Causal Attributions for Problem Drinking: Gender Differences and Predictors of Therapeutic Outcome

by

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Thesis submitted in partial fulfilment of the requirements for the award of Doctorate in Clinical Psychology

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June 2002

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I dedicate this thesis to
My parents,
Gwyneth & Alun
ACKNOWLEDGEMENTS

I am grateful to so many people for their assistance in the completion of this thesis:

Firstly, my sincere thanks go to my supervisors, Joanna Teuton and Marilyn Christie, for their valuable time, advice and encouragement.

I am also deeply indebted to all those who participated in this study. Thanks go particularly to the clients of the Leicestershire Community Alcohol Services who were willing to fill in questionnaires prior to their initial assessment interview. I would also like to thank members of the Community Alcohol Team, plus family, friends and clients who participated in the pilot study and gave valuable feedback.

Next, deep thanks must be accorded to my husband Tony, and to my children Emily and Amy, who gave me constant encouragement, as did my friends at Rothley Baptist Church.

And finally to the good Lord for keeping me focussed and answering prayers, thank You.
ABSTRACT

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By Sue Kellett

The aims of the research are to investigate gender differences in causal attributions for problem drinking in clients first presenting to treatment services, and to consider whether attributional style is related to therapeutic outcome. This study employs an independent samples design plus correlational measures, utilising self-administered questionnaires, the sample consisting of 64 new referrals to the alcohol services (33 men, 31 women).

Research suggests that women may make more external attributions for problem drinking than men. Causal attributions are considered in terms of items regarding perceptions of alcohol as a problem, plus the attributional dimensions of the revised Causal Dimension Scale. Women were less likely than the men to feel alcohol was the root of their problems, but there were no gender differences in terms of the attributional dimensions. It is suggested that findings may indicate changes in gender-related social stereotypes, leading to a convergence in the attributions of male and female problems drinkers. Evidence is presented from previous research to support this explanation.

Research suggests that perceptions of high internal control will be associated with positive therapeutic outcome; high external control and high stability with negative outcome. Using the Alcohol Abstinence Self-Efficacy Scale and the Stages of Change Readiness and Treatment Eagerness Scale to predict therapeutic outcome it was found that higher internal control was related to more favourable indicators, higher stability with less favourable indicators, with no relationship in terms of external control.

It is concluded that different interventions need to be used for men and women as they see the root of their problems differently. In addition, therapy could aim to increase perceptions of internal control and decrease perceptions of stability. Results also demonstrate the necessity of using multi-dimensional measures when assessing causal attributions, and suggestions are made for the use of such measures in clinical work.
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CHAPTER ONE: LITERATURE REVIEW

Introduction

The legal sanctions and social stigmas attached to the use of alcohol and other recreational drugs, together with the degree to which they are considered to be problematic, vary considerably, both within and between cultures, as well as over time. For instance, alcohol has been widely used and accepted within many societies for hundreds of years, whilst in some cultures it has been the target of strict prohibition. Even within cultures where alcohol is socially accepted, there are usually legal sanctions regarding its use.

Furthermore, the degree to which alcohol is seen as problematic, and the importance placed upon its potential for dependency varies considerably. In fact the actual point at which regular alcohol use is considered to be safe, excessive, or problematic, and the subsequent ‘diagnosis’ of addiction, or dependency, has been, and continues to be, the subject of debate amongst government bodies, clinicians and academics.

A similar case can be made for other drugs. For example, fears regarding the use of heroin and other illicit drugs exist despite the fact that, in terms of deaths from overdose, general physical harm, addiction and damage to society at large, alcohol and tobacco (the two most socially accepted legal drugs) are arguably more ‘dangerous’ than any of the illegal drugs. For example, Plant (1987) points out that the greatest drug problems of any society are related to the substances most widely accepted and used, such as alcohol and tobacco. Stanbury (1996) similarly argues that ‘Alcohol and tobacco […] are probably the two most harmful drugs used, yet their use is not prohibited by the law’ (Stanbury, 1996, p 26).

The use of cannabis probably best demonstrates the need for notions of substance use to be placed within a cultural context. Whilst currently being classified as a class B substance, and carrying a maximum penalty of five years imprisonment for possession and 14 years for supply, cannabis also enjoys a certain amount of social acceptability in today's western society. Relaxed attitudes towards its use, together with increased numbers of regular users, have led to legislative debate regarding its possible decriminalisation and/or legalisation.
The attitudes of different members of society towards recreational drug and alcohol use can lead to a range of social stigmas and stereotypes being associated with those who find that they have developed problems with substance use. It is also possible that societal attitudes may have an effect on the way in which those who feel that they need help present themselves to the helping services. In the present study it will be argued that due to differences in the social acceptance of alcohol between men and women (e.g. Gomberg, 1982; Robbins, 1989; Blume 1997a and 1997b) there may be gender differences in the attributions given for problem drinking, and that these attributions may have an effect on therapeutic outcome.

This review will firstly consider literature relating to attribution and attributional theories, particularly in terms of its contribution to the study of substance use. Following this there will be a review of studies that have investigated the antecedents to attributions in terms of gender stereotypes regarding substance use. Gender differences in the attributions held by problem drinkers will then be discussed, before considering the possible consequences of attributions regarding problem drinking.

In view of the widely held views regarding the use of alcohol and other drugs in society, the author will attempt to avoid any pejorative, or value-laden, terms relating to those who choose to use substances. As the research focuses on those who experience problems with their substance use, terms such as ‘problem substance use’, ‘problem drug use’ and ‘problem alcohol use’ will be used in preference to terms such as ‘substance misuse’ or ‘substance abuse’ wherever possible. There will also be an avoidance of terms presuming addiction or dependency upon substances. However, when published studies are being described or referred to, the preferred terminology of the individual author(s) will be used.

What are Attributions?

Attributions can be defined as people’s explanations for the causes of their own and other people’s behaviour. Theories of attribution seek to look at the circumstances under which people adopt various kinds of causal explanations. In his book *Achievement Motivation and Attribution Theory* (1974), Weiner outlined a model that focussed on the role of causal attributions in determining strivings for achievement, focussing on the antecedents and consequences of attributions. These two strands of
research (the antecedents to, and consequences of, attributions) are sometimes referred to as deriving from attribution theories and attributional theories respectively.

Figure 1: General model of the attribution field (Kelley and Michela, 1980, p 459).

Using the model outlined in Figure 1 (above), Kelley and Michela (1980) point out that whereas researchers interested in cognitive processes have tended to focus on the link between antecedents and attributions (attribution theories), those interested in the dynamics of behaviour have studied the links between attribution and consequences (attributional theories). Davies (1997) similarly describes how, whilst attribution theory considers the circumstances under which people adopt various explanations, attributional theory considers the extent to which attributions affect present and/or future behaviour. As such, attribution research investigates how differences in people’s explanations vary as a consequence of manipulating something else, whereas attributional research investigates the links between attributions and behavioural consequences.

Attribution and attributional theories will now be considered in more detail, particularly in terms of their contribution to the study of substance use.

Attribution Theories

Attribution Theories and Locus of Control

Charles Antaki (1982) points out that there is no one stand-alone theory of attribution, but refers to Heider’s (1958) original proposition that the major job of a perceiver is to
understand the cause of the things that are seen. In describing how people understand cause, Heider considered two types of ordinary explanations: those that were personal (i.e. to do with the person who performed the behaviour); and those that were environmental (i.e. to do with some external source). This original distinction between causes that are ‘internal’ and those that are ‘external’ has remained an integral theme in theories of attribution. Antaki (1982) also describes how differences have been noted between actors’ and observers’ attributions, referring to the work of Jones and Nisbett (1972) who described how people tend to attribute other people’s behaviour to be due to their personal dispositions and their own behaviour to be due to the demands or opportunities of the situation.

The notion of ‘Locus of Control’ (LOC) particularly considers the distinction between internal and external control over the cause of an event, and has been drawn upon extensively in addiction research. However, whilst the locus of causality for a particular event may be attributed internally or externally, it is important to note that the notion of LOC describes a single-trait theory of personality, which assumes a more generalised expectancy regarding beliefs concerning personal control over situations (Martin and Otter, 1996).

As Figure 1 (above) shows, Kelley and Michela (1980) point to three main classes of attributional antecedents: information, beliefs and motivation. They describe how attributions are affected by information, but point out that the attributer makes suppositions about causes, plus expectations about effects, and that such beliefs often influence attributions regardless of the processing of information.

Kelley and Michela then describe some of the motivational factors that may influence attributions, such as the motivation for self-enhancement and self-protection, positive presentation of the self to others, and for belief in effective control. They propose, for instance, that a person’s behaviour has potential for self-enhancement if positive behaviour (or success) is attributed internally. Conversely, motivation for self-protection would lead a person to attribute negative behaviour or failure externally. Interestingly, they also point out that if people are motivated to present themselves in a favourable manner then this may have implications for attribution experiments per se, referring to cases where reports of attributions given to the experimenter have led to an
attenuation or reversal of the expected pattern of attributions depending upon the interview situation (e.g. Feather and Simon, 1971; and Bradley, 1987). It seems likely that such motivational influences may also operate in clinical situations, a point that will be returned to when considering the aims of the present research.

Measures of Locus of Control and Substance Use

A number of scales have been devised to measure LOC, the most popular being that of Rotter (1966). This consists of 29 pairs of statements, giving a score said to be representative of the respondent's LOC orientation along a continuum of internal (believes themselves to be more in control of situations), to external (believes themselves to be less in control of situations). However, it is important to point out that Rotter's internal/external distinction assumes that an 'internal' orientation indicates internal control and 'external' orientation external control, with no sub-distinction being made between the notions of (internal/external) 'locus' and 'control'.

Some scales have been developed to measure LOC in specific areas, such as Wallston, Wallston and DeVellis' (1978) Multidimensional Health Locus of Control (MHLC) scale, which measures the degree to which people believe health is under their own control, influenced by powerful others, or influenced by chance/luck factors. Martin and Otter (1996) describe how the MHLC has also been applied to alcoholics, the rationale being that health is affected by chronic alcohol abuse.

Another popular measure of LOC in the field of substance use problems is the Drinking-Related LOC scale (DRIE) devised by Keyson and Janda (1972), a measure that specifically considers the LOC of those with alcohol problems. Donovan and O'Leary (1978) have found that 17 of the 25 items in DRIE significantly load under 3 factors when factor-analysed: 'Intrapersonal control' (the individual's apparent inability to resist the temptation to drink and drinking to overcome negative emotional states); 'Interpersonal control' (inability to manage anger or frustration-provoking interpersonal situations); and 'Chance' (chance factors influencing ability to remain abstinent).

However, it is interesting that, when looking at the 25 items on the DRIE, 14 have personal referents (e.g. 'I', 'me') and 11 items have third person referents (e.g. 'some people', 'alcoholics', 'other people'). As such, it is important when considering
individuals' attributions to be aware that measures such as the DRIE provide a score based on a combination of beliefs about the individual's personal control over drinking as well as their beliefs about control over drinking per se. That is, they provide a combined picture of both actors' and observers' attributions. Furthermore, this inclusion of third person referents is not always made explicit in studies. For instance, Bunch and Schneider (1991) adapted the DRIE to measure smoking-specific LOC, and in doing so re-phrased all the items in the 3rd person. As such the measure clearly only gave an indication of respondents' general beliefs about smoking-related behaviour. However, when interpreting their results, they then argued that they had measured subjects' beliefs or expectations concerning their ability to control their smoking behaviour.

As can be seen, the notion of LOC tends to tap into the assumptions that people make about causes per se, and that these causes are often considered to be as a function both of their personality-type and beliefs about their personal behaviour. This is arguably subtly distinct from attribution theories, which, as Kelley and Michela (1980) described, consider various antecedents, such as information, beliefs and motivations, which may predispose to a particular attribution being made.

Nevertheless, pointing to the impact of LOC on attribution research, Eiser (1982) argues that LOC as a personality variable is thought to impact on attributional style, stating that the distinction between internal (personal) and external (situational) attributions is central to attribution theory and a recurrent theme in attributional research. There has been a vast amount of research looking at LOC in the field of substance use, and therefore a very brief overview follows.

**Studies of Locus of Control and Substance Use**

It appears that the majority of studies fall into three broad categories: (i) research looking at how LOC varies within and between different populations of substance users; (ii) the relationships between LOC and treatment of substance use; and (iii) studies that have compared general LOC with LOC for specific types of substance use. It is also worth mentioning that some LOC studies could arguably be reviewed under the heading of attributional research given that they are concerned with the consequences of LOC. However, as the notion of LOC is presumed to be more a
function of personality than a causal attribution, all studies relating to LOC will be discussed in this section.

(i) Locus of Control in different populations of substance users

Before presenting an overview of the findings in terms of population variables, it should be pointed out that direct comparison between these studies is confounded by the fact that some have used general measures of external/internal LOC (e.g. Rotter’s, 1966 LOC scale), whilst others have used substance-specific LOC scales such as the DRIE (Keyson and Janda in 1972).

At least one study has considered variations between LOC for alcohol problems and the socio-economic status (SES) of the attributers. McKirnan (1984) conducted a qualitative study of 41 males from a high SES community and 40 males from a low SES community to investigate the relationship between attributions for alcohol use and inferences of an alcohol problem. It was found that whilst both groups felt that problem drinking was attributed to internal causes, the low SES sample was generally biased toward attributing alcohol use to external causes, in contrast to an internal bias among the high SES sample. The high SES were also more readily able to identify an alcohol problem.

Most studies looking at how LOC varies within and between different populations have concentrated on the differences between populations of various substance users, non-users and ex-users. In terms of these populations, ex-smokers generally scored more internally than smokers or non-smokers (e.g. Molloy et al., 1997; Mlott and Mlott, 1975). Studies of drinkers tended to show that non-alcoholics score more internally than alcoholics or ex-alcoholics, that ex-alcoholics score more internally than alcoholics, and that recovering alcoholics score more internally than newly sober alcoholics (e.g. Huckstadt, 1987; and Bollman, 1997). Studies of other types of substance users generally had similar findings, in that the substance misusers had higher perceived external control than non-users (e.g. Haynes and Ayliffe, 1991; Mangeniello, 1978).

Studies generally suggest a negative correlation between level of dependency and a move towards internal LOC orientation, although there were exceptions (e.g. Calicchia,
1974, who found that addicts were more *internally* oriented than their control counterparts. This strand of research appears to be related to research considering the relationship between treatment and LOC as a consequence of time spent in treatment.

(ii) Locus of Control and treatment of substance use

Studies have considered both the effects of treatment on LOC, as well as the effect of LOC on treatment outcome. There are a number of studies that have demonstrated a shift towards a more internal orientation as treatment for substance use progresses, particularly in alcoholics (e.g. Walker, Nast, Chaney and O'Leary, 1979; Morojele and Stephenson, 1992; Oziel and Obitz, 1975). Again there were exceptions, such as Lennings (1980), who found significant changes in heroin addicts toward more internal control during the first 3 months of treatment, after which the trend was reversed.

Studies of the relationship between LOC and treatment attrition, relapse and abstinence are more consensual. Research tends to show that alcoholics with internal scores remain in treatment longer than external scorers (Jones, 1985); and that drop-outs have significantly more external drinking-related LOC than do treatment completers (Prasadarao and Mishra, 1992). Similarly, smokers who attribute smoking cessation to external factors are less able to maintain abstinence (Harackiewicz et al., 1987); and relapsed alcoholics tend to have a more external LOC orientation (Johnson, Nova, Tan and Bustos, 1991). Furthermore, alcoholic patients with an internal drink-related LOC after treatment start to drink later, drink less on the first occasion, and continue for fewer days than external patients, as well as being more likely to stay abstinent (Koksi-Jannes, 1994).

(iii) Comparisons of general Locus of Control with substance-specific Locus of Control

A number of researchers have compared substance users' scores on Rotter's (1966) general LOC scale with measures on a substance-specific LOC scale, such as the DRIE (Keyson & Janda, 1972). Whilst Abbott (1984) found that substance-specific measures of LOC were better able to predict treatment attrition and outcomes than generalised LOC measures, it is interesting that many of these comparative studies were more equivocal in terms of their findings.
For example, in a study of alcohol-users comparing general LOC and specific LOC (using the DRIE), Oziel, Obitz and Keyson, (1972) found that alcoholics perceived themselves to be in control of both their behaviour in general, and of their drinking behaviour in particular. However, Donovan and O'Leary (1978) found that the DRIE produced significant differences between alcoholics and non-alcoholics, whereas Rotter's general LOC did not.

Similarly, in Bunch and Schneider's (1991) study of smokers, it was found that whereas the Rotter LOC scale did not show differences between respondents as a function of their reported addiction or smoking status, scores on a smoking-specific LOC scale (adapted from the DRIE) differed as a function of the respondent's reports of their addiction to cigarettes (regardless of current smoking status), with addicted individuals scoring more externally than the non-addicted individuals. Then, in terms of drug-taking, Obitz, Oziel and Unmacht (1973) found that a sample of delinquent drug users scored as extremely 'external' with regard to their behaviour in general, but neither internal nor external with regard to their drug-taking behaviour. Obitz, Cooper and Madeiros (1974) had similar findings in a sample of male heroin addicts.

In summary, studies of LOC and substance use have generally found that those with problem substance use have higher perceived external control than non-users or ex-users, and that there is a shift towards a more internal orientation as treatment for problem substance use progresses. However, studies that have compared general LOC with LOC for specific types of substance use have been largely equivocal in their findings in that a person's general LOC (i.e. their general personality trait) does not necessarily match their LOC for interactions with a specific substances.

As has been highlighted, there have clearly been many equivocal findings in studies of LOC and substance use over the years. The following section will therefore begin by evaluating these studies in terms of their theoretical base, before outlining alternative ways of measuring attributions.
Evaluation of Locus of Control Studies and the Emergence of the Multidimensional Approach

From a theoretical perspective, if LOC is assumed to be a (stable and enduring) personality trait, then the tendency for LOC to change as treatment progresses (usually becoming more internal) poses something of a dilemma. Researchers have also pointed to the inconsistencies between studies that have attempted to demonstrate that substance users differ from non-users in their LOC. For example, Martin and Otter (1996) argue that, although many studies have demonstrated that alcoholics have a more external LOC than non-alcoholics, others studies have found them to have a more internal LOC. Obitz et al. (1974) similarly stated that although people labelled as 'externals' on the Internal-External scale would be predicted to be persons who do not perceive themselves to be in control of their behaviour, it was therefore surprising that Goss and Morosko (1970) had found alcoholics tended to score as 'internal', and that Oziel et al. (1972) had found alcoholics to perceive themselves as being in control of both their general behaviour and their drinking.

As has been discussed, it also appears that having an internal LOC orientation is more favourable prognostically than an external LOC orientation. Indeed a number of researchers have argued that internal control attributions in alcoholics can serve a beneficial role in terms of treatment outcome (e.g. Koksi-Jannes, 1994; Kallio, 1999; and Nurco, Primm, Lerner and Stephenson, 1995). However, Hartmann (2000) argues that studies have not consistently established a relationship between locus of control and treatment outcomes. Indeed, Hartmann found in pre-treatment interviews with alcohol clients, that the theoretical advantage of internal control orientation was mitigated by its inverse relationship to a desired change and to programme completion.

Other researchers have questioned the unidimensional use of the LOC. For instance, Beckman (1979) found that alcoholics did not tend to displace blame for their drinking entirely onto external factors, but accepted a large amount of personal responsibility for their drinking problem, suggesting that a person can believe that both internal and external factors are highly important causes of alcohol-related problems. Indeed, as will be discussed presently, Davies (1997) argues that internal and external locus of responsibility has no applicability in the field of addiction, as 'helplessness' can have an internal as well as an external locus. The internal (dispositional) factors, which
usually represent control, can often work in reverse where addiction is concerned, as a person can be a prisoner of their own internal constitution (as much as of external forces). As such, some researchers have made a clear distinction between the notions of (internal/external) 'locus', and 'control'.

Others researchers have described an attributional dimension of 'stability', the degree to which attribution of a cause is stable, or enduring, over time. For instance, Weiner et al. (1972) argued that people use four causal elements (ability, effort, task difficulty and luck) to interpret and predict the outcome of an achievement-related event, proposing that these four elements can be classified according to the two dimensions: locus of control and degree of stability, as in Table 1 (below). As will be seen, this interplay between locus and stability has been widely drawn upon in research investigating problem substance use and the notion of 'addiction'.

Table 1: Classification scheme for the perceived determinants of achievement behaviour (Weiner et al., 1972, p 96).

<table>
<thead>
<tr>
<th>Stability</th>
<th>Locus of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal</td>
</tr>
<tr>
<td>Stable</td>
<td>Ability</td>
</tr>
<tr>
<td>Unstable</td>
<td>Effort</td>
</tr>
</tbody>
</table>

Davies (1997) suggests that internal/external locus needs to be considered along with controllability and stability in order to remove ambiguity, criticising those who use only LOC in addiction research. He describes how Rotter's (1966) model of LOC assumes the three dimensions (locus, control and stability), but does not permit their independent manipulation. Drawing therefore on the work of (Weiner et al. 1972, and Weiner, 1974), he proposes a more interactive approach, suggesting that the interaction of stability with locus is particularly useful in investigating attributions of addiction.

For instance, in a study of smokers, McAllister and Davies (1992) asked participants to rate from 0-10 eight attributional statements that had been controlled in terms of internality and externality (I/E), stability and instability (S/US), plus controllability and uncontrollability (C/UC). The statements were devised to represent each possible
combination of attributions: (i.e. I/S/C, I/S/UC, I/US/C, I/US/UC, E/S/C, E/S/UC, E/US/C and E/US/UC). For example, the item measuring I/S/C was ‘You smoke constantly; you want to, and you choose to do so’; and the item assessing E/US/UC was ‘It’s largely a matter of luck whether you smoke or not’.

Other researchers have developed multidimensional scales to assess how individuals perceive causality; an example being Peterson et al.’s (1982) Attributional Style Questionnaire (ASQ). This instrument was designed to measure individual differences in the causal attributions offered by people suffering from depression for the good and bad events in their lives. The causal dimensions were: internal/external (i.e. events caused by something about the person or the situation); stable/unstable (i.e. events being nontransient or transient); and global/specific (i.e. events attributed to causes in a variety of situations or to more circumscribed causes). Participants were asked to generate causes for a variety of hypothetical good and bad events and then to rate this cause on three seven-point scales corresponding to the three causal dimensions.

Other more generic scales have been developed, notably the Causal Dimension Scale (CDS) by Russell (1982) which includes the dimensions of locus of causality, stability and control. This was succeeded by the Revised Causal Dimension Scale (CDSII) by McAuley, Duncan and Russell (1992), which includes the dimensions of locus of causality, external control, personal control and stability. These measures are designed to assess how an attributer perceives the causes he or she has stated for an event. Similar to the ASQ (above), participants are asked to generate the cause for an actual event, and then to rate this cause on 12 nine-point scales, three for each of the four causal dimensions. However, unlike the ASQ the event is real-life, rather than hypothetical. These measure have been adapted by some researchers for use in the field of substance use; Grove (1993), for example, used the CDS to investigate the attributional correlates of cessation self-efficacy among smokers.

This section has described the limitations of using LOC as an indicator of attributions for substance use, and has described some of the alternative ways of measuring attributions using a multidimensional approach. Next there will be a consideration of the possible effects of causal attributions by describing the attributional theories, following by an overview of related research in the field of problem substance use.
Attributional Theories

Attributional Theories and the Attribution of Addiction

Antaki (1982) argues that attributional theories make the link between the attributions made for an event and the effect of these attributions on feelings and behaviour. He describes how, as with the aforementioned theories of attribution, there is no one complete and systematic attributional theory - more a series of complementary, but unlinked principles which guide research.

In their review of the research considering the consequences of attributions Kelley and Michela (1980) describe a number of theories concerned with how attributions can affect 'our feelings about past events and our expectations about future ones, our attitudes to other people and our reactions to their behaviour, and our conceptions of ourselves and our efforts to improve our fortunes' (p489). Of interest is the research that Kelley and Michela cite regarding the effects of internal versus external attributions. For instance, they describe how attitudes towards an actor can be affected by whether an action is attributed to the actor, or to some aspect of their environment. Kelley and Michela also describe a number of studies that have considered the interplay between internal and external locus, plus stability, upon predictions of future success, citing Weiner et al.'s (1972) two-dimensional classification scheme, cross-classifying causes of success/failure in terms of stability and locus.

A number of authors have considered the role of attributions in the field of addiction. For example, Marlatt and Gordon’s (1985) theoretical proposition of the Abstinence Violation Effect (AVE) predicts that a relapse would be most likely if the initial lapse was attributed to internal, stable, global and uncontrollable factors; and least likely if the lapse was attributed to external, unstable, specific and controllable factors. Indeed, Marlatt and Gordon’s (1985) theory of Relapse Prevention is based on this model. Due to the limitations of this review, detailed coverage of the AVE is not feasible; however, the reader is directed to Marlatt and Gordon’s (1985) edited book: Relapse Prevention: Maintenance Strategies in the Treatment of Addictive Behaviours for an overview of the model, plus its clinical implications.

Drawing on attributional theories, other researchers have developed ideas about the notion of 'addiction' as an attribution. One of the first researchers to describe addiction
in attributional terms was J. Richard Eiser. Eiser (1982) referred to the literature by Mckennall and Thomas (1967) on the distinction between ‘consonant’ smokers (who say they do not want to give up) and ‘dissonant’ smokers (who would like to give up, if they could do so easily). Eiser suggested that the label of ‘dissonant smoker’ was actually inappropriate as the dissonant option offered a ‘huge loophole to any smokers who might wish to escape from the implications for their own behaviour of admitting that smoking is dangerous’ (p 287). Using the McKennell and Thomas (1967) criterion for ‘consonant’ and ‘dissonant’ smokers, Eiser, Sutton and Wober (1978) found that there was a clear association between smokers who saw themselves as addicted and being ‘dissonant’; the theme most associated with this distinction being fear of health consequences. Eiser suggested that whilst health fears motivated smokers to want to give up, the self-attribution of addiction provided an explanation of why they were not able to do so.

In his book The Myth of Addiction John Booth Davies (1997), also, outlines an attributional theory of ‘addiction’. He first considers why people may be inclined to provide addiction attributions for their drug use, and then looks at the effects of these explanations on the behaviour of both the drug users and others.

Davies argues that there can be variable proportions of internal/external and stable/unstable attributions and, as such, any consensus of attributions emerging regularly in certain contexts must derive from, and be produced by that context. In describing how people try to find explanations to make sense of their lives, Davies points to two flaws in addiction research: (i) that people have direct access to the causes of their behaviour; and (ii) that the reasons they give for their behaviour will be representative of those causes. Davies argues that although reasons and causes may be the same, reasons are the explanations given (to themselves and others) to explain their behaviour, whereas causes imply that something actually makes the behaviour happen. If, as is often the case in substance use, the behaviour is socially disapproved of, then the reasons and causes may be different. This is because, regardless of the actual cause of the behaviour (and assuming that cause can be known), the reasons given by substance users may be constructions whose function is to redefine their behaviour. For example, a person may be, knowingly or unknowingly, using alcohol to relieve
boredom or some other negative emotional state (the ‘cause’), but they may represent their drinking as being due to an addiction to alcohol (a ‘reason’).

Davies and Baker (1987) consider how the role of questions and answers is fundamental to a major subset of reports in the field of addictions, stating that the answers to questions are often viewed by researchers as the windows to ‘truth’ about behaviour (less an adjustment for deliberate falsification of answers and memory problems). However, they point out that the answers people give are actually context-dependent and functional, often providing clues to the way they are thinking, particularly when participants are being asked about motives or causes of their behaviour. Davies and Baker say that answers to these types of questions reveal something about the motives of the respondent, their perception of what they have done, and how that person thinks the interviewer views them. Davies (1990) suggests that ‘addiction’ is often a functional, or preferred, explanation for drug use in circumstances where moral evaluations are perceived to be operating, commenting:

*In a climate of moral censure, explanations for drug use must imply lack of volition, an “addiction”, if the behaviour is not to be seen as “wicked”.* (Davies, 1990, p 291)

Considering this attributional perspective, Davies (1997) argues that explanations that are not true may still influence behaviour and that conceptualising drug use in terms of an ‘addiction’ illustrates how attribution works, rather than being a true/scientific account of a behaviour. He emphasises the importance of attributional work in finding out whether beliefs have implications for behaviour, stating that the ‘the very act of explaining drug use in certain habitual ways might maintain and develop a drug problem in those terms’ (p15).

As previously discussed, the LOC studies have generally indicated a move towards a more *external* LOC as people’s substance use becomes more problematic. Furthermore, as Kelley and Michela (1980) proposed, motivation for self-protection often leads people to attribute (perceived) negative behaviour *externally*. However, Davies (1997) argues that the classical ‘addiction’ attribution is represented by *internal* and stable attributions and explains how, whereas internal attributions were thought to represent personal responsibility, *when combined with stable attributions* they can
perform the same function as an external attribution. He suggests that various attributional biases resulting from moral evaluations of drug use, point to possible interactions between stable/unstable attributions, and an internal/external locus of control. Davies argues that in attributional terms 'addiction' is represented as a combination of internal and stable attributions (a personal disposition that is likely to be permanent) and therefore legitimises the behaviour (i.e. no personal responsibility and no hope for change).

**Attributional Research and the Addiction Attribution**

Research conducted to consider the addiction attribution arguably began when a number of researchers, notably J Richard Eiser, conducted a series of studies, mostly with smokers and drug-users, investigating what have been labelled as 'hooked' and 'sick' attributions. For instance, in a study to consider addicts' perceptions of their dependence on drugs, Eiser and Gossop (1979) gave addicts a 15-item attitude questionnaire, plus 10 measures of LOC. Although they found little relationship between attitudes and locus of control, in a principle components analysis of the attitude items they found two distinct factors, which they labelled as 'hooked' (perceived inability and unwillingness to give up drugs), and 'sick' (perception of addiction as a sickness, with recovery possible with the help of doctors).

In a similar study, exploring drug addicts’ attitudes towards their own drug taking, Bradley and Gossop (1982) found three factors: 'hooked' (emphasising lack of control over drug-taking and compulsion); 'sick' (emphasising the unpleasant or dysfunctional aspects of drug use); and ‘therapeutic optimism’ (no serious attempts to give up by themselves, but belief that doctors can help). New outpatients regarded themselves more ‘hooked’ and ‘sick’ than did in-patients, and regular outpatients had lower ‘therapeutic optimism’ than both the other two groups. In this study the authors discussed whether this shift in attributions was a result of increased exposure to the clinic’s policy, which emphasises personal responsibility and control over drinking, or whether those who regard themselves as hooked and sick had dropped out early.

Following on from this, Gossop, Eiser and Ward (1982) found, in a study of drug addicts, that those addicts who saw their addictions as a sort of sickness were least likely to remain in treatment. They commented that this attitude towards addiction may
interfere with treatment through the addicts’ refusal to accept responsibility for their own behaviour, perhaps expecting to be ‘cured’ by some treatment procedure. They felt that addicts who interpreted their addiction as being a sickness might not be comfortable within a treatment programme that requires them to be actively involved in their rehabilitation.

‘Hooked’ and ‘sick’ attributions have also been found in smokers, with research similarly considering the effects of such attributions. For example, Eiser (1982) reported that ‘sick’ attributions (i.e. addiction as a sickness that doctors could cure) were positively correlated with expectancy of success, and attributions of ‘hooked’ (i.e. not being able to give up) correlated negatively with expectancy for success. Of those that tried to stop smoking, high scores on the ‘hooked’ factor were predictive of failure, whereas high scores on the ‘sick’ factor predicted neither success nor failure. In 1986 Eiser and van der Pligt replicated Eiser and Gossop’s (1979) drug user’s study with smokers, and analysis revealed the same two-factors: ‘sick’ (a tendency to see smoking as a sickness) and ‘hooked’ (a feeling of inability to give up smoking). They similarly found that those with higher ‘hooked’ scores felt they were more extremely addicted and saw fewer benefits in stopping.

More recently, Davies (1997) has discussed the antecedents and consequences of the addiction attribution, particularly in relation to his proposal that ‘addiction’ is a functional, or preferred, explanation for drug use in circumstances where moral evaluations are perceived to be operating. He refers to a number of studies, conducted by himself and others, that support this view.

For instance, in a study by Davies and Baker (1987) it was found that a same sample of male heroin users gave different responses to two parallel forms of a simple questionnaire depending on whether they when asked by a ‘straight’ interviewer (i.e. a researcher from Strathclyde University), or an ‘addict’ interviewer (i.e. a locally known heroin user). It was found that respondents were more likely to give internal attributions for their heroin use when asked by the ‘straight’ interviewer than when asked by the ‘addict’ interviewer (with no differences being noted in the external attributions). In other words they presented their situation as being the same, but presented themselves differently. In discussing this study, Davies (1997) argued that
people are able to construct explanations on the basis of their perceptions of the attributions that others will be making about them, and that attributions are therefore used as a social tool.

In a further attributional study, Coggans and Davies (1988) considered the attributions of locus and stability in heroin users regarding their perceived causes (for themselves and others) of staying off heroin and relapsing. They found that heroin users who perceived the cause of their drug use to be stable and internal (i.e. an 'addiction') had low expectancy for staying off heroin and used it constantly, whereas those who perceived the cause to be unstable and external (i.e. ‘situational’ or due to ‘luck’) had high expectancy for controlling use and their use was variable. Coggans and Davies used Kelley and Michela’s (1980) model of antecedents, attributions and consequences to demonstrate their findings (see Figures 2 and 3, below).

Figure 2: The effect of constant heroin use on attributions (Coggans & Davies, 1988, p 462)

<table>
<thead>
<tr>
<th>Antecedents</th>
<th>Attributes</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information:</strong> Constantly using heroin</td>
<td><strong>Perceived cause:</strong> Stable, internal i.e. ‘addiction’</td>
<td><strong>Behaviour:</strong> Continued constant use</td>
</tr>
<tr>
<td><strong>Beliefs:</strong> Heroin use is disapproved of</td>
<td></td>
<td><strong>Affect:</strong> Minimised impact on self-image</td>
</tr>
<tr>
<td><strong>Motivation:</strong> Need for positive self-image</td>
<td></td>
<td><strong>Expectancy:</strong> Low for staying off heroin</td>
</tr>
</tbody>
</table>
Then in 1992, McAllister and Davies interviewed 20 female smokers using Weiner-type items covering eight possible combinations of locus, stability and controllability. They found attributional shifts as a result of the smokers who knew that they had been clinically classified as being either 'light' or 'heavy' smokers. The 'addiction' attribution (defined as being one consisting of internal, stable and uncontrollable attributions) for those classified as 'light' significantly decreased following their knowledge of this classification, whereas the addiction attributions for smokers who knew they had been classified as 'heavy' increased (although this finding was not significant). Looking at contextual effects upon attributions, they suggested that as awareness of clinical classification affected attributions for addictive behaviour, this may have clinical implications. For example, an addiction attribution may ensure a more positive image in the case of a 'bad' behaviour, and therefore substance-users seeking treatment may try to ensure that the clinician regards them as 'addicted' (and therefore not personally responsible for their behaviour).

Conclusions Regarding Attribution and Attributional Research in the Field of Substance Use

Although there is not one unifying theory of attribution, this review has distinguished between those theories that consider the relationship between various antecedents and beliefs about cause (i.e. attribution theories) and those which consider the effect of these attributions on feelings, behaviour and expectations (i.e. attributional theories). The research deriving from these theories has been reviewed in terms of how it has
informed the field of substance use, particularly considering the notion of 'addiction' as a functional attribution.

A number of researchers have pointed to the therapeutic implications of being able to identify the antecedents that may give rise to certain types of attributions, particularly regarding the effects that a given attribution may have on a client's motivation, behaviour and feelings about prognosis. However, Davies (1997) points out that the bulk of research relating to attribution theory has been conducted to consider the effect of different antecedents on the types of explanation given, arguing that the relationship between attributions and present and/or future behaviour is under-researched. He adds that this attributional perspective has the greatest potential in the applied clinical field.

**Attributions and Gender in the Field of Substance Use**

Particularly under-researched is the consideration of possible gender differences in the types and consequences of attributions held by substance users. Whilst reviewing the literature it became clear to the author that almost all of the early attribution research relating to substance use had been conducted on samples of male (or predominantly male) problem drinkers and drug users. Furthermore, of those studies that did include women participants, few provided an analysis of gender differences. Supporting this observation, in a literature review of gender socialisation and women's addiction, Forth-Finegan (1991) comments that issues of women's alcoholism were overlooked (and indeed incorporated into the studies of men's alcoholism) up until the 1970's. Sandoz (1995) similarly pointed out that up until the 1990's there had only been a few studies on women with alcoholism.

It appears that the paucity in studies considering gender issues occurred despite the fact that some early researchers had noticed, and flagged up, a gender bias in published studies. For example, in their review of studies looking at control orientation in alcoholics, Obitz and Swanson (1976) commented on Goss and Moroskso's (1970) suggestion that men and women need to be studied separately, pointing out that previous studies had looked at either men only (e.g. Butts and Chotlos, 1973; Gozali and Sloan, 1971), men predominantly with no separation of the sexes (Oziel et al., 1972; Oziel and Obitz, 1975), or had investigated both men and women but only discussed the male sample (Goss and Morosko, 1970).
It is promising therefore, that in the last decade research has been a little more gender-orientated. For example, Connors, Maisto and Zywiak (1998) examined male and female alcoholics' attributions of factors associated with the onset and termination of specific relapse events; Stockton (1998) looked at gender and smoking behaviour in a worksite cessation programme; and Sandoz (1995) considered gender issues in recovery from alcoholism. However, in terms of attributional research, Hartmann (1999), having analysed the factor structure of LOC scales for substance-abusing behaviour, argues that there is still a need to account for differences that occur according to sex.

It has been generally accepted that gender stereotypes exist regarding societal acceptance of drug and alcohol use, with social attitudes tending to stigmatise women more than men (e.g. Thom, 1997). Assuming that these stereotypes are internalised by the substance-users themselves, it seems feasible that there may also be gender differences in the attributions held by those with problematic drug and alcohol use.

The literature relating to these ideas will now be reviewed using Kelley and Michela’s (1980) general model of the attribution field (see Figure 1, above). Firstly there will be a consideration of the antecedents to attributions in terms of gender stereotypes, followed by a review of research considering gender differences in the attributions held by substance users. Finally there will be a summary of the possible consequences of attributions in terms of feelings and behaviours. Whilst substance use in general will be reviewed, there will be an emphasis on alcohol studies, as gender differences in the social acceptance of problem drinking appears to be more pronounced than that of other substance use.

Antecedents to Attributions: Gender Stereotypes

*Social Attitudes to Substance Use and Gender Stereotypes*

A number of writers have commented that, throughout history and in most societies, there have been different rules for men and women regarding the use of alcohol and other drugs (e.g. Gomberg, 1982; Robbins, 1989; Blume 1997a and 1997b). Blume (1997a) describes how women in society today are particularly stigmatised if they become dependent upon substances. Firstly, she states, they are victims of the same stigma that would be applied to men (i.e. either moral deficiency or self-inflicted illness, depending on the model of addiction held), and then they are further stigmatised
because they are expected to have higher moral standards than men, with behaviour considered acceptable in men not being acceptable in women. The shame felt by women when they become chemically dependent is therefore thought to be more intense than it is for men.

There are a number of possible reasons as to why gender differences in rules for substance use exist. Gomberg (1982) argues that taboos about intoxication may be related to the gender assignment of work roles, with impairment in the nurturing/caretaker roles of women being perceived by society as anxiety-provoking and threatening. Robbins (1989) similarly describes how taboos are rooted in female sexual virtue, nurturant role obligations, and fears of sexual disinhibition.

Adding another dimension to our understanding, Covington (1997) states that the boundaries of gender differences in acceptable/unacceptable behaviour begin with early childhood socialisation (e.g. boys being encouraged to be aggressive and girls to be passive), and that these roles are mirrored in societal beliefs about drinking and drug use. For instance, societal perception of women who drink alcohol or use substances is that they are more eager for sex, more vulnerable to seduction, and less selective about their partners. Covington similarly points out that the stigma against women is also more likely to be expressed in sexual terms (e.g. being branded as promiscuous) than it would be for addicted men. Blume (1997a) who describes how taboos often give rise to inaccurate negative stereotypes of women who use substances, such as the long-standing historical belief (unsubstantiated by research) that alcohol makes women promiscuous; and Plant (1997) similarly points to the myth that women who drink are more likely to be sexually available and acquiescent.

Studies conducted to investigate gender differences in social attitudes to substance use tend to support notions of gender stigmatisation. For instance, in a study considering the question of stigma and age in alcoholic women in treatment, Gomberg (1988) found that both alcoholic and non-alcoholic women felt social attitudes were more negative towards female intoxication and problem drinking than towards similar drinking patterns in males. More recently Sigelman, Gurstell and Stewart (1992) considered lay theories of the causes and cures of problem drinking by asking college students to react to a hypothetical case of problem drinking in a 15 year old male. They concluded that
gender differences were consistent with previous research indicating that males (of all ages) express more liberal attitudes towards drinking than do females, view the problem drinking as less serious, and are less socially rejecting of, and less sympathetic towards, the problem drinker than are females.

In terms of the effects of gender stereotypes, Marshall (2000) argues that social and cultural attitudes exert a profound influence on drinking and drug use in women, with women drinking less alcohol, using less illegal drugs and developing less alcohol and drug-related problems. Gender stigmatisation also leads to many women drinking (or using drugs) secretly (Blume, 1997a).

However, Plant (1997) points out, that during recent decades, the lives of women in many countries have changed dramatically. Indeed from an epidemiological perspective, it appears that, although women still drink less frequently than men, their alcohol consumption is increasing and the gap is closing, particularly amongst younger women (Marshall, 2000). Plant (1997) points to the General Household Survey (GHS) finding that the proportion of women over the age of 18 years drinking 14 or more units of alcohol per week has increased from 9% in 1984 to 13% in 1994, with increases from 3% to 7% also being noted in those over 65 years of age. Plant suggests that this demonstrates the effect of a greater acceptance of women drinking.

Notwithstanding the major changes that have taken place in many countries in terms of women's alcohol use, generally with a greater acceptance of female alcohol consumption, an imbalance continues to exist in attitudes to women drinkers. For instance, in a literature review of gender socialisation and women’s addiction, Forth-Finegan (1991) pointed out that regardless of the social changes that had taken place over the previous 20 years, women still tended to be measured by ‘subtle and persuasive gender norms’ (p 28). Plant (1997) similarly describes how, despite greater acceptance of women drinkers, societal double standards and discrimination still exist, towards women who drink heavily, become intoxicated, or develop alcohol problems.

**Gender Differences in Alcohol-Related Problems and Barriers to Treatment**
It has been noted by several researchers that there are gender differences in substance-related problems. Robbins (1989), considering sex differences in the psychosocial
consequences of alcohol and drug use, found that substance use was related more strongly to intrapsychic problems among women and to problems in social functioning amongst men. Thom (1987) similarly found that, in entry to treatment, the only problem reported significantly more by women than men was feeling under threat of losing a child (or having recently lost a child); the only problem reported more by men was dealing with aggression / violence. More recently, Blume (1997a) has described how studies of chemically dependent people have found that female patients typically have higher levels of anxiety, depression, low self-esteem, shame and guilt (both before and after the onset of chemical abuse); whereas male patients have more antisocial trends. It is interesting to speculate as to why this may be the case.

In 1987 Gomberg noted that, although there had been a shift in the status of women, with the percentage of 'married-women-with-children' who were in the workforce having increased considerably over previous decades, the distribution of responsibilities in terms of household managing and child-rearing had remained much the same. Smyth and Miller (1997) point out that substance-abusing women, and particularly mothers, report more problems with low self-esteem and guilt than do other women. They feel that this view is compounded by society's negative and punitive attitudes towards addicted mothers. It could be argued then that present day gender differences in substance-related problems may in part be due to the continued assignment of the roles played by women, particularly in child-rearing.

Over the years, a number of authors have pointed out how the stigma associated with substance use in women, the resulting shame and guilt, plus fears of losing their children, have acted as a barrier to women seeking help (e.g. Gomberg, 1978; Thom, 1984; Beckman and Amaro, 1986; Blume, 1997a; and Marshall, 2000). As such, Blume (1997a) argues that sensitivity to women's special needs and problems are critical to treatment success. Forth-Finegan (1991) similarly suggests that power, shame and guilt should be significant issues when developing treatment approaches for women. It seems intuitive then, that if the stigma of having a drug or alcohol problem is acting as a barrier to treatment, then this may have an attributional effect, in terms of clients wishing to present favourably, when entering treatment services.
Whilst different rules for men and women exist for the use of most substances, the social stigma is probably worse for women regarding the use of alcohol. As Forth-Finegan (1991) argues, cultural double standards view drunkenness in men as a 'rite-of-passage', but as unattractive, delinquent or even promiscuous, in women. The next section will therefore consider the possible effects of gender stereotypes and stigmatisation in terms of the attributions held by male and female problem drinkers.

Gender Differences in Attributions

Gender Differences in Attributions Generally

There is little evidence to suggest that there are differences between men and women in terms of their general, global attributional style. For example, Campbell and Henry (1999) did not find such gender differences in a study of college students aged 21-24 years.

However, some researchers have found that there are differences when looking at more specific phenomenon, and have concluded that it is important to consider possible gender issues in all attributional research. For example, Bruder-Mattson and Hovanitz (1990) found, in the results of a study examining how coping styles and attributional styles predict depression, that there was a failure to replicate a well-established finding (i.e. the relationships between depression and attributions as predicted by a model of helplessness) with males. They suggested therefore that research on attributional styles should analyse all data separately by gender. In another example, Morris (1995), carried out a meta-analysis of research between 1960 and 1984 looking at male and female differences in attributional explanations for success and failure in their performance of leisure activities. Whilst the results were far from conclusive, it was found that males did tend to make stronger ability (i.e. internal, stable) attributions than females regardless of the outcome, and were more likely to attribute their success and failures less to luck (i.e. external, unstable) than were females. Morris pointed out therefore, that the social context of success and failure might have different subjective implications for males and females.

In view of the above findings, it is important to review research considering gender differences in the attributions held by those who have drink problems.
Gender Differences in the Attributions of Problem Drinkers

As has been mentioned previously, gender-related findings in the field of substance use are sparse. Furthermore, in the field of alcohol research, most of the studies that have considered gender differences in attributions have looked at either the general, or drinking-related, LOC of drinkers (i.e. internal or external) and the results appear to be either non-significant or equivocal. For instance, Sandoz (1995) found no overall gender differences in either general or drinking-related LOC in 52 recovering alcoholics. Although Beckman (1979) did find some gender differences, both men and women saw external factors as being important causes of their drinking; the female alcoholics saw other persons, and the male alcoholics perceived fate as being the more important causal factors.

However, other studies have found clear gender differences, although these differences have varied between studies. For example, Hartmann (1999) found, amongst 441 clients entering alcohol treatment programs, that the women had a more external orientation than the men on a LOC scale for alcohol. Bollman (1997), on the other hand, in a study of 152 individuals in treatment or recovery, found that the women scored higher on internal LOC than men. These findings of these latter studies may suggest that women enter the services with a higher external LOC than men, but that they become more internal than men in terms of their LOC as treatment progresses.

There have also been a number of studies looking at differences in attributions within various groups of women per se. For instance, Mesrian (1998) found a significant relationship between drinking-related locus of control and the drinking behaviour of women who drink alcohol during pregnancy, in that the pregnant women with drinking problems tended to have external perceptions of control over their drinking. In another study Beckman (1979) considered age as a variable in women’s perceptions of drinking problems. It was found that female college students were more likely to perceive drinking problems to be due to external forces (e.g. other people or events), and less likely to believe them to be due to internal factors (illness, hereditary or the person themselves) than were older women.

Gender-specific studies also show a tendency for women who are problem drinkers to have a higher external LOC than those who are social drinkers. For example, Sandoz
(1995) found that the recovering alcoholic females had greater external drinking-related LOC than the non-problem drinking females; and Oblitz and Swanson (1976) found that women alcoholics had greater external control than women social drinkers on both a general and drinking-rated LOC scale.

Whilst the studies of drinkers' attributions have considered the issue of (internal/external) locus, there has been little research to look at gender differences in control, although two studies conducted by Eiser (albeit with smokers and drug users) suggest that there may be gender differences in these areas. Firstly, in the study to consider addicts' perceptions of their dependence on drugs, Eiser and Gossop (1979) gave 40 drug addicts an attitude questionnaire and found that female addicts were much less confident than male addicts in their ability to turn down drugs if they were offered any. In the second similar study Eiser and van der Pligt (1986) undertook a principle components analysis of smokers' statements regarding their feelings about their own smoking and found that although scores defined as 'sick' showed no gender differences, females had higher 'hooked' scores than the males. These studies suggest that the women perceived themselves to be more addicted, and possibly having less control over their smoking and drug use, than the men.

Moving away from the attributional dimensions of locus and control, there has been some interesting research by Thom (1986) considering gender differences in attributions for problem drinking in terms of the way in which the problem is labelled. In a study of 25 men and 25 women, designed to investigate gender differences in help-seeking for alcohol problems and factors that may be barriers to help-seeking, Thom found that, on presentation to the services, women were reluctant to be labelled as 'alcoholic', and less likely to feel that alcohol was their main problem than were the men. Qualitative analysis of in-depth interviews indicated the influence of public images and stereotypes of 'the alcoholic' on women's definitions of alcohol as a problem. Thom commented that:

In claiming that drinking was a response to other difficulties and not 'the real problem' [women] may have been rationalising or explaining away behaviour which was felt to be particularly unacceptable in women.

(Thom, 1986, p787)
Also interesting was the finding that the men, whilst admitting that drinking was their main problem, feared the ‘psychiatric’ label and tended to believe that they should be able to control their drinking themselves, finding it difficult to ask people for help with their problems. Thom felt that this was linked to social definitions of appropriate male behaviour and attitudes.

Kellett, Plunkett and Christie (2000) in a study designed to consider reasons for the greater contact with community alcohol services by women (i.e. in terms of individual contacts and overall length of contact, per client), similarly found that, on entry to the treatment services, men tended to perceive alcohol as the cause of their other problems, whereas women considered that their problems caused them to drink. However the results also suggested that men and women were both as likely to be drinking as a response to problematic situations in their lives. The findings of Thom (1986) and Kellett et al. (2000) therefore suggest that social influences may be shaping the causal attributions provided by the problem drinkers when they present to the alcohol services for help, and that these attributions may be more internally located in men, whilst being more external in women.

In summary, it would seem that whilst there do not appear to be differences between men and women in terms of their overall attributional style, there might be differences when looking at more specific phenomenon such as the attributions for problem drinking. Whilst, gender-related findings from studies of LOC, where they exist, have been equivocal with some suggesting a more external orientation in women than in men and others a more internal orientation. As argued previously, studies of LOC have generally tended to be equivocal, and as such there is probably a need for research using multidimensional measures to assess gender differences in attributions. Finally, studies investigating the perceptions of problem drinking, as held by the problem drinkers, have found some gender differences. For instance, on first presentation to the services, women appear to be less likely than men to feel that alcohol is their main problem, but rather a response to other problems in their lives, whereas men do feel that alcohol is their main problem, and the cause of their other problems.
Having discussed gender differences in attributions, it is now important to take an attributional perspective and consider the consequences of these attributions, particularly in terms of those factors that may have an effect on treatment outcome.

Consequences of Attributions Regarding Problem Drinking

Attributional research considers the possible effects of attributions on feelings and behaviour. As with the attribution research, there are few gender-related attributional studies that have been conducted in the field of problem drinking. Those that have, have mainly considered attributions as encompassed within the notion of LOC and have looked at the relationship between LOC and self-efficacy (to abstain from, or control, alcohol). Furthermore, although there are studies considering the attributional style of women, these do not compare the findings with those of men.

For instance, there have been equivocal findings in terms of LOC and self-efficacy in women generally. Mesrian (1998) concluded from a study of pregnant women, that self-efficacy to abstain from alcohol might be relatively independent of an individual’s perception of control. Elias (1997), on the other hand, found that in substance-abusing women, as locus of control became more external, situational self-efficacy decreased.

In terms of self-efficacy per se, previous research suggests there are no differences in self-efficacy amongst male and female problem drinkers. For example, Greenfield et al. (2000) found that, whilst there was a significant relationship between self-efficacy expectancies during hospitalisation and subsequent likelihood of relapse during the following 12 months, there were no gender differences in self-efficacy measured during hospitalisation, nor in the relationship of self-efficacy to time of relapse.

Some studies have also considered the relationship between pre-treatment LOC and more general treatment outcomes. For instance, Caster and Parsons (1977a and 1977b) found, in a study of 40 veteran male alcoholics, that LOC orientation was not directly related to therapeutic benefit, except for ‘external control by chance’ (rather than ‘internal control’ or ‘external control by powerful others’), which tended to predict a poorer outcome in those that received treatment. Canton et al. (1988) similarly found external LOC to be less favourable for treatment outcome than internal LOC in 67 patients (gender not specified) with alcohol dependence. It appears then that whilst
there may not be gender differences in the consequences of attributions held by male and female problems drinkers, the attributions themselves are related to treatment outcomes.

There are a number of factors that, whilst not measuring of long-term therapeutic outcomes, have been shown to be important predictors of treatment success. For instance, self-efficacy has been found at follow-up to be associated with numbers of drinking occasions (Solomon and Annis, 1990) and relapse (Greenfield et al., 2000). Another predictor of outcome appears to be an individual’s motivational readiness to change their drinking behaviour. For example, Heather, Rollnick and Bell (1993) found readiness to change prior to discharge to be a significant predictor of changes in alcohol consumption at follow up.

Summary and Conclusions Regarding Gender Differences and Attributions in the Field of Alcohol Research

Historically there have always been different rules for men and women regarding the use of alcohol and other drugs. These differences have their roots in childhood socialisation and are often targeted at the gender assignment of work roles. Such taboos, often expressed in sexual terms, give rise to inaccurate negative stereotypes of women who use substances, with gender stigmatisation influencing drinking and drug use amongst women. During recent decades the lives of many women have changed due to the influence of social, economic and educational changes, and as such, drinking patterns amongst women also appear to be changing (Plant, 1997). However, whilst this suggests a greater acceptance of women drinking, double standards and discrimination still exist. This review has outlined gender differences in alcohol-related problems, in terms of the tendency towards intrapsychic problems in women, and problems of social functioning in men. There has also been a discussion of the implications of stigmatisation in terms of barriers to treatment.

In terms of attributions there is little evidence to suggest that there are differences between men and women in overall attributional style per se, although there may be reason to suppose that differences exist when looking at the causal attributions of problem drinkers. For instance, female problem drinkers, when first presenting to treatment services, have been found to be reluctant to be labelled as ‘alcoholic’, and less
likely than men to feel that alcohol was their main problem; whilst male problem drinkers, although admitting that drinking was their main problem, fear the ‘psychiatric’ label and tend to believe that they should be able to control their drinking themselves (Thom, 1986).

Indeed, a number of researchers have pointed to the need for certain gender-specific attributions (such as expectancy of help, interactions with clinicians and relationship with substances) to be addressed in treatment planning. For example, Thom et al. (1992) considered the impact of the first consultation at a specialist alcohol clinic on patients’ perceptions of their problem drinking and on their expectations of help. At intake, the men had higher expectations of help from the alcohol clinic than the women, although the women were more likely to increase their ratings of expected clinic helpfulness by the end of the first consultation than were the men. Thom et al. suggested therefore that in attempting to engage patients in treatment it is important to be receptive to the patient’s ‘world view’ (which may differ from the clinician’s) and to be sensitive to the potential in being able to influence patient perceptions.

From an attributional perspective, there has been little research considering the relationship between causal attributions for problem drinking and long-term consequences, although Canton et al. (1988) found that external LOC appears to be less favourable for treatment outcome than internal LOC. As Canton et al. also suggest, it appears that identification of LOC may be of clinical use in formulating treatment and prognosis, and some researchers have outlined specific areas where this may be beneficial. For example, Mesrian (1998), in the study of pregnant women, suggested that treatment programmes should first identify pregnant women with external LOC so that intervention programmes could be designed to enhance traits that are associated with the internal LOC.

In conclusion, it appears that there is a need to conduct more research that takes account of both the attribution and attributional aspects of substance use, particularly noting possible gender differences in problem drinkers. In terms of attributions, it seems intuitive to predict that, given the known gender stereotypes that exist, particularly with regard to the drinking of alcohol, there will be associated gender differences in the addiction attribution of those presenting to clinical services with problem drinking.
From an attributional perspective it is important to investigate the relationship between the causal attributions held by problems drinkers when they present to the alcohol services and variables that may predict therapeutic outcome. These factors may include such things as self-efficacy to control, or abstain from, alcohol, plus an individual’s motivational readiness to change their drinking behaviour.
CHAPTER TWO: AIMS OF RESEARCH AND HYPOTHESES

Aims of the Research and Rationale for Hypotheses
The main aims of the research and the rationale for hypotheses will be considered under the headings of antecedents, attributions and consequences, followed by the specific hypotheses for the present research.

Antecedents
It is known that gender stereotypes exist regarding drinking behaviour. Social attitudes tend to stigmatise women with drinking problems more than men, with social definitions of appropriate behaviour and attitudes often being associated with negative moral evaluations. As such it has been suggested that women may experience shame and guilt if it were to be revealed that they had a drink problem (Forti-Finegan, 1991). Men, on the other hand, are more likely than women to believe that they should be able to control their drinking themselves, fearing that admitting to having a drink problem may compromise their masculinity.

Attribution theorists (e.g. Kelley and Michela, 1980) argue that people do not want to be negatively judged and are motivated to have a positive self-image so that others will accept them. If people are motivated to present themselves in a favourable manner, it seems likely that such motivational influences may operate in clinical situations, such as when psychiatrists, psychologists or nurses are interviewing patients. As such, gender differences in ‘preferred explanations’ may also operate at initial contact with the alcohol services when clients are asked by alcohol counsellors to give reasons for their problem drinking.

Attributions
The first aim of the research was to investigate whether gender differences existed in the causal attributions for problem drinking at initial contact with the alcohol services. In terms of the causal dimensions of locus and stability, Davies (1997) points out that ‘external/stable’ and ‘internal/stable’ both justify continued drug use: ‘one implies ‘helpless victim of circumstance’, whilst the other implies ‘helpless victim of disease’’ (p.114). However, Davies argues that, in terms of drug use, ‘addiction’ is represented by the ‘internal/stable’ attribution; that is, a personal disposition that is likely to be
permanent. This ‘addiction’ attribution, he states, legitimises the behaviour, as there is no personal responsibility and no hope for change.

However, research suggests that there may be specific gender differences in terms of the locus of cause when applied to problem drinkers (as opposed to drug users). Research by Thom (1986, 1987) and Kellett et al. (2000) suggests that although men were more likely than women to see their heavy drinking as developing out of normal everyday social situations where drinking is a way of life, they also tended to feel that alcohol was their main problem and the cause of their other difficulties. Women, on the other hand, tended to minimise the harmfulness of their current drinking, being less likely than men to feel that alcohol was their main problem. Indeed, women perceived their drinking to be a response to other difficulties in their lives where they had learned to use alcohol as a coping device. Research suggests then, that female problem drinkers may make more external causal attributions (probably in terms of both locus and control) and male problem drinkers more internal attributions.

There is further evidence to support this notion in that Hartmann (1999), using a LOC scale for alcohol on clients within 48 hours of admission to a treatment programme, found the means for the women who abused alcohol to be consistently higher than those for their male peers, indicating a more external orientation (although it must be noted that LOC, even using a drink-related LOC scale, refers jointly to the locus of control, as well as the locus of cause for drinking).

In summary, the first aim of the research was to investigate possible gender differences in causal attributions for problem drinking. Causal attributions for drinking could be considered in terms of a number of dimensions, although the literature suggests the dimensions of locus (internal/external), control (controllable/uncontrollable) and stability (stable/unstable) are perhaps the most salient (e.g. McAllister and Davies, 1992). Previous research findings suggested that women would make more external attributions (in terms of locus and control), with men making more internal attributions (in terms of locus and control), with no gender differences in terms of stability.
Consequences

The second aim of the research was to consider the relationship between the causal attributions held by those with a drink problem and factors that may affect the outcome of their therapy (i.e. to look at the possible consequences of holding particular attributions).

Due to the time constraints of the present study it would not be possible to investigate long-term treatment outcomes. However, it would be feasible to consider relationships between attributional style and likely prognostic indicators, such as self-efficacy to abstain from alcohol in high-risk situations and motivational readiness to change. Indeed, Barbor, Miller, DiClemente and Longabaugh (1999) from the Project Matching Alcoholism Treatments to Client Heterogeneity Research Group (Project MATCH) reported that process measures in Project MATCH supported ‘the importance of motivation, self-efficacy and process of change in predicting drinking behaviour throughout the follow-up period’ (p 67). The word limitations of this thesis prevent a full review of the literature on self-efficacy and motivational readiness to change, although a selection of studies demonstrating these concepts as prognostic indicators follows.

Self-efficacy (i.e. confidence to control drinking in high-risk situations) has particular clinical relevance, because self-efficacy assessed at intake of treatment has been found to be strongly associated with the level of consumption on drinking occasions at follow up (Solomon and Annis, 1990). Greenfield et al. (2000), studying the relationship of self-efficacy expectancies to relapse among alcohol-dependent men and women, similarly found that low self-efficacy during hospitalisation was related to relapse during the following 12 months.

The other proposed assessment of the potential therapeutic prognosis of problem drinkers was the clients’ motivation and readiness to change at the point of initial contact with the services. It was expected that, on entry to the treatment services, those who did not recognise that their drinking is problematic, or who were ambivalent about change, would not have as good a prognosis as those who had already started to take steps towards changing their drinking patterns. Indeed, Heather et al. (1993) found that the stage of readiness to change (albeit prior to discharge) was a significant predictor of
changes in alcohol consumption at follow up. Furthermore, the Project MATCH Research Group (1997a) reported that, in the outpatient arm of the study, initial motivational readiness to change was prognostic of better drinking outcomes over time, both in terms of percentage days abstinent and drinks per drinking day.

There are a number of ways in which the specific attributions held by problem drinkers might be related to treatment outcome. For instance, studies of LOC and substance use have generally found a relationship between LOC and prognosis, in that there is a shift towards a more internal LOC as treatment progresses (Walker et al., 1979; Morojele and Stephenson, 1992; Oziel and Obitz, 1975); those with an internal orientation tending to remain in treatment longer (Jones, 1985) and being less likely to relapse (Prasadaraao and Mishra, 1992). However, as described previously, the notion of LOC combines two constructs and it is unclear whether the relationship between LOC and prognosis is a feature of the locus of cause or the locus of control.

Davies (1997) argues that internal/stable and external/stable attributions for cause of drug use could both justify continued drug use, with the internal/stable combination representing ‘addiction’. As such it could be predicted that there would be no difference in prognosis according to the (internal or external) locus of cause of drinking, but that an internal orientation of control would specifically predict a better prognosis than an external orientation. Furthermore, Davies’ argument would predict that stable attributions of cause would predict a poorer prognosis than unstable attributions.

In summary, the second aim of the research was to investigate whether attributional style is related to variables that may affect the outcome of their therapy (i.e. self-efficacy and motivational readiness to change). Previous research findings suggested that high internal control would be associated with more positive indicators of treatment outcome; whilst high external control and high stability would be associated with more negative indicators; with no difference in terms of internal/external locus of cause per se.
Hypotheses

The hypotheses fall into two categories according to the two overall aims of the research: i) gender differences in causal attributions for problem drinking, and ii) the relationship between causal attributions and factors that may predict treatment outcomes.

**Gender Differences in Causal Attributions for Problem Drinking**

It was hypothesised that, on entry to the alcohol treatment services, there would be gender differences in the perception of alcohol as the main problem, such that:

- Women would be less likely than men to see alcohol as being their main problem
- Women would be less likely than men to see alcohol as the root of their problems
- Women would be more likely than men to feel that their other problems cause them to drink

It was hypothesised that, on entry to the alcohol treatment services, there would be gender differences in the causal attribution of locus, such that:

- The locus of women’s causal attributions for drinking would be more external than men’s, and the locus of men’s causal attributions for drinking would be more internal than women’s

It was hypothesised that on entry to the alcohol treatment services there would be gender differences in the causal attribution of control, such that:

- The attribution of external control for the causes of drinking would be higher in women than in men
- The attribution of internal control for the cause of drinking would be higher in men than in women

It was hypothesised that on entry to the alcohol treatment services there would be no gender differences in the attribution of stability.
Relationship Between Causal Attributions and Factors Predictive of Treatment Outcome

It was hypothesised that, on entry to the alcohol treatment services, those with higher scores of internal control would have more favourable measures for factors that may affect treatment outcomes than those with lower scores of internal control, such that:

- Those with higher internal control would have greater perceived self-efficacy to abstain from alcohol in high-risk situations
- Those with higher internal control would be more motivated/ready to change

Conversely, it was hypothesised that, on entry to the alcohol treatment services, those with higher scores of external control would have less favourable measures for factors that may affect treatment outcomes than those with lower scores of external, such that:

- Those with higher external control would have lower perceived self-efficacy to abstain from alcohol in high-risk situations
- Those with higher external control would be less motivated/ready to change

It was also hypothesised that, on entry to the alcohol treatment services, those with higher scores of stability would have less favourable measures for factors that may affect treatment outcomes than those with lower scores of external, such that:

- Those with higher stability would have lower perceived self-efficacy to abstain from alcohol in high-risk situations
- Those with higher stability would be less motivated/ready to change

Finally, it was hypothesised that, on entry to the alcohol treatment services, there would be no differences in perceived self-efficacy or motivation/readiness to change according to scores of (internal/external) locus.
CHAPTER THREE: METHODOLOGY

Design
The aims of the research were to consider gender differences in the attributions for problem drinking in clients first presenting to the treatment services, plus to consider the relationship between causal attributions and factors that were likely to affect treatment outcome. In order to achieve this, the study employed an independent samples design plus correlational measures, utilising self-administered questionnaires.

Measures
To consider gender differences in causal attributions for problem drinking an independent samples design was used, one group of participants being male (n = 33) and the other female (n = 31), with the attributions from each group being compared. The dependent variable was the gender of the participants and the independent variables were:

- The participants’ perceptions of alcohol as a problem
- The participants’ causal attributions for problem drinking (internal/external locus, internal control, external control and stability)

Drawing from both the male and female participants, correlation measures were employed to consider the relationship between dimensions of participants’ causal attributions for their problem drinking (i.e. locus, internal control, external control and stability) and the following factors that are predictive of treatment outcome:

- The participants’ self-efficacy to abstain from alcohol in high-risk situations
- The participants’ motivational readiness to change their drinking behaviour

The effects of possible confounding variables, such as the participants’ demographic characteristics and levels of alcohol dependence were also measured and, where appropriate, controlled for during analysis.
Statistical Analysis and Sample Size

The main hypotheses were directional and therefore in most cases one-tailed tests were appropriate; alpha (α) was set to 0.05. To determine sample size Cohen’s (1988) power tables were consulted.

For the independent measures it was envisaged that t-tests and chi-square tests would be used. For one-tailed t-tests, power calculations to determine the required number of participants, based on α = 0.05, a large effect size (d) of 0.8 and power of 0.8, revealed that 20 participants would be needed for each group. For a chi-square test, based on df = 1, α = 0.05, a large effect size (w) of 0.5 and power of 0.8, a sample size of 30 - 35 participants would be needed.

For the correlational measures, using a one-tailed Pearson’s Product Moment Correlation Coefficient, based on α = 0.05, a medium effect size (r) of 0.3 and a power of 0.76, power calculations revealed that a total of 60 participants would be required. By taking account of these calculations, it was therefore decided that at least 60 participants would need to be recruited for the study (i.e. at least 30 men and 30 women).

Participants

Recruitment Criteria

The Leicestershire Community Alcohol Team (CAT) is part of the Specialist Services of the Leicestershire + Rutland NHS Trust. It offers a non-abstinence orientated, multidisciplinary, community-based service for the county of Leicestershire. The CAT also works in partnership with the Alcohol Advice Centre (AAC). Professionals (e.g. General Practitioners, Psychiatrists, Nurses, Social Workers) can refer clients for assessment by contacting the CAT, or clients may refer themselves via the AAC.

Participants in the present study were all problem drinkers attending their initial assessment appointments with the CAT. The criteria for inclusion in the study were ‘new’ referrals to the services, who were over 18 years of age. New referrals were defined as having had either no previous contact with the alcohol services, or no therapeutic contact with the services in the previous 12 months (Thom, 1986 and 1987).
Exclusion criteria included intoxication levels that prevented interview, and clients who presented with severe co-morbid mental health problems. Those who were identified during the referral screening as having conditions such as psychosis or neurological deficits, plus clients known to be on an enhanced Care Programme Approach (CPA) were also excluded. Enhanced CPA is a standardised delivery of care for individuals with multiple needs and who need more intensive help. These individuals generally have more than one clinical condition, or a condition that is made worse by problem alcohol or drug use; they may be hard to engage (Department of Health, 1999).

Four of the participants who were approached did not wish to participate in the research (two women and two men). The two women opted not to participate due to time constraints and the two male refusals were linked to them feeling too emotionally upset prior to the assessment. In addition, two men had to be excluded as they were too intoxicated to participate. None presented with co-morbid psychiatric disorders necessitating exclusion.

In terms of previous contact with the services, 62.5% had had no previous contact with the alcohol services (67% of the men and 58% of the women), with the remaining 37.5% having had previous contact (33% of the men and 42% of the women), but no therapeutic contact in the preceding 12 months.

Demographic Characteristics and Drinking History
The final sample consisted of 64 participants (33 men and 31 women). Their demographic characteristics and drinking history variables appearing in Table 2 (below). As can be seen, the average age of the sample was 41.7 years (SD 11.4), although the range of ages was greater in the women than in the men (men SD 8.9, women SD 13.6). The majority of the sample (91%) described themselves as 'white British'. Two thirds of the sample were either single, divorced or separated (men 72%, women 61%), whereas a third were either married or cohabiting (men 27%, women 39%).
Table 2: Demographic and drinking history of participants, by gender

<table>
<thead>
<tr>
<th></th>
<th>Male (N=33)</th>
<th>Female (N=31)</th>
<th>Totals (N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (yrs)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>40.7</td>
<td>42.8</td>
<td>41.7</td>
</tr>
<tr>
<td>Range</td>
<td>25 - 58</td>
<td>19 - 73</td>
<td>19 - 73</td>
</tr>
<tr>
<td>SD</td>
<td>8.9</td>
<td>13.6</td>
<td>11.4</td>
</tr>
<tr>
<td><strong>Ethnicity (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White-British</td>
<td>88</td>
<td>94</td>
<td>91</td>
</tr>
<tr>
<td>White - Irish</td>
<td>6</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Asian - Indian</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Civil status (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/cohabiting</td>
<td>27</td>
<td>39</td>
<td>33</td>
</tr>
<tr>
<td>Single</td>
<td>30</td>
<td>39</td>
<td>34</td>
</tr>
<tr>
<td>Divorced</td>
<td>18</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Separated</td>
<td>24</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td><strong>Employment status (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>30</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>Unemployed (available)</td>
<td>15</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Unemployed (sick)</td>
<td>55</td>
<td>42</td>
<td>48</td>
</tr>
<tr>
<td>House worker</td>
<td>0</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Retired</td>
<td>0</td>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td><strong>Age leaving FT education (yrs)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>15.7</td>
<td>16.5</td>
<td>16.1</td>
</tr>
<tr>
<td>Range</td>
<td>0 - 20</td>
<td>0 - 24</td>
<td>0 - 24</td>
</tr>
<tr>
<td>SD</td>
<td>3.1</td>
<td>2.1</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Level of education (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No exams</td>
<td>28</td>
<td>32</td>
<td>30</td>
</tr>
<tr>
<td>GCSE level or equivalent</td>
<td>50</td>
<td>36</td>
<td>43</td>
</tr>
<tr>
<td>A-level or equivalent</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Degree or equivalent</td>
<td>3</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td><strong>Length of alcohol problem (yrs)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>8.8</td>
<td>9.3</td>
<td>9</td>
</tr>
<tr>
<td>Range</td>
<td>0.5 - 25</td>
<td>0.16 - 30</td>
<td>0.16 - 30</td>
</tr>
<tr>
<td>SD</td>
<td>7.4</td>
<td>8.5</td>
<td>7.9</td>
</tr>
<tr>
<td><strong>Current units of alcohol / week</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>163</td>
<td>122.3</td>
<td>143.3</td>
</tr>
<tr>
<td>Range</td>
<td>0 - 532</td>
<td>14 - 315</td>
<td>0 - 532</td>
</tr>
<tr>
<td>SD</td>
<td>106.3</td>
<td>75.5</td>
<td>94.2</td>
</tr>
<tr>
<td><strong>Level of dependency (score on SADD)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>21.3</td>
<td>20.7</td>
<td>21</td>
</tr>
<tr>
<td>Range</td>
<td>5 - 42</td>
<td>1 - 36</td>
<td>1 - 42</td>
</tr>
<tr>
<td>SD</td>
<td>9.7</td>
<td>8.3</td>
<td>9</td>
</tr>
</tbody>
</table>
In terms of employment status, approximately three quarters (men 70%, women 81%) were ‘inactive’ (i.e. unemployed, house workers or retired), whereas a quarter (men 30%, women 19%) were in active employment. The average age for leaving full-time education was 16.1 years (men 15.7 years, women 16.5 years), and the majority of the sample (70%) had taken exams to GCSE level (equivalent) or higher, although 30% had left school without taking any exams (men 28%, women 32%).

Drinking history revealed that the average length for having had an alcohol problem was 9 years (men 8.8 years, women 9.3 years), with an average standard deviation of 7.9 years (male SD 7.4 years, female SD 8.5 years). The current units of alcohol being consumed averaged 142.3 per week (men 163 units, women 120.2 units), with the range being greater in the men than the women (male SD 106.3 units, female SD 78 units). The mean level of dependency, as measured by the Davidson and Raistrick’s (1986) Short Alcohol dependence Data (SADD) score, was 21 (men 21.3, women 20.7) with a SD of 9 (male SD 9.7, female SD 8.).

Overall, and taking into account exclusion criteria and refusals, it was felt that the sample was generally representative of clients referred to the Leicestershire Community Alcohol Service (based on the Leicestershire Community Alcohol Service’s database containing current demographic information).

Measures
A questionnaire design was chosen to allow for standardised measures of attributions, and outcome predictors. It was decided that the questionnaires should be administered at point of contact with the services by the researcher in person (rather than by a postal questionnaire) to allow clients to ask questions as they filled in the questionnaire, to ensure that those with literacy problems were not excluded from the study, and to increase the likely response rate.

In order to avoid the overall assessment process becoming unacceptably long, the choice of individual measures was influenced by the length of time taken to complete them. As such, where a suitably reliable and valid shorter version of a test was available it was used in preference to the full version. In addition, in order to avoid
unnecessary replication, use was made of data regarding current drinking patterns collected as part of the regular assessment procedure.

Data was eventually collected from three sources at the initial assessment interview:
1) The following information was recorded by the researcher on the ‘Demographic Details’ form (see Appendix [i]):
   - Basic demographic data
   - Education and employment details
   - Previous contact with the Leicestershire Community Alcohol Team
   - Length of alcohol problem

2) The ‘Questionnaire’ completed by the respondents (see Appendix [ii]) contained measures of:
   - Perception of alcohol as a problem
   - Causal attributions for problem drinking
   - Self-efficacy to abstain from alcohol in high-risk situations
   - Motivational readiness to change
   - Alcohol dependency

3) One item was also taken from a form used to measuring progress by the Community Alcohol Service; a standard questionnaire given to all clients at initial assessment interviews as part of the service’s ongoing audit. The selected item used was:
   - Current drinking pattern in units of alcohol per week

The above measures will now be described in more detail.

**Demographic Details and Social Status**
The demographic variables of gender, age, ethnicity, civil status and social status were recorded on the ‘Demographic details’ form (Appendix [i]), social status being operationally defined by the following measures:
   - Employment status
   - Age of leaving full-time education
   - Level of education in terms of exams taken
Drinking History

The ‘Demographic Details’ form also recorded the following information from respondents regarding their drinking history:

- Had the respondent had previous contact with the Community Alcohol Team? (Then, if ‘yes’, when was the last contact?)
- Length of alcohol problem in years

In addition, a measure of ‘units of alcohol per week’ was calculated using information from the following questions contained in the Community Alcohol Service’s Progress Measure Form:

- Over the past month, how many days a week have you been drinking?
- What alcoholic beverages do you tend to drink? (e.g. beer, wine)
- How much do you drink in a typical drinking day? (e.g. 2 pints, or 3 glasses, or 1 measure)

From the information above, a conversion chart was used to calculate how many units of alcohol were contained in each type of drink (see Appendix [iii]). The units were then multiplied by the number of drinks per drinking day, and then by the number of drinking days per week.

A final measure of drinking history was obtained using the score on the Short Alcohol Dependence Data (SADD) questionnaire, by Davidson and Raistrick (1983), as shown in Appendix [ii] under the heading ‘Short Alcohol Dependence Questionnaire’. This self-report questionnaire for the assessment of alcohol dependence is the short form of the Alcohol Dependence Data (ADD) questionnaire, but designed to be easier and faster to use than the ADD (Davidson and Raistrick, 1983). It has the following properties:

(i) suitable for patients seeking help with a drinking problem
(ii) measures present state dependence
(iii) sensitive across the full range of dependence
(iv) sensitive to change over time
(v) relatively free of sociocultural influence

The SADD contains 15 items representing symptoms of present state dependence, such as ‘Do you find difficulty getting the thought of drink out of your mind?’ These items
are rated on a four point scale ranging from ‘Never’ (score = 0) to ‘Nearly always’ (score = 3), giving a final score ranging from 0-45. Test-retest and split half reliability studies have been conducted on the SADD, and measures of construct, concurrent and content validity have also been derived (Davidson and Raistrick, 1986).

Perceptions of Alcohol as a Problem

The following four items, as shown in appendix [ii] under the heading ‘Perceptions of alcohol as a problem’, were used to assess the respondents’ perceptions of their drink problem:

1. Do you feel that alcohol is a problem for you?
2. Do you feel that alcohol is your main problem?
3. Is alcohol the root of your problems?
4. Do other problems cause you to drink?

The first two items were derived from those used by Thom (1986) when investigating gender differences in barriers to help seeking for those with alcohol problems. The first two items, plus the third item had also been used in a previous study to assess gender differences in clients’ perceptions of their problem drinking on entry to the alcohol services (Kellett et al., 2000), with the fourth item being unique to the present study.

Causal Attributions for Problem Drinking

The measure of causal attributions for the respondents’ problem drinking also appears under the heading ‘Perceptions of alcohol as a problem’ in the Questionnaire (see Appendix [ii]), and was based on the revised Causal Dimension Scale (CDSII) by McAuley et al. (1992). The CDSII measures how an attributer perceives the causes that he or she has stated for an event across four dimensions: ‘locus’ of causality, ‘stability’, ‘external control’ and ‘personal control’. Although the CDSII was not developed for use with substance users, the original Causal Dimension Scale (CDS) devised by Russell (1982) has been adapted for use to measure the attributions of smokers (Grove, 1993). In the present study the CDSII was therefore similarly adapted for use with problem drinkers.

To complete the CDSII the questionnaire began with the question: ‘What would you say was the main cause of your problem drinking?’ Respondents would then be asked
to rate this cause along 12 dimensions (three items for each of the four attributional
dimensions). The ratings were made on eight-point scales, anchored by verbal
statements. For example, one of the items (measuring locus of causality) asked:
Is the cause:
Something about you 9 8 7 6 5 4 3 2 1 something about others

The CDSII provides separate scores (ranging from 3 – 27) for each of the attributional
dimensions of locus of causality, stability, personal control and external control.

Data provided in the 1992 paper by McAuley et al. provides initial psychometric
support to suggest that the CDSII is internally consistent and possesses adequate
construct validity as a measure of how individuals perceive causes along causal
dimensions, although the authors acknowledge the need for further validity testing.

*Perceived Self-Efficacy to Abstain from Alcohol in High-Risk Situations*

There appeared to be two possible ways of measuring perceived drinking-related self-
efficacy: (i) confidence to control drinking, and (ii) confidence to abstain from
drinking. As such, two instruments were considered for use in the present study: (i) the
Situational Confidence Questionnaire (SCQ: Annis and Graham, 1988), a 39 item
questionnaire that considers confidence to control drinking, and (ii) the Alcohol
Abstinence Self-Efficacy scale (AASE: DiClemente, Carbonari, Montgomery and
Hughes, 1994), a 20 item questionnaire that considers confidence to abstain.

Within the Leicestershire Alcohol Services it is assumed that both controlled drinking
and abstinence are reasonable treatment goals. However, it was felt that the measure of
perceived ability to abstain from drinking in certain situations would be suited to clients
who were aiming for either controlled drinking or abstinence. Problem drinkers who
wish to control their drinking often choose to abstain for a period of time first, and then,
even when they are ready to drink in a controlled way, often wish to abstain in
particularly high-risk situations. On the other hand, clients wishing to be abstinent
would not be inclined to think about their ability to engage in controlled drinking. Self-
efficacy was therefore measured using the AASE, as shown in Appendix [ii] under the
heading ‘Alcohol Abstinence Self-Efficacy Scale’. 
The AASE is a self-report questionnaire developed by DiClemente et al. (1994). It assesses an individual’s confidence to abstain from alcohol in 20 situations that represent typical drinking cues. These situations form four subscales (negative affect, social/positive, physical and other concerns, and withdrawal and urges) each containing five items. For instance, one of the items measuring negative affect asks the respondent to rate his/her perceived confidence not to drink alcohol ‘When I am feeling depressed’. Each item is then scored on a 5-point likert-type scale ranging from ‘Not at all’ (score = 1) to ‘Extremely’ (score = 5). This gives a potential score of between 5 and 25 for each subscale. The sum of all the items also provides an overall self-efficacy rating ranging from 20 to 100.

The AASE is reliable in terms of internal consistency, and has construct validity DiClemente et al. (1994). It was used to assess alcohol dependent client attributes of self-efficacy in Project MATCH, a clinical trial of 952 outpatients and 774 inpatients sponsored by the National Institute on Alcohol Abuse and Alcoholism, in the USA (Project MATCH Research Group, 1997b).

**Motivational Readiness to Change**

Motivational readiness to change drinking behaviour was assessed using the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) (Miller and Tonigan, 1996), a measure that considers motivational readiness to change in problem drinkers. It appears in the questionnaire under the heading ‘Personal Drinking Questionnaire’ (see Appendix [ii]).

The SOCRATES is a multidimensional scale, originally developed as a parallel measure of the stages of change described by Prochaska and DiClemente (1982, 1986, 1992), but with item content specifically focussing on problem drinking. During its development, the original version of SOCRATES used the five stages of change constructs of the model conceived by Prochaska and DiClemente (i.e. ‘precontemplation’, ‘contemplation’, ‘determination’, ‘action’ and ‘maintenance’). However, factor analysis of SOCRATES yielded just three factors, with very little overlap. Miller and Tonigan (1996) therefore recommend that the scales of SOCRATES are better understood as ‘continuously distributed motivational processes
that may underlie stages of change’ (p 84). The three dimensions that the SOCRATES yields are:

- Recognition (a person’s recognition of their drinking problem) – consisting of ‘determination’ and ‘precontemplation’ items
- Ambivalence (ambivalence or uncertainty about their drinking) – consisting of ‘contemplation’ items
- Taking steps (taking steps towards a positive change in drinking) – consisting of ‘action’ and ‘maintenance’ items

Although two forms of the instrument are available, a short (19 item) and longer (39 item) form, the authors recommend that the shorter version is used, as (i) comparable scale scores have been found in both forms of the instrument, and (ii) the shorter version has greater simplicity and a clearer factor structure (Miller and Tonigan, 1996).

To complete the SOCRATES respondents are asked to rate 19 items, representing the three subscales, on a five-point likert-type scale, ranging from ‘Strongly disagree’ (scoring = 1) to ‘Strongly agree’ (score = 5). For example, one of the items measuring ‘recognition’ asks the respondent how much he/she agrees or disagrees with the following statement: ‘I am a problem drinker’. The three scales are scored separately, with seven of the items referring to ‘recognition’ (giving a final score ranging from 7-35); four items referring to ‘ambivalence’ (scoring between 4-20); and eight items referring to ‘taking steps’ (scoring between 8-40).

Interpretation of the SOCRATES is as follows:

*Recognition*

High scores indicate acknowledgement that there are problems related to drinking, a desire for change, and perception that harm may follow otherwise. Low scores indicate a denial of alcohol problems, a rejection of diagnostic labels, and no desire for change.

*Ambivalence*

High scores indicate ambivalence or uncertainty about problems related to drinking and some openness to reflection (as in the contemplation stage of change). Low scores indicate *either* ‘knowing’ that drinking is causing problems (i.e. high recognition), *or* ‘knowing’ that there is not a drink problem (i.e. low recognition). A low score
therefore needs to be interpreted in conjunction with the recognition score. As it appears that this dimension could not be used independently, it was decided that scores from the dimension of ‘ambivalence’ would not be included in the analyses of results in the present study.

**Taking Steps**

High scores indicate doing things towards a positive change in drinking, perhaps with some success, and is predictive of successful change. Low scores indicate that no current, or recent, changes have been made to drinking.

Data from the Project MATCH multi-site clinical sample (n = 1,672) measuring internal consistency, plus a test-retest study (n = 82) provide support for the reliability of the SOCRATES scales, although the authors, Miller and Tonigan (1996), acknowledged limited internal consistency regarding the ‘ambivalence’ scale (not used in the present study). It was also found in Project MATCH that the use of SOCRATES was predictive of drinking outcomes (Sutton, 1999).

**Procedure**

*Obtaining Ethical Approval*

The research proposal was first submitted to the research sub-committee of the Centre for Applied Psychology (Clinical Section) at Leicester University outlining the proposed study, including a consideration of ethical issues such as: gaining informed consent, ensuring confidentiality, plus the participants’ right to refuse and right to withdraw. The research sub-committee decided that the project was methodologically sound and ethical.

The next stage was to register the research with the Leicestershire + Rutland Healthcare NHS Trust and to submit a proposal to the Leicestershire Research Ethics Committee for ethical approval. The Ethics Committee asked that three issues be addressed (albeit they did not constitute grounds for refusal of study approval): (i) the storage of data on the researcher’s home computer should comply with the Data Protection Act, (ii) patients should be pre-warned in the appointment pack that they may be asked to participate in the study, and (iii) that there be an explanation of the numbered scale in
the ‘Perceptions of alcohol as a problem’ questionnaire. These issues were addressed as follows.

Firstly, to assure anonymity and to comply with the Data Protection Act, all completed questionnaires were allocated a number that was the only means of identifying the data pertaining to them. Data was held on the researcher’s home computer, only identifiable by code and password protected. A back-up copy was kept on a locked disc. Hard copies of data were kept in a locked file at the researcher’s home to be shredded at the end of the study.

Next, in terms of clients’ prior knowledge of the research, routine standardised clinical assessments are conducted with all clients referred to the alcohol service and it is the policy of the Alcohol Services that clients receive a leaflet with their appointment letter for this assessment, outlining issues of confidentiality. This leaflet also informs clients that research is sometimes carried out by the Trust and that any information gathered for this purpose is anonymised.

Finally, the ‘Perception of alcohol as a problem’ part of the questionnaire did not use a numbered scale; however to eliminate any ambiguity the items were prefixed with the explanatory sentence:

‘Below are four questions about how you view your drinking. Please answer each by circling either ‘yes’ or no’.

The Ethics Committee were also assured that the researcher would help clients during the completion of the questionnaire if necessary.

Following clarification of these points, full ethical approval was obtained from the Ethics Committee (see Appendix [iv]), allowing the pilot study and main data collection to commence.

Pilot Study

As the initial assessment interview process lasted for approximately an hour, it was important that the entire questionnaire did not take too long to complete. The aims of the pilot study were to therefore assess questionnaire completion in terms of (i) the length of time taken to complete it, and (ii) its comprehensibility. One female member
of the research team, one male clinician in the alcohol team, plus four members of the general public known to the researcher (two men, two women) participated in the pilot study and filled in a sample questionnaire. Feedback in the form of both verbal and written comments indicated that the questionnaire took between 10 to 15 minutes to complete, although some respondents reported difficulties in understanding some of the instructions.

Instructions were made clearer by altering the wording of instructions according to feedback from the pilot participants. One notable change was to the ‘Reason for drinking’ items (CDSII), where items 1 and 9 (both from the internal/external locus dimension) were reversed. This was because some of the participants in the pilot study found the original first item conceptually difficult. The visual format between the different measures throughout the questionnaire was also standardised.

Two clients (one man and one woman not participating in the main study) completed the final questionnaire prior to their initial assessment interview. The re-ordering of the CDSII items appeared to make the measure easier to use, with both clients stating that they were able to understand the instructions. The overall questionnaire was said to be of an acceptable length, taking approximately 15 minutes to complete.

**Participant Recruitment and Administration of the Questionnaire**

Participants meeting the inclusion criteria for the study were identified from consecutive referrals to the alcohol services. The researcher administering the questionnaires was also the clinician who subsequently conducted the initial assessment interview with clients; potential participants were therefore limited to those that had been allocated for assessment interviews on the days that the researcher was available to conduct the research. Due to the usual predominance of male referrals to the alcohol services, recruitment was limited to female participants when the approximate cut-off point for males had been reached. All assessments took place between October 2001 and January 2002.

Prior to assessment the researcher asked clients if they would consider participating in research that would involve them completing a self-administered questionnaire. Prospective participants were given the ‘Information Leaflet’ (see Appendix [v]) to read
(and keep) outlining the purpose of the study and what would be involved. The leaflet outlined issues of confidentiality, what to do if there was cause for complaint, and the right to refuse to participate in, or to withdraw from, the study. Any questions that the participants had about the study were answered and those who declined to participate were assessed according to routine clinical practice. Those who agreed to take part in the study were asked to sign the 'Consent Form' (see Appendix [vi]) that reiterated details of their right to withdraw and confidentiality.

The researcher asked participants for demographic information, recording this on the 'Demographic Details' form (Appendix [i]) and then administered the set of questionnaires (Appendix [ii]) to participants as an extension of the standard initial assessment interview. Clarification of instructions was given if necessary and any questions that participants had were answered. If participants had literacy problems or poor dexterity, then the researcher read the questions to the participants and/or assisted with filling in the questionnaires. When the participants had completed the questionnaires, the researcher thanked them for their help, and any further questions were answered before continuing with the assessment interview.
CHAPTER FOUR: RESULTS

Following an analysis of the participant variables, the results are presented in order of the hypotheses being investigated.

Participant Information

Summary Statistics

A summary of the demographic characteristics and drinking history variables of the participants has been described in chapter three, and appears in Table 2.

Inferential Statistics

It was necessary to test for possible gender differences in participants' demographic variables and drinking history, in order to decide whether any of these variables would need to be controlled for when conducting further analysis regarding gender differences. To investigate possible gender differences in the demographic variables, non-parametric tests were used because:

- A Kolmogorov-Smirnov Z test for goodness-of-fit was found to be significant for the data pertaining to 'age of leaving full time education' and 'length of alcohol problem' (Kolmogorov-Smirnov Z = 2.228 and 1.442 respectively; p = .000 and .031, respectively) indicating that these data sets were not normally distributed.
- Levine's test for equality of variance was significant in respect of age by gender (F = 6.942, p = .011) indicating heterogeneity of variance for this data set.
- The data pertaining to ethnicity, civil status, level of education and employment status were nominal.

Depending on whether the data was interval or nominal, Mann-Whitney U and chi-square (x²) tests (respectively) were calculated to determine whether there were any statistically significant gender differences between participants' demographic, employment, educational, and drinking history variables. Alpha (α) was set to 0.05.

When considering gender differences in ethnicity 91% of the sample was 'white' and therefore a x² test could not be calculated. For the remaining x² tests, the following
categories of variables were collapsed to reduce the likelihood of cells having an expected count of less than five:

**Civil status:** 'Divorced' and 'Separated' were collapsed into one category

**Level of education:** 'A-level or equivalent' and 'Degree or equivalent' were collapsed into one category

**Employment status:** 'Unemployed (available and sick)', 'House worker' and 'Retired' were collapsed into one category

As Tables 3 and 4 show, there were no significant gender differences in terms of the participant variables.

**Table 3: Results of two-tailed Mann-Whitney U tests of difference, between male and female participant characteristics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>U</th>
<th>z</th>
<th>p</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>471.000</td>
<td>-0.544</td>
<td>0.586</td>
<td>64</td>
</tr>
<tr>
<td>Age leaving full-time education (years)</td>
<td>474.000</td>
<td>-0.522</td>
<td>0.601</td>
<td>64</td>
</tr>
<tr>
<td>Length of alcohol problem (years)</td>
<td>504.500</td>
<td>-0.094</td>
<td>0.925</td>
<td>64</td>
</tr>
<tr>
<td>Level of dependency (score on SADD)</td>
<td>503.500</td>
<td>-0.108</td>
<td>0.914</td>
<td>64</td>
</tr>
<tr>
<td>Level of alcohol consumption (units per week)</td>
<td>381.500</td>
<td>-1.747</td>
<td>0.081</td>
<td>64</td>
</tr>
</tbody>
</table>

**Table 4: Results of two-tailed chi-square goodness-of-fit tests, between male and female participant characteristics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$x^2$</th>
<th>df</th>
<th>p</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil status (single; married/cohabiting; divorced/separated)</td>
<td>2.884</td>
<td>2</td>
<td>0.236</td>
<td>64</td>
</tr>
<tr>
<td>Level of education (none; GCSE or equivalent; A-level and above)</td>
<td>1.492</td>
<td>2</td>
<td>0.474</td>
<td>63</td>
</tr>
<tr>
<td>Employment status (active; inactive)</td>
<td>1.022</td>
<td>1</td>
<td>0.312</td>
<td>64</td>
</tr>
</tbody>
</table>
Gender Differences in Causal Attributions for Problem Drinking

As calculations of participants' characteristics demonstrated that there were no significant gender differences in terms of their demographic variables and drinking history, it was decided that these need not be controlled for in the analyses of gender differences in causal attributions. Hypotheses regarding gender differences in causal attributions for problem drinking included gender differences in perceptions of alcohol as a problem, plus gender differences in the locus, control, and stability of attributions. These areas will be dealt with individually.

**Gender Differences in Perception of Alcohol as a Problem**

It was hypothesised that:

- Women would be less likely than men to see alcohol as being their main problem
- Women would be less likely than men to see alcohol as the root of their problems
- Women would be more likely than men to feel that their (other) problems cause them to drink

**Summary Statistics**

When asked the first question (Do you feel that alcohol is a problem for you?), 92.1% of participants answered 'yes'. Table 5 shows the gender difference in response to this question.

**Table 5: Gender differences in response to Question 1**

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (%)</td>
<td>No (%)</td>
</tr>
<tr>
<td>Qu 1. Do you feel that alcohol is a problem for you?</td>
<td>93.9</td>
<td>6.1</td>
</tr>
</tbody>
</table>

(Male: n = 33; Female: n = 30)

*Note: There was one set of missing (female) data*

Of those that answered 'yes' to the first question, 63.8% of participants answered 'yes' when asked the second question, 'Do you feel that alcohol is your main problem?';
40.4% answered ‘yes’ to the third question, ‘Is alcohol the root of your problems?’; and 94.8% said ‘yes’ when asked the fourth question, ‘Do other problems cause you to drink?’. As can be seen in Table 6, the women had a tendency to be less likely than the men to answer ‘yes’ to each of these questions.

Table 6: Gender differences in responses to Questions 2-4 (of those participants who answered ‘yes’ to Question 1)

<table>
<thead>
<tr>
<th>Question</th>
<th>Male</th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (%)</td>
<td>No (%)</td>
<td>Yes (%)</td>
<td>No (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qu 2. Do you feel that alcohol is your main problem?</td>
<td>67.7</td>
<td>32.3</td>
<td>59.3</td>
<td>40.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Male: n = 31; Female: n = 27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qu 3. Is alcohol the root of your problems?</td>
<td>53.3</td>
<td>46.7</td>
<td>25.9</td>
<td>74.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Male: n = 30; Female: n = 27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qu 4. Do other problems cause you to drink?</td>
<td>96.8</td>
<td>3.2</td>
<td>92.6</td>
<td>7.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Male: n = 31; Female: n = 27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.B. There was one set of missing data (male) from question 3

Inferential Statistics

As the data was nominal (non-parametric) 2 x 2 $\chi^2$ tests were used to consider gender differences in relation to the four questions regarding perception of alcohol as a main problem. The probability for a $\chi^2$ test given by the computer software package SPSS Release 10 is for a non-directional hypothesis. Clark-Carter (1997) advises that for results that go in the predicted direction, the probability given for a non-directional hypothesis should be divided by the number of possible ways in which the result could have gone and been statistically significant. As the hypotheses in the current study were directional, for any results that did go in the predicted direction the probability was therefore divided by two.
Alpha (α) was set to 0.05 and the effect size (w) for \( x^2 \) was calculated from the equation where:

\[
w = \sqrt{\frac{x^2}{N}}
\]

and N is the sample size (Cohen, 1988). In cases of results being in the predicted direction, but not significant, Cohen’s tables were consulted to determine the sample size that would be needed to achieve power of 0.8.

**Qu 1. Is alcohol a problem for you?**

No predictions were made for the first question and indeed there was no significant gender differences: \( (x^2 = 0.334, \, df = 1, \, p = 0.563, \, N = 63); \, w = 0.0728 \), with most participants answering ‘yes’ to this question.

**Qu 2. Do you feel that alcohol is your main problem?**

In terms of the second question, although, as predicted, the women tended to be less likely to answer ‘yes’, the results were not significant: \( (x^2 = 0.45, \, df = 1, \, p = 0.503, \, N = 58); \, w = 0.0881 \). To achieve power of 0.8 for this effect size it would be necessary to have a sample of over 700 participants.

**Qu 3. Is alcohol the root of your problems?**

As hypothesised, the women were significantly less likely than the men to answer ‘yes’ to this question: \( (x^2 = 4.435, \, df = 1, \, p = 0.0175, \, N = 57); \, w = 0.2789 \).

**Qu 4. Do other problems cause you to drink?**

Contrary to the research hypothesis, the women tended towards being less likely than the men to say ‘yes’ when asked the fourth question; the difference in response to this question was not significant: \( (x^2 = 0.514, \, df = 1, \, p = 0.473, \, N = 58); \, w = 0.0942 \).

It was found then, that on entry to the alcohol treatment services, the majority of participants felt that alcohol was a problem. In terms of gender differences, the women were not significantly less likely then the men to view alcohol as being their main problem, but they were significantly less likely than the men to view alcohol as the root
of their problems. Finally, women were not more likely than the men to feel that their other problems caused them to drink.

**Gender Differences in the Causal Attributions of Locus, Control and Stability**

Gender differences in the attributions, or reasons given for problem drinking, were measured in terms of the attributional dimensions of internal/external locus, external control, internal control and stability (using the CDSII; McAuley et al., 1992). It was hypothesised that:

- The locus of women’s causal attributions for drinking would be more external than men’s, and the locus of men’s causal attributions for drinking would be more internal than women’s
- The attribution of external control for the causes of drinking would be higher in women than in men
- The attribution of internal control for the cause of drinking would be higher in men than in women
- There would be no gender differences in the attribution of stability

**Summary Statistics**

Table 7 (below) shows a summary of the means and standard deviations for scores in each of the four attributional dimensions of the CDSII (McAuley et al., 1992). Overall, participants tended to score high on the attributional dimension of locus (indicating a more internal locus), low in terms of both external control and internal control, and around average in terms of stability.

Figure 4 (below) shows the gender differences in scores on the subscales of the CDSII. As can be seen, the men and women’s causal attributions of locus, stability and internal control were similar, with the men tending to score higher than women in terms of external control.
Table 7: Summary of the means and standard deviations for scores on the CDSII (McAuley et al., 1992), by gender

<table>
<thead>
<tr>
<th>Subscales of CDSII</th>
<th>Male (N=33)</th>
<th>Female (N=31)</th>
<th>Total (N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus (internal / external)</td>
<td>Mean 18.06</td>
<td>18.71</td>
<td>18.38</td>
</tr>
<tr>
<td>SD 4.29</td>
<td>6.35</td>
<td>5.35</td>
<td></td>
</tr>
<tr>
<td>External control</td>
<td>Mean 11.49</td>
<td>9.61</td>
<td>10.58</td>
</tr>
<tr>
<td>SD 5.76</td>
<td>4.98</td>
<td>5.43</td>
<td></td>
</tr>
<tr>
<td>Internal control</td>
<td>Mean 12.40</td>
<td>11.94</td>
<td>12.17</td>
</tr>
<tr>
<td>SD 5.73</td>
<td>5.56</td>
<td>5.61</td>
<td></td>
</tr>
<tr>
<td>Stability</td>
<td>Mean 15.29</td>
<td>15.84</td>
<td>15.56</td>
</tr>
<tr>
<td>SD 5.99</td>
<td>6.07</td>
<td>5.99</td>
<td></td>
</tr>
</tbody>
</table>

Potential range of all subscales = 3-27 (mean = 15)
High score on 'locus' represents more internal

Figure 4: Gender differences in the scores on the subscales of the CDSII (McAuley et al., 1992), where high score on 'locus' represents more internal
Inferential Statistics

To investigate whether there were any statistically significant gender differences in the attribution dimensions from scores on the CDSII (McAuley et al., 1992), t-tests were used to evaluate the difference between the male and female sample means. The (parametric) t-test was used because:

- The CDSII, is a likert-type scale, which although ordinal, has potentially 20 or more values in each of the four sub-scales. If a variable is ordinal, but has sufficient levels (i.e. 20 or more) it is considered legitimate to conduct parametric tests on the data (Clark-Carter, 1997).
- One-sample Kolmogorov-Smirnov Z Tests for normal distribution on each of the four data sets (locus, external control, internal control and stability) were non-significant, indicating that each of the data sets were normally distributed.
- Levine’s tests for equality of variance was performed on each data set and were found to be non-significant for sets.

One-tailed t-tests were calculated for gender differences in the attributional dimensions of internal/external locus, plus external and internal control as direction had been predicted. A two-tailed t-test was calculated for the dimension of stability as it had been predicted that there would be no gender difference.

Alpha (α) was set to 0.05 and the effect size (d) for t-test was calculated from the equation where:

\[ d = \frac{\text{mean}_1 - \text{mean}_2}{SD} \]

and SD refers to the pooled standard deviation of both samples (Clark-Carter, 1997). In cases of results being in the predicted direction, but not significant, Cohen’s tables were consulted to determine the sample size that would be needed to achieve power of 0.8.

Locus (internal/external).

Gender differences in terms of (internal/external) locus were not in the predicted direction, and were not significant: \( t = -0.482, \text{ df } = 62, \text{ p } = 0.316, \text{ 1-tailed hypothesis} \); \( d = 0.1213 \).
Contrary to the research hypothesis, the attribution of external control tended to be lower in the women than the men, although this was not statistically significant at the 0.05 level: \( t = 1.388, \text{df} = 62, p = 0.085, 1\text{-tailed hypothesis}; d = 0.3447 \).

Although the results were in the predicted direction, there was no significant difference between men and women in terms of internal control: \( t = 0.325, \text{df} = 62, p = 0.376, 1\text{-tailed hypothesis}; d = 0.0817 \). In order to achieve power of 0.8 for this effect size it would be necessary to have a sample of over 1000 participants.

As predicted, there was no significant difference between men and women in terms of stability: \( t = -0.365, \text{df} = 62, p = 0.716, 2\text{-tailed hypothesis}; d = 0.0919 \).

Results therefore showed that, on entry to the treatment services, there were no significant gender differences in any of the attributions given by participants regarding the cause(s) of their problem drinking.

Prior to the correlational analyses of combined male and female data sets, supplementary analyses were calculated to investigate possible gender differences in the remaining measures. Calculations were therefore performed to see if there were any gender differences in the measures of self-efficacy to abstain from drinking in various situations (AASE; DiClemente et al., 1994), and measures of motivational readiness to change drinking behaviour SOCRATES; Miller and Tonigan, 1996).

Table 8 shows a summary of the means and standard deviations for scores in four dimensions of self-efficacy, broken down by gender, with Table 9 showing participants’ overall levels of self-efficacy, also by gender, (all from the AASE). As can be seen, there was little difference between the men and women in most dimensions of self-efficacy, although the men tended to score slightly higher than the women in terms of ‘carvings and urges’, as well as in their overall self-efficacy scores.
Table 8: Summary of scores on AASE dimensions of self-efficacy (DiClemente et al., 1994)

<table>
<thead>
<tr>
<th>Subscales of AASE</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 33</td>
<td>N = 31</td>
<td>N = 64</td>
<td></td>
</tr>
<tr>
<td>Negative affect</td>
<td>Mean</td>
<td>10.36</td>
<td>9.94</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>5.58</td>
<td>6.14</td>
</tr>
<tr>
<td>Social/positive</td>
<td>Mean</td>
<td>12.30</td>
<td>12.24</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>6.12</td>
<td>5.64</td>
</tr>
<tr>
<td>Physical &amp; other concerns</td>
<td>Mean</td>
<td>15.52</td>
<td>15.68</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>4.68</td>
<td>5.01</td>
</tr>
<tr>
<td>Cravings and urges</td>
<td>Mean</td>
<td>11.83</td>
<td>10.68</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>5.34</td>
<td>5.15</td>
</tr>
</tbody>
</table>

Potential range for each dimension = 5 – 25
Higher score = greater confidence to abstain from alcohol in that situation

Table 9: Summary of Total AASE scores of self-efficacy efficacy (DiClemente et al., 1994)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 33</td>
<td>N = 31</td>
<td>N = 64</td>
<td></td>
</tr>
<tr>
<td>Total scores</td>
<td>Mean</td>
<td>50.21</td>
<td>48.50</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>18.45</td>
<td>19.95</td>
</tr>
</tbody>
</table>

Potential range = 20 – 100
Higher score = greater confidence to abstain from alcohol

Table 10 shows a summary of the means and standard deviations for scores in the two dimensions of motivational readiness to change (SOCRATES), broken down by gender. As can be seen, there were little gender differences in terms of ‘recognition’, although the men scored slightly higher than the women in terms of ‘taking steps’.
Table 10: Summary of scores on two SOCRATES dimensions of motivational readiness to change (Miller and Tonigan, 1996)

<table>
<thead>
<tr>
<th>Subscales of SOCRATES</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 33</td>
<td>N = 31</td>
<td>N = 64</td>
</tr>
<tr>
<td>Recognition</td>
<td>Mean 29.76</td>
<td>29.36</td>
<td>29.56</td>
</tr>
<tr>
<td></td>
<td>SD 5.44</td>
<td>4.92</td>
<td>5.15</td>
</tr>
<tr>
<td>Taking steps</td>
<td>Mean 27.83</td>
<td>25.23</td>
<td>26.57</td>
</tr>
<tr>
<td></td>
<td>SD 9.03</td>
<td>8.70</td>
<td>8.90</td>
</tr>
</tbody>
</table>

Recognition: Potential range = 7 - 35; higher score = greater recognition of drinking problem and tendency towards desire to change

Taking steps: Potential range = 8 - 40; higher score = taking steps towards a positive change in drinking

Inferential Statistics

To evaluate whether differences between the male and female sample means were statistically significant, (parametric) t-tests were used, because:

- Both the AASE (DiClemente et al., 1994) and SOCRATES (Miller and Tonigan, 1996) use likert-type scales yielding 20 or more potential values in each of their sub-scales and therefore the data can be treated as interval (Clark-Carter, 1997).

- One-sample Kolmogorov-Smirnov Z Tests for normal distribution on the four AASE and two SOCRATES data sets were non-significant in all but one case, indicating a normal distribution in six of the seven data sets. The AASE, subscale for ‘negative affect’ was not normally distributed, (Kolmogorov-Smirnov Z = 1.501; p = .022). In terms of this data, parametric tests are quite robust and many authors, drawing on the central limit theorem, agree that a sample size of over 30-40 is sufficiently large enough to allow use of a parametric test even if the distribution of a set of scores is quite skewed (e.g. Clark-Carter, 1997, Hinton, 1995 and Howell, 1997). As the sample size in the current study was 64 it was decided that a parametric test could be used.

- Levine’s test for equality of variance was performed on each data set and was found to be non-significant in each case, indicating homogeneity of variance.
The \( t \)-test calculations for gender differences in the dimensions of self-efficacy and motivational readiness to change were all two-tailed as these were supplementary analyses and no predictions had been made. Alpha (\( \alpha \)) was set to 0.05.

As can be seen in Tables 11 and 12, there were no statistically significant gender differences in the scores of any of the dimensions relating to either the AASE or the SOCRATES.

**Table 11: Results of two-tailed \( t \)-tests to calculate gender differences in dimensions of self-efficacy (using the AASE; (DiClemente et al., 1994)**

<table>
<thead>
<tr>
<th>Dimensions of the AASE</th>
<th>( t )</th>
<th>( df )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative affect</td>
<td>0.289</td>
<td>62</td>
<td>0.773</td>
</tr>
<tr>
<td>Social/positive affect</td>
<td>0.041</td>
<td>62</td>
<td>0.967</td>
</tr>
<tr>
<td>Physical/other</td>
<td>-0.134</td>
<td>62</td>
<td>0.894</td>
</tr>
<tr>
<td>Craving and urges</td>
<td>0.875</td>
<td>62</td>
<td>0.385</td>
</tr>
<tr>
<td>Overall self-efficacy</td>
<td>0.355</td>
<td>62</td>
<td>0.724</td>
</tr>
</tbody>
</table>

**Table 12: Results of two-tailed \( t \)-tests to calculate gender differences in two dimensions of motivational readiness to change (using the SOCRATES; Miller and Tonigan, 1996)**

<table>
<thead>
<tr>
<th>Dimensions of the SOCRATES</th>
<th>( t )</th>
<th>( df )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition</td>
<td>0.310</td>
<td>62</td>
<td>0.757</td>
</tr>
<tr>
<td>Taking steps</td>
<td>1.176</td>
<td>62</td>
<td>0.244</td>
</tr>
</tbody>
</table>

Supplementary analyses revealed therefore that there were no significant gender differences in terms of levels of self-efficacy or motivational readiness to change.

**Conclusions from the First Set of Hypotheses**

The research hypotheses that, on entry to the alcohol treatment services, women would be less likely than men to see alcohol as their main problem, but more likely to feel that
their other problems caused them to drink, were rejected. However, the research hypothesis that the women would be less likely than the men to feel that alcohol was the root of their problems was accepted.

The hypotheses that, on entry to the alcohol treatment services, the locus of women’s attributions regarding the cause of their problem drinking would be more external than the men’s (and men’s more internal than the women’s), and that the locus of both external and internal control would be higher in women than in men, were rejected. However, the research hypothesis that there would be no gender differences in the attribution of stability was accepted.

Relationships between Causal Attributions and Factors Predictive of Treatment Outcome

Hypotheses regarding the relationship between attributional style and factors that may predict treatment outcome considered how the four attributional dimensions (internal control, external control, stability and locus) might be related to the two predictors of therapeutic outcome (self-efficacy and motivational readiness to change). It was hypothesised that:

- Those with higher internal control would have greater perceived self-efficacy to abstain from alcohol in high-risk situations and be more motivated/ready to change
- Those with higher external control would have lower perceived self-efficacy to abstain from alcohol in high-risk situations and be less motivated/ready to change
- Those with higher stability would have lower perceived self-efficacy to abstain from alcohol in high-risk situations and be less motivated/ready to change
- There would be no relationship between self-efficacy and motivational readiness to change according to scores of (internal/external) locus.

Inferential Statistics

Twenty-eight scattergrams were produced to show the relationships between the four dimensions of attributional style: internal control, external control, stability and locus (subscales of CDSII, McAuley et al., 1992) and the following variables:
• Four dimensions of self-efficacy: ‘negative affect’, ‘social/positive’, ‘physical and other concerns’ and ‘cravings and urges’ (AASE; DiClemente et al., 1994)
• Overall measure of self-efficacy (total score on the AASE)
• Two of the dimensions of motivational readiness to change: ‘recognition’ and ‘taking steps’ (SOCRATES; Miller and Tonigan, 1996)

The scattergrams were analysed to look for possible outliers, non-linear relationships or separate clusters of scores, prior to further analysis. Nothing of concern was found. Correlation statistics were then calculated to investigate whether there were any statistically significant relationships between the attribution dimensions from scores on the CDSII (McAuley et al., 1992) and self-efficacy as measured on the AASE (DiClemente et al., 1994), plus motivational readiness to change as measured on the SOCRATES (Miller and Tonigan, 1996). A Pearson’s Product Moment Correlation Coefficient (parametric test) was used because:
• The CDSII, AASE and SOCRATES all use likert-type scales yielding 20 or more potential values in each of their sub-scales and the data can therefore be treated as interval (Clark-Carter, 1997).
• One-sample Kolmogorov-Smirnov Z Tests for normal distribution on the four CDSII, three SOCRATES and five AASE data sets were non-significant, indicating normal distribution, in all but one case. One of the AASE, subscales (‘negative affect’) was not normally distributed (Kolmogorov-Smirnov Z = 1.501; p = .022). As discussed previously, as the sample size in the current study was 64 it was considered sufficiently large enough to allow use of a parametric test.

Two-tailed correlation matrices were used to determine whether demographic, and drinking history variables might account for any of the variance in the proposed calculations of relationships between attributional style and factors that may affect treatment outcome. Pearson’s (r) correlations were calculated for demographic variables of interval data and Pearson’s point-biseral correlations (r pb) for the dichotomous variables (as recommended by Clark-Carter, 1997). Demographic and drinking history variables were entered into the matrices, against the sets of scores from the CDSII, AASE and SOCRATES. The full matrices can be found in appendix [vii].
Three demographic / drinking history variables were found to be significantly associated with more than one other variable:

1. **Participants' age** was found to be significantly associated with the CDSII dimension of 'stability', the AASE dimensions of 'negative affect' and 'social/positive', plus the overall AASE self-efficacy score.

2. **Participants' level of dependency** (as measured on the SADD) was found to be significantly associated with the CDSII dimension of 'internal control', all four subscales of the AASE, the overall score on the AASE, plus the two subscales of the SOCRATES.

3. **Participants' units of alcohol per week** were significantly associated with all four subscales of the AASE and the overall score on the AASE.

As such, it was decided that partial correlations should be used, controlling for 'age', 'level of dependency' and 'units of alcohol per week'.

One-tailed Pearson's Product Moment Correlations were calculated to investigate relationships regarding the attributional dimensions of 'internal control', 'external control' and 'stability' with other variables, as directions had been predicted. Two-tailed Pearson's Product Moment Correlations were calculated to investigate relationships involving the attributional dimension of 'locus' as it had been predicted that there would be no relationship between this dimension and other variables. In each case partial correlations controlled for 'age', 'level of dependency' and 'units of alcohol per week'.

Alpha (α) was set to 0.05 and effect size (ES) for Pearson's Product Moment Correlation Coefficient was derived from the correlation coefficient (r), where ES = r^2 x 100 (Clark-Carter, 1997). In cases of results being in the predicted direction, but not significant, Cohen's tables were consulted to determine the sample size that would be needed to achieve power of 0.8.

**Internal control.**

Table 13 shows the results of Pearson's Product Moment Correlation Coefficients calculating the relationships between 'internal control' CDSII (McAuley et al., 1992) and measures of self-efficacy (AASE; DiClemente et al., 1994), plus measures of motivational readiness to change (SOCRATES; Miller and Tonigan, 1996). As
predicted, there was a significant positive relationship between the attributional dimension of 'internal control' and all but one of the AASE measures of self-efficacy to abstain from alcohol in high-risk situations ('physical and other concerns'). As can be seen, the dimension of 'physical and other concerns' was very close to significance; however, in order to achieve power of 0.8 for this effect size it would be necessary to have a sample of over 150 participants. Also as predicted there was a significant positive relationship between 'internal control' and the SOCRATES dimension of 'taking steps'. However, contrary to the research hypothesis there was a significant negative relationship between 'internal control' and 'recognition'.

Table 13: Relationship between the attributional dimension of 'internal control' (from CDSII; McAuley et al., 1992) and measures of self-efficacy (from AASE; DiClemente et al., 1994) plus motivational readiness to change (SOCRATES; Miller and Tonigan, 1996)

<table>
<thead>
<tr>
<th></th>
<th>r</th>
<th>df</th>
<th>1-tailed p</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AASE dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative affect</td>
<td>0.3195</td>
<td>59</td>
<td>0.006**</td>
<td>10.208</td>
</tr>
<tr>
<td>Social/positive</td>
<td>0.2779</td>
<td>59</td>
<td>0.015*</td>
<td>7.723</td>
</tr>
<tr>
<td>Physical and other concerns</td>
<td>0.2093</td>
<td>59</td>
<td>0.053</td>
<td>4.381</td>
</tr>
<tr>
<td>Cravings and urges</td>
<td>0.3747</td>
<td>59</td>
<td>0.001**</td>
<td>14.04</td>
</tr>
<tr>
<td>Total self-efficacy score</td>
<td>0.3609</td>
<td>59</td>
<td>0.002**</td>
<td>13.025</td>
</tr>
<tr>
<td><strong>SOCRATES dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition</td>
<td>-0.2236</td>
<td>59</td>
<td>0.042*</td>
<td>4.999</td>
</tr>
<tr>
<td>Taking steps</td>
<td>0.3993</td>
<td>59</td>
<td>0.001**</td>
<td>15.944</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

*External control.*

Table 14 shows the results of Pearson’s Product Moment Correlation Coefficients calculating the relationships between 'external control' CDSII (McAuley et al., 1992) and measures of self-efficacy (AASE; DiClemente et al., 1994), plus measures of
motivational readiness to change (SOCRATES; Miller and Tonigan, 1996). Contrary to predictions, there were no significant relationships between the attributional dimension of ‘external control’ and the AASE measures of self-efficacy to abstain from alcohol in high-risk situations. It was predicted that a negative relationship would exist and with the exception of the dimension ‘negative affect’, the results were not in the predicted direction.

Furthermore, there were no significant relationships between ‘external control’ and the SOCRATES dimensions of motivational readiness to change, these results also being in the opposite direction to that predicted.

Table 14: Relationship between the attributional dimension of ‘external control’ (from CDSII; McAuley et al., 1992) and measures of self-efficacy (from AASE; DiClemente et al., 1994) plus motivational readiness to change (SOCRATES; Miller and Tonigan, 1996)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>r</th>
<th>df</th>
<th>1-tailed p</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AASE dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative affect</td>
<td>-0.1074</td>
<td>59</td>
<td>0.205</td>
<td>1.153</td>
</tr>
<tr>
<td>Social/positive</td>
<td>0.0144</td>
<td>59</td>
<td>0.467</td>
<td>0.021</td>
</tr>
<tr>
<td>Physical and other concerns</td>
<td>0.0131</td>
<td>59</td>
<td>0.460</td>
<td>1.017</td>
</tr>
<tr>
<td>Cravings and urges</td>
<td>0.1007</td>
<td>59</td>
<td>0.220</td>
<td>1.014</td>
</tr>
<tr>
<td>Total self-efficacy score</td>
<td>0.0034</td>
<td>59</td>
<td>0.490</td>
<td>0.001</td>
</tr>
<tr>
<td><strong>SOCRATES dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition</td>
<td>0.1979</td>
<td>59</td>
<td>0.063</td>
<td>3.016</td>
</tr>
<tr>
<td>Taking steps</td>
<td>0.0204</td>
<td>59</td>
<td>0.438</td>
<td>0.042</td>
</tr>
</tbody>
</table>

**Stability.**

Table 15 shows the results of Pearson’s Product Moment Correlation Coefficients calculating the relationships between ‘stability’ CDSII (McAuley et al., 1992) and measures of self-efficacy (AASE; DiClemente et al., 1994), plus measures of motivational readiness to change (SOCRATES; Miller and Tonigan, 1996). As
predicted, there was a significant negative relationship between the attributional dimension of ‘stability’ and all but one of the AASE measures of self-efficacy to abstain from alcohol in high-risk situations (‘negative affect’). The subscale of ‘negative affect’ was close to significance, although in order to achieve power of 0.8 for this effect size it would be necessary to have a sample of over 150 participants. Also as predicted there was a significant negative relationship between ‘stability’ and the SOCRATES measure of motivational readiness to change in terms of ‘taking steps’. However, the relationship between ‘stability’ and the dimension of ‘recognition’ was not in the predicted direction and was not significant.

Table 15: Relationship between the attributional dimension of ‘stability’ (from CDSII; McAuley et al., 1992) and measures of self-efficacy (from AASE; DiClemente et al., 1994) plus motivational readiness to change (SOCRATES; Miller and Tonigan, 1996)

<table>
<thead>
<tr>
<th></th>
<th>r</th>
<th>df</th>
<th>1-tailed p</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AASE dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative affect</td>
<td>-0.1848</td>
<td>59</td>
<td>0.077</td>
<td>3.415</td>
</tr>
<tr>
<td>Social/positive</td>
<td>-0.2544</td>
<td>59</td>
<td>0.024*</td>
<td>6.472</td>
</tr>
<tr>
<td>Physical and other concerns</td>
<td>-0.3359</td>
<td>59</td>
<td>0.004**</td>
<td>11.283</td>
</tr>
<tr>
<td>Cravings and urges</td>
<td>-0.3368</td>
<td>59</td>
<td>0.004**</td>
<td>11.343</td>
</tr>
<tr>
<td>Total self-efficacy score</td>
<td>-0.3232</td>
<td>59</td>
<td>0.006**</td>
<td>10.446</td>
</tr>
<tr>
<td><strong>SOCRATES dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition</td>
<td>0.0024</td>
<td>59</td>
<td>0.493</td>
<td>0.001</td>
</tr>
<tr>
<td>Taking steps</td>
<td>-0.3084</td>
<td>59</td>
<td>0.008**</td>
<td>9.511</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

Locus (internal/external).

Table 16 shows the results of Pearson’s Product Moment Correlation Coefficients calculating the relationships between ‘locus’ CDSII (McAuley et al., 1992) and measures of self-efficacy (AASE; DiClemente et al., 1994), plus measures of
motivational readiness to change (SOCRATES; Miller and Tonigan, 1996). As predicted, there were no significant relationships between the attributional dimension of internal/external ‘locus’ and the AASE measures of self-efficacy to abstain from alcohol in high-risk situations. Also as predicted there were no significant relationships between ‘locus’ and any of the SOCRATES dimensions of motivational readiness to change.

Table 16: Relationship between the attributional dimension of ‘locus’ (from CDSII; McAuley et al., 1992) and measures of self-efficacy (from AASE; DiClemente et al., 1994) plus motivational readiness to change (SOCRATES; Miller and Tonigan, 1996)

<table>
<thead>
<tr>
<th>AASE dimensions</th>
<th>r</th>
<th>df</th>
<th>2-tailed p</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative affect</td>
<td>0.0498</td>
<td>59</td>
<td>0.703</td>
<td>0.248</td>
</tr>
<tr>
<td>Social/positive</td>
<td>-0.1110</td>
<td>59</td>
<td>0.394</td>
<td>1.232</td>
</tr>
<tr>
<td>Physical and other concerns</td>
<td>-0.1735</td>
<td>59</td>
<td>0.818</td>
<td>3.01</td>
</tr>
<tr>
<td>Cravings and urges</td>
<td>-0.0074</td>
<td>59</td>
<td>0.955</td>
<td>0.006</td>
</tr>
<tr>
<td>Total self-efficacy score</td>
<td>-0.0635</td>
<td>59</td>
<td>0.627</td>
<td>0.403</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOCRATES dimensions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition</td>
<td>-0.0994</td>
<td>59</td>
<td>0.446</td>
<td>0.988</td>
</tr>
<tr>
<td>Taking steps</td>
<td>-0.0474</td>
<td>59</td>
<td>0.717</td>
<td>0.225</td>
</tr>
</tbody>
</table>

Conclusions from Second Set of Hypotheses

There was a significant relationship between the CDSII dimension of ‘internal control’ and most AASE self-efficacy scores, plus the SOCRATES motivational readiness to change dimension of ‘taking steps’. As such, the hypothesis that participants with higher internal control would have greater perceived self-efficacy to abstain from alcohol in high-risk situations and be more motivated/ready to change was accepted. However, the hypothesis that those participants with higher external control would have lower perceived self-efficacy to abstain from alcohol in high-risk situations and be less
motivated/ready to change was rejected as no relationships were found in these measures.

It was predicted that participants with higher stability would have lower perceived self-efficacy to abstain from alcohol in high-risk situations and be less motivated/ready to change. This hypothesis was accepted because there was a significant relationship between the CDSII dimensions of ‘stability’ and most AASE self-efficacy scores, plus the SOCRATES motivational readiness to change dimension of ‘taking steps’. Finally, the hypothesis that there would be no relationship between self-efficacy and motivational readiness to change according to scores of (internal/external) locus was also accepted as no relationships were found in these measures.
CHAPTER FIVE: DISCUSSION

Summary of Results
The first aim of the research was to investigate possible gender differences in causal attributions for problem drinking, with the second aim being to investigate whether attributional style was related to variables that may affect therapeutic outcome. Summaries of the results of analyses to investigate these aims and statements regarding the acceptance or rejection of the research hypotheses follow:

**Gender Differences in Causal Attributions for Problem Drinking**

As might be expected, when asked questions regarding the perception of alcohol as a problem, it was found that, on entry to the alcohol treatment services, the majority of participants (male and female) felt that alcohol was a problem for them. As predicted, of those that did feel that alcohol was a problem, the women tended to be less likely than the men to state that alcohol was their main problem; however, this was not statistically significant. Furthermore, as predicted, the women were significantly less likely than the men to state that alcohol was the root of their problems. However, there were no gender differences in terms of participants’ perceptions regarding their (other) problems causing them to drink.

Therefore, the hypotheses that, on entry to the alcohol treatment services, there would be gender differences in the perception of alcohol as the main problem, such that:

- women would be less likely than men to see alcohol as being their main problem, was rejected
- women would be less likely then men to see alcohol as the root of their problems, was accepted
- women would be more likely then men to feel that their problems cause them to drink, was rejected

When asked questions regarding the main cause of their drinking, overall responses (i.e. combined male and female) indicated a more internal than external locus of cause, with low external control, low internal control, and no particular direction in terms of the stability of cause. In terms of gender, differences in the attributions of ‘locus’, ‘internal
control’ and ‘stability’ were negligible. However, contrary to predictions, the attribution of external control tended towards being lower in the women than the men - although none of the gender differences reached statistical significance.

The hypotheses therefore, that on entry to the alcohol treatment services, there would be gender differences in causal attributions, such that:

- the locus of women’s causal attributions would be more external than men’s, and the locus of men’s attributions more internal than women’s, was rejected
- the attribution of external control would be higher in women than in men, was rejected
- the attribution of internal control would be higher in men than in women, was rejected

However, the hypothesis that, on entry to the alcohol treatment services, there would be no gender differences in the attribution of stability was accepted.

Additional supplementary analyses revealed little difference between men and women in most dimensions of self-efficacy, although the men tended to have slightly more favourable scores on the measure of ‘cravings and urges’ as well as in their overall self-efficacy score. In terms of motivational readiness to change, there were few gender differences in terms of ‘Recognition’, although the men tended to score slightly more favourably than the women in terms of ‘Taking Steps’. However, there were no statistically significant gender differences in any of these supplementary analyses.

Relationships between Attributional Style and Factors Affecting Treatment Outcome

Analysis was then carried out to investigate whether the four dimensions of attributional style (‘internal control’, ‘external control’, ‘stability’ and internal/external ‘locus’) were related to variables that may affect therapeutic outcome: specifically self-efficacy to abstain from alcohol in high risk situations, and motivational readiness to change.

As predicted, it was found that there was a significant positive relationship between the attributional dimension of ‘internal control’ and all but one (‘physical and other’) of the measures of self-efficacy to abstain from alcohol in high-risk situations, including
overall self-efficacy; with the dimension of ‘physical and other’ almost reaching statistical significance. Contrary to predictions there was a significant negative relationship between ‘internal control’ and the motivational readiness to change dimension of ‘recognition’; although as predicted, there was a significant positive relationship between ‘internal control’ and ‘taking steps’.

Therefore, the hypotheses that, on entry to the alcohol treatment services, those with higher scores of internal control would have more favourable scores for factors that may affect treatment outcomes than those with lower scores of internal control, such that:

- those with higher internal control would have greater perceived self-efficacy to abstain from alcohol in high-risk situations, was accepted
- * those with higher internal control would be more motivated/ready to change, was accepted

* This latter hypothesis was accepted due to the significant positive relationship between the attributional dimension of ‘internal control’ and the motivational readiness to change dimension of ‘taking steps’. The fact that there was a significant negative relationship between ‘internal control’ and the dimension of ‘recognition’ will be discussed when reflecting upon the research process.

There was no relationship between the attributional dimension of ‘external control’ and measures of self-efficacy to abstain from alcohol in high-risk situations, nor between this dimension and measures of motivational readiness to change. The hypotheses therefore, that on entry to the alcohol treatment services, those with higher scores of external control would have less favourable measures for factors that may affect treatment outcomes than those with lower scores of external control, such that:

- those with higher external control would have lower perceived self-efficacy to abstain from alcohol in high-risk situations, was rejected
- those with higher external control would be less motivated/ready to change, was rejected

As predicted, there was a significant negative relationship between the attributional dimension of ‘stability’ and all but one (‘negative affect’) of the measures of self-
efficacy to abstain from alcohol in high-risk situations, including overall self-efficacy; with the dimension of ‘negative affect’ almost reaching statistical significance. Also as predicted, there was a significant negative relationship between ‘stability’ and the motivational readiness to change dimension of ‘taking steps’. However, there was no relationship between ‘stability’ and the dimension of ‘recognition’.

Therefore, the hypotheses that, on entry to the alcohol treatment services, those with higher scores of stability would have less favourable scores for factors that may affect treatment outcomes than those with lower scores of stability, such that:

- those with higher stability would have lower perceived self-efficacy to abstain from alcohol in high-risk situations, was accepted
- * those with higher stability would be less motivated/ready to change, was accepted

* The latter hypothesis was accepted on the basis that there was a significant negative relationship between the attributional dimension of ‘stability’ and the motivational readiness dimension of ‘taking steps’. The lack of relationship between ‘stability’ and ‘recognition’ will again be discussed later in the chapter.

In terms of the attributional dimension of internal/external ‘locus’, as predicted there was no relationship between this dimension and measures of self-efficacy to abstain from alcohol in high-risk situations, nor with measures of motivational readiness to change. As such, the hypothesis that, on entry to the alcohol treatment services, there will be no differences in perceived self-efficacy or motivation/readiness to change according to scores of (internal/external) locus, was accepted.

Placing the Results in the Context of Previous Research
The findings will now be placed in the context of previous research in order to either clarify the results or, where appropriate, address alternative explanations. Firstly the results relating to gender differences in the causal attributions for problem drinking will be discussed, followed by a consideration of the relationship between the various dimensions of causal attributions and factors that may predict treatment outcome.
Gender Differences in Causal Attributions for Problem Drinking

Gender differences in causal attributions were investigated by looking at the perceptions that problem drinkers had of alcohol being defined as a problem, plus by considering causal attributions in terms of the dimensions of internal/external locus, internal/external control, and stability.

Perceptions of Alcohol as a Problem

In terms of the respondents’ perceptions of alcohol as a problem, although the women in the present study were significantly less likely than the men to state that alcohol was the root of their problems, the likelihood of them stating that alcohol was their main problem was not significantly greater than the men. Furthermore, they tended to be slightly less likely than the men to state that their other problems caused them to drink, although this was not statistically significant.

Previous research by Thom (1986, 1987) and Kellett et al. (2000) has suggested that women would be less likely than men to feel that alcohol was their main problem and more likely to perceive their drinking to be a response to other difficulties in their lives. Conversely, it was predicted that men would be more likely than women to think that alcohol was their main problem and that their drinking was the cause of their other difficulties. Before considering possible explanations for the results in the present study, the related findings regarding gender differences in specific causal attributions will also be briefly highlighted in the context of other research.

Attributions of Internal/External Locus, Internal/External Control, and Stability

It is interesting that, in the present study, there were no significant gender differences in any of the attributitional dimensions. Indeed contrary to predictions, the attribution of external control was lower in the women than the men (although not statistically significant).

Davies and Baker (1987), when considering the attributions of male heroin users, argued that the addiction attribution was represented by internal/stable attributions. Then McAllister and Davies (1992), when investigating the shifting attributions of female smokers, similarly argued that the ‘addiction’ attribution was usually represented by an internal/stable/uncontrollable attributitional style. However, whilst
this model of attributional style may represent drug users (i.e. heroin users and smokers), it seemed likely that, given gender stereotypes surrounding drinking and the findings of previous research by Thom (1986, 1987) and Kellett et al. (2000), there may be gender differences in attributional style of problem drinkers.

It was predicted that whilst men may present with internal/stable attributions, women would be more likely to present with external/stable attributions. It also seemed intuitive to predict that the attributions of control would also be more internal in the men and more external in the women. Indeed, whilst there has been little research to investigate gender differences in the attributions of substance users, Hartmann (1999) found, amongst 82 women and 359 men entering alcohol treatment programs, that the women did have a more external orientation than the men on a LOC scale for alcohol.

Proposed Explanations for Findings
Two possible explanations are proposed for the lack of gender differences in causal attributions for problem drinking in the present study: (i) that notwithstanding gender differences in social stereotypes, the 'addiction' attribution as described by Davies (1997) is the preferred, functional explanation for problem drinking for clients presenting to the alcohol services, regardless of gender; or (ii) that changes are taking place in gender-related social stereotypes, such that male and female styles of drinking, and thus preferred explanations for problem drinking, are converging. These alternative explanations will now be discussed in more detail.

(i) Addiction as a preferred explanation.
It has to be remembered that the participants were not merely respondents completing a questionnaire in the presence of a researcher, but ‘new’ referrals to the alcohol services interacting with the clinician that would (also) be conducting their initial assessment interview. Coggans and Davies (1988) point out that self-presentation may lead subjects to present themselves in certain ways to particular interviewers when sensitive topics are raised, arguing that:

The extent to which social factors affect the answers given by “addicts” in response to questions about their behaviour presents a fundamental and largely ignored problem for addiction workers. (Coggans and Davies, 1988, p 457)
Given this insight, one needs to consider the possibility that, in the present study, the motive of self-preservation in the face of possibly being judged by the interviewer/clinician. As such, self-preservation may have overrode the more widely held gender stereotypes that may have otherwise influenced a 'preferred explanation', with all respondents (male and female alike) presenting with the same type of attribution to explain the cause of their drinking (i.e. internal locus, low internal control, and low external control). This would be consistent with findings from the study by Davies and Baker (1987), in which the same sample of male heroin users gave more internal attributions for their heroin use when asked by a research interviewer, than when a locally known heroin user asked them.

Whilst this hypothesis helps to explain why there were no observed gender differences in the causal attributions of problem drinkers in the present study, it still remains the case that external attributions (made by women) and internal attributions (made by men), could have equally legitimised continued alcohol use; external attributions as victims of ‘circumstance’ and internal attributions as victims of ‘disease’ (Davies, 1997). As such, it is worth considering an alternative explanation for the findings - that of a convergence hypothesis.

(ii) Convergence of male and female drinking styles and attributions.
In 1989, Robbins described how convergence hypotheses (e.g. Adler 1975) proposed that as women’s social positions come to approximate that of men’s over time, so would their deviant activity and the consequences of their substance use. Indeed, the trend towards a convergence in ‘deviant’ activities, as suggested by Robbins, has been noted in other areas of social functioning. For example, Rutter, Giller and Hagel (1998) described how, whilst (globally) a much higher proportion of males then females engage in crime, the sex ratio for crime in England and Wales has actually fallen quite significantly from 11:1 in 1957, to less than 4:1 in 1995, and that arrests for females juvenile crime has more than doubled between 1985 and 1994. They consider the possible role played by shifts in views and expectations that have accompanied women’s rights and feminist movements, although point out that as yet there is insufficient research to know whether this is the case.
A number of authors have described how the changing lives of women have also included a greater acceptance by society of women's drinking, with an associated change in their drinking habits. For instance, Marshall (2000) pointed out that whilst general population surveys of alcohol consumption typically find that women drink less frequently than men, recent studies show that the gap is closing. She described how women's alcohol consumption has increased over the past 50 years, a trend that is particularly noticeable amongst the younger cohorts. According to Wright (1999), the ONS (Office for National Statistics) and HBSC (World Health Organisation 'health behaviour of school-age children') surveys have identified gender differences in young adolescents' alcohol consumption. Although boys drink more alcohol, and more often, than girls, surveys in the ONS series have indicated that the frequency of girls' drinking is increasing at a faster rate than that of boys in both Scotland and England, so that the gender difference is diminishing (Wright, 1999).

The pattern appears to continue into adulthood. Citing the British Household surveys of 1984 and 1996 both Plant (1997) and Marshall (2000) have pointed to a gradual increase in the consumption of alcohol amongst women from 9% of women drinking over 14 units per week in 1984 to 14% of women in 1996. In contrast, male consumption has remained constant, with approximately 27% of men drinking over 21 units per week. It is possible therefore, that changes in the drinking habits of women are also leading to changes in the way women perceive of their problem drinking.

It has been found in the present study, that currently the perceptions of problem drinking and the causal attributions of men and women are similar. To consider whether these findings support a convergence hypothesis, it would therefore be helpful to consider the trends over time. There is little available data with which to do this, but some of the findings of Thom (1986), Kellett et al. (2001), and the present study make interesting comparison. By way of explanation, Thom's (1986) findings refer to data that was collected between 1984 and 1985 from an outpatient alcohol treatment unit, and Kellett et al.'s (2001) findings refer to data that was collected in 1996, from the same alcohol service as the data in the present study, with the present data being collected between 2001 and 2002. All findings therefore refer to studies conducted with clients first presenting to alcohol services.
As Tables 17 and 18 show, it appears that whilst female problem drinkers have previously tended to reply, when asked, that alcohol was not their main problem, this has changed over time, such that they now tend to be more likely to answer that it is. Then in terms of trends in the men's responses, it appears that whilst men have always tended to feel that alcohol is their main problem, this tendency appears to be decreasing over time. Indeed, in the present study gender differences in response to this question were found to be non-significant.

Table 17: Women's answers over time to the question 'Do you feel that alcohol is your main problem?'

<table>
<thead>
<tr>
<th></th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984-1985 (Thom 1986); N = 18</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>1996 (Kellett et al. 2001); N = 14</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>2001-2002 (Present study); N = 27</td>
<td>59</td>
<td>41</td>
</tr>
</tbody>
</table>

Table 18: Men's answers over time to the question 'Do you feel that alcohol is your main problem?'

<table>
<thead>
<tr>
<th></th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984-1985 (Thom 1986); N = 21</td>
<td>86</td>
<td>14</td>
</tr>
<tr>
<td>1996 (Kellett et al. 2001); N = 16</td>
<td>73</td>
<td>27</td>
</tr>
<tr>
<td>2001-2002 (Present study); N = 30</td>
<td>68</td>
<td>32</td>
</tr>
</tbody>
</table>

Furthermore, as Tables 19 and 20 show, whilst women have always held the position that alcohol is not the root of their problems, men's beliefs in this area appear to be changing over time, such that although they used to believe that alcohol was the root of their problems, they are now almost as likely to say that it is not.
Table 19: Women's answers over time to the question 'Is alcohol the root of your problems?'

<table>
<thead>
<tr>
<th></th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 (Kellett et al. 2001); N = 14</td>
<td>25</td>
<td>75</td>
</tr>
<tr>
<td>2001-2002 (Present study); N = 27</td>
<td>26</td>
<td>74</td>
</tr>
</tbody>
</table>

Table 20: Men's answers over time to the question 'Is alcohol the root of your problems?'

<table>
<thead>
<tr>
<th></th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 (Kellett et al. 2001); N = 16</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>2001-2002 (Present study); N = 31</td>
<td>53</td>
<td>47</td>
</tr>
</tbody>
</table>

The above findings appear to show changes in the causal attributions of problem drinking, as perceived by male and female problem drinkers, such that the women are becoming more likely to see alcohol as their main problem and men are becoming less likely. Furthermore, men appear to be moving towards the view held by women in that they are also becoming less likely to see alcohol as being the root of their problems. There is therefore some evidence to support the notion that gender differences in the causal attributions for problem drinking may be converging over time.

**Relationships between Causal Attributions and Factors Predictive of Treatment Outcome**

The possible effects of causal attributions for problem drinking on factors that might be indicative of treatment outcome were investigated by looking at relationships between the dimensions of causal attributions (i.e. internal/external 'locus', 'external control', 'internal control' and 'stability') and (i) self-efficacy to abstain from alcohol in high-risk situations, plus (ii) motivational readiness to change. Most of these results were as predicted.

It seemed intuitive that Rotter’s (1966) LOC scale dimension of internal/external ‘LOC’, as used in earlier studies, was synonymous with the dimensions of ‘internal
control' and 'external control' as used in the present study (McAuley et al., CDSII, 1992). Given this assumption, it was predicted, from previous research, that high internal control should be associated with more positive indicators of treatment outcome and high external control with more negative indicators. For instance, Canton et al. (1988) found that external LOC was less favourable for treatment outcome than internal LOC in those with alcohol dependence; and Elias (1997) similarly found that as locus of control became more external, situational self-efficacy decreased.

However, in the present study it was found that, whereas high internal control was associated with an increase in self-efficacy and motivational readiness to change, high external control was not associated with these negative indicators of treatment outcome. The reasons for this may be related to subtle differences between Rotter’s (1966) unidimensional measure of internal/external ‘Locus of Control’ and McAuley et al.’s (1992) multi-dimensional measures of ‘internal control’ and ‘external control’. With Rotter’s measure it would only possible to look at whether an individual’s attribution of control is located within them or within others/the environment. This has been found to predict that those who perceive the cause of their drinking to be more under their own control (than the control of others or the environment) have more favourable treatment outcomes. However, the multi-dimensional measure shows that whereas ‘internal control’ is associated with factors predictive of favourable treatment outcome, attributions of ‘external control’ do not necessarily have an effect one way or another. This then suggests that ‘internal control’ and ‘external control’, rather than being located at either end of a continuum, actually represent two qualitatively distinct concepts.

In terms of internal/external locus per se, Davies (1997) has argued that both internal and external attributions for the cause of substance use could contribute to continued substance use and form part of the ‘addiction’ attribution. It therefore seemed intuitive to predict that the attributional dimension of internal/external locus would not be associated with outcome measures. Indeed the results of the present study confirmed this, as no relationship was found between ‘locus’ and any of the measures predictive of treatment outcome.
Finally, previous research has suggested that high stability in substance use would be associated with a more negative prognosis. For instance, in a study of heroin users, by Coggans and Davies (1988), it was found that those who perceived the cause of their heroin use to be due to stable (and internal) factors were more likely to be constant users with a low expectancy of staying off heroin, whereas those who perceived the cause to be unstable (and external) had a more variable pattern of heroin use and higher expectations of being able to control their use. It was predicted therefore that higher attributions of stability would be associated with factors predictive of a poor treatment outcome in problem drinkers. The present study confirmed this, as there was a significant negative relationship between the attributional dimension of ‘stability’ and measures of self-efficacy, plus motivational readiness to change.

Clinical Implications

The main practical implications of the research are in the area of clinical application, particularly in relation to problem drinkers first presenting to the treatment services. In terms of these implications, issues relating to gender will be discussed first, followed by comments regarding the relationship between the causal attributions held by clients on initial presentation to the services and treatment outcome.

Attributions and Gender

The first set of questions looked at gender differences in their perceptions of alcohol as a problem. Cameron (1995) argues: ‘There is nothing special about problem drinkers. They are simply people with problems who drink’ (p73). In the present study, women stated that their (other) problems caused them to drink and that, whilst alcohol may or may not have been their main problem when they presented to the services, most were clear that it was not the root of their problems. This finding is quite positive in that it suggests that women, on their first contact with the alcohol services, may be quite open to addressing the (other) problems that may be contributing to their problem drinking, such as family problems and/or affective disorders.

However, although, like the women, men were able to acknowledge that other problems caused them to drink, they tended to be more likely than the women to feel that alcohol was their main problem and the root of their problems. This suggests that men may be inclined to want to focus mainly on their drinking when they present to the services for...
help and that some motivational work may need to be done with these clients in order to address some of the underlying issues surrounding their drinking.

Considering the treatment implications for substance-abusing men and women, Straussner (1997) also argues that gender differences need to be accounted for during assessment and treatment of all clients, which may include encouraging men to address those emotions that they typically have difficulty dealing with, such as grief, anger, fear and shame. Zeth (1997) similarly points out that men have special needs in treatment, and that 'by developing a conscious understanding of masculine core issues and values, treatment providers will be better able to offer more appropriate, individualised treatment plans and remove, or minimise, some of the obstacles to compliance’ (p 313).

When considering the more specific causal attributions for drinking it was found that there were no significant gender differences in this area. Indeed, as previously discussed, it appears that the attributions of men and women may be converging. This does not mean, however, that gender stereotypes do not exist and that women are not (still) going to be subject to feelings of shame and guilt when seeking help for their problem drinking. Plant (1997), for instance, argues that therapists need to be sensitive towards the feminine stereotypes held by the women coming for therapy, reminding practitioners that whilst therapists may not hold negative gender stereotypes of women, the women themselves often do.

Overall, it appears that special considerations are needed for both male and female clients presenting to the alcohol services, with clinicians needing to be both aware of, and sensitive to, their individual needs. Straussner (1997) argues that, as gender plays a role in the interactions that men and women who use substances have with clinicians, then the clinicians need to be sensitive to such things as the client’s sense of their own gender identity, plus societal expectations or reactions to the client’s gender. Indeed, Straussner points to Good, Gilbert, and Scher’s (1990) five principles of gender-aware therapy:

1. Include the concept of gender as an integral aspect of work with all clients.
2. Consider problems within their social context.
3. Actively seek to change gender injustice experienced by men and women.
4. Emphasise development of collaborative therapeutic relationships.
5. Respect clients’ freedom to choose.

Attributions and Treatment Outcome
Analysis carried out to investigate how attributional style per se affects those factors that may be predictive of treatment outcome suggested that whereas the ‘locus’ of causal attributions does not appear to affect treatment outcome, aspects of ‘control’ and ‘stability’ do. More specifically, higher scores in the attributional dimension of ‘internal control’ were related to more self-efficacy to abstain from alcohol in high-risk situations and greater motivational readiness to change, although interestingly the higher scores of ‘external control’ did not appear to be related to these factors. Higher scores in ‘stability’ were related to poorer outcome predictors. These finding may be usefully deployed therapeutically as discussed below.

Brewin and Antaki (1982) described how both attribution and attributional theories have been taken up and used in clinical settings. They describe how the most successful psychological treatments usually result in the client adopting a different view of the cause of their problem. As such they also consider the possibility that if the therapeutic aim was for a client to adopt a particular causal model, then this may also contribute to successful treatment. Indeed, previous research-driven suggestions have been made for the application of attributional theories to be used in clinical settings. For instance, following a study that identified women who drink alcohol during pregnancy being more external in their perception of control over their drinking, Mesrian (1998) suggested that treatment programmes should identify pregnant women with an external LOC so that intervention programmes could be designed to enhance traits that are associated with an internal LOC.

From the findings in the present study it would appear sensible to suggest that a profile of causal attributions could be drawn up with individual clients during assessment and used as a basis for discussion, perhaps linked to the Motivational Interviewing techniques of Miller and Rollnick (1991). For instance, although internal/external attributions do not appear to influence outcomes, if these attributions are also being associated with stable and uncontrollable attributions, as in the classic ‘addiction-type’ profile, it may be useful to explore what kind of ‘preferred explanation’ is being worked up in the client’s discourse. As Davies (1997) suggests, clients could be portraying
themselves as either the 'helpless victim of circumstance', or the 'helpless victim of disease'. The 'helplessness' aspects of these attributions (i.e. low 'control' and high 'stability') could then be addressed.

For example, in terms of 'control', it may be useful to explore with some clients how, despite perhaps feeling that other people have considerable influence over the cause of their drinking (i.e. external control), this need not impede their progress therapeutically if they are able to develop an increased awareness of their personal control. Similarly, in terms of 'stability', clients could be encouraged to explore and emphasise those aspects of their problem drinking that are not enduring - whilst simultaneously de-emphasising and challenging the more stable aspects.

It is important of course that, even if the clinician believes there is no basis for a client’s ('maladaptive') attributions, these attributions are still addressed in therapy. Davies (1997), for instance, argues that explanations that are not true may still influence behaviour. In terms of the present study, this means that even if the clinician suspects that the actual cause of a client’s problem drinking is a temporary problem that is manageable by the client, if the client believes that the cause of their drinking is permanent and that they are not personally able to control the cause, then they will still tend to behave in ways that are detrimental to their treatment outcome.

Finally, it is worth mentioning that re-attributional work may raise ethical problems. For instance, it has been suggested by Brewin and Antaki (1982), that attributional change may be used as a goal in itself, arguing that whilst it may not be possible to identify how certain attributions have formed, it is known that certain attributional patterns can be maladaptive and that efforts can therefore be made to change them. However, Davies (1997) argues that the philosophy of encouraging explanations that are believed to change behaviour, rather than being believed to be true, could raise serious ethical dilemmas for clinicians. He refers to comments made by Cook (1988) that the benefits of the disease concept of alcoholism have real benefits, even if the concept is theoretically invalid. Davies responds by stating that 'knowingly providing 'invalid' information to clients to the effect that they are suffering from an illness, in the interests of attaining a particular treatment goal, is the first step on a slippery slope' (p 13). Caution must be used then, to ensure that when the restructuring of attributions
is being encouraged with clients, the underlying model within which this takes place is evidence-based.

Reflections on the Research Process

Before discussing the theoretical implications of the research it is helpful to reflect on the research process. This section will therefore evaluate the research design, including a critique of the specific measures used in terms of their effectiveness in meeting the aims of the research, plus reflections on the analysis.

Choice of Design

The two aims of the research were to investigate: (i) possible gender differences in causal attributions for problem drinking; and (ii) the relationship between attributional style and variables that may affect the outcome of therapy (i.e. self-efficacy and motivational readiness to change). The method chosen to investigate these aims was to ask clients presenting for their initial assessment to the alcohol services to complete a self-administered questionnaire.

Even though a minority of respondents needed help in completing the forms, due to literacy problems and/or physical difficulties, the questionnaire was found to be an expedient and efficient way of obtaining information regarding possible gender differences in the attributions of problem drinkers presenting to the alcohol services. Qualitative measures may have provided a slightly richer source of data, and may have elicited some of the underlying meanings attached to various attributional styles, but this time-consuming approach would not have been appropriate given that the clients were also attending their initial assessment interview.

In terms of the relationship between attributions and treatment outcome, given the time limitations of the present study, it was only possible to use indicators of outcome (e.g. self-efficacy and motivation). As such, the measures used were just as subject to the attributional biases of respondents as were their responses to the actual attributional items. In other words, respondents wishing to give functional explanations for the cause of their problematic alcohol use were as likely to give functional responses to items regarding their self-confidence to abstain from alcohol in high-risk situations and their motivational readiness to change, albeit the nature of such responses are
interesting in their own right. However, in order to effectively investigate the relationship between causal attributions held on initial contact with the treatment services and treatment outcomes, longitudinal research would give more valid results, as \textit{actual} (rather than predicted) outcome measures could be used.

\textit{Critique of Measures Used}

The main measures used in analysis (notwithstanding the demographic data) were the four questions regarding perception of alcohol as a problem, based on Thom (1986) and Kellett et al. (2000); the revised Causal Dimension Scale (CDSII) by McAuley et al. (1992); the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) by Miller and Tonigan (1996); and the Alcohol Abstinence Self-Efficacy (AASE) scale by DiClemente et al. (1994). These measures will now be discussed in terms of their use in the present study.

\textit{Items Assessing Perception of Alcohol as a Problem (Thom, 1986; Kellett et al., 2000)}

The four questions used to assess the clients' perceptions of their drinking as a problem were found to be easy to complete and therefore well-placed at the beginning of the questionnaire. Furthermore, no problems were encountered when analysing this data.

\textit{Revised Causal Dimension Scale (CDSII: McAuley et al., 1992)}

Theoretically, the CDSII appeared to be a good choice of instrument in that (i) it was multi-dimensional and therefore able to distinguish between four attributional dimensions ('locus' 'internal control', 'external control' and 'stability'); and (ii) it was tailored to the individual participants' experience, in that they were first asked to think of, and identify, the main cause of their drinking before rating this cause in terms of the attributional dimensions.

In practice, many participants found the measure conceptually difficult to understand, even given the attempt at the pilot stage to improve clarity by altering the presentation of items. In fact participants needed more help with the CDSII during completion than with any of the other measures. In order to overcome this problem, the researcher typically talked participants through each question referring them back to the reason that they had given for their problem drinking, until they had grasped how to answer the questions. As a consistent level of appropriate assistance was given to all those who
found completion of these items difficult, it was felt that the overall measures were not unduly affected. However, as it is possible that some participants may not have fully understood how to answer the questions, the results may not have always been an accurate reflection of their causal attributions. Indeed McAuley et al. (1992) have acknowledged the need for further validity testing of this measure.

*Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES: Miller and Tonigan, 1996)*

The respondents found the SOCTRATES relatively easy to complete, although it appeared to have some unanticipated limitations in terms of its validity. Before discussing this further, it would be useful to recap on the nature of the instrument, plus the guidelines for its interpretation.

The SOCRATES, which measures motivational readiness to change, has three dimensions:

- Recognition of problems relating to drinking (consisting of 'determination' and 'precontemplation' items)
- Ambivalence or uncertainty about problems related to drinking (consisting of 'contemplation' items)
- Taking steps towards a positive change in drinking (consisting of 'action' and 'maintenance' items)

High scores on the 'recognition' dimension are taken to indicate acknowledgement that there are problems related to drinking and a desire for change, whilst low scores indicate a denial of alcohol problems and no desire for change. High scores on the dimension of 'ambivalence' indicate uncertainty about problems related to drinking with some openness to reflection; with low scores indicating either ‘knowing’ that drinking is causing problems (i.e. high recognition) or ‘knowing’ that there is not a drink problem (i.e. low recognition). As such, scores from the ‘ambivalence’ dimension were not used in the present study. High scores on ‘taking steps’ indicate activity towards a positive change in drinking, and is predictive of successful change; whilst low scores indicate that no current, or recent, changes have been made to drinking.
The criteria used to determine greater motivational readiness to change in the present study were therefore taken as higher scores in terms of the dimensions of ‘recognition’ and ‘taking steps’. In the light of these criteria the results pertaining to the ‘recognition’ dimension proved difficult to interpret. It was puzzling, for instance, that whilst ‘internal control’ was positively related to ‘taking steps’ (as predicted) it was negatively related to ‘recognition’. Furthermore, although ‘stability’ was negatively related to ‘taking steps’ (as predicted) there was a positive (albeit non-significant) relationship between ‘stability’ and ‘recognition’.

Examination of the items contributing to the dimension of ‘recognition’ may contribute to an understanding of these anomalies. There were three types of questions embedded in the ‘recognition’ dimension:

1. Acknowledgement of the seriousness of drinking problems (e.g. Qu 3: ‘If I don’t change my drinking soon, my problems are going to get worse’)
2. Acceptance of diagnostics labels pertaining to problem drinking (e.g. Qu 17: ‘I am an alcoholic’)
3. Expression of a desire to change (e.g. Qu 1: ‘I really want to make changes in my drinking’)

On inspection of these questions, it appears likely that if a respondent were to perceive themselves to be already in a stage of actively taking steps towards making a positive change in drinking, perhaps with some success (and this did appear to be the case with some of the respondents), then they may well be less inclined to agree with statements that emphasise the seriousness of their drinking, less likely to accept a diagnosis of having a drink problem, and less likely to feel that they (still) needed to make changes in their drinking. This suggests that both high and low scores on the dimension of ‘recognition’ could be indicative of high motivational readiness to change, thus explaining the apparent contradiction in the results.

A further philosophical point relates to the inclusion of two items in the ‘recognition’ dimension asking respondents to confirm their status as an ‘alcoholic’ thus implying a disease model of dependency. Indeed, low scores on this dimension indicate low motivation to change. This position is in contrast to the ethos of the service within which the study was undertaken, which does not encourage clients to admit to having a
diagnostic label, such as 'alcoholism' in order that they are eligible to seek, or receive, help with their problem drinking. Interestingly, de-emphasis on such labels is also part of the *Motivational Interviewing* approach of Miller and Rollnick (1991); W. R. Miller co-authoring both the SOCRATES and the book *Motivational Interviewing*. It is possible that the inclusion of terms such as 'alcoholism' in the measure may represent a cultural bias. Cameron (1995) has described how the ‘alcoholism movement’ began in the United States, has been exported all over the world and remains the dominant ideology in its country of origin. The SOCRATES measure was part developed during Project MATCH, in the United States, where the disease model of ‘alcoholism’ continues to be relatively pervasive.

Whilst scores on the dimension of ‘ambivalence’ were not used in the present study they formed part of the questionnaire. The four items relating to this dimension were:

*Qu 2*: Sometimes I wonder if I am an alcoholic
*Qu 6*: Sometimes I wonder if my drinking is hurting other people
*Qu 11*: Sometimes I wonder if I am in control of my drinking
*Qu 16*: There are times when I wonder if I drink too much

It was apparent during the completion of the questionnaires that, had these scores been used, they would have been difficult to interpret. This was not only because the lower scores could clearly be interpreted as indicating either high or low motivational readiness to change (as acknowledged by the authors, Miller and Tonigan, 1996), but also because, from remarks made by respondents, it was clear that higher scores could also be interpreted in either direction. Some of the respondents scoring high (i.e. towards 'strongly agree’) on these items were stating that they knew they were an alcoholic, that their drinking was hurting others, that they were not in control of their drinking, and that they were drinking too much (rather than agreeing that they were wondering, and therefore unsure, about these factors). In other words, higher scores on the dimension of ‘ambivalence’ could be interpreted as representing either high or low recognition. Indeed it is interesting that Miller and Tonigan (1996) acknowledge limited internal consistency regarding the ‘ambivalence’ scale, stating: ‘This scale lagged behind the others in internal consistency across five versions of the instrument and may reflect an inherent difficulty of measuring ambivalence directly…’ (p 87).
In summary then, the dimension of 'taking steps' was the only dimension in the SOCRATES instrument considered valid for interpreting the results of the present study. However, it was felt that the 'taking steps' dimension in itself was adequate in serving the purpose of giving an indication of motivational readiness to change, and thereby sufficiently contributed to the information necessary for investigating the aims of the research.

*Alcohol Abstinence Self-Efficacy scale (AASE: DiClemente et al., 1994)*

The AASE scale measures confidence to abstain from alcohol in high-risk situations. Respondents found this measure easy to use and it appeared to be a valid measure of this particular construct. The only criticism in terms of using this measure was that not all of the clients in the study wished to be abstinent. Indeed for many clients who contact the local alcohol services, controlled drinking, rather than total abstinence, is their preferred and appropriate goal. There are instruments that measure self-efficacy in relation to controlled drinking (e.g. the Impaired Control Scale (ICS) by Heather et al., 1993; and the Situational Confidence Questionnaire (SCQ) by Annis and Graham, 1988). Whilst it may have been interesting to look at the results of both types of measures, it was only possible to choose one measure of self-efficacy due to the necessity of keeping the questionnaire as brief as possible. As such, it seemed that a measure of abstinence was the most appropriate choice (as discussed in the 'Methodology' chapter), with the possible drawbacks to this decision being acknowledged.

*Reflections on the Analysis*

In retrospect, due to the large number of comparisons made during the analysis, the significance level of $p=0.05$ may have been invalid. Further research should either include an appropriate correction, or increase the level of significance to $p=0.01$.

Furthermore, with regard to the analysis of gender differences in attributions for problem drinking, given that a number of the findings were found to be contrary to predictions, it is arguable that predictions could therefore have been made in either direction. As such, it is recommended that any future analysis should be 2-tailed rather than 1-tailed.
Theoretical Implications and Future Research

The findings of the research, plus the research process per se, have raised a number of issues that advance theoretical understanding in the field of substance use plus raise interesting questions for further research. The main issues relate to: (i) the convergence hypothesis, (ii) the respondents' attributional profile, and (iii) the use of multidimensional methods for measuring attributions. These issues will be discussed in turn, adding suggestions for future research where appropriate.

Convergence Hypothesis

It was interesting that, when the findings from the present study were compared to findings from previous research (Thom, 1986; and Kellett et al., 2001), male and female beliefs regarding their perceptions of alcohol as a problem appeared to be converging. It is proposed that this may in turn be linked to the greater acceptance that exists in many societies towards women drinkers. Earlier writers (e.g. Gomberg, 1988; Cynthia Robbins, 1989) have noted trends towards more liberal attitudes towards women drinkers over time. However, it is perhaps only more recently that these attitudes have impacted on the way that women who present to the services are able to view their own problem drinking, such that they are now more able to admit to alcohol being their main problem.

Changes may also have taken place over time within service provision for female problem drinkers in that these women may now be finding it easier to seek and accept professional help. Longitudinal research would clearly be valuable to observe further changes in attitudes towards women with alcohol problems, including service provision, as well as to monitor the attitudes and attributions held by the women drinkers themselves.

Of related interest is the apparent change in men's perceptions of their drinking, such that they are becoming less likely to say that alcohol is their main problem and the root of their (other) problems. In 1986, Thom, in a study of 25 men and 25 women, considered gender differences in help-seeking for alcohol problems and factors that may be barriers to help-seeking. She reported that men believed they should be able to control their drinking themselves, finding it difficult to ask other people for help with their problems. The findings in the present study signify a move from this 'macho'
presentation by men, towards a greater acknowledgement that they may have other problems in their lives that are contributing to their drinking. Again it would be interesting to monitor these perceptions over time, and to consider whether continuing changes in this direction are facilitated by an increased social acceptance of men showing their emotions and acknowledging psychological distress.

Attribution Profile

Of further theoretical interest is the attributional profile of the respondents in terms of their ‘preferred explanations’ for problem drinking. Davies (1997) drew attention to the link between attributions and the expurgation of guilt. He describes how there is an assumption that people who do bad things on purpose deserve punishment, whereas people who do bad things for reasons beyond their control deserve help. He states that ‘in a climate of moral censure, explanations for drug use must imply lack of volition…’ (Davies, 1997, p 291). The addiction concept, he argues, ensures that the ‘bad’ thing is not done on purpose, therefore allowing a person to be helped instead of punished. It is interesting to speculate as to whether the attributional profile presented by problem drinkers in the present study can be interpreted as having a similar purpose.

In the present study, the overall attributional profile of the (combined male and female) problem drinkers on first contact with the alcohol services indicated a more internal than external locus of cause, with low internal and external control, and no particular emphasis in terms of stability. The internal/uncontrollable attribution could well be interpreted as suggesting little personal responsibility for problem drinking at the current time, with the wavering stability conveying some hope for change. As an explanation given by ‘new’ referrals, to the clinician about to conduct an initial assessment interview, this is arguably a highly functional, ‘addiction-type’ explanation.

This does however raise wider implications for social policy, in terms of the way that people feel they need to portray themselves in order to access help. Davies (1997) describes how the ‘addiction’ profile gives society permission to help people that may otherwise be seen as ‘bad’, the downside being that it recasts the ‘addict’ as a helpless victim, arguing that people should not need to prove that everything they do is right or morally defensible in order to deserve help.
Interestingly, the attributions of the respondents in the present study suggested that the cause(s) of their drinking, although not under their own (or other people’s) control, nevertheless had an ‘internal’ locus and are therefore acknowledged as being part of their own disposition. Beckman (1979), in a comparative study of alcoholics and non-alcoholics, similarly failed to find that alcoholics displaced blame for their drinking onto external sources, instead appearing to accept a large amount of personal responsibility, if anything making fewer external attributions than non-alcoholics. In order to further explore attributions of problem drinking as they are perceived in the present day, it would be interesting to conduct a similar study comparing the causal attributions of problem drinkers with the attributions of those whose drinking is not perceived to be problematic. It may also be interesting to compare the attributional profiles of drinkers who do, and do not, present to the services for help.

It seems possible that the respondents in the present study might have been presenting with ‘addiction-type’ attributions as preferred explanations for the cause of their drinking in the presence of the clinician who was to conduct their initial assessment interview. Davies and Baker (1987) found that male heroin users gave more internal attributions for their heroin use when asked by a research interviewer, than when asked by a locally known heroin user. It may be interesting therefore, to see if this is the case with problem drinkers. Future research might pose similar attribution-eliciting questions to male and female drinkers to investigate whether the answers reflected differences (including differences according to gender) varied according to whether the interviewer was a clinician, or another problem drinker.

Finally, the setting of the interviews may also impact on the interview process. Most of the interviews in the present study took place in National Health Service settings. It would be interesting therefore to see whether the attributional profiles of problem drinkers differed with interviews conducted in more informal settings.

Use of Multidimensional Measures and the revised Causal Dimension Scale (CDSII)

In terms of theoretical implications, the present research has also reinforced the need to use multidimensional methods of assessing attributions. Early studies of attributions typically used measures that yielded a score on a dimension ranging from internal to external ‘locus of control’ (LOC), thereby merging the notion of ‘internal/external
locus' with that of 'internal/external control'. As discussed earlier, it has often been concluded from such studies that an internal LOC is more favourable in terms of prognosis than an external LOC. The value in separating the notions of 'locus' and 'control' has been made apparent in the present study, where it has been demonstrated that, in terms of prognostic indicators, internal/external locus per se has no bearing on potential treatment outcome, internal control has a positive influence, but that attributions of external control make no apparent difference. It is suggested therefore that the use of multidimensional methods be encouraged in future research of this type.

As mentioned previously, the CDSII (McAuley et al., 1992) appeared to be a good choice of instrument for this purpose, although respondents found it difficult to use. It may therefore benefit from research to adapt it for use specifically with problem drinkers. One suggestion might be to replace terms containing the word 'cause' with the word 'reason' throughout the measure (i.e. 'what is the main reason for you problem drinking', 'Is the reason that you drink...'). It may also be useful to re-visit the words and phrases used to convey attributional notions. For instance, a number of participants did not seem able to grasp the meaning of the word 'regulate' (an aspect of stability). On balance it was felt that the theoretical advantages of the CDSII outweighed the practical disadvantages, although, as McAuley et al. (1992) have acknowledged there is a need for further validity testing of this instrument.

Conclusions
The first aim of the research was to investigate gender differences in the causal attributions for problem drinking, as perceived by clients at their first presentation to the alcohol services. Due to the long-standing awareness of negative social stereotypes that exist towards women drinkers, plus the findings from previous research looking at gender differences in the perceptions of alcohol as a problem, it was hypothesised that the women would be less likely than the men to perceive alcohol as being their main problem, or the root of their problems, but more likely than the men to feel that their (other) problems caused them to drink. As such, it was also predicted that the locus and control of the women’s causal attributions, would be located more externally than those of the men.
It was found that the women were significantly less likely than the men to state that alcohol was the root of their problems. They also tended to be less likely than the men to state that alcohol was their main problem (although not significantly). However, contrary to predictions, women tended to be slightly less likely than the men to state that their (other) problems caused them to drink (although again not statistically significant). Furthermore, there were no significant gender differences in the locus, control or stability of causal attributions, and contrary to predictions, the attribution of external control tended to be lower in the women than the men.

It was suggested that the lack of gender differences in these attributions might be due to changes in gender-related social stereotypes, thus leading to a convergence in the attributions of male and female problems drinkers. Evidence was presented from previous research to support this explanation and suggestions made for future research to explore this notion further.

From a therapeutic perspective, gender differences clearly need to be accounted for during the assessment and treatment of all clients. In terms of the women, whilst drinking behaviour and attitudes between male and female problem drinkers may be converging, negative stereotypes still exist towards women drinkers and as such these must be addressed if women with problem drinking are to feel comfortable enough to seek and accept help. It appears that male problem drinkers, although able to acknowledge that their (other) problems can lead them to drink, still feel that alcohol is their main problem and the root of their problems. As such, they probably need more motivation than do their female counterparts in addressing some of the issues that are having an impact on their drinking.

The overall attributional profile of the problem drinkers (internal locus, low internal and external control, no emphasis in terms of stability) suggested an ‘addiction-type’ preferred explanation for the cause of their drinking. This type of explanation, given by new clients to a clinician, could be viewed as being functional and recommendations were made for research to further explore the functional explanations given by clients for their problem drinking when they present to the treatment services.
The second aim of the research was to consider the effects of causal attributions (in both male and female problem drinkers) on factors that are thought to be predictive of treatment outcome: self-efficacy to abstain from alcohol in high-risk situations, and motivational readiness to change drinking behaviour. From a review of the literature it was hypothesised that high internal control would be associated with favourable outcomes, high external control and high stability with less favourable outcomes, with no relationship between the locus of cause and outcomes.

It was found that, as predicted, internal control was positively related to perceived self-efficacy and motivational readiness to change, and that stability was negatively related to these predictors. Furthermore, and also as predicted, no relationship was found between internal/external locus and the outcome measures. However, contrary to predictions, there was no relationship between external control and either self-efficacy or motivational readiness to change.

Most of the hypotheses were based on previous research, which was in turn derived from single measures of 'locus of control'. The lack of a relationship between external control and outcome measures in the present study demonstrates the necessity of using multi-dimensional measures when assessing causal attributions. In clinical practice, such multi-dimensional causal attribution profiles could be used as a basis for therapeutic work drawing on cognitive-behavioural and motivational techniques.

Finally, with regard to the research process, completion of self-administered questionnaires by clients presenting for their initial assessment to the alcohol services, was found to be an effective method of collecting the data necessary to investigate the aims. However, it was felt that the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES: Miller and Tonigan, 1996) had limitations in terms of its validity in two of its three dimensions, and the revised Causal Dimension Scale (CDSII: McAuley et al., 1992) would benefit from further work to adapt it for use with problem drinkers.
REFERENCES


### Appendix [i] Demographic Details Form

#### Demographic Details

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Appendix [ii] The Questionnaire

**Perceptions of alcohol as a problem**

Below are four questions about how you view your drinking.

**Instructions:** Please answer each question by circling either ‘Yes’ or ‘No’:

1. Do you feel that alcohol is a problem for you? Yes / No
2. Do you feel that alcohol is your main problem? Yes / No
3. Is alcohol the root of your problems? Yes / No
4. Do other problems cause you to drink? Yes / No

**Reasons for drinking**

What would you say was the main cause of your problem drinking? Please write it in the space below:

.................................................................

**Instructions:** Think about the reason you have written above. The items below concern your impressions or opinion of the cause of your drinking. Circle one number for each of the following questions.

1) Is the cause:
   - Something about you 9 8 7 6 5 4 3 2 1
   - Something about others

2) Is the cause something that is:
   - Manageable by you 9 8 7 6 5 4 3 2 1
   - Not manageable by you

3) Is the cause something that is:
   - Permanent 9 8 7 6 5 4 3 2 1
   - Temporary

4) Is the cause something:
   - You can regulate 9 8 7 6 5 4 3 2 1
   - You cannot regulate

5) Is the cause something:
   - Over which others have control 9 8 7 6 5 4 3 2 1
   - Over which others have no control

6) Is the cause something that is:
   - Inside of you 9 8 7 6 5 4 3 2 1
   - Outside of you

7) Is the cause something that is:
   - Stable over time 9 8 7 6 5 4 3 2 1
   - Variable over time

8) Is the cause something that is:
   - Under the power of other people 9 8 7 6 5 4 3 2 1
   - Not under the power of other people
9) Is the cause something that:
   Reflects an aspect of yourself

   | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

   Reflects an aspect of the situation

10) Is the cause something:
    Over which you have power

    | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

    Over which you have no power

11) Is the cause something that is:
    Unchangeable

   | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

    Changeable

12) Is the cause something that:
    Other people can regulate

    | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

    Other people cannot regulate
Alcohol Abstinence Self-Efficacy Scale

Listed below are a number of situations that would lead some people to use illegal drugs. We would like to know how confident you are that you would not drink alcohol in each situation.

**Instructions:** Circle the number that best describes your feelings of confidence not to drink alcohol in each situation during the past week according to the following scale:

- 1 = Not at all confident
- 2 = Not very confident
- 3 = Moderately confident
- 4 = Very confident
- 5 = Extremely confident

<table>
<thead>
<tr>
<th>Situation</th>
<th>Confidence not to drink alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) When I am in agony because of stopping or withdrawing from alcohol use</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>2) When I have a headache</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>3) When I am feeling depressed</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>4) When I am on holiday and want to relax</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>5) When I am concerned about someone</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>6) When I am very worried</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>7) When I have the urge to try just one drink to see what happens</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>8) When I am being offered a drink in a social situation</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>9) When I dream about taking a drink</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>10) When I want to test my willpower over drinking</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>11) When I am feeling a physical need or craving for alcohol</td>
<td>1*2*3*4*5*</td>
</tr>
<tr>
<td>12) When I am physically tired</td>
<td>1*2*3*4*5*</td>
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### The Questionnaire

<table>
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<tr>
<th>Situation</th>
<th>Confidence not to drink alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Situation</strong></td>
<td>Not at all</td>
</tr>
<tr>
<td>13) When I am experiencing some physical pain or injury</td>
<td>1</td>
</tr>
<tr>
<td>14) When I feel like blowing up because of frustration</td>
<td>1</td>
</tr>
<tr>
<td>15) When I see others drinking at a bar or at a party</td>
<td>1</td>
</tr>
<tr>
<td>16) When I sense everything is going wrong for me</td>
<td>1</td>
</tr>
<tr>
<td>17) When people I used to drink with encourage me to drink</td>
<td>1</td>
</tr>
<tr>
<td>18) When I'm feeling angry inside</td>
<td>1</td>
</tr>
<tr>
<td>19) When I experience an urge or impulse to take a drink that catches me unprepared</td>
<td>1</td>
</tr>
<tr>
<td>20) When I am excited or celebrating with others</td>
<td>1</td>
</tr>
</tbody>
</table>
**Instructions:** Please read the following statements carefully. Each one describes a way that you might (or might not) feel *about your drinking*. For each statement circle one number from 1 to 5, to indicate how much you agree or disagree with it *right now*. Please circle one and only one number for every statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided or Unsure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I really want to make changes in my drinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Sometimes I wonder if I am an alcoholic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>If I don’t change my drinking soon, my problems are going to get worse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I have already started making some changes in my drinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I was drinking too much at one time, but I’ve managed to change my drinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Sometimes I wonder if my drinking is hurting other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>I am a problem drinker</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>I’m not just thinking about changing my drinking, I’m already doing something about it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>I have already changed my drinking, and I am looking for ways to keep from slipping back into my old pattern</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>I have serious problems with drinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>Sometimes I wonder if I am in control of my drinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
# Appendix [ii] The Questionnaire

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided or Unsure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>12) My drinking is causing a lot of harm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13) I am actively doing things now to cut down or stop drinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14) I want to help keep from going back to the drinking problems that I had before</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15) I know that I have a drinking problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16) There are times when I wonder if I drink too much</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17) I am an alcoholic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18) I am working hard to change my drinking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19) I have made some changes in my drinking, and I want some help to keep from going back to the way I used to drink</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
The following questions cover a wide range of topics to do with drinking.

**Instructions:** Please read each question carefully but do not think too much about its exact meaning. Think about your most recent drinking habits and answer each question by putting a tick (✓) under the most appropriate heading. If you have any difficulty ask for help.

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Nearly always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Do you find difficulty getting the thought of drink out of your mind?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Is getting drunk more important than your next meal?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Do you plan your day so that you know you’ll be able to get a drink?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Do you start drinking in the morning and drink in the afternoon and evening as well?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) Do you drink for the effect of alcohol without caring what kind of drink you have?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) Do you drink as much as you want without considering what you have to do the next day?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7) Given that many problems might be caused by alcohol, do you still drink too much?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8) Do you find yourself unable to stop drinking once you start?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9) Do you try to control your drinking by giving it up for days or weeks at a time?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10) The morning after a heavy drinking session do you need your first alcoholic drink to get you going?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11) The morning after a heavy drinking session do you wake up with a definite shakiness of your hands?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12) After a heavy drinking session do you vomit (throw up)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13) The morning after a heavy drinking session do you go out of your way to avoid people?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14) After a heavy drinking session do you see frightening things that you later realise were not real?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15) Do you go drinking and next day find you have forgotten what happened the night before?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Appendix [iii] Units of Alcohol Conversion Chart**

<table>
<thead>
<tr>
<th>Type and amount of drink</th>
<th>Units of alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beers and lagers</strong></td>
<td></td>
</tr>
<tr>
<td>Ordinary strength beer or lager</td>
<td>½ pint 1</td>
</tr>
<tr>
<td></td>
<td>1 pint 2</td>
</tr>
<tr>
<td></td>
<td>1 can 1 ½</td>
</tr>
<tr>
<td>Export beer</td>
<td>1 pint 2 ½</td>
</tr>
<tr>
<td></td>
<td>1 can 2</td>
</tr>
<tr>
<td>Strong ale or lager</td>
<td>½ pint 2</td>
</tr>
<tr>
<td></td>
<td>1 pint 4</td>
</tr>
<tr>
<td></td>
<td>1 can 3</td>
</tr>
<tr>
<td>Extra strength beer or lager</td>
<td>½ pint 2 ½</td>
</tr>
<tr>
<td></td>
<td>1 ½ pint 5</td>
</tr>
<tr>
<td></td>
<td>1 can 4</td>
</tr>
<tr>
<td><strong>Ciders</strong></td>
<td></td>
</tr>
<tr>
<td>Average cider</td>
<td>½ pint 1 ½</td>
</tr>
<tr>
<td></td>
<td>1 pint 8</td>
</tr>
<tr>
<td></td>
<td>Quart bottle 6</td>
</tr>
<tr>
<td>Strong cider</td>
<td>½ pint 2</td>
</tr>
<tr>
<td></td>
<td>1 pint 4</td>
</tr>
<tr>
<td></td>
<td>Quart bottle 8</td>
</tr>
<tr>
<td><strong>Spirits</strong></td>
<td></td>
</tr>
<tr>
<td>1 standard glass = 25 ml</td>
<td>1 standard single measure 1</td>
</tr>
<tr>
<td></td>
<td>1 bottle 30</td>
</tr>
<tr>
<td><strong>Table wine</strong></td>
<td></td>
</tr>
<tr>
<td>1 standard glass = 125 ml</td>
<td>1 standard glass 1</td>
</tr>
<tr>
<td></td>
<td>1 bottle 7</td>
</tr>
<tr>
<td></td>
<td>1 litre bottle 10</td>
</tr>
<tr>
<td><strong>Sherry &amp; fortified wine</strong></td>
<td>1 standard small measure 1</td>
</tr>
<tr>
<td></td>
<td>1 bottle 12</td>
</tr>
</tbody>
</table>
Appendix [iv] Letter of Ethical Approval from Ethical Committee
Leicestershire NHS
Health Authority

Vivienne Merry
Research Ethics Administrator
0116 258 8565

9 April 2001

Dr S Kellett
Trainee Clinical Psychologist
Centre for Applied Psychology
Ken Edwards Building
University of Leicester
Leicester
LE1 7RH

Dear Dr Kellett

Gender differences in casual attributions for problem drinking. Our ref. no. 6257

Further to your application dated 23 March 2001 you will be pleased to know that the Leicestershire Research Ethics Committee at its meeting on Friday 6 April 2001 approved your application to undertake the above mentioned study.

The Committee raised the following issues:

1. The storage of data on Dr Kellett’s home computer should comply with the Data Protection Act.
2. Patients should be pre warned in their appointment pack that they may be asked to participate in this study
3. The Committee asked that there be an explanation of the numbered scale in the ‘Perceptions of alcohol as a problem’ questionnaire.

Yours sincerely

P Rabey
Chairman
Leicestershire Research Ethics Committee

(NB All Communications relating to the Leicestershire Research Ethics Committee must be sent to the Committee Secretariat at Leicestershire Health)
SPECIAL NOTE

This item is tightly bound and while every effort has been made to reproduce the centres force would result in damage.
PATIENT INFORMATION LEAFLET

A study to consider gender differences in attributions for problem drinking

Principle Investigator: Susan Kellett, Trainee Clinical Psychologist

You may contact Susan Kellett at Drury House, Tel: 0116 225 6350 for more information, or if you have any queries in the future.

1. What is the purpose of the study?

You are invited to take part in a study that looks at the different reasons given by men and women for their problem drinking. This knowledge will help us develop better services for people referred to the Community Alcohol Team.

2. What will be involved if I take part in the study?

The study will be part of your routine assessment interview. The only additional requirement will be a questionnaire. This should take approximately 15 minutes. If you do not want to take part then your assessment will continue according to normal practice. You will not be required to provide any further information for the study following this initial assessment. If you would like to know more about our findings a summary will be available from the above address in October 2002.

3. Will information obtained in the study be confidential?

Yes. The information in the questionnaires will be kept confidential. You will not be identified in any documents related to this study.
4. **What if I am harmed by the study?**

The study does not in any way set out to harm you. However, if you have any cause to complain about your treatment whilst taking part in this study, the normal complaints mechanism available to anyone receiving care in the National Health Service are available to you and are not compromised in any way because you have taken part in a research study.

5. **What happens if I do not wish to participate in this study or wish to withdraw from the study?**

If you do not wish to take part in this study or if you wish to withdraw from the study you may do so without justifying your decision and your future treatment will not be affected.

Thank you for taking the time to read this information, I hope you will now agree to participate in this study.

Dr Susan Kellett: Principal Investigator
Dr Marilyn Christie: Supervising Investigator
PATIENT CONSENT FORM

A study to consider gender differences in attributions for problem drinking

Principle Investigator: Susan Kellett, Trainee Clinical Psychologist

This form should be read in conjunction with the Patient Information Leaflet

I agree to take part in the above study as described in the Patient Information Sheet.

I understand that I may withdraw from the study at any time without justifying my decision and without affecting my normal care and medical management.

I understand that members of the research team may wish to view relevant sections of my medical records, but that all the information will be treated as confidential.

I understand medical research is covered for mishaps in the same way as for patients undergoing treatment in the NHS i.e. compensation is only available if negligence occurs.

I have read the patient information leaflet on the above study and have had the opportunity to discuss the details with Susan Kellett and ask any questions. The nature and the purpose of the tests to be undertaken have been explained to me and I understand what will be required if I take part in the study.

Signature of patient ................................................................. Date .......................................

(Name in BLOCK LETTERS) ..............................................................................................

I confirm I have explained the nature of the study, as detailed in the Patient Information Sheet in terms which, in my judgement, are suited to the understanding of the patient.

Signature of Investigator ....................................................... Date ........................................

(Name in BLOCK LETTERS) ......................................................................................
Results of two-tailed, Pearson’s (r) and Pearson’s point-biseral (r_pb) correlation matrix, between demographic / drinking history variables and scores on the revised Causal Dimension Scale (CDSII; McAuley et al, 1992).

<table>
<thead>
<tr>
<th>Demographic / drinking variables</th>
<th>CDSII subscales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Locus (internal / external)</td>
</tr>
<tr>
<td>Age</td>
<td>r = 0.094, p = 0.462, N = 64</td>
</tr>
<tr>
<td>Gender</td>
<td>r_pb = 0.061, p = 0.632, N = 64</td>
</tr>
<tr>
<td>Civil status</td>
<td>r_pb = -0.133, p = 0.294, N = 64</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>r_pb = -0.033, p = 0.797, N = 64</td>
</tr>
<tr>
<td>Age leaving full time education</td>
<td>r = 0.252*, p = 0.045, N = 64</td>
</tr>
<tr>
<td>Exams taken</td>
<td>r_pb = -0.032, p = 0.801, N = 63</td>
</tr>
<tr>
<td>Employment</td>
<td>r_pb = 0.034, p = 0.790, N = 64</td>
</tr>
<tr>
<td>Length of problem</td>
<td>r = 0.192, p = 0.128, N = 64</td>
</tr>
<tr>
<td>Level of dependency (SADD score)</td>
<td>r = -0.078, p = 0.538, N = 64</td>
</tr>
<tr>
<td>Units of alcohol per week</td>
<td>r = -0.135, p = 0.286, N = 64</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level
Appendix [vii] Correlation Matrices

Results of two-tailed, Pearson’s (r) and Pearson’s point-biserial (r_{pb}) correlation matrix, between demographic / drinking history variables and scores on the Alcohol Abstinence Self-Efficacy (AASE) scale (DiClemente et al, 1994).

<table>
<thead>
<tr>
<th>Demographic / drinking variables</th>
<th>AASE subscales</th>
<th>Total AASE score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative affect</td>
<td>Social / positive</td>
</tr>
<tr>
<td>Age</td>
<td>0.307*</td>
<td>0.255*</td>
</tr>
<tr>
<td>Gender</td>
<td>0.014</td>
<td>0.042</td>
</tr>
<tr>
<td>Civil status</td>
<td>-0.037</td>
<td>-0.005</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>-0.773</td>
<td>0.967</td>
</tr>
<tr>
<td>Age leaving full time education</td>
<td>0.385</td>
<td>0.240</td>
</tr>
<tr>
<td>Exams taken</td>
<td>-0.111</td>
<td>-0.149</td>
</tr>
<tr>
<td>Employment</td>
<td>0.056</td>
<td>-0.024</td>
</tr>
<tr>
<td>Employment</td>
<td>0.657</td>
<td>0.848</td>
</tr>
<tr>
<td>Age leaving full time education</td>
<td>0.366</td>
<td>0.888</td>
</tr>
<tr>
<td>Exams taken</td>
<td>0.074</td>
<td>0.145</td>
</tr>
<tr>
<td>Employment</td>
<td>0.366</td>
<td>0.258</td>
</tr>
<tr>
<td>Level of dependency (SADD score)</td>
<td>-0.115</td>
<td>0.018</td>
</tr>
<tr>
<td>Units of alcohol per week</td>
<td>-0.377**</td>
<td>-0.348**</td>
</tr>
<tr>
<td>Units of alcohol per week</td>
<td>0.002</td>
<td>0.005</td>
</tr>
<tr>
<td>Units of alcohol per week</td>
<td>-0.258*</td>
<td>-0.379**</td>
</tr>
<tr>
<td>Units of alcohol per week</td>
<td>0.040</td>
<td>0.002</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

126
Results of two-tailed, Pearson’s (r) and Pearson’s point-biseral (r pb) correlation matrix, between demographic / drinking history variables and scores on two dimensions from the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES; Miller and Tonigan, 1996).

<table>
<thead>
<tr>
<th>Demographic / drinking variables</th>
<th>SOCRATES subscales</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recognition</td>
<td>Taking Steps</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>r = -0.188</td>
<td>-0.033</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.136</td>
<td>0.797</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>r pb = -0.039</td>
<td>-0.148</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.757</td>
<td>0.244</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Civil status</td>
<td>r pb = 0.053</td>
<td>-0.284*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.676</td>
<td>0.023</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>r pb = -0.098</td>
<td>0.028</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.440</td>
<td>0.827</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Age leaving full time education</td>
<td>r = 0.066</td>
<td>-0.008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.604</td>
<td>0.951</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Exams taken</td>
<td>r pb = 0.045</td>
<td>0.043</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.724</td>
<td>0.739</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 63</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>r pb = 0.064</td>
<td>-0.038</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.618</td>
<td>0.764</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Length of problem</td>
<td>r = 0.084</td>
<td>-0.002</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.511</td>
<td>0.986</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Level of dependency (SADD score)</td>
<td>r = 0.308*</td>
<td>-0.403**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.013</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Units of alcohol per week</td>
<td>r = -0.056</td>
<td>-0.174</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p = 0.661</td>
<td>0.168</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N = 64</td>
<td>64</td>
<td></td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level