died? _____ Yes

_____ No

(If yes:) when did they die (year) age at death reason for death

CHILDREN:

How many children of your own do you have living with you? _____

Details: sex present age

How many children do you have who are not living with you? _____

Details: sex present age age at leaving home

(If no children): Would you like to have children? _____ Yes _____ No

APPENDIX 7. (continued)

How important to you is it for you to have children?

- very important
 fairly important
 neither important nor unimportant
 fairly unimportant
 very unimportant

In your opinion, how important do you feel it is for women in general to have children?

- very important
 fairly important
 neither important nor unimportant
 fairly unimportant
 very unimportant

Have you had children who have since died? Yes No

(If yes): when did they die (year) age at death reason for death

Do you have any children who are handicapped in some way? Yes No

(If yes):

How old is the child now? _____

What is the handicap? _____

How long have they had this handicap? _____

Have you every experienced a miscarriage? Yes No

(If yes): How old were you at that time? _____

Have you ever given birth to a stillborn child? Yes No

(If yes): How old were you at that time? _____

(If no children): As far as you know, are/were you able to conceive children? Yes No

[Administration of Selzer et al.'s (1975) Revised MAST: see Appendix 9]

[Administration of Manson's (1949) Alcadd Test: see Appendix 10]

APPENDIX 7. (continued)

QUANTITY-FREQUENCY MEASURES OF DRINKING:Do you ever drink alcohol? Yes No

(If yes):

What type of alcohol do you usually drink?

- beer
- wine
- hard liquor; specify: _____
- other; specify: _____

How often do you drink?

- every day
- weekends only
- 4 to 6 times a week
- 2 or 3 times a week
- 2 to 4 times a month
- 6 to 12 times a year
- 1 to 5 times a year

How many drinks do you usually have?

- 15 or more; specify: _____
- 9 to 14 glasses
- 6 to 8 glasses
- 3 to 5 glasses
- 2 or fewer glasses

Do you ever go on drinking binges, where you drink for two or more days, without attending to most of the other things you would normally do? Yes No

(If yes): How often would you go on a drinking binge?

- 2 or 3 times a week
- 2 to 4 times a month
- 6 to 12 times a year
- 1 to 5 times a year

APPENDIX 7. (continued)

How often would you say you drink to excess?

- 2 or more times a week
 once a week
 1 to 3 times a month
 a few times a year
 a few times in your life so far
 never

When you drink, whom do you most often drink with?

- drink alone
 husband or partner
 one or two friends
 larger group of friends
 other; specify: _____

Where do you most often drink?

- at your home
 at another friend's home
 at a hotel
 at a club
 other; specify: _____

[Administration of Drinking Emotions Questionnaire: see Appendix 11]

DRINKING HISTORY:

At what age did you begin to drink socially? _____

At what age did you first drink to the extent of experiencing a hangover?

ALCOHOL DEPENDENT WOMEN ONLY:

At what age did you begin to drink heavily? _____

At what age did you first notice the onset of any alcohol-related problems?

What were these problems? _____

APPENDIX 7. (continued)

In general, what was going on in your life at that time? _____

Was there any one particular experience that you feel was the beginning of your drinking problem? _____

At what age did you first seek any treatment for any alcohol-related problems? _____

Where, or from whom, did you seek this treatment? _____

What type of treatment were you given? _____

CAREER WOMEN ONLY:

Have you ever experienced any alcohol-related problems? ____ Yes ____ No

(If yes):

At what age did you begin to drink heavily? _____

At what age did you first notice the onset of these problems? _____

What were these problems? _____

In general, what was going on in your life at that time? _____

Was there any one particular experience that you feel was the beginning of your drinking problem? _____

Have you ever sought any treatment for any alcohol-related problems? ____ Yes ____ No

(If yes):

At what age did you first seek this treatment? _____

Where, or from whom, did you seek this treatment? _____

What type of treatment were you given? _____

CONSEQUENCES OF DRINKING:

ALCOHOL DEPENDENT WOMEN AND THOSE CAREER WOMEN WHO HAVE EXPERIENCED ALCOHOL-RELATED PROBLEMS ONLY:

Which of the following consequences of drinking have you experienced?

- _____ gross tremor
- _____ hallucinosis
- _____ withdrawal seizures
- _____ delirium tremens
- _____ blackout periods

APPENDIX 7. (continued)

HOSPITALIZATION HISTORY:

Have you had any of the following operations?

when (age/year)

<input type="checkbox"/>	hysterectomy (removal of uterus)	_____
<input type="checkbox"/>	oophorectomy (removal of ovaries)	_____
<input type="checkbox"/>	pan-hysterectomy (removal of uterus and ovaries)	_____
<input type="checkbox"/>	mastectomy (removal of breast)	_____
<input type="checkbox"/>	sterilization (tubal ligation or cauterly)	_____

Have you ever been admitted to hospital for any other physical illness, operation or tests?

 Yes No

(If yes):

What was the nature of the operation, illness or tests?

For how long were you in hospital on this occasion?

When?

_____	_____	_____
-------	-------	-------

CONTRACEPTION:Do you use any form of contraception? Yes No

(If yes): What method do you use?

<input type="checkbox"/>	pill; specify type: _____
<input type="checkbox"/>	I.U.D.
<input type="checkbox"/>	diaphragm
<input type="checkbox"/>	condom and/or spermicidal cream
<input type="checkbox"/>	withdrawal method
<input type="checkbox"/>	rhythm method
<input type="checkbox"/>	other; specify: _____

APPENDIX 7. (continued)

MENSTRUATION AND MENOPAUSE:

Have you gone through or are you going through the change of life, or menopause?

_____ Yes: _____ gone through _____ going through
 _____ No

(If yes):

How old were you when menopause began? _____

Do you feel that your pattern of drinking changed at all in relation to menopause? _____ Yes _____ No

(If yes): How? _____

Did you experience any problems in relation to menopause? _____ Yes _____ No

(If yes): What were these problems? _____

At what age did you begin menstruating? _____

Have you every experienced any problems related to menstruation? _____ Yes _____ No

(If yes): What was the problem? _____ When did this occur? _____

Do you feel that you drink/drank more heavily during any particular part of the month? _____ Yes _____ No

(If yes): During what part of your menstrual cycle do/did you drink most heavily?

- _____ during menstruation
- _____ shortly after menstruation
- _____ shortly before menstruation
- _____ midcycle
- _____ other; specify: _____

APPENDIX 7. (continued)

DEPRESSION:

Do you ever feel a bit down? Yes No

(If yes):

How often would you feel this way?

- almost all of the time
- several times a week
- several times a month
- several times a year
- occasionally, related to specific things

Do you think that this feeling is associated with anything in particular in your life? Yes No

(If yes): With what? _____

SLEEP DISTURBANCE:

Do you ever have trouble in falling asleep? Yes No

(If yes):

How often?

- daily or almost daily
- several times a week
- several times a month
- several times a year

Do you ever drink to try to overcome this? Yes No

CIGARETTE SMOKING:

Do you smoke cigarettes? Yes No

APPENDIX 7. (continued)

(If yes):

How many cigarettes do you smoke daily?

- 40 or more
 about 30
 about 20
 about 10
 a few cigarettes
 smoke, but not daily

Do you tend to smoke more when you drink? Yes No

[Administration of Zung's (1965) Self-Rating Depression Scale: see Appendix 13]

[Administration of Bem's (1974) Bem Sex-Role Inventory: see Appendix 14]

SEX-ROLE ORIENTATION:

How important do you, or would you, see the following roles for yourself?
 [The subject is given a card which depicts the rating scale.] Rate them on the following scale:

- 1 very important
- 2 fairly important
- 3 neither important nor unimportant
- 4 fairly unimportant
- 5 very unimportant

Roles: being a homemaker
 being a mother
 being a wife
 working (in paid employment)

APPENDIX 7. (continued)

How satisfying do you, or would you, see the following roles for yourself?
 [The subject is given a card which depicts the rating scale.] Rate them on
 the following scale:

- 1 very important
- 2 fairly important
- 3 neither important nor unimportant
- 4 fairly unimportant
- 5 very unimportant

Roles: ___ being a homemaker
 ___ being a mother
 ___ being a wife
 ___ working (in paid employment)

What do you consider your major current role to be?

___ that of a homemaker
 ___ that of a mother
 ___ that of a wife
 ___ that of a working person
 ___ other; specify: _____

What would you ideally like to see as your major role?

___ homemaker
 ___ mother
 ___ wife
 ___ working person
 ___ other; specify: _____

[Administration of a modified version of Tennant and Andrews' (1976)
 Life Events Inventory: see Appendix 15]

APPENDIX 7. (continued)

[These 10 questions formed a separate questionnaire, which was self-administered]

1. Have you ever had a pregnancy terminated? Yes No

(If yes):

How many times have you had a pregnancy terminated? _____

For each time, please answer the following questions:

How old were you
at that time?

For what reason did you choose to
terminate this pregnancy?

2. Have you had any children who have since been adopted? Yes No

(If yes):

Please complete the following information for each child.

How old was the child
when he/she was given
up for adoption?

How old were you
at that time?

3. Have you ever been hospitalized for any psychiatric illness? Yes No

(If yes):

For what illness?	How long had you had this illness before being hospitalized?	For how long were you in hospital on this occasion?	How old were you at the time? Or, if you can't recall your age, in what year were you in hospital?
_____	_____	_____	_____

4. Have you ever received outpatient treatment for any psychiatric problem? Yes No

(If yes):

For what problem?	How long had you had this problem before seeking treatment?	Over what length of time were you given treatment or therapy? What was the treatment?	How old were you at the time you began treatment?
_____	_____	_____	_____

APPENDIX 7. (continued)

5. Are you currently receiving treatment for any kind of psychiatric or emotional problem other than for problems directly related to drinking? Yes No

(If yes):

For what problem?	How long had you had this problem before seeking treatment?	Over what length of time were you given treatment or therapy? What was the treatment?	How old were you at the time you began treatment?
_____	_____	_____	_____

6. Have any of your relatives or your husband/ex-husband/de facto partner/former de facto partner ever experienced the following problems? For each problem, indicate whether or not it has been experienced by the above by ticking either the "Yes", or "No" column. For each problem ticked "Yes", write who experienced it by describing their relationship to you, e.g. "my maternal uncle" or "my mother's brother".

Have they ever:	YES	NO	Their Relationship To You?
-----------------	-----	----	----------------------------

- | | | | |
|--|--|--|--|
| a. been an inpatient at a psychiatric hospital | | | |
| b. received outpatient treatment for any psychiatric problem | | | |
| c. had a drinking problem | | | |
| d. received in- or outpatient treatment for an alcohol-related problem | | | |
| e. received in- or outpatient treatment for a drug-related problem | | | |
| f. committed suicide | | | |
| g. had a nervous breakdown | | | |

7. Have you ever thought about committing suicide? Yes No

Have you ever attempted to commit suicide? Yes No

(If yes):

How many times have you attempted suicide? _____

When did you attempt suicide? Please give the month and year of each attempt: _____

What events or feelings led you to attempt suicide? _____

APPENDIX 7. (continued)

Have you ever received medical treatment as a result of a suicide attempt? _____ Yes _____ No

(If yes):

What type of treatment? Tick the appropriate column:

outpatient inpatient hospital inpatient intensive care

8. Are you regularly taking or using any drugs, either prescription or non-prescription? (e.g. aspirin, valium, marijuana, heroin, etc.) _____ Yes _____ No

(If Yes):

Which drug/s are you taking?	How frequently do you take them?	For how long have you been taking them?
_____	_____	_____

9. Did you ever regularly take or use any prescription or non-prescription drugs that you are no longer regularly taking or using? _____ Yes _____ No

(If Yes):

Which drug/s were you taking?	How frequently did you take them?	For how long had you been taking them?	In what year did you stop taking them? Or, how old were you then?
_____	_____	_____	_____

10. Have you ever received any treatment for any drug-related problems? _____ Yes _____ No

For what problem? What drug were you using?	For how long had you been taking this drug before seeking treatment?	Over what length of time were you given treatment?	How old were you at the time you began this treatment? Or, in what year was it?
_____	_____	_____	_____

Note: Throughout this appendix, the amount of space allocated for responses has been reduced from that in the original questionnaire; hence, it does not reflect the expected degree of detail associated with each response.

APPENDIX 8. Social Environment Questionnaire - SEQ-II (Winefield,
1979b, 1982)

INSTRUCTIONS

This questionnaire looks at your interrelationships with other people, for example, who lives in your household, whom you confide in, and so on. Read each question carefully and fill in your answers in the spaces provided. If you are unsure of anything, just ask me.

QUESTIONNAIRE

SEQ-II

PEOPLE IN YOUR LIFE

1. Who are the people who live with you?

First name, or initial	Age	Relationship to you
_____	_____	_____

2. Out of the people listed above, which one(s) do you feel you can confide in, about anything which is worrying you?

3. Think now about the other people you know, outside of your household. How many really close friends do you have? (These are the people with whom you feel free to discuss your personal problems, and whom you know will really listen to you, be sympathetic, and do their best to encourage and help you). Put the first name or initial of each one, and roughly how long you have known him or her.

Now go back and put a cross beside the name of those whom you can't see as often as you would like to (for instance due to living far apart).

4. List the people, both in your household and outside it, who confide in you and discuss their personal problems with you.

APPENDIX 8. (continued)

-
5. Apart from your close friends, in general would you say that you have:
- more friends and acquaintances than average
 - about the usual number of friends and acquaintances
 - maybe fewer than the average number of friends and acquaintances
- (tick one)
6. Upon meeting someone for the first time, how confident do you feel that you'll be able to make a good impression and have that person begin to like you?
- very confident that I can
 - fairly confident that I can
 - not very confident that I can
 - very much lack confidence that I could
- (tick one)
7. When things are going wrong, how helpful do you find it to be able to talk things over with somebody you feel close to?
- always helpful
 - usually helpful
 - sometimes helpful
 - never helpful
- (tick one)

Note: Throughout this appendix, the amount of space allocated for responses has been reduced from that in the original questionnaire; hence, it does not reflect the expected degree of detail associated with each response.

APPENDIX 9. Revised Michigan Alcoholism Screening Test (Selzer
et al., 1975)

INSTRUCTIONS

These questions are about your experiences with drinking alcohol. All questions relate to your own drinking. Just read each question and tick yes or no in the relevant box. Again, if you have any questions, ask me.

QUESTIONNAIRE

- | | YES | NO | |
|---|--------------------------|--------------------------|-----------------------------|
| 1. Do you feel you are a normal drinker? (By normal we mean you drink less than or as much as most other people.) | <input type="checkbox"/> | <input type="checkbox"/> | (No, 2 points) ^a |
| 2. Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening? | | | (Yes, 2 points) |
| 3. Does your husband, a parent, or other near relative ever worry or complain about your drinking? | | | (Yes, 1 point) |
| 4. Can you stop drinking without a struggle after one or two drinks? | | | (No, 2 points) |
| 5. Do you ever feel guilty about your drinking? | | | (Yes, 1 point) |
| 6. Do friends or relatives think you are a normal drinker? | | | (No, 2 points) |
| 7. Are you able to stop drinking when you want to? | | | (No, 2 points) |
| 8. Have you ever attended a meeting of Alcoholics Anonymous? | | | (Yes, 5 points) |
| 9. Have you ever gotten into physical fights when drinking? | | | (Yes, 1 point) |
| 10. Has drinking ever created problems between you and your husband, a parent, or other near relative? | | | (Yes, 2 points) |
| 11. Has your husband, a parent, or other near relative ever gone to anyone for help about your drinking? | | | (Yes, 2 points) |

APPENDIX 9. (continued)

-
12. Have you ever lost friends or boyfriends because of your drinking? (Yes, 2 points)
13. Have you ever gotten into trouble at work because of your drinking? (Yes, 2 points)
14. Have you ever lost a job because of drinking? (Yes, 2 points)
15. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking? (Yes, 2 points)
16. Do you drink before noon fairly often? (Yes, 1 point)
17. Have you ever been told you have liver trouble? Cirrhosis? (Yes, 2 points)
18. After heavy drinking have you ever had delirium tremens (DTs), or severe shaking, or heard voices or seen things that weren't really there? (Yes, 2 points)
19. Have you ever gone to anyone for help about your drinking? (Yes, 5 points)
20. Have you ever been in a hospital because of drinking? (Yes, 5 points)
21. Have you ever been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital where drinking was part of the problem that resulted in hospitalization? (Yes, 2 points)
22. Have you ever been seen at a psychiatric or mental health clinic or gone to any doctor, social worker, or clergyman for help with any emotional problem, where drinking was part of the problem? (Yes, 2 points)
23. Have you ever been arrested for drunken driving, driving while under the influence of alcohol, or exceeding the legal blood alcohol limit? (Yes, 2 points)
24. Have you ever been arrested, even for a few hours, because of other drunken behaviour? (Yes, 2 points)

^a The responses indicating alcoholism are in parentheses with the weighted scores.

APPENDIX 10. Alcadd Test (Manson, 1949)

INSTRUCTIONS

Read the directions on the front page, and then go on to fill in the questionnaire. Don't bother filling in the details on the front page, because as I explained to you previously, all of this is anonymous and you're only identified by your code number in the top right-hand corner of each questionnaire.

DIRECTIONS

Your full cooperation is necessary. Answer each question sincerely. Make every effort to answer as many questions as you can. There are no "right" or "wrong" answers. Many people will answer "yes" to a certain question, while many others will answer "no" to the same question. If your answer to a question is "yes", mark the space under the YES for that question. If your answer is "no", mark the space under the NO for that question. You will have all the time you need to answer all the questions, but work as fast as you can. YOU MAY NOW TURN THE PAGE AND BEGIN.

QUESTIONNAIRE

	YES	NO
1. I like to swim	(Not scored)	
2. I am a good dancer.	(Not scored)	
3. I like to read detective stories.	(Not scored)	
4. I enjoy watching a football game.	(Not scored)	
5. I would rather go to a dinner or banquet than drink.	(No; Scale B) ^a	
6. Drinking speeds up life for me.	(Yes; Scale D)	
7. I need a drink or two to get started in my work.	(Yes; Scale D)	
8. I often take a drink or two in the middle of the afternoon.	(Yes; Scale A)	
9. I drink only to join the fun.	(No; Scale D)	
10. I drink at regular times.	(Yes; Scale A)	
11. I drink because I am unlucky in love.	(Yes; Scales D & E)	

APPENDIX 10. (continued)

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12. I would rather go to a dance than drink. (No; Scale B)
13. Drinking puts me at ease with people. (Yes; Scales D & E)
14. I control my drinking at all times. (No; Scale C)
15. I prefer to dine in restaurants which serve drinks. (Yes; Scale B)
16. I often have the desire to take a drink or two. (Yes; Scale C)
17. I have good reasons for getting drunk. (Yes; Scale E)
18. A drink or two is the best way to get quick energy or pep. (Yes; Scale D)
19. Drinking has changed my personality a good deal. (Yes; Scale E)
20. I drink entirely too much. (Yes; Scale C)
21. Drinking disturbs my sleep. (Yes; Scale E)
22. I drink to get over my feelings of inferiority. (Yes; Scales C & E)
23. I drink about a pint or more of whiskey a week. (Yes; Scales A & C)
24. I drink because I am unhappy or sad. (Yes; Scales C & E)
25. I drink because I like to drink and want to drink. (Yes; Scales B & D)
26. I would rather attend a lecture or concert than drink. (No; Scale B)
27. I drink much more now than five years ago. (Yes; Scale C)
28. Some of my best friends are heavy drinkers. (Yes; Scale B)
29. I drink to make life more pleasant. (Yes; Scale D)
30. I take a drink or two before a date. (Yes; Scale E)
31. A drink or two before a conference, interview, or social affair helps me very much. (Yes; Scales D & E)

APPENDIX 10. (continued)

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- | | | |
|-----|---|---------------------|
| 32. | I often go to a cheaper neighborhood to do my drinking. | (Yes; Scale B) |
| 33. | I get drunk about every pay-day. | (Yes; Scales A & C) |
| 34. | I drink because it braces or lifts me up. | (Yes; Scale D) |
| 35. | I need the friendship I find in drinking places. | (Yes; Scales B & E) |
| 36. | It is necessary for some people to drink. | (Yes; Scale D) |
| 37. | After a few drinks, I swear easily. | (Yes; Scale E) |
| 38. | When I am sober, I feel bored and restless. | (Yes; Scale D) |
| 39. | I drink whenever I have the chance. | (Yes; Scales A & B) |
| 40. | I drink to ease my pain. | (Yes; Scale D) |
| 41. | I go on a bender or binge at least once a month. | (Yes; Scales A & C) |
| 42. | I usually pass out after I start drinking. | (Yes; Scale C) |
| 43. | I often have pleasant burning sensations in my throat. | (Yes; Scale C) |
| 44. | I drink too fast. | (Yes; Scales C & E) |
| 45. | I often have blackouts when I am drinking. | (Yes; Scale C) |
| 46. | I drink because it takes away my shyness. | (Yes; Scales D & E) |
| 47. | I get high about once or twice a week. | (Yes; Scales A & C) |
| 48. | I drink often at irregular times. | (Yes; Scale A) |
| 49. | I take a drink or two when I feel happy. | (Yes; Scales D & E) |
| 50. | I drink to relax. | (Yes; Scales D & E) |
| 51. | I need a drink or two in the morning. | (Yes; Scales A & C) |
| 52. | I drink to forget my sins. | (Yes; Scales D & E) |

APPENDIX 10. (continued)

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53. I take a drink or two every day. (Yes; Scale A)
54. I would rather drink alone than with others. (Yes; Scales C & E)
55. I drink to forget my troubles. (Yes; Scales D & E)
56. My family thinks I drink too much. (Yes; Scale C)
57. I go on a week-end drunk now and then. (Yes; Scales A & C)
58. People who never drink are dull company. (Yes; Scale B)
59. My friends think I am a heavy drinker. (Yes; Scale C)
60. My father is (or was) a heavy drinker. (Yes; Scale D)
61. I would rather go to a movie than drink. (No; Scale B)
62. I go on a spree every few months and stay drunk for a few days. (Yes; Scales A & C)
63. All people who drink get drunk at some time or another. (Yes; Scale E)
64. A spree gives me a wonderful feeling of release and freedom. (Yes; Scales D & E)
65. Almost from the very first drink I took, I had a strong craving for alcohol which nearly always led to my getting drunk. (Not scored)

^a The responses indicating alcoholism are in parentheses. These responses also load on the specified subscales - A: Regularity of drinking; B: Preference for drinking over other activities; C: Lack of controlled drinking; D: Rationalization of drinking; and, E: Excessive emotionality.

APPENDIX 12. Drawing Completion Test (Franck & Rosen, 1949)

INSTRUCTIONS

Read the instructions on the front page. Again, don't bother about filling in your name etc., just go on to fill in the drawings. You'll see that some of the drawings have got lines through them - leave these out, and just do the remainder. Remember, you can do whatever you like to the drawings.

INSTRUCTIONS IN TEST BOOKLET

In the following pages you will find a number of incomplete drawings; please complete them. Do it any way you like; use as many lines as you wish; do it the way it seems most fun. There is no right or wrong way of doing this.

STIMULI DRAWINGS (see following pages)

[These drawings represent a 80% reduction in the size of the drawings that were presented in the test booklet.]

SCORING

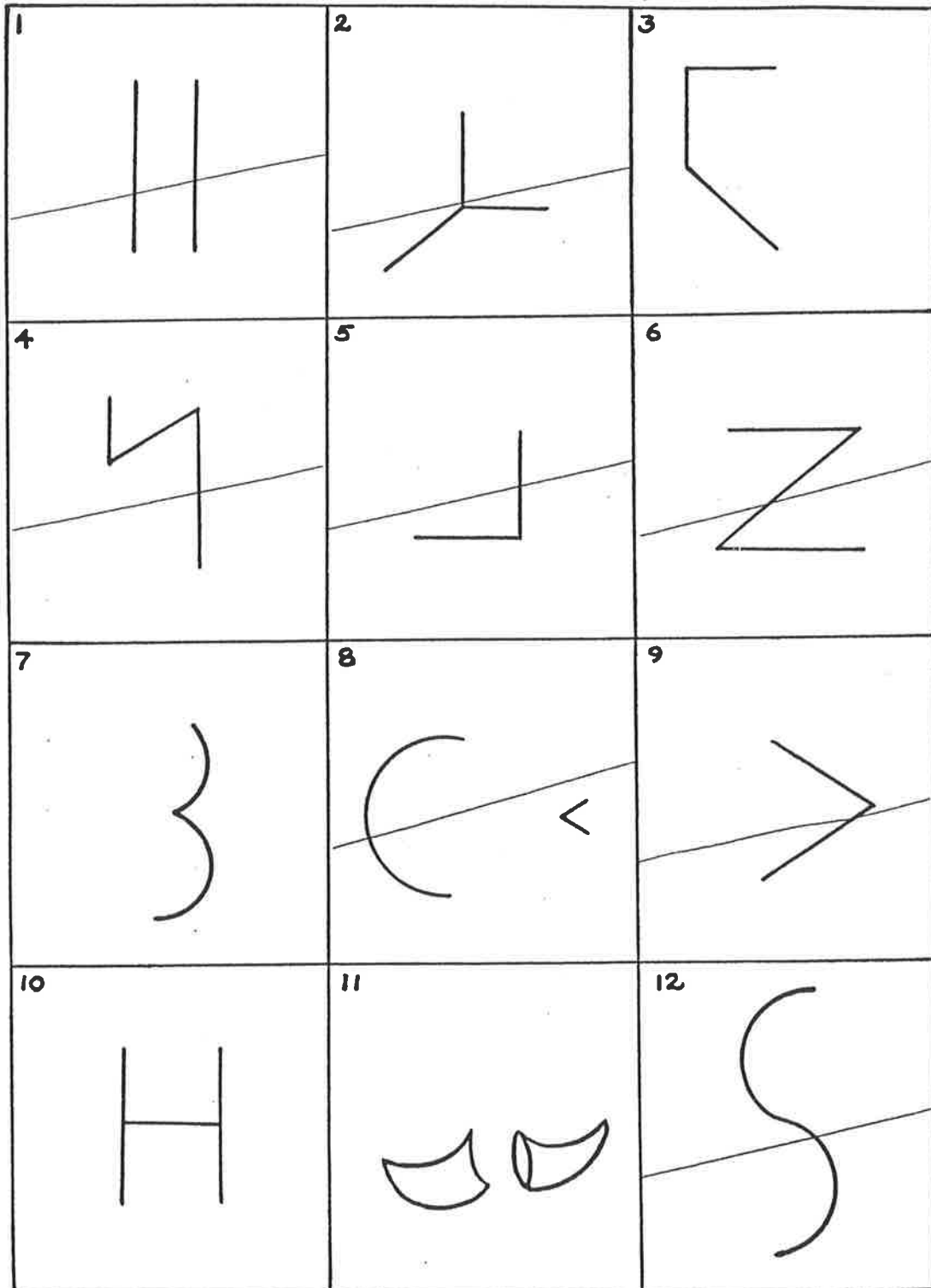
Bezdek and Madsen's (1970) general guidelines for scoring abstract completions are as follows:

Stimulus no.	Scoring criterion	Score when criterion is	
		present	absent
3,7,10,14,21	Internal elaboration	F(1)	M(0)
20,29	Roundness	F(1)	M(0)
15,30	Angularity	M(0)	F(1)
11,35	Closure	M(0)	F(1)

More detailed descriptions and examples are provided by Bezdek and Madsen (1970).

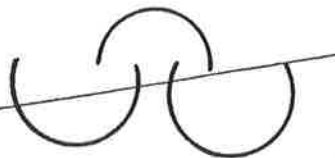



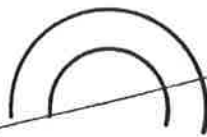



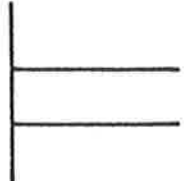

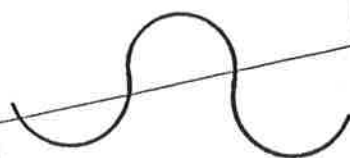
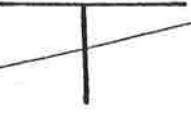
APPENDIX 12. (continued)

I



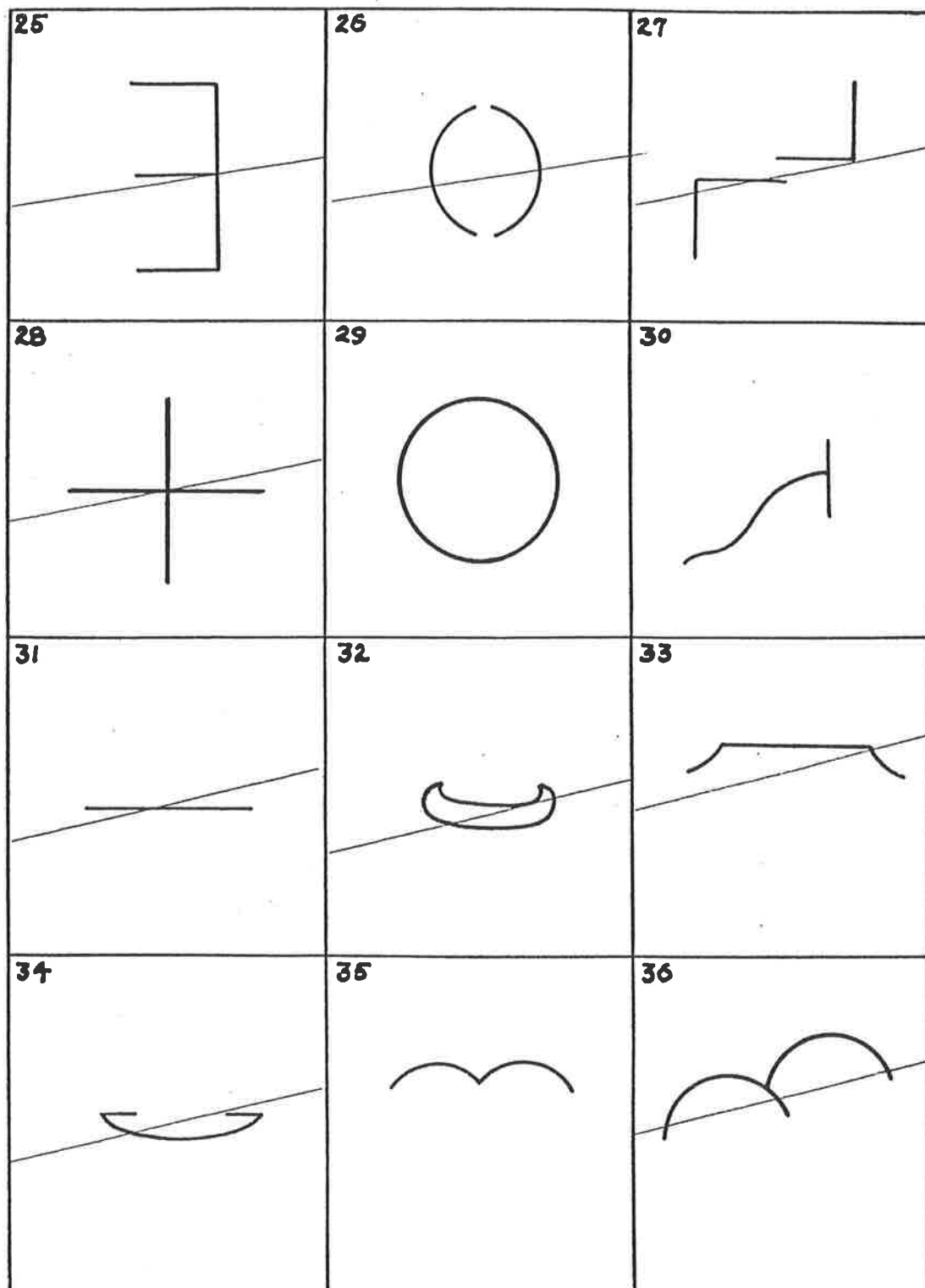
APPENDIX 12. (continued)

II

13 	14 	15 
16 	17 	18 
19 	20 	21 
22 	23 	24 

APPENDIX 12. (continued)

III



APPENDIX 13. Self-Rating Depression Scale (Zung, 1965)

INSTRUCTIONS

Here's a list of statements. Read each over and then tick the relevant box, going from "none, or a little of the time" through to "most, or all of the time" [interviewer points to relevant boxes].

QUESTIONNAIRE

1. I feel down-hearted and blue.^a
2. Morning is when I feel the best.^b
3. I have crying spells, or feel like it.^a
4. I have trouble sleeping at night.^a
5. I eat as much as I used to.^b
6. I still enjoy sex.^b
7. I notice that I am losing weight.^a
8. I have trouble with constipation.^a
9. My heart beats faster than usual.^a
10. I get tired for no reason.^a
11. My mind is as clear as it used to be.^b
12. I find it easy to do the things I used to do.^b
13. I am restless and can't keep still.^a
14. I feel hopeful about the future.^b
15. I am more irritable than usual.^a
16. I find it easy to make decisions.^b
17. I feel that I am useful and needed.^b
18. My life is pretty full.^b
19. I feel that others would be better off if I were dead.^a
20. I still enjoy the things I used to do.^b

None, or a little of the time	Some of the time	Good part of the time	Most, or all of the time

^a Scored as: most, or all of the time, 4 points; good part of the time, 3 points; some of the time, 2 points; none, or a little of the time, 1 point.

^b Scored as: none, or a little of the time, 4 points; some of the time, 3 points; good part of the time, 2 points; most, or all of the time, 1 point.

APPENDIX 14. Bem Sex-Role Inventory (Bem, 1974)

INSTRUCTIONS

Read these directions, and then we will go through a few examples together.

DIRECTIONS

On the following page you will be shown a large number of personality characteristics. I would like you to use those characteristics to:

- (1) describe yourself as you think you are ("perceived self"), and
- (2) describe yourself as you would ideally like to be ("ideal self").

To do this, for each characteristic indicate on a scale from 1 to 7 both how you are, and how you would like to be.

The scale is

1	2	3	4	5	6	7
NEVER OR ALMOST NEVER TRUE	USUALLY NOT TRUE	SOMETIMES BUT IN- FREQUENTLY TRUE	OCCASION- ALLY TRUE	OFTEN TRUE	USUALLY TRUE	ALWAYS OR ALMOST ALWAYS TRUE

[Having read the above, the subjects were then given the following examples.]

Now let's say a person is often moody, but would like to be usually not moody. So, the person's perceived self - how they think they are - would be "5", or "often true" that they are moody [interviewer points to relevant point on the scale], and their ideal self, that is, how they'd like to be, would be "2", or "usually not true" that they are moody [interviewer again points to relevant point on the scale]. So, the person would write a "5" in the column for "perceived self", and a "2" for "ideal self". Let us say another person is often understanding, but would like to be understanding just that little bit more frequently, that is, usually. This person would then write "5" for perceived self, and "6" for ideal self in the columns next to "understanding". Is that OK now? Well, have a go yourself and if you need more help or don't understand what a word means, ask me, and I'll help you.

APPENDIX 14. (continued)

QUESTIONNAIRE

	Perceived Self	Ideal Self		Perceived Self	Ideal Self		Perceived Self	Ideal Self
Defend my own beliefs			Adaptable			Flatterable		
Affectionate			Dominant			Theatrical		
Conscientious			Tender			Self-Sufficient		
Independent			Conceited			Loyal		
Sympathetic			Willing to take a stand			Happy		
Moody			Love children			Individualistic		
Assertive			Tactful			Soft-spoken		
Sensitive to needs of others			Aggressive			Unpredictable		
Reliable			Gentle			Masculine		
Strong personality			Conventional			Gullible		
Understanding			Self-reliant			Solemn		
Jealous			Yielding			Competitive		
Forceful			Helpful			Childlike		
Compassionate			Athletic			Likeable		
Truthful			Cheerful			Ambitious		
Have leadership abilities			Unsystematic			Do not use harsh language		
Eager to soothe hurt feelings			Analytical			Sincere		
Secretive			Shy			Act as a leader		
Willing to take risks			Inefficient			Feminine		
Warm			Make decisions easily			Friendly		

APPENDIX 15. Modified Life Events Inventory

INSTRUCTIONS

Here I have a list of life events, that may, or may not, have occurred at some stage of your life, from childhood onwards. I will read these events to you. If you have experienced any particular event, I would like to know either how old you were then, or in what year that event occurred. If you experienced the event more than once, answer for every time it occurred. If you remember the month of the year that the event occurred, tell me that too.

QUESTIONNAIRE

[This was administered verbally to the subject and the interviewer recorded whether or not each event had been experienced. If an event was experienced, the month and year of each occurrence was also recorded].

EVENT	SCALINGS		MANNER OF EVENT CATEGORIZATION				
	Distress	Life Change	Controllable vs. Uncontrollable		Threat to female adequacy		
			Controllable	Uncontrollable	Biological	Psychological	None
You had a serious illness, injury or operating needing hospitalization or a month or more off work	16	16	sterilization abortion X	all other X	hysterectomy mastectomy sterilization infertility X		all other X
A close relative had a serious illness (from which they did not die)	16	9		X			X
You adopted a child	4	47	X				X
Your husband or de facto partner died	83	79		X			X
A close family member died (e.g. parent, brother etc.)	57	27		X			X
A close friend or relative died	30	12		X			X
There were increasing serious arguments with your husband or de facto partner	26	25	X			X	
You were separated from your husband or de facto partner for more than a month because of relationship problems	31	29	X			X	
You were separated from your husband or de facto partner for more than a month (for reasons other than relationship problems)	12	15		X			X

APPENDIX 15. (continued)

EVENT	SCALINGS		MANNER OF EVENT CATEGORIZATION					
	Distress	Life Change	Controllable vs. Uncontrollable		Threat to female adequacy			
			Controllable	Uncontrollable	Biological	Psychological	None	
You got back together again after a separation due to relationship problems	5	25	X					X
You began an extramarital affair	14	28	X					X
Your husband began an extramarital affair	35	28	N.C.	N.C.			X	
You were divorced	54	62	X				X	
A child of yours became engaged	2	6		X			X	
A child of yours married with your approval	2	10		X			X	
A child of yours married without your approval	22	16		X			X	
A child of yours left home for reasons other than marriage	11	14		X			X	
A child of yours entered the armed services	9	10		X			X	
You became engaged or began a steady relationship	2	17	X					X
You broke off your engagement	25	21	X				X	
You broke off a steady relationship	18	18	X				X	
You had increasing arguments with your fiance or steady friend	15	13	X				X	
You failed an important exam	20	18	X					X
You were unemployed and seeking work for for a month or more	20	22		X				X
Your own business failed	38	44	X					X
You were sacked	32	34	N.C.	N.C.				X
You retired	15	53	X					X

APPENDIX 15. (continued)

EVENT	SCALINGS		MANNER OF EVENT CATEGORIZATION				
	Distress	Life Change	Controllable vs. Uncontrollable		Threat to female adequacy		
			Controllable	Uncontrollable	Biological	Psychological	None
You were downgraded or demoted at work	20	18	N.C.	N.C.			X
You were promoted	2	18	N.C.	N.C.			X
You had a big change in the hours you worked	5	16	X				X
You had a big change in the people, duties or responsibilities in your work	7	17	X				X
You started in a completely different type of job	8	24	X				X
You moved to Australia from overseas	19	48	X				X
You moved to Adelaide from elsewhere in Australia	8	26	X				X
You moved home in Adelaide	4	11	X				X
You had moderate financial difficulties	9	10	X				X
You had a major financial crisis	34	37	N.C.	N.C.			X
You were involved in a traffic accident that carried serious risk to the health or life of yourself or others	31	22		X			X
You had important problems with the police or the authorities (leading to a court appearance)	21	15	X				X
You had a gaol sentence or were in prison	59	72	X				X
You were involved in a civil law suit (e.g. divorce, debt, custody etc.)	25	21	X				X

APPENDIX 15. (continued)

EVENT	SCALINGS		MANNER OF EVENT CATEGORIZATION				
	Distress	Life Change	Controllable vs. Uncontrollable		Threat to female adequacy		
			Controllable	Uncontrollable	Biological	Psychological	None
[The interviewer recorded the following items from earlier segments of the interview].							
You had a stillbirth	40	22		X		X	
You had an abortion or miscarriage	26	13		X		X	
You had a baby	5	47	X				X
Your change of life (menopause) began	14	18		X		X	
A child of yours died	80	57		X			X
You married	5	59	X				X
You began a de facto relationship	7	47	X				X

Note: N.C. denotes that the life event was unable to be categorized.

APPENDIX 16. Life Events Inventory (Tennant & Andrews, 1976)

EVENT	DISTRESS SCALINGS	LIFE CHANGE SCALINGS	MEAN SCALINGS FOR COMPONENTS OF ^a		
			CHANGE	SELF	OTHERS
HEALTH (Men and Women)					
1. You had a minor illness or injury like one needing a visit to a doctor or a couple of days off work	2	2	6.1	2.7	1.2
2. You had a serious illness, injury or operation needing hospitalization or a month or more off work	16	16	6.4	2.2	1.4
3. A close relative had a serious illness (from which they did not die)	16	9	6.8	0.9	2.3
(Women Only)					
4. You are pregnant (with a wanted pregnancy)	2	26	1.2	5.2	3.6
5. You are pregnant (with an unwanted pregnancy)	33	29	2.6	4.3	3.1
6. You had a stillbirth	40	22	7.0	2.3	0.7
7. You had an abortion or miscarriage	26	13	6.0	3.0	1.0
8. You had a baby	5	47	1.7	5.0	3.3
9. Your change of life (menopause) began	14	18	4.3	4.7	1.0
10. You adopted a child	4	47	0.9	6.9	2.2
(Men Only)					
11. Your wife had a child or you adopted a child	4	41	1.2	4.8	4.0
BEREAVEMENT (Men and Women)					
12. Your wife/husband died	83	79	7.9	0.7	1.4
13. A child of yours died	80	57	7.5	0.8	1.7
14. A close family member died (e.g. parent, brother, etc.)	57	27	7.7	0.7	1.6
15. A close family friend or relative died (e.g. Aunt, Uncle, Grandmother, Cousin, etc.)	30	12	7.5	0.7	1.8
FAMILY AND SOCIAL (If you are or were married)					
16. You married	5	59	1.1	5.1	3.8
17. There has been increasing serious arguments with your wife/husband	26	25	0.6	4.9	4.5
18. There has been a marked improvement in the way you and your wife/husband are getting on	2	18	0.7	4.8	4.5

APPENDIX 16. (continued)

EVENT	DISTRESS SCALINGS	LIFE CHANGE SCALINGS	MEAN SCALINGS FOR COMPONENTS OF ^a		
			CHANCE	SELF	OTHERS
FAMILY AND SOCIAL (continued)					
19. You have been separated from your husband/wife for more than a month because of marital difficulties	31	29	0.8	4.8	4.4
20. You have been separated from your wife/husband for more than a month (for reasons other than marital difficulties)	12	15	5.1	2.2	2.7
21. You have got back together again after a separation due to marital difficulties	5	25	1.0	4.9	4.1
22. You began an extramarital affair	14	28	1.5	5.4	3.1
23. Your wife/husband began an extramarital affair	35	28	1.3	4.2	4.5
24. You have been divorced	54	62	0.7	4.8	4.5
(If you have or had children)					
25. A child of yours became engaged	2	6	1.1	2.1	6.8
26. A child of yours married with your approval	2	10	1.6	2.9	5.5
27. A child of yours married without your approval	22	16	1.6	3.5	4.9
28. A child of yours left home for reasons other than marriage	11	14	1.7	3.7	4.6
29. A child of yours entered the armed services	9	10	1.6	2.4	6.0
(If you are single)					
30. You became engaged or began a "steady" relationship	2	17	2.0	4.5	3.5
31. You broke off your engagement	25	21	0.9	5.0	4.1
32. You broke off a "steady" relationship	18	18	0.9	5.7	3.4
33. You had increasing arguments or difficulties with your fiancée or steady friend	15	13	0.7	5.0	4.3
FRIENDS AND RELATIVES					
34. A new person came to live in your household (apart from a new baby)	8	20	1.8	4.2	4.0
35. There has been a marked improvement in the way you get on with someone close to you (excluding husband and wife)	1	10	0.9	5.4	3.7
36. You have been separated from someone important to you (other than close family members)	13	13	2.8	2.8	4.4

APPENDIX 16. (continued)

EVENT	DISTRESS SCALINGS	LIFE CHANGE SCALINGS	MEAN SCALINGS FOR COMPONENTS OF ^a		
			CHANGE	SELF	OTHERS
FRIENDS AND RELATIVES (continued)					
37. There has been serious increase in arguments or problems with someone who lives at home (excluding husband or wife)	16	16	0.9	4.6	4.5
38. There has been serious problems with a close friend, neighbour or relative not living at home	10	8	1.5	4.2	4.3
EDUCATION					
39. You started a course (i.e. University, Tech. College, Business College, apprenticeship or other occupational training course)	3	16	1.0	7.1	1.9
40. You changed to a different course	5	11	1.0	7.0	2.0
41. You completed your training program	2	27	1.5	7.8	0.7
42. You dropped out of your training program	14	22	1.0	7.8	1.2
43. You studied for, or did, important exams	10	13	0.4	7.4	2.2
44. You failed an important exam	20	18	1.4	7.1	1.5
WORK					
45. You have been unemployed and seeking work for a month or more	20	22	2.6	4.0	3.4
46. Your own business failed	38	44	2.8	5.0	3.0
47. You were sacked	32	34	1.5	4.9	3.6
48. You retired	15	53	0.9	5.9	3.2
49. You were downgraded or demoted at work	20	18	1.5	5.5	3.0
50. You were promoted	2	18	1.7	5.0	3.3
51. You began to have trouble or disagreements with your boss, supervisor or fellow workers	10	9	1.2	4.7	4.1
52. You had a big change in the hours you worked	5	16	2.0	3.2	4.8
53. You had a big change in the people, duties or responsibilities in your work	7	17	1.8	3.8	4.4
54. You started in a completely different type of job	8	24	1.7	6.5	1.7
55. You had holidays for a week or more	1	5	1.2	6.1	2.7

APPENDIX 16. (continued)

EVENT	DISTRESS SCALINGS	LIFE CHANGE SCALINGS	MEAN SCALINGS FOR COMPONENTS OF ^a		
			CHANGE	SELF	OTHERS
MOVING HOUSE					
56. You moved to Sydney from overseas	19	48	1.8	5.2	3.0
57. You moved to Sydney from elsewhere in Australia	8	26	2.1	5.2	2.7
58. You moved house in Sydney	4	11	1.4	6.2	2.4
FINANCIAL AND LEGAL					
59. You had moderate financial difficulties	9	10	2.7	4.7	2.6
60. You had a major financial crisis	34	37	2.7	4.2	3.1
61. You are much better off financially	1	23	2.2	5.3	2.5
62. You were involved in a traffic accident that carried serious risk to the health or life of yourself or others	31	22	3.6	3.5	2.9
63. You had minor difficulties with the police or the authorities [which has not required a court appearance (e.g. speeding fine, etc.)]	4	2	2.1	6.1	1.8
64. You had more important problems with the police or the authorities (leading to a court appearance)	21	15	1.9	5.4	2.7
65. You had a jail sentence or were in prison	59	72	1.6	6.3	2.1
66. You were involved in a civil law suit (e.g. divorce, debt, custody, etc.)	25	21	1.3	5.3	3.4
67. Something you valued or cared for greatly was stolen or lost	9	5	4.4	2.0	3.6

^a From Tennant and Andrews (1977)

APPENDIX 17. Percentages of Alcohol Dependent Women nominating Specific Initial Alcohol-Related Problems

	%
	(N=53)
<hr/>	
Social Problems	
Relationships affected	18.9
Functioning affected	15.1
Work affected	11.3
Life became a "drag"	5.7
Comments by others	3.8
Change in drinking habits	
Excessive drinking	20.8
Solitary, daytime drinking	7.5
Coping through alcohol	5.7
Desire to drink more	5.7
Secretive drinking	5.7
Needing to drink	1.9
Binge drinking	1.9
Morning drinking	1.9
Physical problems	
Blackouts	7.5
Loss of appetite, weight	7.5
Sleep affected	3.8
Hangovers	1.9
Alcohol-related haemorrhage	1.9
Deterioration of health	1.9
Tremors	1.9
Hypertension	1.9
Liver problems	1.9
Mood-related problems	
Depression	5.7
Guilt	3.8
Anxiety	1.9
Jealousy	1.9
Irritability	1.9
Loneliness	1.9
Aggression	1.9

Note: The percentages do not sum to 100% because each woman was able to nominate up to two specific problems.

APPENDIX 18. Specific Initial Treatment Contacts of Alcohol Dependent Women

	%
	(N=53)
Alcohol treatment agency	
Alcohol clinic within psychiatric hospital	13.2
Osmond Terrace Clinic ^a	13.2
Elura Clinic ^b	3.8
Alcohol and Drug Addicts Treatment Board ^c	1.9
Alcoholics Anonymous	7.5
General medical service	
General practitioner	20.8
Public hospital	9.4
Psychiatric service	
Psychiatric hospital	9.4
Private hospital	3.8
Other medical service	
Private hospital	1.9
Industrial medical clinic	1.9
Non-medical professional	
Psychologist, counsellor	3.8
Hypnotherapist	1.9
Lawyer	1.9
Probation Officer	1.9
Telephone counselling service	
Lifeline	3.8
	100.1

^a Detoxification clinic

^b Outpatient clinic

^c Now Drug and Alcohol Services Council

APPENDIX 19. Distress associated with Stressful Life Events (SLEs) - Analysis of Variance Results

	Alcohol (N=52)		General (N=52)		Career (N=52)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
<u>Controllable-Uncontrollable</u>							
Controllable SLEs							
Period 1	75.8	52.3	64.5	52.6	69.1	54.4	F(2, 153)=0.59, N.S.
Period 2	26.2	34.9	10.6	22.8	16.0	34.9	F(2, 153)=3.32, p<.05, MS _e =985.99
Period 3	102.0	64.6	75.1	56.0	85.1	64.0	F(2, 153)=2.53, N.S.
Period 4	66.3	83.7	23.9	32.8	31.3	41.6	F(2, 153)=8.15, p<.001, MS _e =3268.96
Period 5	168.3	106.1	99.0	68.1	116.4	65.5	F(2, 153)=10.04, p<.001, MS _e =6727.32
Uncontrollable SLEs							
Period 1	103.4	89.7	131.4	98.6	61.5	58.3	F(2, 153)=9.07, p<.001, MS _e =7098.07
Period 2	24.5	30.4	12.1	25.5	12.3	23.0	F(2, 153)=3.75, p<.05, MS _e =701.26
Period 3	127.9	95.4	143.5	98.5	73.8	61.2	F(2, 153)=9.25, p<.001, MS _e =7521.08
Period 4	57.3	57.6	68.4	81.4	46.6	62.9	F(2, 153)=1.34, N.S.
Period 5	185.2	117.1	211.9	126.0	120.4	73.2	F(2, 153)=9.89, p<.001, MS _e =11647.57
<u>Threats to female adequacy</u>							
Biological SLEs							
Period 1	20.3	29.3	22.1	39.8	7.5	16.0	F(2, 153)=3.67, p<.05, MS _e =898.49
Period 2	2.3	8.4	3.5	9.5	3.4	12.9	F(2, 153)=0.23, N.S.
Period 3	22.6	29.7	25.6	43.3	10.9	19.2	F(2, 153)=3.00, N.S.
Period 4	7.0	14.1	8.7	16.0	3.3	10.9	F(2, 153)=2.05, N.S.
Period 5	29.5	33.9	34.3	47.9	14.3	21.7	F(2, 153)=4.38, p<.05, MS _e =1306.16

APPENDIX 19. (continued)

	Alcohol (N=52)		General (N=52)		Career (N=52)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Psychological SLEs							
Period 1	38.4	44.7	24.7	37.6	31.9	36.9	F(2, 153)=1.54, N.S.
Period 2	15.6	23.8	4.8	17.2	6.8	20.2	F(2, 153)=4.06, p<.05, MS _e =422.16
Period 3	54.0	50.6	29.5	38.9	38.7	46.2	F(2, 153)=3.85, p<.05, MS _e =2068.71
Period 4	39.2	52.2	19.2	35.1	16.3	25.3	F(2, 153)=5.28, p<.01, MS _e =1533.56
Period 5	93.3	66.1	48.8	54.1	54.9	51.0	F(2, 153)=9.15, p<.001, MS _e =3298.70
Biological or psychological SLEs							
Period 1	58.7	58.7	46.8	54.7	39.4	41.5	F(2, 153)=1.82, N.S.
Period 2	17.9	27.2	8.3	22.1	10.2	29.9	F(2, 153)=1.88, N.S.
Period 3	76.6	65.3	55.2	57.8	49.6	54.6	F(2, 153)=3.00, N.S.
Period 4	46.2	54.7	28.0	38.5	19.6	27.7	F(2, 153)=5.49, p<.01, MS _e =1746.15
Period 5	122.8	82.8	83.1	71.0	69.2	58.9	F(2, 153)=7.85, p<.001, MS _e =5121.17
Non-threat SLEs							
Period 1	125.6	79.9	158.4	106.4	101.9	77.2	F(2, 153)=5.31, p<.01, MS _e =7882.62
Period 2	37.7	40.0	16.4	30.7	18.9	30.5	F(2, 153)=6.09, p<.01, MS _e =1158.72
Period 3	163.3	82.3	174.9	104.8	120.8	80.3	F(2, 153)=5.21, p<.01, MS _e =8071.83
Period 4	89.5	92.2	70.5	74.6	62.6	70.7	F(2, 153)=1.56, N.S.
Period 5	252.8	121.6	245.4	124.9	183.5	86.0	F(2, 153)=5.99, p<.01, MS _e =12595.03
All							
Period 1	184.3	113.3	205.3	136.8	141.3	104.6	F(2, 153)=3.90, p<.05, MS _e =14160.35
Period 2	55.6	52.7	24.8	43.8	29.1	53.8	F(2, 153)=5.73, p<.01, MS _e =2530.61
Period 3	239.9	113.9	230.0	137.1	170.4	117.9	F(2, 153)=4.83, p<.01, MS _e =15230.78
Period 4	135.7	126.6	98.5	94.6	82.3	89.0	F(2, 153)=3.56, p<.05, MS _e =10966.89
Period 5	375.6	158.7	328.5	164.2	252.7	119.5	F(2, 153)=9.03, p<.001, MS _e =22142.62

APPENDIX 20. Life Change associated with Stressful Life Events (SLEs) - Analysis of Variance Results

	Alcohol (N=52)		General (N=52)		Career (N=52)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
<u>Controllable-Uncontrollable</u>							
Controllable SLEs							
Period 1	228.8	140.7	221.6	119.6	200.8	136.9	F(2, 153)=0.62, N.S.
Period 2	50.8	65.8	31.1	68.1	30.6	54.9	F(2, 153)=1.73, N.S.
Period 3	279.6	146.1	252.8	118.9	231.4	142.8	F(2, 153)=1.63, N.S.
Period 4	116.6	158.2	53.5	66.1	77.3	107.3	F(2, 153)=3.87, p<.05, MS _e =13629.18
Period 5	396.2	188.5	306.3	115.8	308.7	133.8	F(2, 153)=6.13, p<.01, MS _e =22275.33
Uncontrollable SLEs							
Period 1	66.8	61.7	75.5	58.5	36.7	39.5	F(2, 153)=7.36, p<.001, MS _e =2928.79
Period 2	17.4	23.6	8.3	15.4	8.4	13.3	F(2, 153)=4.38, p<.05, MS _e =324.02
Period 3	84.2	70.2	83.8	59.7	45.1	40.8	F(2, 153)=7.76, p<.001, MS _e =3386.13
Period 4	46.9	49.9	47.3	52.9	32.2	49.7	F(2, 153)=1.49, N.S.
Period 5	131.1	97.0	131.0	81.6	77.3	55.5	F(2, 153)=7.86, p<.001, MS _e =6382.03
<u>Threats to female adequacy</u>							
Biological SLEs							
Period 1	13.1	17.0	13.0	22.8	5.1	10.4	F(2, 153)=3.59, p<.05, MS _e =305.99
Period 2	2.2	7.8	2.6	6.3	2.2	7.4	F(2, 153)=0.06, N.S.
Period 3	15.2	17.8	15.6	25.3	7.2	11.9	F(2, 153)=3.17, p<.05, MS _e =365.20
Period 4	6.2	10.5	7.6	11.5	3.1	8.7	F(2, 153)=2.62, N.S.
Period 5	21.4	21.0	23.2	27.4	10.3	14.4	F(2, 153)=5.40, p<.01, MS _e =466.59

APPENDIX 20. (continued)

	Alcohol (N=52)		General (N=52)		Career (N=52)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Psychological SLEs							
Period 1	37.1	42.8	24.3	35.0	29.7	33.2	F(2, 153)=1.54, N.S.
Period 2	15.9	24.8	4.9	15.9	7.5	21.4	F(2, 153)=3.91, p<.05, MS _e =440.76
Period 3	53.0	49.7	29.2	35.9	37.2	43.3	F(2, 153)=4.06, p<.05, MS _e =1876.95
Period 4	41.9	53.4	22.7	40.1	18.3	26.6	F(2, 153)=4.75, p<.05, MS _e =1720.63
Period 5	94.9	67.7	52.0	53.5	55.5	47.2	F(2, 153)=9.15, p<.001, MS _e =3226.66
Biological or psychological SLEs							
Period 1	50.1	50.7	37.3	42.6	34.8	36.1	F(2, 153)=1.86, N.S.
Period 2	18.1	27.7	7.5	18.9	9.7	26.5	F(2, 153)=2.68, N.S.
Period 3	68.2	58.9	44.8	44.5	44.4	48.3	F(2, 153)=3.73, p<.05, MS _e =2593.66
Period 4	48.0	55.3	30.3	43.0	21.4	28.8	F(2, 153)=5.01, p<.01, MS _e =1911.74
Period 5	116.3	77.8	75.1	61.4	65.8	51.8	F(2, 153)=9.00, p<.001, MS _e =4167.67
Non-threat SLEs							
Period 1	254.1	155.5	274.9	143.2	218.3	144.0	F(2, 153)=1.95, N.S.
Period 2	55.7	62.2	35.5	66.0	31.2	48.5	F(2, 153)=2.53, N.S.
Period 3	309.8	149.3	310.4	135.0	249.5	145.6	F(2, 153)=3.09, p<.05, MS _e =20573.20
Period 4	128.6	159.6	78.7	75.4	96.8	124.1	F(2, 153)=2.14, N.S.
Period 5	438.4	193.8	389.0	126.8	346.3	139.0	F(2, 153)=4.54, p<.05, MS _e =24316.86
<u>All</u>							
Period 1	304.2	184.1	312.2	166.7	253.1	171.5	F(2, 153)=1.76, N.S.
Period 2	73.8	78.9	43.0	77.3	40.9	64.6	F(2, 153)=3.24, p<.05, MS _e =5458.46
Period 3	378.0	188.1	355.2	161.5	293.9	180.8	F(2, 153)=3.13, p<.05, MS _e =31385.64
Period 4	176.6	193.1	109.0	98.6	118.1	144.2	F(2, 153)=3.10, p<.05, MS _e =22605.67
Period 5	554.7	245.7	464.1	166.5	412.1	177.6	F(2, 153)=6.79, p<.01, MS _e =39868.08

APPENDIX 21. Number of Stressful Life Events (SLEs) - Analysis of Variance Results

	Alcohol (N=52)		General (N=52)		Career (N=52)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
<u>Controllable-Uncontrollable</u>							
Controllable SLEs							
Period 1	7.1	4.6	7.1	4.3	7.1	5.1	F(2, 153)=0.01, N.S.
Period 2	2.0	2.4	1.2	2.4	1.3	2.4	F(2, 153)=1.68, N.S.
Period 3	9.1	4.8	8.3	4.6	8.4	5.3	F(2, 153)=0.44, N.S.
Period 4	5.4	8.3	2.1	2.5	3.4	4.0	F(2, 153)=4.91, p<.01, MS _e =30.48
Period 5	14.5	8.5	10.4	5.3	11.7	5.0	F(2, 153)=5.70, p<.01, MS _e =41.29
Uncontrollable SLEs							
Period 1	3.7	3.2	4.8	3.9	2.3	2.6	F(2, 153)=8.19, p<.001, MS _e =10.73
Period 2	1.0	1.6	0.6	1.0	0.6	0.9	F(2, 153)=1.96, N.S.
Period 3	4.7	3.8	5.4	4.1	2.8	2.8	F(2, 153)=7.21, p<.01, MS _e =12.83
Period 4	2.9	2.9	3.1	3.5	2.1	2.8	F(2, 153)=1.81, N.S.
Period 5	7.6	5.2	8.6	5.3	4.9	3.4	F(2, 153)=8.39, p<.001, MS _e =22.34
<u>Threats to female adequacy</u>							
Biological SLEs							
Period 1	0.9	1.1	0.9	1.6	0.3	0.7	F(2, 153)=3.50, p<.05, MS _e =1.44
Period 2	0.1	0.5	0.2	0.4	0.2	0.5	F(2, 153)=0.08, N.S.
Period 3	1.0	1.2	1.1	1.7	0.5	0.8	F(2, 153)=2.97, N.S.
Period 4	0.4	0.7	0.5	0.8	0.2	0.6	F(2, 153)=2.47, N.S.
Period 5	1.4	1.4	1.6	1.9	0.7	1.0	F(2, 153)=4.96, p<.01, MS _e =2.20

APPENDIX 21. (continued)

	Alcohol (N=52)		General (N=52)		Career (N=52)		
	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	
Psychological SLEs							
Period 1	1.5	1.7	1.2	1.5	1.4	1.5	F(2, 153) = 0.66, N.S.
Period 2	0.8	1.4	0.3	0.7	0.3	0.7	F(2, 153)=4.63, p<.05, MS _e =1.01
Period 3	2.3	2.2	1.4	1.5	1.7	1.7	F(2, 153)=3.10, p<.05, MS _e =3.46
Period 4	2.0	2.4	1.2	2.2	1.0	1.5	F(2, 153)=3.36, p<.05, MS _e =4.31
Period 5	4.3	3.4	2.6	2.5	2.7	2.0	F(2, 153)=6.46, p<.01, MS _e =7.26
Biological or psychological SLEs							
Period 1	2.3	2.3	2.1	2.4	1.7	1.8	F(2, 153)=1.02, N.S.
Period 2	0.9	1.6	0.4	0.9	0.4	1.0	F(2, 153)=3.05, N.S.
Period 3	3.3	2.9	2.5	2.5	2.2	2.1	F(2, 153)=2.65, N.S.
Period 4	2.4	2.5	1.7	2.5	1.2	1.7	F(2, 153)=3.67, p<.05, MS _e =5.08
Period 5	5.7	4.0	4.2	3.3	3.4	2.4	F(2, 153)=6.51, p<.01, MS _e =10.95
Non-threat SLEs							
Period 1	8.8	5.3	10.6	5.8	8.3	5.9	F(2, 153)=2.38, N.S.
Period 2	2.3	2.4	1.5	2.5	1.6	2.5	F(2, 153)=1.52, N.S.
Period 3	11.1	5.2	12.1	5.6	9.8	6.0	F(2, 153)=2.11, N.S.
Period 4	6.4	8.4	3.8	3.7	4.6	4.9	F(2, 153)=2.49, N.S.
Period 5	17.4	8.7	15.9	6.4	14.4	5.5	F(2, 153)=2.42, N.S.
<u>All</u>							
Period 1	11.2	6.8	12.6	7.2	10.0	7.2	F(2, 153)=1.84, N.S.
Period 2	3.2	3.3	1.9	3.0	2.0	3.0	F(2, 153)=2.65, N.S.
Period 3	14.3	7.1	14.6	7.1	12.0	7.5	F(2, 153)=2.03, N.S.
Period 4	8.8	9.7	5.5	5.0	5.8	6.0	F(2, 153)=3.29, p<.05, MS _e =51.20
Period 5	23.1	10.8	20.1	8.2	17.8	7.0	F(2, 153)=4.77, p<.01, MS _e =77.88

APPENDIX 22. Nature of Specific Factors influencing the Lives of Alcohol
Dependent Women (N=53) prior to the Onset of Problem
Drinking

	No. of women reporting factor
<hr/>	
Family or relationship difficulties	
Separation or divorce	4
Problems with children	3
Rejection by husband	3
Arguments with husband	2
Children leaving home	2
Family problems	2
Marital problems	1
Breakdown of relationship	1
Lifestyle	
Change in lifestyle	5
Geographic uprooting	4
Transient lifestyle	3
Life in turmoil	2
Dull, boring life	2
Busy but mundane life	1
Emotional	
Loneliness	5
Depression	3
Anxiety	2
Confusion	1
Dissatisfaction	1
Unhappiness	1
Shyness	1
Feeling of not belonging	1
Husband's absence	
Lack of time together	4
Geographical separation	3
Work-related problems	
Long working hours	2
Dissatisfaction with job	1
Problems at work	1
Life dominated by work	1
Retirement	1
Inability to find employment	1

APPENDIX 22. (continued)

	No. of women reporting factor
Bereavement	
Father's death	2
Husband's death	2
Mother's death	1
Friend's death	1
Excessive drinking of family members	
Husband's drinking	3
Mother's drinking	1
Physical illness of self or others	
Husband's illness	2
Own illness	1
Excessive socializing	
Excessive socializing	3
Problems related to homosexuality	
Own homosexual feelings	1
Son's homosexuality	1
Financial problems	
Financial problems	2
Absence of drugs	
Drinking instead of using drugs	1
Nothing in particular	
Nothing in particular	2

Note: The numbers do not sum to 53 because each woman was able to nominate up to two specific factors.

APPENDIX 23. Nature of Specific Events reported by Alcohol Dependent Women as Precipitants of Problem Drinking

	No. of women reporting factor
Family or relationship difficulties	
Separation or divorce	2
Marital problems	2
Breakdown of relationship	2
Husband's absence	2
Husband's violence	1
Husband's drinking	1
Children leaving home	1
Rejection by parents	1
Physical illness of self or others	
Husband's illness	2
Own illness	1
Drug withdrawal	1
Infertility	1
Bereavement	
Father's death	3
Husband's death	2
Problems related to homosexuality	
Own homosexual feelings	2
Son's homosexuality	1
Work-related problems	
Dissatisfaction with job	1
Work stress	1
Geographic uprooting	
Geographic uprooting	2
	29

Note: Only those women (N=29) who reported a specific event as the perceived precipitant of problem drinking are included in this table.

APPENDIX 24. Evaluation of the Fit of the Logistic Regression Model using the \hat{H}_g^* statistic

Sample		Probability (alcohol dependence)						N
		0-0.1	0.1-0.2	0.2-0.4	0.4-0.6	0.6-0.8	0.8-1.0	
Alcohol dependent (k=1)	observed	1	1	6	12	9	23	52
	n x estimated probability ^a	1x.0456	1x.1360	4x.270 2x.2926	3x.5124 3x.5504 6x.5768	5x.7628 1x.7760 3x.7941	2x.9010 10x.9138 11x.9677	
	expected	0.8208	1.9724	5.6122	11.6440	8.4979	23.4534	
General population (k=0)	observed	17	14	14	9	2	2	58
	n x estimated probability ^a	17x.0456	4x.1191 10x.1360	7x.2708 7x.2926	1x.5124 5x.5504 3x.5768	2x.7628	1x.9010 1x.9677	
	expected	17.1792	13.0276	14.3878	9.3560	2.5021	1.5466	
Total		18	15	20	21	11	25	110

^a Output by BMDP PLR programme.

$$\hat{H}_g^* = \sum_{k=0}^1 \sum_{l=1}^6 \frac{(o - e_{kl})^2}{e_{kl}} = 0.928, 4 \text{ df}, .90 < p < .95$$

where: l = probability interval;
 o = observed number of subjects in that cell;
 $e_{kl} = \sum_{i \in l} P(x_i)$ and $P(x_i)$ is the estimated probability of alcohol dependence for subject i ;
 $e_{0l} = \sum_{i \in l} [1 - P(x_i)]$.

Holubowycz, O. (1983) The roles of life events and support networks in the aetiology of female alcohol dependence.

Australian Alcohol/Drug Review, v. 2(1), pp. 40-44

NOTE:

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It is also available online to authorised users at:

<http://doi.org/10.1080/09595238280000391>

Holubowycz, O. (1986) Predictors of alcohol dependence in a sample of women.
Australian Alcohol/Drug Review, v. 5(3), pp. 225-228

NOTE:

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