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ABSTRACT

Addiction Beliefs and Perceived Self-Efficacy in Problem Drinkers.

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A number of studies that have accessed non-clinical samples have identified gender differences in addiction beliefs. Female alcohol treatment providers demonstrated a stronger belief in the disease model of addiction (Schaler, 1995). However, little research exists which explores the addiction beliefs of clients with problem drinking and very little is known about the possible relationship between addiction beliefs and perceived self-efficacy.

The current study aimed to investigate the addiction beliefs and perceived self-efficacy of clients with problematic drinking at the point of entry into a specialist alcohol treatment service. The study recruited 41 participants (25 men and 16 women) and utilised an independent samples design with correlational measures. Participants completed two self-report questionnaires: the Addiction Belief Scale (Schaler, 1995) and the Alcohol Abstinence Self Efficacy Scale (DiClemente et al., 1994).

No evidence of gender differences in addiction beliefs was found in the current study. Female clients had significantly stronger perceived self-efficacy in their overall ability to abstain from drinking in high risk situations, particularly situations concerning 'withdrawal and urges'. There was no evidence that contact with services such as hospital detoxification, Alcoholics Anonymous or a specialist alcohol treatment service affected clients' addiction beliefs or perceived self-efficacy. The effect of drinking patterns was also investigated and clients who were currently abstinent were found to have a significantly stronger belief in their ability to abstain. No relationship was found between addiction beliefs and perceived self-efficacy.

Explanations for the current finding were supported with evidence of a possible convergence in both drinking behaviour and addiction beliefs across the sexes. It was suggested that a number of other influences may shape addiction beliefs including the beliefs of family members and significant others. As addiction beliefs were not found to be related to self-efficacy it was concluded that staff in treatment services should work within the framework of addiction which appears to have resonance for the client. Other implications for clinical practice were identified including promoting professional awareness of female problem drinkers and the benefits of assessing addiction beliefs and self-efficacy prior to intervention were considered. The limitations of the study were discussed along with suggestions for future research to investigate the possible effect of staff and client addiction beliefs on the therapeutic alliance and treatment outcome.
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CHAPTER ONE: LITERATURE REVIEW

1.1. Introduction and Context

According to the Office for National Statistics (2003), 27% of men and 13% of women in the UK aged 16 and over drank more than the recommended 'safe' number of units of alcohol in 2001. These safe limits have been identified as: 'below 4 units of alcohol per day' for men and 'below 3 units of alcohol' for women. One unit of alcohol is 10ml (1cl) by volume of pure alcohol. In the Trent Health Region, these figures were slightly higher than the national average, with 30% of men and 14% of women drinking above the recommended limits (Office for National Statistics, 2000). Regular consumption above these recommended limits is generally recognised as 'problem drinking', however according to the Institute of Alcohol Studies (2002), this term should also take into account an increased tolerance for alcohol, continuation despite an awareness of its harmful consequences and the impact drinking may be having on individual functioning. It is thought that across the UK, over 3 million people over the age of 16 years are to some degree dependent on alcohol (Office for National Statistics, 2003).

Attempts have been made to quantify the impact of problem drinking on both the individual and upon wider society. As well as long-term health implications for the individual, the cost to the NHS in England and Wales of treating alcohol-related conditions is estimated to be approximately £1.7 billion per annum, with an expenditure of £95 million on specialist alcohol treatment. One in sixteen of all hospital admissions are alcohol-related (Alcohol Harm Reduction Project, 2003). From a Primary Care perspective, each General Practitioner is estimated to see 364 excessive drinkers over a 12-month period, with problem drinkers consulting their GP...
twice as often as the average patient (Heather & Kaner, 2002). With research identifying a steady rise in the amount of alcohol consumed by young people aged 11-15, the economic demands of alcohol misuse on the NHS and broader society are set to increase in the future (National Centre for Social Research, 2003).

The National Alcohol Harm Reduction Strategy for England (2004) outlined the Government’s commitment to design a coordinated response to alcohol misuse by offering help to those affected by problem drinking and by identifying, preventing and tackling its antisocial consequences. A key concept underpinning the strategy involves understanding the following question:

“How far is alcohol misuse a matter of individual responsibility and when does the Government have a responsibility to intervene?”


This review of the literature begins by investigating problem drinking as a concept, followed by gender differences in uptake and utilisation of services. It then considers theories to explain problem drinking; this includes a discussion of the issue of personal responsibility as explored through the disease model as well as other models of addiction. Studies investigating beliefs about problem drinking are reviewed and any gender differences discussed. The role of self-efficacy beliefs is also explored, paying particular attention to the possible predictive nature of self-efficacy in treatment outcomes.

The terminology used within the field of alcohol-related problems is varied, including “addiction” “alcoholism” and “alcohol dependency”. In order to avoid any value
laden terms, the author has used the terms “problem drinking” or “problem alcohol use” as it is felt that these reflect the difficulties experienced by clients referred to a community alcohol service. As Raine (2001) indicated, physical or psychological dependency can occur as a consequence of alcohol use, but is not a precursor to the existence of problems. Alcohol use is instead considered on a continuum from occasional to recreational and problem use. However, where published studies are reported and described, the terminology chosen by their authors will be respected and adhered to.

1.2. Attempts to define problem drinking and substance use
The concept of problem alcohol and drug use has been described as “troublesome” by Ackers (1991) not least because it is a term often used but ill-defined. ‘Alcoholism’ and ‘heavy drinking’ are imprecise descriptors loaded with prescriptive intent (Schaler, 2002). The Diagnostic and Statistical Manual of Mental Disorders (DSM IV; 1994) classifies substance dependence as a “Maladaptive pattern of substance abuse leading to clinically significant impairment or distress” (Appendix [i]). According to the DSM IV, the presence of three or more pre-defined criteria (such as tolerance, withdrawal, unsuccessful attempts to cut down or control use) leads to a conclusive diagnosis of substance dependence. Critics of the DSM IV classification argue that the term ‘clinically significant’ is not defined, and the use of the value-laden term ‘maladaptive pattern’ implies the individual has somehow failed to adapt evolutionarily to new conditions (Davies, 1997; Orford, 2000).

The DSM IV criteria do not require the presence of both tolerance and withdrawal for a diagnosis of dependence to be made. However, these two symptoms characterised
earlier definitions of addiction, particularly the alcohol dependency syndrome of Edwards & Gross (1976). Edwards & Gross attempted to synthesise a definition of alcohol dependence to incorporate physiological, environmental and cognitive variables. Despite the breadth of this approach, more recent definitions have shifted away from the pursuit of a single entity of addiction towards the identification of 'addictive behaviours' which can be engaged in when control is diminished (McMurran, 1994). Goodman's (1990) attempt to derive a definition that was both grounded in theory and had scientific utility resulted in the conceptual synthesis of dependency and compulsion. Goodman proposed a definition of addiction that was characterised by powerlessness and continuation of addictive behaviour despite evidence of negative consequences. In his book 'The Diseasing of America' (1995) Stanton Peele asserted a multi-component definition of addiction, which took account of individual, situational and experiential factors such as values, sensations and family influences.

In a study that compared the responses of both clients and 'experts' in addictive behaviours, Walters & Gilbert (2000) found that they were unable to determine a collaborative operational definition of addiction. Thirty-one clients were selected from a drug education class and 20 experts were drawn from the Division on Addictions of the American Psychological Association. The clients viewed addiction in terms of diminished control, whereas experts' views centred on the presence of physical dependence and compulsive aspects. The lack of consensus appears to indicate the complexity of the concept. However, the study could be criticised for the wide discrepancy between mean ages of the experts and the clients (53 years and 30 years respectively) and the relatively poor response rate by experts (38%). Walters &
Gilbert acknowledged that the addiction views of those experts who did not participate might be of equal or greater interest.

Walters (1999) opined that an overarching addiction concept might have negative consequences such as fostering dependency, hopelessness and low self-efficacy in the client. John Booth Davies (1997) shifted the emphasis of addiction away from a definable entity towards a construct or way of thinking, which has an adaptive purpose for drug users. In the prologue to his book ‘The Myth of Addiction’ (1997) Davies raised concerns about the validity of extracting the truth about addiction beliefs simply through verbal reports about drug use. Answers may be coloured by the “internal functional logic which is independent of reality” (pp. x). Distorting factors included self-presentation issues and preservation of self-esteem.

Orford (2000) introduced the term ‘excessive appetites’ as an alternative to addictive behaviours. He felt that addiction had become synonymous with the properties of illegal drugs, their relatively short-term pharmacological impact and the longer-term neuro-adaptation evident through tolerance and withdrawal effects. Orford felt that this was at the expense of other objects and activities for which excessive appetites could develop, including eating, sex and gambling. According to Orford (ibid) those who experience excessive appetites engage in behaviours that surpass normal or harmless levels, as a result of acquiring strong attachments to these objects or activities. He argued that understanding these attachments was fundamental to understanding how excessive appetites can extend out of control and cause adverse effects on people’s lives.
1.3. Gender differences

1.3.1. Gender differences in problem drinking.

There are a number of methodological difficulties associated with the measurement of alcohol consumption that may lead to biases in data concerning gender differences. Firstly, the accuracy of self-report information has been questioned, with the consequence of either over-or under-reporting problems. Garrett & Behr (1974) found that men under-rated the quantity and frequency of their drinking whereas women tended to demonstrate greater accuracy. Secondly, some studies have failed to allow for gender differences in body weight, which affects the concentration of alcohol in the bloodstream and thus has implications for quantity and volume measures (Graham et al., 1998). With these methodological details in mind, the differences in alcohol-related problems between the sexes will now be explored.

Data from the National Alcohol Harm Reduction Strategy for England (2004), suggests that one in three men and one in five women exceed the recommended safe levels of alcohol consumption. Recent research has revealed that the clinical course of alcohol-related problems in men and women are not dissimilar and age of onset between genders has been noted to be converging (Holdcraft & Iacano, 2001; Shuckit et al., 1998). This is in contrast to traditional views that suggest women begin to drink at a later age than men (Filmore et al., 1997). However, women have been found to experience greater levels of depression, self-esteem problems and other mental health issues prior to and following the onset of alcohol problems (Langone & Langone, 1980). Langeland et al. (2002) found that severity of problem drinking was related to both trauma and childhood neglect in women, but not in men. Women who present to alcohol services have also been found to be significantly more likely than
men to feel that problem drinking is not their only problem (Thom, 1986).

Consideration of the wider context in which drinking takes place appears to aid an understanding of this. Ettorre (1992) described the “periphery of social power” in which many women exist, with caring responsibilities, work and relationship pressures, experiences of victimisation as well as societal expectations influencing alcohol use. It is possible that negative social attitudes and the stigmatisation that female problem drinkers can experience may lead to issues of shame, guilt and reluctance to access treatment services.

1.3.2. Gender differences in help-seeking.

Traditionally, women have displayed higher rates of mental health care uptake than men (Rhodes & Goering, 1994). However, this has not been found to be the case in alcohol treatment services, (Ogborne & Dewit, 1999) and this is likely to be linked to the barriers described above. Catalysts have been identified which encourage women into alcohol and drug services and include: interpersonal conflict; interference with occupational or family roles; recognition of health problems and pressure from significant others (Smith, 1992). Mediating factors that determine whether women take the first step in what Thom (1984) described as a “help-seeking career” include individuals’ perception of the seriousness of their problem and its association with other problems. Beliefs about the treatment agency are also influential, including an understanding of its goals and ethos, as well as practical considerations such as proximity to home and availability of appointments. Other impediments for women seeking treatment include fears of child protection procedures, low confidence and self-esteem, negative past experiences and child care difficulties (Raine, 2001; Thom, 1984). The attitudes of professionals may also have an influence; for instance,
General Practitioners and social workers have been found to be reluctant to confront the issue of problem drinking in female clients, possibly because it does not correspond to either traditional stereotypes of female behaviour or male drinking patterns. In an attempt to avoid this problem, health professionals may instead choose to address the co-morbid presenting problem such as anxiety or depression (Collins, 1993) with which they are more familiar or experienced. Indeed, more female than male problem drinkers were found to have prescriptions for sedatives or minor tranquillisers (Amodei et al., 1996). This can lead to the presence of a secondary dependency to psychiatric medication (Sandmaier, 1980).

1.3.3. Gender differences in drinking outcomes.

Post treatment follow-up studies have revealed that female problematic drinkers have displayed better outcomes than their male counterparts in terms of moderating drinking or abstention. In a study by Timko et al. (2002), the drinking outcomes of male and female problem drinkers were examined over an eight-year period. When baseline status was controlled, women displayed better outcomes as assessed by measures of affect, patterns of drinking and legal status. Women were also more likely to benefit from participation in Alcoholics Anonymous (AA) groups during two to eight years of follow up. It has been hypothesised that Alcoholics Anonymous may provide a more conducive environment for female drinkers for a number of reasons. Firstly, female drinkers have been found to have lower self-esteem than males; Alcoholics Anonymous operates through an ethos of group identity and consequent reduction in shame and guilt. Secondly, female drinkers have been found to have a more external locus of control (Sandoz, 1995) and this is congruent with the philosophy of AA, which initially promotes the acceptance of powerlessness and loss
of control. AA also encourages bonding with supportive peers to assist in abstention, which may make it a more attractive option to those women who may have been victims of negative societal stigma (Beckman, 1993). Lastly, AA is community-based and therefore potentially more attractive than in-patient treatment to women with child-care and/or other family responsibilities.

1.3.4. Summary and implications for services.

Given that gender differences exist in drinking patterns as well as help-seeking behaviour, it seems likely that certain treatment options may be more efficacious in treating female problem drinkers than men, although it is acknowledged that men and women are not homogeneous groups. Treatments that understand the role of situational factors, develop self-esteem, reduce stigma and recognise the presence of other co-morbid mental health problems may be particularly appropriate for women. There is also a possibility that gender differences exist in beliefs about the cause or explanation of alcohol use as discussed below.

1.4. Models or theories of addiction

A number of theories or models* exist which attempt to explain addictive behaviours, and there are several reasons why these theories are useful. Firstly, any theory of addiction should aim to explain and understand the human experience, particularly how addictive behaviours are initiated and maintained. McMurran (1994) believed theories in the addiction field should generate hypotheses, assist understanding regarding the initiation and maintenance of addictive behaviour and

* According to Thombs (1999) the term 'model' is used to describe a paradigm that is not well developed or which describes a narrow aspect of behaviour. It is therefore used interchangeably with the term 'theory' throughout this study.
guide interventions. Secondly, the model subscribed to by a clinician can have a bearing on the nature of treatment offered.

In a recent literature review, West (2001) classified current addiction theories into five categories. These covered i) broad theoretical frameworks which conceptualise addiction (e.g. biological, social or psychological processes); ii) the negative and positive reinforcing properties of certain stimuli which are the focus of addiction and the effect of repeated exposure; iii) individual susceptibility to certain substances including genetic susceptibility; iv) environmental, economic and social conditions that influence addiction and v) recovery and relapse. Whilst all of these aspects have an important role in advancing understanding and generating hypotheses for further research, it appears that no over-arching all-encompassing theory exists which is universally accepted by researchers and clinicians. This requires what Thombs (1999) described as “cognitive flexibility” to tolerate this ambiguity and to possibly integrate aspects of a number of theories. Thombs commented, “All too often practitioners rigidly cling to their favourite theory, in many cases without fully understanding all its concepts and limitations.” (pp.10). This can be beneficial for clients if the models are appropriate to their needs but when a mismatch occurs, clients may well drop out of or refuse treatment.

The current review of the literature examines three key approaches that have shaped the addiction field over the past 40 years: the disease model, the moral model and the biopsychosocial approach. These frameworks were chosen because it was felt that they have contributed to an ongoing debate in the field of addiction research and have shaped treatment services. It is recognised that numerous other theoretical
perspectives exist, but they were considered beyond the scope of this literature review.

1.4.1. Disease Model of Addiction.

The disease model suggests that causes of addiction are primarily biological, located within the individual, with minimal behavioural and interpersonal influences. It is characterised by the features of loss of control, irreversibility and biological predisposition (McMurran, 1994), as discussed below.

1) Alcoholic drinking results from a loss of control, or inability to control, consumption. Jellinek (1960) classified two types of problem drinker: ‘Delta’ alcoholics who exercise no control whatsoever and are unable to abstain; and ‘Gamma’ alcoholics who imbibe their first drink voluntarily which then triggers a loss of control which they are unable to stop. However, subsequent researchers have questioned the scientific basis and sampling bias of these findings as Jellinek’s data was gathered from male-only members of Alcoholic Anonymous. In a laboratory setting, most problem drinkers have been shown to be able to limit or vary their alcohol intake based on perceived costs and benefits of drinking, which contradicts the theory that an uncontrollable physiological reaction is at play (Cohen et al., 1971; Pattison et al., 1977). Similarly, Schaler (1991) opined that it was paradoxical to suggest that problem drinkers had lost the ability to wilfully control their own behaviour when they could demonstrate a great deal of organisation and volition in the pursuit of their chosen addiction.
2) **Alcoholism is an irreversible progressive disease.** This view was suggested by both Johnson (1980) and Milam & Ketcham (1983) who described a deteriorating sequence of addiction development from which there was no cure without formal treatment. However, Peele (1985) disputed this position with evidence of clients who had experienced spontaneous remission from problem drinking, or “matured out” as a result of environmental changes and life events, or had reverted from heavy to moderate levels of alcohol intake. A follow-up study conducted in the USA that traced former alcohol treatment service users after a four-year period revealed that 54% of the sample had returned to problem drinking, but more importantly, 46% had not. Of the 46% who had not returned to drinking, 28% had addressed their drinking through abstention, whilst 18% were exercising controlled drinking patterns (Polich, 1980). These findings suggested that relapse is not inevitable for problem drinkers, and both controlled drinking and abstention are entirely possible outcomes. Indeed, controlled drinking strategies have been found to produce better treatment outcomes than abstention-orientated programmes at follow-up (Sobell & Sobell, 1976).

3) **Some people have a predisposed biological susceptibility to develop drink problems.** In a landmark adoption study by Goodwin et al. (1973), male children of alcoholic parents were found to be nearly four times as likely to develop alcoholism. However, closer inspection of Goodwin et al’s data by Fingarette (1988) revealed a number of flaws, including the finding that 82% of children with alcoholic parents did not develop drink problems. Goodwin et al. (1973) also arbitrarily assigned criteria for drinking categories in the study, including ‘moderate’, ‘heavy’ and ‘problem’ drinker as well as ‘alcoholic’. When data from the ‘problem drinker’ category was combined with the ‘alcoholic’ category, Murray et al. (1983) found there was no
statistical difference in the number of problem drinkers between this combined group and the control group, therefore disputing the evidence for a genetic predisposition to develop drink problems.

The inheritability of problem drinking was supported by the research findings of Blum and colleagues (1990) who identified that the dopamine D2 receptor gene bestows susceptibility to at least one form of alcoholism. However, as Schaler (1991) highlighted, this finding does not explain why all those who have a genetic predisposition do not necessarily become problem drinkers, nor does it follow that genetically predisposed individuals are unable to change their behaviour. Furthermore, it is suggested that the influence of cultural and social values can mediate the presence or absence of drinking problems regardless of genetic predisposition (Peele, 1995).

The application of the term ‘disease’ to a model of addiction may imply that there is some scientific underpinning to the theory. However, Krivanek (1988) argued that all the main assumptions of the disease model had been scientifically challenged, with no evidence for a distinct disease entity, no support for the loss of control theory and verification that some problem drinkers had addressed their addiction without formal treatment. It is therefore acknowledged that in many ways the traditional disease model advocated by Jellinek (1960) is a dated concept and scientific enquiry has rendered many of its features as outmoded. Semantically, applying the term ‘disease’ to a model of addiction may be the very detail that has contributed to its fall from favour with researchers in the addiction field. Instead of considering problem
drinking as being a disease, a fairer option may be to use the term as a metaphor, and consider it as having disease-like qualities (McMurran, 1994).

Subscribing to a disease-like model of addiction can affect how treatment is viewed and accessed. To consider alcoholism as a disease and the alcohol user as a victim removes any personal stigma and encourages people to seek help without fear of judgement or derision; the responsibility for both the development of the addiction and its treatment do not lie solely with the individual. Treatment responsibility instead lies with professionals. If people believe that they have a disease for which they are not responsible and over which they cannot exercise control, they may become passive recipients rather than active participators in treatment. Alternatively, they may not see treatment as a viable option at all due to the progressive irreversible nature of problem drinking.

Belief in the disease model persists in the general population due to support from the medical community, the media, the alcohol industry and the popularity of certain recovery movements including Alcoholics Anonymous (Fingarette, 1988). Many of its features have been integrated into other approaches such as relapse prevention (Morgenstern & McCrady, 1992). Despite its mounting lack of support in the scientific and research community, it appears that the relatively simplistic concept of the disease model of addiction still has some resonance with the general public and treatment agencies including Alcoholics Anonymous.
1.4.2. Moral model of addiction

The moral model of addiction suggests that addiction is a transgression from acceptable social norms and therefore should be considered as a moral weakness that deserves punishment. Punishment, or threat of punishment should therefore act as a deterrent. According to Ross (1984), this thinking underpins anti drink-driving campaigns. Supporters of the moral model state that the majority of the population do not misuse substances because they are aware that this represents unacceptable social behaviour.

The moral model assumes that problem drinkers are to blame for their addiction and are also responsible for their own recovery on the grounds that they have chosen to transgress acceptable behaviour norms. The issue of choice within the moral model has led Schaler (1991) to distinguish between the moral model and the free-will model. According to Schaler, the traditional moral model suggests that addiction occurs as a result of low moral standards, weak will and bad character. In contrast, the free-will model recognises drug use as a coping mechanism:

"a behavioural choice and a function of psychological and environmental factors combined...the self is the executor of experience" (pp. 43).

Theoretically, individuals deliberately perform actions to consciously pursue favoured goals. Beliefs, values and goals are therefore crucial mediators in experience. The concept of free choice within the addictive experience is therefore in direct opposition to the traditional disease model. Instead of being driven by neurological reflexes or biological causes, the problem drinker is executing a pattern of behaviour to attain a desired goal and this deliberate act carries with it a personal responsibility. Schaler went onto describe treatment methods from a free-will perspective, which involved
acknowledging individual responsibility and assisting clients to learn coping strategies such as increased self-esteem and self-efficacy.

1.4.3. Biopsychosocial approach.

In her book 'The Psychology of Addiction (1994), Mary McMurran explored the notion that there is no single explanation for addiction. Instead, she suggested that biological, psychological and social factors interact to influence the nature and extent of an addictive experience for an individual. This integrated model has been called the ‘biopsychosocial’ approach and acknowledges the contribution of genetics and personal learning history along with societal norms and values in understanding the engagement and development of addiction. McMurran proposed that a 'continuum of levels of involvement' exists across the individual's lifespan, which allows fluctuations in substance use, for example from abstinence to problem use and back to abstinence. This is contrary to the progressive course described by the disease model. The integrated model also moves away from the concept of addiction as an irreversible disease, which McMurran states has implications for treatment interventions and which makes harm reduction and controlled drinking as valid a treatment goal as abstention.

1.5. The clinical utility of measuring addiction beliefs

There are a number of clinical implications associated with gaining a better understanding of client-held addiction models and beliefs. These include: understanding the goals that underpin certain treatment approaches; gaining insight into the influence that professionals' beliefs may have on clients; and assisting an understanding of treatment-related issues such as relapse.
i) **Understanding treatment goals.** Keene & Raynor (1993) conducted a study based in an American treatment centre that adhered predominantly to the principles of Alcoholics Anonymous and whose main treatment goal was abstinence. In contrast to those who engaged in the programme, the clients who chose to opt out of attendance viewed their alcohol use as a behavioural disorder which they needed to control. Potential mismatches between client perspectives and treatment goals illustrated how the diversity of addiction beliefs had an impact on clinical outcome. Just as it has been acknowledged that the term ‘addiction’ means different things to different people, it seems logical to suppose that there is no treatment equivalent of ‘one size fits all’. Facilitating a match between client beliefs and treatment programmes therefore seems crucial to ensure the most beneficial outcomes.

ii) **Gaining insight into the influence of professionals’ beliefs.** Moyers & Miller (1993) found that therapists who endorsed a disease model were more likely to impose their own treatment goals rather than undertake negotiation with clients, and were less likely to offer moderation or controlled drinking options. It is hypothesised that such a lack of choice may have a detrimental effect on client outcome. Schaler (1997) investigated the addiction beliefs of treatment providers using both the *Addiction Belief Scale* (ABS, Schaler, 1995) and the 8-item *Spiritual Belief Scale* (Schaler, 1996). He hypothesised that personal beliefs may stem from individual experiences of recovery rather than a scientific evidence base. The participants were 295 treatment providers in the USA and 34% of these considered themselves to be ‘in recovery’ from alcohol problems. Within the sample, 34% were currently attending AA and 70% had attended AA in the past. The study found a statistically significant gender difference in mean scores on the ABS. Professionals who believed in a
disease model of addiction were more likely to be female, and/or have a history of attending Alcoholics Anonymous and/or believe in a metaphysical power that can influence personal experience. Those professionals who showed a stronger belief in a free-will model of addiction were more likely to be male or to hold no strong spiritual beliefs or both. These findings suggest that treatment providers, particularly those with experience of being a service user, may be biased towards certain modes of treatment. This has implications from both individual client and service development perspectives. Treatment providers may be called upon to offer advice and guidance to policy makers in the field of addiction, and their addiction beliefs will play a crucial role in this and therefore in the shape of treatment services (Schaler, 1997).

iii) Understanding relapse. In a study of 53 recovering alcoholics, McClure (2000) used the Addiction Belief Scale to investigate the relationship between an endorsement of the disease model and relapse into problem drinking. Results showed that belief in the disease model was positively related to the severity of drinking, as measured by the number of heavy drinking days within a 90-day follow-up period. There was no significant relationship between the belief in the disease model and relapse. Other research has shown that with an adolescent sample, as belief in the disease model increases, the number of days sober following treatment increases (Brzostek, 2000).

To summarise, there a number of clinical implications associated with gaining an understanding of the client-held addiction beliefs. Matching clients to treatment philosophies has been found to have an impact on treatment outcome (Keene & Raynor, 1993). The literature also suggests that staff addiction beliefs are influential
in service delivery to clients. Moyers & Miller (1993) found evidence of treatment providers imposing their own treatment goals rather than undertaking negotiation with clients when philosophies differed. The evidence to suggest that addiction beliefs have a bearing on relapse issues is mixed. Endorsement of a disease model has been found to be positively related to both severity of drinking in a sample of adult service-users and number of days sober in an adolescent sample (McClure, 2000; Brzostek, 2000).

1.6. Studies which investigate addiction beliefs

Researchers have used a variety of techniques to probe public and treatment providers’ beliefs about addiction. A study by Crawford & Heather (1987) questioned members of the British public to investigate the extent to which endorsement of the disease model was associated with more humanitarian views towards problem drinkers. The authors designed a measure entitled ‘The Attitudes and Beliefs about Alcoholism and Alcoholics Questionnaire’ which was used to explore the etiology of alcoholism and public attitudes towards problem drinkers. Participants were asked to indicate their strength of agreement on a number of conceptions of alcoholism including the disease and moral weakness concept. It was found that 69.5% of the general public participants endorsed a disease model and 27.5% endorsed a moral model. Interestingly, there was evidence of participants holding more than one addiction model, with 20% of participants endorsing both models.

In the same study, Crawford & Heather also used a 7-item abridged version of the original 35-item Social Desirability Scale (Crowne & Marlowe, 1966) to investigate
whether the endorsement of the disease model was associated with higher scores on the social desirability scale and thus more humanitarian attitudes towards alcoholics. There was no evidence for this, which challenged the notion that applying an illness label to problem drinking promotes more humanitarian attitudes towards problem drinkers. Crawford & Heather (ibid) felt this could be an artefact of an increasingly humanitarian milieu in society. Despite criticisms regarding their use of an abridged Social Desirability Scale, Crawford & Heather (ibid) addressed a gap in the UK research base which had previously been dominated by US-based studies.

Blum et al. (1989) used a random telephone sampling technique to interview 524 members of the public in the United States. Participants replied ‘yes’ or ‘no’ to the following statements:

i) “Do you think the term “sick person” applies to the alcoholic?”

ii) Do you think the term “morally weak” applies to the alcoholic?”

Participants were then asked to rate their level of agreement on a five-point scale for a further five items concerning responsibility and treatment prognosis. The vast majority (76%) believed that alcoholics should be viewed as ‘sick’ and 47% endorsed the term “morally weak”. Almost all of the sample (97%) believed that alcoholics could be treated. Men were significantly more likely than women to agree that alcoholics were not responsible for their behaviour. This contrasts with Schaler (1995, pp 24). Once again, the presence of simultaneous addiction models was detected: 35% of the sample replied affirmatively to both moral and disease concepts. This corroborated findings from a study by Caetano (1987) that concluded that 40% of respondents who endorsed a disease model also felt that alcoholics chose to drink. Blum et al. (1989) also found that those respondents who were more likely to agree
with the application of the words “sick person” to problem drinkers, were also more likely to state Alcoholics Anonymous as their treatment of choice for a friend or relative with alcohol problems. Unfortunately, the study did not explore the extent to which the public understood different treatment ideologies. It is therefore impossible to conclude that AA has a perceived disease model-modality for the general public. The findings may instead be a consequence of the high profile AA has within the public consciousness in the USA.

Moyers & Miller (1993) developed the 50-item *Understanding Alcoholism Scale* to assess the beliefs of 166 treatment providers concerning the nature and causes of alcoholism. Factor analysis of the scale revealed a three-factor structure. The strongest factor was found to be ‘disease model beliefs’, followed by ‘psychosocial beliefs’ and finally ‘heterogeneity of alcoholic clients’. Items loading onto the latter factor implied a diversity in symptoms, etiology and treatment options. These findings suggest that professionals hold an amalgamation of disease and moral models analogous to the public. Moyers & Miller (1993) also found that disease model beliefs were adhered to more significantly by professionals who had a personal history of alcohol or drug misuse.

In 1995, Schaler published the 18-item *Addiction Belief Scale* that tapped beliefs regarding the etiology of drug addiction and addicts’ ability to control their addiction. Half the items assess the strength of belief in the disease model and half assess the strength of belief in the free-will model of addiction. The scale was completed by 295 addiction treatment providers in the United States and results revealed that female treatment providers expressed a stronger belief in the disease model than male
treatment providers. This is in contrast to the findings of Blum and colleagues (1989) who explored addiction beliefs in a sample of the American general public. It is worth noting that 33% of the participants in Schaler’s (ibid) study considered themselves to be an alcoholic or an ‘addict in recovery’, and were asked to indicate whether they were current or former attendees at Alcoholics Anonymous or any other 12-step programmes. It could be argued that their beliefs may have been shaped by the ethos of the treatment they received and therefore participants in Schaler’s study expressed addiction beliefs from a different standpoint than the general public in Blum and colleagues’ study (1989).

In one of the few studies that assessed the diversity of personal beliefs about addiction in a clinical population, Luke et al. (2002) developed the 40-item Addiction Belief Inventory (ABI). Although not a well-established or widely validated measure, the ABI is a short and easy to use scale which is not aligned to any single addiction model. Luke et al. sampled 536 clients from both a dual substance use and psychiatric diagnosis treatment group, and an alcohol user treatment group in the USA and found that both groups shared similar beliefs about addiction, namely that addiction is a chronic disease. The alcohol treatment group were more likely to believe addicted people were unable to control their alcohol or drug use than the dual diagnosis treatment group. In the alcohol treatment group, men were more likely than women to believe addicts were responsible for their own actions and that addiction represented moral weakness. Once again, this finding contrasts with other research which explored addiction beliefs in the general public (Blum et al., 1989).
1.7. Gender differences in models of addiction

As already described, gender differences have been identified in addiction beliefs in clients, the general public and treatment providers. Luke et al. (2002) discovered that male clients of an alcohol treatment service were more likely to view addiction as a moral weakness. Male members of the public were more likely than females to agree that problem drinkers are responsible for their own action (Blum et al, 1989) and male treatment providers have a stronger belief in the free-will model of addiction than their female counterparts (Schaler, 1995).

The evidence concerning gender differences in addiction beliefs remains equivocal and the next logical step of enquiry would therefore be to evaluate the value of treatment agencies taking these differences into account when evaluating outcome. Burman (1994) conducted a study to investigate how the usage of the disease concept in treatment philosophies affected female problem drinkers. Burman believed that the greater prevalence of severe depression and anxiety in female problem drinkers than their male counterparts led professionals to assign a 'patient' rather than a 'client' status on female problem drinkers. This in turn encouraged the development of a 'sick role' and a dependency on the medical establishment by female problem drinkers. She argued that treatment goals should be directed towards increasing motivation and improving networks of support. Whilst acknowledging some benefits to a disease model of treatment including stigma reduction and normalization, Burman felt that certain features of the disease model were less valuable. For example, distinguishing problem drinking as an uncontrollable and irreversible disease might reinforce the dependent sick role which female problem drinkers are afforded by professionals and thus perpetuate feelings of inadequacy. Burman
therefore advocated a modification of treatment programmes based on disease concepts for women to incorporate empowerment goals and to develop a sense of self. The link between models of addiction and other treatment approaches available to clients with problematic drinking are explored below.

1.8. Models of addiction and treatment approaches

Brickman et al. (1982) derived four general models of helping and coping with problems that distinguish between attributions of responsibility for a problem and attribution of responsibility for a solution. These are: the moral model, the compensatory model, the enlightenment model and the medical model. These provide a useful framework against which to map the range of treatment techniques which exist in the field of problem drinking. It is acknowledged that discussion of all available treatment techniques is beyond the scope of this literature review. Instead, the treatment approaches focussed on are those available to clients accessing the following treatment settings: Alcoholics Anonymous, specialist community based alcohol treatment services and hospital detoxification. These were chosen as they represent current viable treatment options for problem drinking clients in the UK.

The techniques of therapeutic change in alcohol treatment include: Twelve-step programmes; motivational enhancement therapy; self-efficacy enhancement; medication and social interventions

1.8.1. Twelve-step programmes.

The twelve steps technique was chosen for closer examination because whilst it is less representative of formal treatment provision in the UK than in the USA, it is one of the most widely recognised treatment approaches for problem drinking. Twelve-step
programmes for problem drinking have become synonymous with Alcoholics Anonymous. Indeed, the twelve steps or principles of recovery have been described as “the backbone of the AA program” (Bufe, 1998). Founded in 1935, AA has an estimated membership of over 2 million members worldwide (Alcoholics Anonymous, 2002). In an attempt to clarify the current viewpoint of AA, Miller & Kurtz (1994) published a review of the movement’s philosophy, distinguishing it from both the disease and the moral-volitional perspective. Whilst reluctant to identify a primary cause of alcoholism, Alcoholics Anonymous acknowledges the human need for spiritual life and growth. They argue that when this is erroneously expressed, problems such as alcoholism can occur. Physiological and moral factors are also identifiable in its philosophy. It shares several characteristics with traditional disease models, such as a biological vulnerability to drink due to hereditary characteristics and a physical compulsion to drink. However, whilst there is an assumption that AA is responsible for the widespread adoption of disease models in treatment settings (Yalisove, 1998), to disregard the co-existent moral or spiritual stance would be shortsighted. Kurtz (1988) identified the following four spiritual elements within the philosophy of AA: release, gratitude, humility and tolerance. Unlike most disease model perspectives, AA considers that responsibility to change should lie with the problem drinker. Brickman et al. (1982) aligned the philosophy of AA with the enlightenment model of helping and coping in which individuals are encouraged to take responsibility for their past drinking history whilst acknowledging the need for a ‘higher power’. The perspective of Alcoholics Anonymous also differs from the moral volitional model, advocating that drinking does not represent a choice for most drinkers. Instead, control is lost once a drink is taken. It therefore follows that AA promotes a philosophy of abstinence as the only cure.
Studies that attempt to evaluate the effectiveness of Alcoholics Anonymous as a treatment option have experienced a number of potentially biasing factors (Bufe, 1998). Difficulties arise when separating out the influence of programme characteristics from participant characteristics. Predetermining factors for outcome success have included: motivation, marital stability, employment and short-term alcohol problems, all of which have been identified as ‘typical’ characteristics of AA members. However, regular attendance at Twelve-step programmes has been found to assist in abstinence maintenance for a proportion of individuals, particularly those who exhibit higher levels of affiliation to its ethos (Fiorentine & Hillhouse, 2000).

1.8.2. Motivational Enhancement Therapy.

A treatment approach that differs considerably from the philosophical ethos of AA’s twelve steps is Motivational Enhancement Therapy (MET) which is based on the principles of Motivational Interviewing (MI). Developed by Miller et al. (1992), it aims to enhance the client’s readiness for change by emphasising discrepancies between the client’s alcohol use and their other life ambitions. MET is based within the stages-of-change model, a framework to explain the process individuals use to achieve change and understand client motivation (Prochaska et al., 1992). Miller & Rollnick (1991) identified five basic clinical principles to assist and motivate clients. These were: expression of empathy for the client; development and amplification of discrepancies between behaviour and future life goals; avoidance of arguments; rolling with resistance and supporting self-efficacy. Far from ‘altering’ the client within a disease-like model, it attends to the client’s own decisions regarding their alcohol use (Thombs, 1999). In these terms it appears more aligned with a free-will or volitional model of problem drinking and is one of the treatment techniques offered
by the specialist alcohol treatment service in the present study. A number of studies have evaluated the efficacy of MI, including Project MATCH (1997a, 1997b), which will be described shortly. Baer et al. (2001) evaluated the efficacy of motivational interviewing with a group of heavy drinking college students. The research showed that at both two year and four-year follow-up stages, the students who received MI demonstrated improvements in drinking rates compared to a non-treatment control group.

1.8.3. **Self-Efficacy enhancement.**

Whilst identified as a facet of Motivational Interviewing, self-efficacy enhancement can also be considered a treatment technique in its own right arising from a cognitive-social learning perspective (Sklar et al., 1999). Bandura (1995, p2) defined self-efficacy as the “beliefs in one’s capabilities to organise and execute the courses of action required to manage prospective situations”. A distinction can be made between efficacy beliefs and outcome beliefs. The former refers to the expectations concerning the ability to engage in a certain behaviour, the latter refers to expectations regarding the outcomes of engaging in that behaviour.

Self-efficacy is therefore considered to have a mediating role between intent and action. According to Bandura (1997), the strength of efficacy expectations will determine the choice of goal as well as the amount of effort expended and time invested in the behaviour, and thus will have an impact on the acquisition of new skills and the inhibition and disinhibition of existing behaviours. Efficacy expectations are shaped by a number of factors including: personal experiences (e.g. success or failure); vicarious observations (e.g. modeling and imitation); verbal
persuasion; physiological states and emotional states (Strecher et al., 1986).

Therefore individual attainments, the influence of others and levels of arousal may have both a temporary or enduring effect, depending on the individual’s appraisal of information.

Alcohol treatments that enhance clients’ efficacy expectancies are more likely to improve functioning and increase a sense of personal competence and reduce the likelihood of relapse (Wilson, 1988). Indeed, self-efficacy expectancies are central to relapse prevention, as the stronger peoples’ beliefs in their ability to moderate or abstain from drinking, the more likely they are to do so. It is suggested that self-efficacy enhancement aligns with Brickman et al’s (1982) compensatory model of helping and coping, in which individuals are not blamed for their problems but are held responsible for solving them. Strategies to enhance self-efficacy include: integrating sources of self-efficacy information (e.g. relaxation training to reduce physiological / emotional arousal and challenging the client’s expectation of catastrophe); enhancing the impact of success (e.g. reflection on past successes and provision of feedback); increasing client involvement in planning interventions (e.g. collaboration and explaining rationale of treatment programmes); setting concrete goals and modifying imagery (e.g. imagining the “possible self”)(Gilchrist & Schinke, 1983; Maddux, 1995; Markus & Nurius, 1986).

1.8.4. Medication

Detoxification, or the process of withdrawing from alcohol is a treatment option offered to problem drinkers on either an inpatient or outpatient basis. Clients are seen as ill and requiring treatment and are given medication to manage and counteract the
physiological effects of withdrawal. It could therefore be argued that this treatment adheres to a disease model philosophy. Brickman et al. (1982) would align medication to the medical model of helping and coping in which neither the problem or solution is the individual's responsibility.

Two of the most commonly administered drugs are chlordiazepoxide (Librium) and chlormethiazole (Herminevrin), although the adverse consequences of combining Herminevrin with alcohol has reduced its popularity (Cooper, 1994). Fleeman (1997) established that home detoxification, in which the client remains in the home environment but is supported by professionals on a daily basis is better suited to those clients with strong social support, mild to moderate withdrawal symptoms and no medical or physiological complications. Hospital detoxification requires the client to remain in hospital for at least the initial 72 hours following the commencement of detoxification in order for withdrawal to be closely monitored. Assessment of client suitability for either option is therefore key. In a Canadian study that compared gender differences in the detoxification process, Callaghan & Cunningham (2002) found that considerably fewer women than men were referred for in-patient treatment over their three-year data collection period (980 males compared to 474 females).

Stockwell et al. (1991) demonstrated the equivalence of home detoxification with hospital care in terms of safety and short-term efficacy whilst other research has highlighted the relative cost-inefficiency of residential in-patient hospital detoxification compared to home detoxification or day-hospital care (Allen et al., 2000; Foster et al., 2000). As well as cost implications, the advantages of home-based
programmes include familiarity of surroundings for the client, whilst disadvantages include possible peer pressure to return to drinking (Williams, 2001).

1.8.5. Social interventions.

Evidence for the role social factors play in achieving change with problem drinkers has led to interest in approaches such as Social Behaviour Network Therapy (SBNT; Copello et al., 2002). SBNT aims to maximise the client’s positive networks of social support to initiate and maintain treatment. As such it appears to be more aligned to an integrated biopsychosocial model of addiction than the more traditional disease or moral models. It draws on cognitive behavioural techniques from other social interventions including behavioural marital therapy and social skills training (Noel & McCrady, 1993; Oei & Jackson, 1980). Whilst still a relatively new treatment option in the UK and viewed as an adjunct to more traditional individual therapy, the effectiveness of social interventions is emerging as discussed below.


Project MATCH (1997a, 1997b) a USA-based trial of patient-treatment matching, compared outcomes of cognitive behavioural coping skill therapy (CBT), motivational enhancement (MET) and 12 step facilitation therapy up to 15 months after treatment. The study revealed some treatment efficacy in all conditions, but no clinically significant superiority for any one treatment alone. However, Project MATCH was criticised methodologically for its absence of a control group and a self-selected sample of the most motivated and emotionally stable participants (Bufo, 1998). There were also inconsistencies in the amount of treatment offered: four sessions of motivational enhancement compared to twelve sessions for the other two
conditions. Participants were also free to attend Alcoholics Anonymous meetings during their involvement in the study, regardless of the treatment group to which they had been assigned.

The finding from the Project MATCH research group that the less costly MET treatment option did not result in significantly inferior outcomes formed the rationale for the United Kingdom Alcohol Treatment Trial (UKATT, 2001). The outcome trial aimed to evaluate the effectiveness of MET compared to SBNT. Data collection took place between 2001-2003 and results were unavailable at the time of the current study.

Recent outcome research has assessed the benefits of combining treatment options. Integrating managed detoxification with follow-up motivational intervention has been related to higher levels of abstinence and participation in self-help groups following discharge from hospital (John et al., 2003; Schilling et al., 2002). It is acknowledged that a number of clients who access formal specialist alcohol treatment services may also attend self-help groups such as alcoholics anonymous and therefore be exposed to a number of different treatment modalities and philosophies at once. It is hypothesised therefore that, along with the influence of contact with services on addiction beliefs, the client’s belief in their own ability to achieve a specific goal in a specific situation will have a predictive value. According to Schaler (1994), “believing you can do it is the most important predictor of successful moderation”.
1.9. Self-efficacy

As already defined, self-efficacy refers to a belief in one’s ability to successfully perform the behaviour required to achieve a particular outcome (Bandura, 1997). Self-efficacy is often confused with similar concepts including self-esteem and locus of control. Far from being a generalised form of self-efficacy, self-esteem concerns a judgement of self worth, whilst self-efficacy refers to a judgement of personal capability (Bandura, 1997). Locus of control is associated with personal beliefs about whether internal or external actions affect outcome rather than a confidence in the ability to perform a certain behaviour (Rotter, 1966). According to Maddux (1995), the concept of self-efficacy is most useful when it is operationalised and measured in a specific context rather than being considered as a general personality characteristic.

Self-efficacy has increasingly been identified as a predictor of health behaviour change and maintenance (Strecher et al., 1986). It therefore seems logical that it has particular significance in the field of alcohol dependency. By combining the study of both outcome expectancy (perceived expectations about the effects of drinking on behaviour and mood) and drinking refusal self-efficacy beliefs (perceived ability to resist drinking in high risk situations), researchers have attempted to develop a more accurate picture of the influence of self-efficacy on relapse or maintenance (Marlatt & Gordon, 1985; Flaga, 1999).

The evidence regarding the predictive value of self-efficacy in treatment outcome remains mixed. High coping self-efficacy at the beginning of treatment has been found to be related to positive outcome at follow-up (Rychtarik et al., 1992). Soloman & Annis (1990) in contrast, found that clients’ outcome expectancies (in
terms of the perceived benefits and costs associated with changes in drinking behaviour) were not predictive of alcohol consumption following treatment. However, this may be an artefact of the latter study design; clients were followed up on a six-monthly basis, which may have introduced a degree of error in participants’ recall (Greenfield et al., 2000). Soloman & Annis (1990) found that drinking-related self-efficacy assessed at the start of treatment was strongly associated with alcohol consumption levels following treatment.

Any study which explores clients’ self-efficacy to control or abstain from drinking should take into account the perceived benefits and costs of drinking. The severity of problem drinking should also be considered. Skutle (1999) found a significant relationship between male drinkers’ level of confidence in coping with high-risk situations and the severity of their alcohol use. Self-efficacy expectancies decreased as severity increased. Furthermore, using a non-clinical sample of psychology undergraduates, Oei & Burrow (2000) found that alcohol expectancies and drinking refusal self-efficacy were predictive of the quantity of alcohol consumed.

1.9.1. Gender differences in self-efficacy beliefs.

Few studies have investigated whether gender differences exist in client self-efficacy beliefs. Sklar et al. (1999) assessed clients’ situation-specific coping self-efficacy for resisting both alcohol and cocaine and found that alcohol clients expressed less confidence than cocaine clients in coping with situations characterised by interpersonal conflict. Both women alcohol users and cocaine users were more confident in their ability to resist substance use in positive situations (e.g. ‘Pleasant
emotions' and 'Pleasant times with others') as measured by the Drug-Taking Confidence Questionnaire (Annis & Graham, 1988).

Greenfield et al. (2000) studied the relationship between self-efficacy expectancies and likelihood of relapse following discharge and whether these differed with gender. No significant gender differences were identified in either clients’ self-efficacy expectancies during initial hospitalization, or in the relationship between self-efficacy and time to relapse. Greenfield et al. (ibid) hypothesized a number of reasons for these findings, including the high prevalence of co-morbid psychiatric conditions within the sample. Unfortunately, the study did not report the gender distribution of these psychiatric conditions.

During the development of the Alcohol Abstinence Self Efficacy Scale, DiClemente et al. (1994) investigated the presence of gender differences in participants’ responses to the overall scale and four subscales. No statistically significant gender differences were found. However, the mean total score for women was slightly higher than for men, indicating higher self-efficacy to abstain from drinking. Women also scored slightly higher on all subscales except ‘Negative Affect’. An investigation into gender differences in causal attributions for problem drinking revealed no significant gender differences in self-efficacy beliefs as measured using the AASE (Kellett, 2002).

1.9.2. The clinical utility of studying self-efficacy in the field of alcohol.

The discovery of a predictive link between individual’s self-efficacy expectancies regarding drinking and post treatment relapse has implications for the treatment of
problem drinking. As already stated, it is intuitive to suppose that the stronger people's beliefs in their ability to moderate or abstain from drinking, the more likely they are to do so. Similarly, individuals who doubt their ability to achieve their desired goal are less likely to do so. Identification of potential high-risk relapse situations can help clients to build strategies to deal with demanding situations, and thus improve their efficacy expectancies.

1.10. Summary

The recent publication of the Alcohol Harm Reduction Strategy for England (2004) has focused attention on the long-term implications of problem drinking to both the individual and the wider society. As problem drinking increases within UK society and the number of potential referrals to specialist alcohol treatment services increases, these services may be further stretched to meet the needs of this population.

Research has found that the disease model of addiction still has some resonance with the general public, despite the majority of its main assumptions being scientifically challenged (Krivanek, 1988). However, with the exception of Luke et al (2002), little research exists which explores the addiction beliefs of problem drinkers. An understanding of service users' beliefs may inform alcohol treatment service delivery in several ways. Keene & Raynor (1993) demonstrated the importance of matching client beliefs to the ethos of treatment programmes. For example, clients who preferred a pattern of controlled drinking were more likely to opt out from programmes that endorsed abstinence.
The model of addiction held might also affect how clients perceive their treatment. It seems logical to suggest that individuals who subscribe to a disease model may be more likely to act as passive recipients of care, as opposed to clients who believe that problem drinking is their choice and therefore therapeutic change is their responsibility. It is plausible to propose that this will have an impact on client motivation and participation. The development of these beliefs are therefore of interest to researchers and service planners.

From the literature so far, previous experiences of services are also likely to contribute to addiction beliefs. For instance, Schaler (1997) established that personal beliefs about addiction can stem from individual experiences. This was evident through the finding that treatment providers who subscribed to a disease model were more likely to have had exposure to Alcoholics Anonymous. Aspects of the AA philosophy, particularly biological vulnerability and physiological compulsion to drink, are often aligned to the disease model of addiction. However, it is not possible to ascertain whether those individuals who adhered to a disease model did so before contact with AA or as a result of that contact. Nevertheless, attention should be paid to clients’ histories of service use as a possible experiential factor in addiction belief development.

Just as it has been suggested that there may be a relationship between contact with AA and disease model beliefs, it could be expected that clients with previous experience of hospital detoxification will be more likely to endorse a disease model of addiction. Keene & Raynor (1992) established that clients adopt and adhere to treatment regimes which are aligned to their beliefs. Detoxification is primarily a
medical intervention and experience of it may give the impression that problem drinking is a disease which requires a medical 'cure'. Conversely, clients of a community specialist alcohol service that teaches skills and self-efficacy may show less endorsement of the disease model.

Gender differences have been found in patterns of problem drinking, treatment uptake and outcome. Gender differences in addiction beliefs have also been identified, although the results are equivocal and few studies have accessed problem drinker populations. In a USA-based sample, Luke et al. (2002) identified a gender difference in client-held models of addiction namely that male service users were more likely than women to view addiction as a moral weakness. Schaler's (1997) findings that female treatment providers had a significantly stronger belief in the disease model have largely gone untested in either a UK setting or on a clinical sample. Burman's (1994) investigations into how the usage of the disease concept affects female problem drinkers identified both costs and benefits. Given the identified costs such as reinforcement of the dependent sick role in women, Burman indicated the need for an awareness of gender issues in service provision, a factor that is often overlooked.

Another identified gap in the literature concerns the possible link between patterns of drinking and client held models of addiction. Schaler's (1991) view of 'the self as the executor of experience' could denote that it is the choice of the individual to drink beyond recommended safe alcohol limits. A positive relationship could therefore be hypothesized between the amount of alcohol consumed and the belief in the free-will model of addiction. Conversely, McClure (2000), found that clients’ belief in the disease model of addiction was positively related to the severity of their drinking
problems. This belief in a disease model may help to reduce the feelings of personal stigma or judgment concerning problem drinking.

Applying self-efficacy theory to the field of problem drinking also has a clinical relevance. According to Bandura (1997), the strength of self-efficacy belief will determine an individual’s choice of goal and the inhibition or disinhibition of other behaviours. Goldbeck et al. (1997) found that assessing end-of-treatment self-efficacy in problem drinkers did have some value in predicting post-treatment abstinence status. An appreciation of how clients’ perceived ability to abstain from drinking may be related to other variables such as gender and patterns of drinking will help to tailor a service to the individual’s needs and further the understanding of issues such as relapse. Whilst there has been no clear evidence of gender differences in overall perceived self-efficacy beliefs for clients of alcohol treatment services (DiClemente et al., 1994; Greenfield et al., 2000), Sklar et al. (1999) did find that female problem drinkers were more confident in their ability to resist substance use in ‘positive situations’. If gender does have an influence on clients’ beliefs in their ability to abstain from alcohol, then these differences should be heeded when planning interventions such as relapse prevention.

A negative correlation has been found between severity of alcohol use and individuals’ self-efficacy beliefs (Skutle, 1999). In addition, Malcolm et al. (2000) found that clients with multiple previous detoxifications were 150% more likely to experience a heavy drinking day during treatment. As self-efficacy expectations have been found to be shaped by past experiences of success or failure, (Strecher et al.,
1986), it seems likely that previous experiences of services and abstinence status may also have an impact on client self-efficacy beliefs.

Very little research currently exists concerning the integration of self-efficacy and models of addiction. It may be logical to propose a relationship between belief in the disease model and lower confidence to abstain from drinking in high-risk situations. The rationale for this is that clients who adhere to a disease model may view their drinking as irreversible and beyond volitional control, and consider themselves passive recipients of care. Any self-efficacy beliefs regarding abstinence or controlled drinking would be lower than those who felt behaviour change was within their own control and was their responsibility. Donovan & Chaney (1985) suggested that individuals who regard their problematic drinking as a disease may develop outcome expectancies which emphasise the inevitability of uncontrolled drinking following one ‘lapse’. This may in turn lead to a state of learned helplessness in which the individual refrains from any alternative coping strategies. However, this hypothesis is yet to be empirically investigated.

The identification of clinically relevant gaps in the literature base has led to the development of the following aims and hypotheses for the current study.
1.11. Aims and Hypotheses

AIM 1:
The first aim was to investigate whether addiction beliefs and perceived self-efficacy were related to a number of variables: gender, contact with services and drinking patterns.

HYPOTHESES:

1.0. There will be gender differences in addiction beliefs in problem drinking clients such that:

1.1. Female problem drinkers will show a stronger belief in the disease model.

2.0. There will be no gender difference in perceived self-efficacy beliefs.

3.0. There will be a difference in addiction beliefs between people who have and have not had previous contact with alcohol treatment services such that:

3.1. People with previous contact with a specialist alcohol team which has a non-disease model philosophy will have less belief in the disease model.

3.2. People with any previous contact with Alcoholics Anonymous will have a stronger belief in the disease model.

3.3. People with previous hospital detoxification experience will have stronger belief in the disease model.
4.0 Drinking patterns will exert an influence on addiction beliefs and perceived self-efficacy such that:

4.1. The more units of alcohol drunk per week, the stronger the belief in the disease model.

4.2. People who are currently abstinent will have higher perceived self-efficacy to abstain from drinking in high risk situations.

4.3. The greater the length of time drinking has been a problem, the lower the perceived self-efficacy to abstain from drinking in high-risk situations.

AIM 2:

The second aim was to investigate whether there was a relationship between addiction beliefs and perceived self-efficacy to abstain in high-risk situations.

HYPOTHESIS:

5.0. There will be a relationship between addiction beliefs and self-efficacy such that:

5.1. The higher the belief in the disease model, the lower the perceived self-efficacy to abstain from drinking in high-risk situations.
CHAPTER 2: METHODOLOGY

2.1. Design

The first aim of current study was to investigate whether addiction beliefs and self-efficacy beliefs were related to gender, contact with services and drinking patterns for clients newly referred to a NHS specialist alcohol service. The second aim of the study was to investigate the relationship between these addiction beliefs and clients' perceived self-efficacy to abstain from alcohol in high-risk situations. To achieve this, the study employed a mixed design with self-administered questionnaires to collect the data.

HYPOTHESIS 1:

In order to investigate the hypothesis that women will show a stronger belief in the disease model than men, an independent samples design was employed. The independent variable was gender (male/female) and the dependent variable was the score on the self-report Addiction Belief Scale (ABS; Schaler, 1995).

HYPOTHESIS 2:

To investigate the prediction that there will be no gender differences in self-efficacy beliefs, an independent samples design was employed. The independent variable was gender (male/female) and the dependent variable was the score on the Alcohol Abstinence Self-Efficacy Scale (AASE: DiClemente et al., 1994).
HYPOTHESIS 3:
In order to investigate the effect of previous contact with services on addiction beliefs, an independent samples design was utilized. The independent variables were: previous contact with the NHS specialist alcohol service/Alcoholics Anonymous/hospital detoxification. The dependent variable was the score on the Addiction Belief Scale (Schaler, 1995).

HYPOTHESIS 4:
Correlations were employed to investigate relationships between self-reported drinking patterns and addiction beliefs as measured by the Addiction Belief Scale (Schaler, 1995). Correlations were also used to investigate relationships between participants' self-reported patterns of drinking and perceived self-efficacy as measured by the Alcohol Abstinence Self Efficacy Scale (DiClemente et al., 1995).

HYPOTHESIS 5:
In order to investigate whether a relationship existed between addiction beliefs and perceived self-efficacy to abstain from drinking, correlations were employed on the continuous variables of Addiction Belief Scale (Schaler, 1995) scores and Alcohol Abstinence Self Efficacy Scale (DiClemente et al., 1994) scores.
2.2. Sample sizes

Consultation of the literature revealed that dividing the difference in male and female ABS scores by the standard deviation gave a clinically relevant effect size of 0.7 (Schaler, 1995). Alpha was set to 0.05 and a power of 0.8 was sought. To determine sample sizes, Cohen’s (1988) power tables were consulted and it was revealed that 35 male and 35 female participants were required.

2.3. Participants

Potential participants were identified by an initial referral to a multidisciplinary community-based specialist alcohol service. The service received referrals from General Practitioners, Psychiatrists, Nurses, Social workers and Counsellors from a voluntary sector Alcohol Advice Centre (AAC). Clients could also self refer via the AAC. The ethos of the service was outlined in an information leaflet that is sent to all newly referred clients,

“Members of the team do not see alcohol problems as a disease affecting ‘alcoholics’. We believe that people drink to cope with problems and the stress of everyday life”.

*Community Alcohol Service information leaflet (Appendix [ii]).*

The inclusion criterion for participants in the study was any individual over 18 years of age who had been referred from any source to the specialist alcohol service with concerns over alcohol consumption. Exclusion criteria included: non-attendance at initial assessment; levels of intoxication that would prevent interview; and serious co-morbid psychotic disorders or neurological deficits. Client suitability was assessed by
both the clinical team at the point of receiving a referral and again by the chief investigator at the initial assessment appointment.

During the data collection period, the chief investigator attended a total of 97 initial assessment appointments. The most common exclusion criteria was non-attendance: 45 appointments were not attended (46%) and four were cancelled by the client (4%). Table 1 shows the numbers and reasons for exclusion of participants.

**Table 1: Reasons for exclusion of participants and numbers of clients excluded.**

<table>
<thead>
<tr>
<th>Reason for exclusion</th>
<th>Number excluded</th>
<th>% of all potential participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of potential participants = 97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client did not attend (no explanation)</td>
<td>45</td>
<td>46.3</td>
</tr>
<tr>
<td>Client cancelled</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>Client emotional or aggressive at assessment</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Client had complex mental health problems</td>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>Client opted not to participate</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Client too intoxicated at assessment</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>TOTAL NUMBER OF EXCLUDED CLIENTS</strong></td>
<td><strong>56</strong></td>
<td><strong>57.8</strong></td>
</tr>
<tr>
<td><strong>TOTAL NUMBER OF PARTICIPANTS</strong></td>
<td><strong>41</strong></td>
<td></td>
</tr>
</tbody>
</table>

Two clients presented at the initial assessment in an emotional state, and one was verbally aggressive to the chief investigator. These clients were excluded from the study, as were two clients who were referred with enduring complex mental health problems. One client opted not to participate due to time constraints and one client attended the initial assessment in an intoxicated state. In total, 56 clients were excluded from study leaving 41 clients who consented to participate.
2.4. Participant demographic details

The final sample consisted of 41 participants (26 men and 15 women); their demographic details are summarized in Table 2. The mean age of the sample was 42.4 years (standard deviation 11) and 87.8% of the sample described their ethnicity as White British. One third of the sample were married or co-habiting, (23.1% men and 53.3% women), one third were single (42.3% men and 20% women). Only 36.6% had experienced previous contact with the local specialist alcohol service (42.3% men and 26.7% women) leaving 63.4% who had no previous contact with the local specialist alcohol service (57.7% men and 73.3% women).

Of the total sample, 31.7% were employed (26.9% of men and 40% of women) whilst 68.3 % had an ‘inactive’ employment status (i.e. unemployed, houseworker or retired). The mean length of time that drinking had been a problem was 11 years (men 12.4 years and women 8.7 years), although this difference was not found to be statistically significant ($t = 1.208, p = 0.234$). Male participants drank considerably more units per week than female participants (male mean = 176.4 and female mean = 85.73), and this difference was statistically significant ($t = 3.788, p = 0.001$). The mean number of units consumed per week across the sample was 143.2 units (sd = 85.2). The mean number of drinking days per week was 5.8 (male mean = 6 days, female mean = 5.4 days). Finally, the percentage of the sample that was currently abstinent was 26.8 % (men 26.9 % and women 26.7 %).
Table 2: Demographic details of participants by gender.

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (Years)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>41.1</td>
<td>44.6</td>
<td>42.4</td>
</tr>
<tr>
<td>Range</td>
<td>39.0</td>
<td>42.0</td>
<td>43.0</td>
</tr>
<tr>
<td>St.Dev</td>
<td>10.5</td>
<td>11.8</td>
<td>11.0</td>
</tr>
<tr>
<td><strong>Ethnicity (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White British</td>
<td>88.5</td>
<td>86.7</td>
<td>87.8</td>
</tr>
<tr>
<td>White Irish</td>
<td>7.7</td>
<td>-</td>
<td>4.9</td>
</tr>
<tr>
<td>Asian Indian</td>
<td>3.8</td>
<td>6.7</td>
<td>4.9</td>
</tr>
<tr>
<td>Mixed White Asian</td>
<td>-</td>
<td>6.7</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Civil Status (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/Co-habiting</td>
<td>23.1</td>
<td>53.3</td>
<td>34</td>
</tr>
<tr>
<td>Single</td>
<td>42.3</td>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>Divorced</td>
<td>15.4</td>
<td>-</td>
<td>9.8</td>
</tr>
<tr>
<td>Separated</td>
<td>15.4</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Widowed</td>
<td>3.8</td>
<td>6.7</td>
<td>4.9</td>
</tr>
<tr>
<td><strong>Employment status (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>26.9</td>
<td>40</td>
<td>31.7</td>
</tr>
<tr>
<td>Unemployed (available)</td>
<td>19.2</td>
<td>13.3</td>
<td>17</td>
</tr>
<tr>
<td>Unemployed (Sick)</td>
<td>53.8</td>
<td>26.7</td>
<td>43.9</td>
</tr>
<tr>
<td>Retired</td>
<td>-</td>
<td>6.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Houseworker</td>
<td>-</td>
<td>13.3</td>
<td>4.9</td>
</tr>
<tr>
<td><strong>Previous contact with</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>42.3</td>
<td>26.7</td>
<td>36.6</td>
</tr>
<tr>
<td>No</td>
<td>57.7</td>
<td>73.3</td>
<td>63.4</td>
</tr>
<tr>
<td><strong>Length of time drinking has</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>been a problem (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>12.4</td>
<td>8.7</td>
<td>11</td>
</tr>
<tr>
<td>Range</td>
<td>37.5</td>
<td>29.5</td>
<td>37.5</td>
</tr>
<tr>
<td>St.Dev</td>
<td>9.9</td>
<td>8.2</td>
<td>9.4</td>
</tr>
<tr>
<td><strong>Units of alcohol drunk per</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>176.4</td>
<td>85.7</td>
<td>143.2</td>
</tr>
<tr>
<td>Range</td>
<td>260</td>
<td>220</td>
<td>290</td>
</tr>
<tr>
<td>St. Dev</td>
<td>77.11</td>
<td>67.6</td>
<td>85.3</td>
</tr>
<tr>
<td><strong>Number of drinking days</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>6</td>
<td>5.4</td>
<td>5.8</td>
</tr>
<tr>
<td>Range</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>St. Dev</td>
<td>1.9</td>
<td>2.1</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 2: Demographic details of participants by gender (continued).

<table>
<thead>
<tr>
<th>Currently Abstinent? (%)</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>26.9</td>
<td>26.7</td>
<td>26.8</td>
</tr>
<tr>
<td>No</td>
<td>73.1</td>
<td>73.3</td>
<td>73.2</td>
</tr>
</tbody>
</table>

2.5. Representativeness

In order to determine the representativeness of the current sample, demographic details of the sample were compared to demographic details of all clients referred to and seen by the specialist alcohol service between 2002-2003. These comparisons are summarized below:

2.5.1. Gender

The gender distribution of clients in the current sample was compared to the clients referred to the service between 2002-2003. It was found that 63.4% of the sample in the current study was male compared to 71% of total referrals between 2002-2003. Conversely, 36.6% of the current sample was female which was slightly higher than the figure of 29% female referrals between 2002-2003. The gender ratio of the current sample was slightly lower at 1.7:1 compared to a gender ratio of 2.4:1 for the total referrals to the service between 2002-2003.

2.5.2. Age

Table 3 shows the age distribution for both the current sample and the total number of clients seen by the service over the period 2002-2003. The data for the service as a whole indicated that there was a greater variance in the age of female clients than in the current sample. Both male and females in the current sample appear to concentrate around the 30-49 age range.
Table 3: Age distribution of current sample compared to all clients seen by the specialist alcohol service 2002-2003.

<table>
<thead>
<tr>
<th>AGE RANGE IN YEARS</th>
<th>Percentage of participants in current study by gender (n= 41)</th>
<th>Percentage of all clients seen in specialist alcohol service 2002-2003 by gender (N=557)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALE N=26</td>
<td>FEMALE N=15</td>
</tr>
<tr>
<td>16-19</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20-29</td>
<td>15.4</td>
<td>6.7</td>
</tr>
<tr>
<td>30-39</td>
<td>30.8</td>
<td>40</td>
</tr>
<tr>
<td>40-49</td>
<td>30.8</td>
<td>26.7</td>
</tr>
<tr>
<td>50-59</td>
<td>19.2</td>
<td>20</td>
</tr>
<tr>
<td>60+</td>
<td>3.8</td>
<td>2.4</td>
</tr>
</tbody>
</table>

2.5.3. Ethnicity

Ethnicity comparisons were made between the total clients seen by the service and the sample in the current study. In the service overall, 87% of the total clients described themselves as White British, 1% White Irish and 5.3% of Indian origin. The remaining clients were Black Caribbean, or ‘Other’. This compares very closely to the ethnicity of the clients in the current study in which 87.8 % were recorded as White British. The sample shows a higher proportion of white Irish participants (4.9 %) and a similar proportion of Asian Indian participants (4.9 %).

2.5.4. Units of alcohol consumed per week

Of the participants in the data sample, the average number of units consumed per week was 143.2 (range = 10-300). This compares closely to a mean amount of 143 units for the total number of clients seen by the service for assessment between 2002-2003, (range = 8-420).
In summary, the participants involved in the current study were representative of the clients assessed by the specialist alcohol service over the 12 month period 2002-2003 in terms of age, gender, ethnicity and amount of alcohol consumed.

2.6. Measures

2.6.1. Measures of self-efficacy

Whilst it is recognised that the concept of self-efficacy can be measured in terms of the magnitude of the behaviour change required and/or the generalisability of the behaviour change to other contexts, Maddux (1995) acknowledged that most studies concerning self-efficacy expectancies have relied on measures which assess an individual’s strength of belief in their personal abilities. Two commonly used scales exist which assess strength of confidence to cope in specific types of situation. The Situational Confidence Questionnaire (SCQ; Annis & Graham, 1988) is a self-report questionnaire that assesses perceived ability to cope with alcohol in a number of high-risk drinking situations. Higher scores represent a greater degree of confidence in individuals' ability to resist the urge to drink heavily. The Alcohol Abstinence Self Efficacy Scale (AASE; DiClementi et al., 1994) is a brief measure of process and outcome that assesses clients’ self-efficacy beliefs around the following five types of relapse precipitants: negative affect; social positive; physical and other concerns; and withdrawal and urges. DiClemente et al. (ibid) discovered that the most significant indicator for relapse and abstinence self-efficacy was situations that generate 'negative affect'.

Discrepancies in definitions of self-efficacy exist between generalised measures such as the SCQ and the AASE. Whereas the SCQ focuses on confidence to control
drinking, the AASE considers confidence to abstain. Whilst controlled drinking is a recognized realistic goal for many clients, it was felt that using the SCQ might exclude those clients for whom abstinence rather than controlled drinking was the goal. The AASE was therefore selected as a suitable and psychometrically sound measure for the current study.

The Alcohol Abstinence Self Efficacy Scale (Appendix [iii]) is a 20 item self-report measure that investigates individuals’ self-efficacy beliefs in relation to alcohol abstinence. It was developed by DiClemente et al. (1994) from a 49-item questionnaire (DiClemente et al, 1983) that assessed both the temptation to drink and the confidence or efficacy to abstain in high-risk situations. Increasing the brevity of the measure aimed to make it more user-friendly. Participants are asked to rate their confidence to abstain from drinking in 20 ‘high risk’ situations. These 20 items divide into four subscales representing types of relapse precipitants: negative affect, social/ positive, physical and other concerns and withdrawal and urges. A five-point Likert scale assesses confidence to abstain from “Not at all” (one point) to “Extremely” (five points). Scores are summed separately for each subscale and then totalled to give an overall self-efficacy rating that can range from 20-100. The subscales of the AASE have satisfactory coefficients for internal reliability and overall the scale has an alpha coefficient of .92. It has also demonstrated construct validity (DiClemente et al., 1994).
2.6.2. Measurement of Addiction Beliefs

Researchers have used a number of methods to investigate the addiction beliefs of treatment providers and the general public. Moyers & Miller (1993) developed the 'Understanding Alcoholism Scale', a 50-item self-report questionnaire using a 5-point Likert scoring scale. The questionnaire was originally used with treatment providers and has received criticism for its complexity (Luke et al., 2002). This influenced a decision not to utilize the 'Understanding Alcoholism Scale' with the sample of clients in the current study.

Schaler's Addiction Belief Scale (1995) was also developed to investigate the beliefs of alcohol treatment providers in the United States. It consists of 18 statements measuring the strength of belief in two perspectives of addiction etiology: the disease model and the free-will model. Schaler defined the former as 'an uncontrollable disease from which other problems arise', and the later as 'a volitional behaviour engaged in to help cope with life'. This scale was used for the current study because it was a published assessment instrument which examined the strength of belief in the two recognized models of addiction that were under investigation.

The Addiction Belief Scale (Appendix [iv]) is an 18 item self-report measure. Nine items on the scale refer to the disease model and nine items refer to the free-will model. They are randomly presented and participants rate the extent to which they agree with each statement along a five-point Likert scale, ranging from "strongly disagree," to "strongly agree". The highest possible score for an item is five, and the stronger the belief in the disease model, the higher the score for that item. Conversely, the stronger the belief in the free-will item, the lower the score for that
item. Thus disease model items score five for “strongly agree” and one for “strongly disagree” and free-will model items score one for “strongly agree” and five for “strongly disagree”. Therefore, the higher the overall score (maximum 90), the higher the degree of belief in the disease model.

Calculation of Cronbach’s alpha (Schaler, 1995) revealed that the ABS had high internal consistency; $\alpha = .91$ and a factor analysis extracted a three factor structure to the scale. These factors were labelled ‘power’, ‘dichotomous thinking’ and ‘addiction as a way of coping with life’ and had the following levels of internal consistency: .91; .83; and .47 respectively (Scaler, *ibid*). Power and Dichotomous thinking factors were strongly correlated with one another. Both disease and free-will items combined on these two factors.

Prior to the period of data collection in the current study, there were some concerns raised by the specialist alcohol team over the use of the word ‘addict’ in the Addiction Belief Scale. For example, item 16 originally read:

“Drug addicts and alcoholics can find their own ways out of addiction, without outside help, given the opportunity”.

It was felt that ‘addict’ was a pejorative term that did not fit the ethos of the service. It was suggested that the term ‘problem drinker or drug user’ should be substituted for ‘alcoholic / drug addict’ and ‘dependency’ should be substituted for ‘addiction’ on the ABS. The author of the scale was contacted and these suggestions were discussed. The ABS was described by the author as a “living document” (personal communication, 1st July 2003) and it was not felt that these changes would affect the
validity of the scale. The author also cited the high Cronbach’s alpha value, which suggested good test reliability. Item 16 was therefore changed to

“Drug users and problem drinkers can find their own ways out of dependency, without outside help, given the opportunity”.

A pilot study was designed to investigate the effect of these wording changes on the ABS, and these are discussed below.

2.6.3. Demographic data collection sheet

A demographic data collection sheet (Appendix [v]) was designed by the chief investigator, which recorded details such as participants’ age, gender, ethnicity, employment and relationship status. Patterns of drinking were documented including: frequency of drinking (number of days per week); number of units per week; and the length of time drinking had been a problem. The sheet also recorded whether the participant had had previous contact with the specialist alcohol service and how long ago; whether they had previously contacted other services such as in-patient alcohol treatment (hospital detoxification); Alcoholics Anonymous; a therapeutic community; a voluntary agency or any other alcohol treatment service. Table 4 summarises the measures used in the current study and their scoring systems.
Table 4: Summary of measurement scales used in the current study and their scoring systems.

<table>
<thead>
<tr>
<th>Measure</th>
<th>What it is used to measure</th>
<th>Scoring system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addiction Belief Scale.</td>
<td>Strength of belief in the disease and free will models of addiction.</td>
<td>• 5-point Likert scale.</td>
</tr>
<tr>
<td>(Schaler, 1995).</td>
<td></td>
<td>• Maximum score = 90.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 9 disease model items score ‘5’ for ‘strongly agree’ and 1 for ‘strongly disagree’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 9 free will model items score 1 for ‘strongly agree’ and 5 for ‘strongly disagree’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Higher total score represents higher belief in disease model.</td>
</tr>
<tr>
<td>Alcohol Abstinence Self Efficacy Scale.</td>
<td>Perceived ability to abstain from alcohol in 20 high-risk situations.</td>
<td>• 5-point Likert scale.</td>
</tr>
<tr>
<td>(Di Clemente, Carbonari, Montgomery &amp; Hughes, 1994).</td>
<td></td>
<td>• Maximum score = 100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Score 1 if ‘not at all confident’ to abstain and score 5 if ‘extremely confident’ to abstain.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Four subscales representing relapse precipitants are scored separately and then summed to give total score</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Higher score represents higher perceived self-efficacy to abstain.</td>
</tr>
</tbody>
</table>

2.7. Procedure

2.7.1. Obtaining ethical approval

An initial review of the current project was sent to the University of Leicester Research and Assessment Committee. A COREC form (Committee of Research Ethics Committees) was completed and a number of supporting documents were submitted to the Local Research Ethics Committee (LREC). These included: a consent form (Appendix [vi]), an information leaflet (Appendix [vii]), the research protocol, comments from a statistician and copies of the proposed measures to be used. The LREC recommended that several issues should be addressed prior to commencement of the study; amendments to the patient information sheet were
suggested and further clarification was sought regarding the recruitment procedure. These matters were addressed as follows:

i) The LREC did not feel it was necessary to inform the clients' General Practitioners of their involvement in the study, and therefore reference to this was removed from the patient information sheet, as was the phrase “I hope you feel able to participate in the study”. This was felt to be too coercive.

ii) It was clarified on the research protocol that a service information leaflet would supplement the client’s initial appointment letter. This leaflet would state that they might be asked to participate in any active research whilst a client of the service, but that any information shared would be confidential and anonymised.

The recruitment procedure was outlined in more detail to elucidate that all potential participants would be given the option of a 14-day decision-making period regarding their involvement in the study. It was made clear to the LREC via the research protocol that the chief investigator would invite clients to participate in the study and clients would be given the option to consider their involvement. If necessary, the chief investigator would then re-contact the client after 14 days by telephone. If verbal consent were then given, an additional appointment would be arranged, written consent sought and the measures administered. However, this contingency plan did not have to be executed during the data collection period.

Following the re-submission of the amended documentation, the Local Research Ethics Committee granted full ethical approval to the study (See Appendix[viii]).
2.7.2. Pilot study

A pilot study was undertaken to establish both the length of time taken to complete the questionnaires and their clarity, particularly following the amendments made to the ABS previously described. Three clients who attended their initial assessment with the chief investigator were invited to participate in the pilot study and all consented to do so. Verbal feedback was then sought. The questionnaires took approximately ten minutes to complete, although specific comprehension problems were identified which affected speed of completion.

All three participants in the pilot study experienced comprehension difficulties whilst completing the ABS. The term ‘alcoholic’ / ‘drug addict’ had been removed and replaced by ‘problem drinker’ / ‘drug user’, and the term ‘addiction’ had been replaced with ‘dependency’. However, in some instances, this appeared to make the items more difficult to follow. Item 7 had been rephrased from:

“Addiction has more to do with the environments people live in than the drugs they are addicted to.”

To:

Dependency has more to do with the environments people live in than drugs they are addicted to”

One participant asked what was meant by the term ‘dependency’ and enquired if it was the same as being an alcoholic. This degree of misunderstanding concerning the terms ‘dependency’ and ‘problem drinking’ suggested that the questionnaire should be altered to reflect the common parlance of the participants rather than the service providers. For this reason, the wording was altered once more. The words ‘alcoholic’
and 'alcoholism' were reintroduced, and inserted to replace the word ‘addict’ and ‘addiction’ on the original ABS. This alteration was discussed in conjunction with the specialist alcohol team.

Confusion was particularly apparent when a question covered both alcohol and drug problems. Whilst it was acknowledged that alcohol and drug problems can co-exist, the sample for the current study was drawn from people accessing a specialist alcohol service. Therefore, the presence of questions which asked about alcohol AND drug use as similar entities could affect participants’ responses, particularly those who felt the two were very separate entities. With this in mind, it was decided to reword the ABS and remove all references to drug problems. This was done with the agreement of the original author (personal communication, 12th October 2003). Item 12 was therefore altered from the original:

"Alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use “

to:

“Alcoholics can learn to moderate their drinking or cut down”

Two of the three pilot participants required clarification over the meaning of item 11 on the ABS, which read:

“Physiology, not psychology, determines whether one drinker will become addicted to alcohol or not”.

In order to simplify this statement, the wording was altered to:

“The body rather than the mind determines whether one drinker will become addicted to alcohol and another will not”. 

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None of the participants in the pilot study showed any difficulty understanding the AASE. Therefore the wording on this scale remained the same as the original.

The pilot study also informed the decision to administer the AASE before the ABS. As the AASE appeared to be easier to complete, it was felt that this fostered a sense of accomplishment, which would then encourage the completion of the more challenging ABS.

2.7.3. Reliability and validity of measures

According to DiClemente et al. (1994), the AASE has good internal consistency, with a reported Cronbach alpha coefficient of .92. As the wording on the AASE remained unaltered for the purposes of the current study, it was assumed that the AASE was reliable for use on this client sample. The original ABS has a reported Cronbach’s alpha coefficient of .91 (Schaler, 1995). Following the amendments to the ABS after this pilot study, Cronbach’s alpha was recalculated as .73.

2.7.4. Participant recruitment and completion of questionnaires

The data collection period took place over a five-month period between October 2003 and February 2004. The chief investigator was employed at the specialist alcohol service and undertook the majority of all the initial assessments for newly referred clients. Exclusion criteria were applied at the point of initial contact with the client (e.g. level of intoxication, amount of distress) and then clients were introduced to the research prior to the completion of a standardised initial assessment interview. This theoretically meant that participants’ addiction beliefs were not influenced by the ethos of the service, as may have occurred if participants had completed questionnaires after the 50-minute clinical assessment interview.
Immediately upon arrival to the assessment venue, clients were asked by the chief investigator if they would consider participating in a research project which involved completing two self-report questionnaires and which contributed to the chief investigator’s academic studies. Prospective participants were then given an Information Leaflet (Appendix [vii]) to read and retain. The leaflet gave details of the purpose of the study and the involvement required. Confidentiality issues were verbally explained by the chief investigator and it was made clear that all identifiable details would be anonymised through numeric coding. The leaflet also provided guidelines for participants should they feel harmed by the study. The chief investigator, who also gave each participant an optional 14-day decision-making period, answered any questions. Those clients who opted out of participation were then assessed according to routine clinical practice. Those who chose to participate were asked to complete a Consent Form (Appendix [vi]). This confirmed their understanding of their participation in the study as well as their rights concerning withdrawal and confidentiality.

The chief investigator then collected demographic details using the Demographic Data Collection Sheet (Appendix [v]) and then administered the Alcohol Abstinence Self Efficacy Scale followed by the Addiction Belief Scale. The chief investigator verbally explained how to complete the scales using the original instructions from each measure and was present at all times during completion. Prior to completion of the ABS, clients’ attention was drawn to the fact that some of the language used, such as ‘addict’, was not representative of the language used by the specialist alcohol service.
The presence of the chief investigator during the completion of the questionnaires was beneficial for a number of reasons. Firstly, clients with literacy or dexterity problems could be assisted. Secondly, any queries regarding the measures or the study as a whole could be addressed. Finally, any missing or incomplete items could be identified and dealt with at the time of completion of the questionnaire.

When the questionnaires had been completed, the participants were thanked for their involvement and the separate standardised clinical assessment continued according to normal protocol of the treatment service. Each completed questionnaire was allocated a number and any identifiable information was removed to ensure anonymity. Data on the chief investigator's home computer was password protected whilst a second copy of the raw data was held on a locked disk.
CHAPTER 3: RESULTS

A summary of the demographic details of the participants can be found in chapter two and is presented in Table 2. Prior to the detailed analysis of data to investigate the aims and hypotheses of the current study, the data was examined to explore the possible influence of any confounding variables. The presence of any significant gender differences between demographic and drinking pattern variables were investigated to determine whether any variables needed to be controlled for in further statistical analysis. This was done using non-parametric tests because the data sets were found to violate the assumptions for parametric tests in the following ways:

i) ‘Ethnicity’, ‘relationship status’, ‘abstinence status’, ‘employment status’ and ‘previous contact with services’ were all nominal data.

ii) Table 5 shows that with the exception of ‘age’, all the remaining variables did not conform to a normal distribution. This was established using the Kolmogorov-Smirnov goodness of fit test. Kolmogorov-Smirnov statistics for ‘Length of time drinking has been a problem’, ‘Units consumed per week’ and ‘Number of days spent drinking per week’ were all found to be significant at $p<.05$ indicating a non-normal distribution.
Table 5: Tests for normality of distribution for the non-nominal variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Kolmogorov-Smirnov Goodness of fit test</th>
<th>Kurtosis</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Z=</td>
<td>p=</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.118</td>
<td>0.158</td>
<td>-0.647</td>
</tr>
<tr>
<td>Length of time drinking has been problem</td>
<td>0.183</td>
<td>0.001*</td>
<td>0.574</td>
</tr>
<tr>
<td>Units consumed per week</td>
<td>0.177</td>
<td>0.002*</td>
<td>-1.148</td>
</tr>
<tr>
<td>No. days drink per week</td>
<td>0.392</td>
<td>0.000*</td>
<td>0.153</td>
</tr>
</tbody>
</table>

*significant at \( p<0.05 \) level.

Differences on all variables were analysed using Chi-square \( (\chi^2) \) tests on the nominal data and Mann Whitney \( U \) tests on the other variables. For a number of the nominal variables, the categories were collapsed to reduce the likelihood of cells having fewer than 5 items. Therefore, for ethnicity, 'white Irish', 'Asian Indian' and 'mixed white Asian' categories were collapsed into 'non white British' category. For the variable 'Relationship status'; 'divorced' 'married' 'separated' and 'widowed' were collapsed into the category of 'non-single'. For the employment status variable, the categories 'unemployed' 'houseworker' 'sick' and 'retired' were collapsed into the category 'non-active'.

Table 6 shows that there were no significant gender differences in terms of relationship status, ethnicity, abstinence status, employment status and previous contact with the specialist alcohol service. Males and females did however differ significantly on previous hospital detoxification experience. No women had experienced hospital detoxification, in comparison with nine men (34.6%) who had been hospitalised.
Table 6: Results of Chi square goodness of fit tests between male and female demographic and drinking pattern characteristics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>$N$</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship status</td>
<td>41</td>
<td>2.105</td>
<td>0.147</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>41</td>
<td>0.029</td>
<td>0.866</td>
</tr>
<tr>
<td>Abstinence status</td>
<td>41</td>
<td>0.000*</td>
<td>0.986</td>
</tr>
<tr>
<td>Employment status</td>
<td>41</td>
<td>0.751</td>
<td>0.386</td>
</tr>
<tr>
<td>Contact with service</td>
<td>41</td>
<td>1.003</td>
<td>0.317</td>
</tr>
<tr>
<td>Previous detox</td>
<td>41</td>
<td>6.653</td>
<td>0.01*</td>
</tr>
</tbody>
</table>

*25% of cells have expected count of <5.
* significant at $p<.01$ level.

Table 7 shows the results of Mann Whitney $U$ tests of difference for continuous data by gender. The only significant difference was for the amount of units of alcohol consumed per week. The mean amount of units consumed per week for males was 176.4 units compared to the mean for females, which was 85.7 units.

Table 7: Mann Whitney $U$ tests of difference between male and female participants’ drinking characteristics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>$N$</th>
<th>$U$</th>
<th>$Z$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>41</td>
<td>163.5</td>
<td>-0.854</td>
<td>0.393</td>
</tr>
<tr>
<td>Length of time drinking has been a problem</td>
<td>41</td>
<td>154.0</td>
<td>-1.112</td>
<td>0.266</td>
</tr>
<tr>
<td>Number of units consumed per week</td>
<td>41</td>
<td>72.5</td>
<td>-3.322</td>
<td>0.001*</td>
</tr>
<tr>
<td>Number of days drink per week</td>
<td>41</td>
<td>158.5</td>
<td>-1.169</td>
<td>0.242</td>
</tr>
</tbody>
</table>

*significant at $p<.001$ level.

These findings informed a decision to control for these influences in any significant results pertaining to both gender and amount of alcohol consumed, and gender and hospital detoxification history.
The detailed scores from the *Addiction Belief Scale* in the current study can be seen in Appendix [ix]. The two disease items that were most strongly endorsed were:

"Alcoholics cannot control themselves when they drink"

and

"Alcoholism is an all or nothing disease, a person cannot be a temporary alcoholic with a mild drinking problem"

Sixty eight per cent and 65.9% of respondents either 'agreed' or 'strongly agreed' with these statements respectively. The two free-will items that were most strongly endorsed were:

"People can stop relying on alcohol as they develop new ways to deal with life"

and

"Alcoholism is a way of life people rely on to deal with the world".

Eighty per cent of respondents either 'agreed' or 'strongly agreed' with each of these free-will statements. Table 8 shows the comparison between the total scores reported by Schaler (1995) in his original investigation into the addiction beliefs of treatment providers and the mean scores from the present study. The difference between mean total scores in the two studies was only 1.08. In both studies, female mean total scores were slightly higher than male mean total scores. In the current study, male scores were higher than those reported in Schaler's study. The total range of scores in the current study was 35-76. Unfortunately, Schaler (*ibid*) did not report the range of scores in his original study.
Table 8: Comparison of mean Addiction Belief Scale scores between Schaler (1995) and the present study

<table>
<thead>
<tr>
<th></th>
<th>Total mean score (sd)</th>
<th>Range</th>
<th>Male mean score (sd)</th>
<th>Female mean score (sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schaler, (1995)</td>
<td>54.12 (13.55)</td>
<td>-</td>
<td>50.91 (13.69)</td>
<td>59.60 (11.43)</td>
</tr>
<tr>
<td>Present study</td>
<td>55.20 (8.89)</td>
<td>35-76</td>
<td>54.85 (9.05)</td>
<td>55.80 (8.87)</td>
</tr>
</tbody>
</table>

HYPOTHESIS 1.0 There will be gender differences in addiction beliefs in problem drinking clients such that:

1.1. Female problem drinkers will show a stronger belief in the disease model.

Table 9 shows the mean, standard deviation and the range of male and female scores on the Addiction Belief Scale. This shows that females in the current sample scored slightly higher on the ABS than males (female mean = 55.80 compared to male mean = 54.85). The difference between male and female ABS scores was 0.95.

Table 9: Descriptive statistics for male and female scores on the Addiction Belief Scale.

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score mean</td>
<td>54.85</td>
<td>55.80</td>
<td>55.2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>9.05</td>
<td>8.87</td>
<td>8.89</td>
</tr>
<tr>
<td>Range</td>
<td>35-76</td>
<td>41-67</td>
<td>35-76</td>
</tr>
</tbody>
</table>

N.B. The higher the score, the stronger the belief in the disease model.

Prior to the statistical analysis of the difference between mean male and female ABS scores, a number of tests were carried out to establish whether the data violated any assumptions of parametric statistics.
i) Goodness-of-fit was established by performing a Kolmogorov-Smirnov test. Both male and female scores were found to be normally distributed ($Z = 0.095$ and $Z = 0.141$ respectively, $p = .200$).

ii) Normal Probability plots were also calculated to plot the observed value for each score against the expected value from the normal distribution. The presence of a relatively straight line on both plots suggested that both the male and female scores were normally distributed.

iii) The Levene test for homogeneity of variance was conducted and was found to be non-significant ($F = 0.070, p = .73$), thus the variance in scores from both groups were similar.

iv) A box and whisker plot was drawn for total ABS scores and no outliers were detected.

It was therefore decided to conduct an independent samples t-test to compare ABS scores for males and females. The test was one-tailed as direction had been predicted (female scores will be higher indicating stronger belief in the disease model). Schaler’s study (1995), suggested a clinically relevant effect size of 0.7. According to Cohen’s power tables (1988), in order to detect such an effect size with a sample of 15 participants in the smaller group, the power of the test would only be 0.58. Clark-Carter (1997) recommended the adjustment of unequal sample sizes during the calculation of power in between-subject t-tests to give a ‘harmonic mean’. The equation given to calculate the harmonic mean is as follows:

\[
\text{Harmonic mean (nh)} = \frac{2 \times (\text{size of sample}1) \times (\text{size of sample}2)}{\text{size of sample}1 + \text{size of sample}2}
\]
The harmonic mean was found to be 19, thus the power of the $t$-test was re-calculated at 0.68, which was equal to that of a design with 19 participants in each group\(^2\).

This meant that there was a 32% chance of committing a Type II error and rejecting the research hypothesis when it was actually true. There was no significant difference in scores for males (mean = 54.85 $sd = 9.05$) and females (mean = 55.8 $sd = 8.87$) $t = -0.327, p = .745$. Therefore females did not have a significantly stronger belief in the disease model. This does not support Hypothesis 1.0. Eta squared was calculated to establish the magnitude of the differences between the means. Eta squared = 0.003 and this was interpreted (from Cohen, 1988) as a small effect size.

**HYPOTHESIS 2.0. There will be no gender differences in perceived self-efficacy between male and female problem drinking clients.**

Table 10 shows the mean, standard deviation and range of male and female scores on the *Alcohol Abstinence Self Efficacy Scale*.

*Table 10: Descriptive statistics for male, female and total scores on the Alcohol Abstinence Self Efficacy Scale.*

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Abstinence Self-Efficacy Scale total score</td>
<td>53.73</td>
<td>64.07</td>
<td>57.51</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>16.40</td>
<td>10.97</td>
<td>15.35</td>
</tr>
<tr>
<td>Range</td>
<td>27-82</td>
<td>41-83</td>
<td>27-83</td>
</tr>
</tbody>
</table>

_N.B: Higher scores denote more confidence in ability to abstain from alcohol in high risk situations._

\(^2\) For clarity throughout the results section, all harmonic mean values are utilised in analyses of power.
Table 10 shows that the female participants scored higher than male participants on the Alcohol Abstinence Self Efficacy Scale, indicating a stronger belief in their ability to abstain from drinking in high-risk situations. (Female mean score = 64.07 compared to male mean score = 53.73). The difference between male and female scores was 10.34. Tests of normality were carried out to establish whether the data sets were suitable for parametric analysis.

i) Calculation of the Kolmogorov-Smirnov goodness of fit statistic revealed that both male and female scores on the AASE were normally distributed ($p = .200$).

ii) The variance in scores from both groups was assessed using the Levene test for homogeneity of variance. The result was not found to be significant, ($F = 3.037, p = .089$) therefore the scores from both groups were judged to have equality of variance.

iii) Box and whisker plots revealed that there were no outlying data points.

It was therefore decided to perform an independent samples t-test to compare the difference in mean AASE scores for male and female participants. A power analysis was conducted using the harmonic mean to adjust for uneven sample sizes (Clark-Carter, 1997). The harmonic mean was found to be 19 and thus the power of the two tailed t-test (as no direction was predicted) was found to be 0.55, equal to that of a test involving 19 participants in each group.

The difference in the mean AASE scores for males and females was found to be statistically significant ($t = -2.172, p < .05$ two-tailed). Therefore, in the current study, women were found to have a significantly greater belief than their male counterparts.
in their ability to abstain from alcohol in high-risk situations. The magnitude of the differences between the means was calculated (eta squared = .108). According to Cohen (1988) this effect size can be considered 'large' and 10.8% of the variance in self-efficacy scores can be explained by gender.

Subsidiary analysis was undertaken to establish whether any statistically significant gender differences existed between mean scores on the subscales of the Alcohol Abstinence Self Efficacy Scale. Independent t-tests were conducted and are summarised in Table 11. The power of the t-test was calculated as 0.68 and therefore there was a 32% likelihood of committing a Type II error and rejecting the research hypothesis when it was in fact true.

Table 11: Results of independent t-tests for gender differences in subscales of the Alcohol Abstinence Self Efficacy Scale.

<table>
<thead>
<tr>
<th>Alcohol Abstinence Self Efficacy Scale (AASE) subtest</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Affect</td>
<td>-0.983</td>
<td>0.331</td>
</tr>
<tr>
<td>Social Positive</td>
<td>-1.397</td>
<td>0.170</td>
</tr>
<tr>
<td>Physical &amp; other concerns</td>
<td>-1.652</td>
<td>0.107</td>
</tr>
<tr>
<td>Withdrawal &amp; Urges</td>
<td>-2.112</td>
<td>0.041*</td>
</tr>
<tr>
<td>AASE Total Score</td>
<td>-2.172</td>
<td>0.036*</td>
</tr>
</tbody>
</table>

* significant at p<.05

Table 11 shows that there was a significant difference between male and female mean AASE scores on the subtest which groups high-risk situations under the heading 'Withdrawal & Urges' (t = -2.112, p<.05). Women therefore had a significantly higher belief in their ability to abstain from drinking in situations that involved testing willpower over drinking or experiencing physical cravings for alcohol. For example:

"When I am in agony because of stopping or withdrawing from alcohol use."
A Two-Way between groups ANOVA was conducted to investigate whether the amount of alcohol consumed (identified as a potential confounding variable) moderated the relationship between gender and self-efficacy. The continuous independent variable ‘amount of alcohol consumed’ was recoded into a categorical variable, dividing the amount consumed into three groups:

- ‘low consumption’ (0-60 units of alcohol per week)
- ‘medium consumption’ (61-200 units of alcohol per week)
- ‘high consumption’ (201+ units of alcohol per week)

These categories were assigned according to the 33.3 and 66.6 percentile cut-off points for the data set. The interaction effect between the two independent variables on the dependent variable was not found to be significant ($F(2, 35) = .352, p = .705$). Therefore, there was no significant effect of gender and amount of alcohol consumed on perceived self-efficacy.

**HYPOTHESIS 3.0.** There will be a difference in addiction beliefs and perceived self-efficacy between people who have and have not had previous contact with alcohol treatment services such that:

3.1. People with previous contact with a specialist alcohol service (which has a non-disease model philosophy) will have less belief in the disease model.

Prior to the statistical testing of this hypothesis, the presence of confounding variables was explored in order to establish whether there were any significant differences in drinking and demographic variables between clients with and without previous experience of alcohol treatment services, namely a specialist community alcohol team (CAT), Alcoholics Anonymous (AA) or hospital detoxification. This would then
inform the decision to control for these influences should any significant results be
detected during hypothesis testing. Mann Whitney U and Chi Square $\chi^2$ tests were
performed depending on whether the data was interval or nominal. In a number of
cases the data violated the assumption concerning the minimum expected cell
frequency of five or more. In these cases, $\chi$ square values were calculated along
with Fisher’s Exact Probability test. Fisher’s Exact Probability Test was used because
it is a suitable test to deal with 2 x 2 contingency tables with small sample sizes. (See
Appendix [x] for the full results). Two significant differences were identified.
Firstly, the proportion of females who had previously experienced hospital
detoxification was significantly smaller than the proportion of males (males $n = 9$,
females $n = 0$, $\chi^2 = 6.653, p<.05$). Secondly, the ‘length of time drinking had been a
problem’ differed significantly between those clients who had previous contact with
the specialist alcohol service and those who had not. (See Table 12).

Table 12: ‘Length of time drinking has been a problem’ as a potential confounding
variable with contact with hospital detoxification (Chi$^2$ and Fisher’s exact probability
test).

<table>
<thead>
<tr>
<th>Previous detoxification Experience?</th>
<th>Mean length of time drinking has been a problem (years)</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>26.93</td>
<td>-2.414</td>
<td>0.016*</td>
</tr>
<tr>
<td>NO</td>
<td>17.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at $p<.05$

These findings informed a decision to control for these influences in any significant
results pertaining to: contact with the specialist service and length of time drinking
was a problem, as well as gender and hospital detoxification history.

Descriptive statistics were initially calculated to investigate the hypothesis that people
with previous contact with a specialist alcohol service (with a non-disease model
philosophy) will have less belief in the disease model. Table 13 shows the mean, standard deviation and range of scores from clients who had and had not experienced previous contact with a service that does not adhere to the disease model.

Table 13: Descriptive statistics concerning ABS scores for clients who have and have not had contact with a non-disease model service.

<table>
<thead>
<tr>
<th></th>
<th>Previous contact n=15</th>
<th>No Contact n=26</th>
<th>TOTAL N=41</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score mean</td>
<td>56.60</td>
<td>54.38</td>
<td>55.2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>9.30</td>
<td>8.73</td>
<td>8.89</td>
</tr>
<tr>
<td>Range</td>
<td>41-67</td>
<td>35-76</td>
<td>35-76</td>
</tr>
</tbody>
</table>

N.B. Higher score represents stronger belief in the disease model.

Clients who had previous contact with the specialist alcohol service in the current sample scored slightly higher on the ABS (mean score = 56.6) than those clients who had not experienced contact (mean score = 54.38).

Tests of normality were conducted prior to the statistical analysis to check whether the data conformed to the assumptions of parametric testing. Calculation of the Kolmogorov-Smirnov statistic revealed both ‘no contact’ and ‘previous contact’ data sets were normally distributed (p = .20 and p = .172 respectively). The Levene test for homogeneity of variance indicated that the assumption of equal variances had not been violated (F = 0.528, p = .472). There was no evidence of outliers. It was therefore decided that the data was suitable for parametric analysis.

A one-tailed independent samples t-test was carried out to compare ABS scores for clients who had experienced previous contact with the specialist alcohol service and those who had not. Once again, the harmonic mean was calculated (nh= 19) to adjust for uneven sample sizes. A power analysis was conducted based on an effect size of
0.7, with 19 participants in each group. The power of the one tailed \( t \)-test was found to be 0.68.

The difference between ABS scores for clients who had and had not experienced previous contact with the specialist service was not significant \( (t = 0.765, p = .449) \). The magnitude of the differences in the means was very small \( (\text{eta squared} = 0.015) \). Only 1.5 \% of the variance in ABS scores could therefore be explained by the variable ‘contact with specialist service’. Therefore this study does not support Hypothesis 3.1: People with previous contact with a specialist alcohol service (which has a non-disease model philosophy) will have less belief in the disease model.

**HYPOTHESIS 3.2. People with previous contact with Alcoholics Anonymous will have a stronger belief in the disease model.**

Amongst the clients who had no previous contact with AA, the mean score on the ABS was 55.03 \( (sd = 8.90) \). Amongst the clients who had experienced AA in the past, the mean score on the ABS was 55.63 \( (sd = 9.29) \). The difference between the mean ABS scores for both groups was 0.6. Tests of normality were performed for scores on the ABS for both AA-experienced clients and those with no experience of AA. Both ‘no contact with AA’ and ‘previous contact with AA’ data sets were normally distributed \( (\text{Kolmogorov-Smirnov } Z = 0.09 \text{ and } Z = 0.15 \text{ and significance values } p = .20 \text{ and } p = .172 \text{ respectively}) \). The Levene test for homogeneity of variance indicated that the assumption of equal variances had not been violated \( (F = 0.14, \)
Box and whisker plots did not expose any outliers. The data therefore appeared to conform to the assumptions of parametric statistical tests.

A one-tailed independent samples *t*-test compared the mean ABS scores of clients with and without previous AA experience. As sample sizes differed between the two groups, (Previous AA experience: *n* = 11, no previous contact with AA: *n* = 30), the harmonic mean was used to adjust the number in each group to 16. Using Cohen’s (1988) power tables, with an effect size of 0.7 and 16 participants in each group, the power of the one-tailed *t*-test was found to be 0.61.

The difference between the two groups was not found to be significant (*t* = 0.19, *p* = .850). The hypothesis was therefore not supported, previous contact with AA did not affect clients’ addiction beliefs. Eta squared was calculated as 0.0009 and therefore only 0.09% of the variance in scores on the ABS can be attributed to whether clients had or had not experienced previous AA contact.

**HYPOTHESIS 3.3. People with previous in-patient hospital detoxification experience will have a stronger belief in the disease model.**

The mean ABS score for clients who had experienced in-patient hospital detoxification was 57.22 (*sd* = 8.82) compared to a mean ABS score of 54.62 (*sd* = 8.96) for clients who had not experienced hospital detoxification. The difference between the mean scores = 2.60. In order to establish whether the data was suitable for parametric analysis, tests of normality were performed. Both ‘previous hospital
detoxification history' and 'no previous hospital detoxification history' data sets were found to be normally distributed (Kolmogorov-Smirnov $Z = .239$, $p = 0.146$ and $Z = 0.136$, $p = .137$ respectively). Normal distribution histograms were drawn and it was concluded that data conformed to the requirements of parametric statistical analysis. However, the presence of one outlying data point was detected on a box and whisker plot. This data point represented an ABS score of 41 from a participant who had previously experienced hospital detoxification. In order to investigate the potential effect of this outlying score, the difference between the mean (57.22) and 5% trimmed mean (57.58) was examined. It was decided that the small difference between these two values indicated that the outlying score was having a very small influence on the mean. The outlying case was therefore retained in the data set.

A one-tailed independent samples $t$-test was performed to identify whether there was a significant difference in ABS scores between those clients who had hospital detoxification experience, and those who had no hospital detoxification experience. The harmonic mean was calculated as the group sizes differed (no previous hospital detoxification history $n = 32$, previous hospital detoxification history $n = 9$). The number in each group was therefore adjusted to 14. Consultation of Cohen's (1988) power tables revealed that with an effect size of 0.7, the power of the one tailed $t$-test was 0.56.

The difference between the two groups was not found to be significant ($t = .770$, $df = 39$, $p = .446$). Eta squared was calculated as 0.014, which was judged (from Cohen, 1988) to represent a small effect size. Only 1.4 % of the variance in ABS
scores could be attributed to whether clients have previous in-patient hospital detoxification experience.

HYPOTHESIS 4.0. Drinking patterns will exert an influence on addiction beliefs and perceived self efficacy such that:

4.1. The more units of alcohol consumed per week, the stronger the belief in the disease model.

Correlational analyses were performed to explore the associations between the continuous independent variable (number of units consumed per week) and the continuous dependent variable (scores on the ABS). The data was examined to assess whether it conformed to the assumptions of linearity and normality. A scatterplot was produced and the distribution of data points was inspected as shown in Fig. 1.

*Fig. 1: Scatterplot for Addiction Belief Scale scores and amount of units consumed per week.*
Fig. 1 shows that there is no clear linear relationship between the two variables. Tests of normality revealed that the data set ‘amount of units consumed per week’ was not normally distributed. The skewness of the data = 0.181 and the kurtosis value = -1.148 implied a data set that had a slight clustering of scores at the low level and a number of cases in the extremes. To further explore these extreme values, box and whisker plots were drawn which revealed no evidence of outliers or extreme values. Calculation of the Kolmogorov-Smirnov statistic revealed that the data set ‘amount of units consumed per week’ did violate the assumptions of normality (Z= .177, p = .002). It was therefore decided to investigate the relationship between the amount of alcohol consumed and scores on the ABS using non-parametric analysis.

Although significant gender differences had been identified in amount of units consumed, it was not appropriate to perform a partial correlation to control for the effects of gender when testing this hypothesis because gender had not been found to be related to addiction beliefs in Hypothesis 1.

Kendall’s tau (τ) was chosen as an appropriate technique for two reasons. Firstly, it is a recommended bivariate correlational technique which allows for the possibility of tied ranks (Huck & Cormier, 1996). Secondly, its approximation to the normal distribution is more accurate for smaller sample sizes (Clark-Carter, 1997). Calculation of Kendall’s tau did not reveal a significant relationship between the scores on the ABS and the number of units of alcohol consumed (τ = 0.157, p = .079, N = 41). The percentage of variance shared by both these variables was calculated as 6.3%. These results suggest that the number of alcohol units consumed per week was not related to clients’ belief in the disease model of addiction.
HYPOTHESIS 4.2. People who are currently abstinent will have a higher perceived self-efficacy to abstain from drinking in high-risk situations.

Comparison of the mean AASE scores between clients who were currently abstinent and those who were not abstinent can be seen in Table 14.

Table 14: Descriptive statistics concerning scores on the AASE for clients who are and are not currently abstinent.

<table>
<thead>
<tr>
<th></th>
<th>Currently Abstinent</th>
<th>Not currently Abstinent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n= 11</td>
<td>n= 30</td>
<td>N= 41</td>
</tr>
<tr>
<td>Total Mean Score</td>
<td>67.09</td>
<td>54.0</td>
<td>57.51</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>13.06</td>
<td>14.78</td>
<td>15.35</td>
</tr>
<tr>
<td>Range</td>
<td>42-82</td>
<td>27-83</td>
<td>27-83</td>
</tr>
</tbody>
</table>

N.B. Higher scores denote stronger self-efficacy belief

Clients who were currently abstinent scored higher on the AASE than those clients who were not currently abstinent. The difference between AASE scores for the two groups was 13.09. Tests of normality were performed to establish whether the data was suitable for parametric analysis. The Levene test for homogeneity of variance indicated that data did not violate the assumption of equal variance ($F = .221$, $p = .641$). No extreme or outlying scores were detected on a box and whisker plot. A non-significant Kolmogorov-Smirnov statistic for 'currently abstinent' and 'not abstinent' scores ($p = .2$ for both data sets) indicated that the data was normally distributed and parametric testing was appropriate.

A one-tailed independent samples $t$-test was performed to compare AASE scores for clients who were and were not currently abstinent. As the sizes of the two groups differed, the harmonic mean was calculated. A power analysis was conducted based
on an effect size of 0.7, with 16 participants in each group. The one tailed $t$-test was found to have power of 0.61.

Clients who were currently abstinent were found to have statistically significant higher scores on the AASE ($t = 2.59, p < .05$). This supports Hypothesis 4.2, people who are currently abstinent did have a higher perceived self efficacy to abstain from drinking in high risk situations. The magnitude of the differences in means was 0.146, which was judged (from Cohen, 1988) as a large effect size. This meant that 14% of the variance in the AASE scores could be explained by abstinence status.

**HYPOTHESIS 4.3. The greater the length of time drinking has been a problem, the lower the perceived self-efficacy to abstain from drinking in high-risk situations.**

A correlational analysis was chosen to investigate the relationship between the continuous independent variable (length of time drinking has been a problem) and the dependent variable (AASE score). The decision to use non-parametric correlational analysis was based on tests of normality for both variables. The 'length of time drinking has been a problem' data set was found to be positively skewed ($z = 1.12$). Calculation of a significant Kolmogorov-Smirnov statistic suggested that this data set violated assumptions of normal distribution ($Z = .183, p < .001$). There was evidence of one outlying value in the 'length of time drinking has been a problem' data set. The mean value for this data set (11.01) was contrasted with the 5% trimmed mean
It was decided that the small difference in means justified the decision to retain this value in the data set.

Once again, Kendall’s tau correlation was chosen in favour of Spearman’s rank correlation because evidence suggests that it is a better estimate of a correlation in the population, particularly when dealing with small sample sizes (Clark-Carter, 1997; Field, 2000). A scatter plot was drawn to inform a preliminary analysis of the relationship between the variables (Fig. 2).

Fig. 2: Scatterplot to investigate the relationship between AASE scores and length of time drinking has been a problem.

The spread of the data points suggested a very low correlation as there was no evidence of a linear relationship. Calculation of Kendall’s tau revealed that there was no significant relationship between the length of time drinking had been a problem and self-efficacy scores measured by the AASE ($\tau = 0.001, p = .496$). It was therefore not possible to support Hypothesis 4.3. This study did not find that the greater the length of time drinking had been a problem, the lower the perceived self-efficacy to abstain from drinking in high-risk situations.
It was decided to perform a subsidiary analysis to establish whether contact with any alcohol services per se affected the self-efficacy beliefs of individuals with problematic drinking. The hypothesis to be tested investigated whether participants with previous contact with any treatment services would have higher perceived self-efficacy to abstain from drinking because they had adopted aspects of self-efficacy from previous interventions, or whether their self efficacy was lower because they felt returning to services was representative of a failing.

The three individual service variables were collapsed into one variable which represented ‘any previous contact with services’. The data was screened for violations of assumptions of parametric analysis. Calculation of a Kolmogorov-Smirnov test revealed that both ‘no previous contact with services’ and ‘previous contact with services’ data sets were normally distributed ($Z=0.113$ and $Z=0.110$ respectively, $p=.200$). The Levene test for homogeneity of variance was conducted and found to be non-significant ($F=0.000$, $p=.998$) thus the data was suitable for parametric analysis. Box and whisker plots were drawn and revealed no evidence of outlying data points or extreme values.

An independent samples $t$-test was conducted to identify whether there was a significant difference in AASE scores between clients with and without previous contact with any alcohol treatment service. The $t$-test was two-tailed because no direction had been predicted for the subsidiary analysis. The harmonic mean was calculated as the number of participants in each group differed. The number in each group was therefore adjusted to 20. Cohen’s (1988) power tables revealed that with
an effect size of 0.7, the power of the two-tailed t-test was 0.57. The difference between the two groups was not found to be significant ($t = -0.492, p = 0.626$, eta squared = 0.06) thus previous contact with any alcohol treatment service did not affect self-efficacy beliefs.

**HYPOTHESIS 5:** There will be a relationship between addiction beliefs and self-efficacy such that:

5.1. The greater the belief in the disease model, the lower the perceived self-efficacy to abstain from drinking.

The presence of any relationship between these two variables was tested using correlational measures. The data was assessed for normality using the Kolmogorov-Smirnov statistic and both data sets (total ABS scores and total AASE scores) were found to be normally distributed (See Table 15). Normal probability plots were drawn for both variables and the presence of a reasonably straight line on both graphs indicated a normal distribution. Box and whisker plots did not expose any outliers or extreme values. This informed a decision to use parametric correlational analysis.

<p>| Table 15: Normality of distribution for total scores on Addiction Belief Scale and Alcohol Abstinence Self Efficacy Scale. |
|----------------------------------|-----------------|---------------|---------------|</p>
<table>
<thead>
<tr>
<th>Addiction Belief Scale (ABS) total score</th>
<th>Kolmogorov-Smirnov statistic</th>
<th>Degrees of freedom</th>
<th>Significance ($p$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Abstinence Self efficacy Scale (AASE) total score</td>
<td>.069</td>
<td>41</td>
<td>.200</td>
</tr>
<tr>
<td>Alcohol Abstinence Self efficacy Scale (AASE) total score</td>
<td>.098</td>
<td>41</td>
<td>.200</td>
</tr>
</tbody>
</table>

A scatterplot was drawn to assess the distribution of data points (Fig. 3).
Fig 3: Scatterplot of total Addiction Belief Scale scores with total Alcohol Abstinence Self-Efficacy scores.

Pearson's Product Moment Correlation was calculated and the result was not significant ($r = -.109, p = .496$) thus suggesting that there was no association between addiction beliefs and self-efficacy in this study. Hypothesis 5.1 was not therefore supported.
CHAPTER 4: DISCUSSION

4.1. Summary of results

There were two aims to the current study. The first was to investigate whether addiction beliefs and perceived self-efficacy in remaining abstinent from alcohol were related to gender, contact with alcohol treatment services and drinking patterns. The second aim was to investigate whether there was a relationship between addiction beliefs and perceived self-efficacy to abstain from drinking in high-risk situations. The analyses and conclusions from the exploration are summarised below.

4.1.1. Gender differences in addiction beliefs and perceived self-efficacy

The first hypothesis examined whether women had a stronger belief in the disease model of addiction than their male counterparts. Comparison of mean scores on the Addiction Belief Scale (ABS; Schaler, 1995) revealed that there was not a significant difference between the scores of males and females.

A gender difference in perceived self-efficacy to abstain from drinking in high-risk situations was assessed using the Alcohol Abstinence Self Efficacy Scale (AASE; DiClemente et al., 1994). Statistical analysis revealed that women had a significantly stronger belief in their ability to abstain overall, and also in situations defined by the subtest of the AASE called ‘Withdrawal and Urges’. There were no significant gender differences in the other subtests that considered ‘Negative Affect’, ‘Social/ Positive’ and ‘Physical and other concerns’ as potential high-risk situations.
4.1.2. *The influence of contact with alcohol treatment services on addiction beliefs and self-efficacy*

It was hypothesised that participants with previous experience of a specialist alcohol treatment service (which did not subscribe to a disease model) would have less belief in the disease model than those participants with no previous contact. Descriptive statistics revealed that participants with previous experience of non-disease model treatment services were found to have slightly *higher* scores on the ABS and thus a slightly *stronger* belief in the disease model. However, the difference between means of the two groups was not found to be statistically significant, therefore the hypothesis was not supported.

It was also hypothesised that participants with previous experience of attending Alcoholics Anonymous would have a stronger belief in the disease model. The mean scores on the ABS of those participants with previous AA contact were compared to those who had never attended AA. The difference between the two groups was not statistically significant; AA attendance did not lead to a stronger belief in the disease model. No statistical difference was detected between the mean ABS scores of participants with and without previous hospital detoxification experience. Therefore people with previous hospital detoxification experience were not found to have a stronger belief in the disease model.

Overall, previous contact with services per se was not found to affect self-efficacy to abstain from drinking.
4.1.3. The influence of drinking patterns on addiction beliefs and perceived self-efficacy to abstain from drinking

The current study attempted to establish whether there was a relationship between the number of units of alcohol consumed and the participants' belief in the disease model. It was hypothesised that the greater the number of units consumed per week, the stronger the belief in the disease model. Correlational analysis did not reveal a relationship between these two variables and thus the hypothesis was rejected. However, as hypothesised, a relationship was found between the clients' abstinence status and their perceived self-efficacy such that clients who were currently abstinent were found to have a significantly greater belief in their self-efficacy to abstain from drinking in high-risk situations. Correlational analysis revealed no relationship between the length of time drinking had been a problem and perceived self-efficacy to abstain. Thus perceived self-efficacy to abstain was not influenced by the length of time participants had experienced a drinking problem.

4.1.4. The relationship between addiction beliefs and perceived self-efficacy

The second aim of the study was to explore the relationship between client-held addiction beliefs and their perceived self-efficacy to abstain from drinking. It was hypothesised that the higher the belief in the disease model, the lower the perceived ability to abstain in high-risk situations. Correlational analysis revealed no relationship; perceived self-efficacy to abstain was not influenced by a stronger belief in the disease model.
4.2. Interpretation of findings

4.2.1. Female problem drinkers did not have a stronger belief in the disease model

Previous research findings involving treatment providers (Schaler, 1995) did not translate to the current sample of problem drinkers. Female problem drinkers in the present study did not have a stronger belief in the disease model than their male counterparts. This finding also refutes evidence from Luke et al. (2002) who demonstrated that male clients of alcohol treatment services were more likely than female clients to believe addiction represented moral weakness. It is acknowledged that the statistical power of the analysis in this study was low. The evidence of a small effect size suggested that gender had exerted only a small effect on the addiction beliefs of participants.

From the literature, an explanation for the lack of gender differences in addiction beliefs could be explained by the findings that gender differences in the clinical course and nature of alcohol-related problems have been found to be converging over recent years (Holdcraft & Iacano, 2001). Evidence suggests that alcohol consumption levels are on the increase for both sexes. The proportion of men drinking above the recommended alcohol levels has largely remained at 27% since 1992. However, the figure for women has increased from 12% in 1992 to 15% in 2001 (Office for National Statistics, 2003). Over 5.9 million people in the UK have been estimated to be binge drinkers, defined by the Government as those consuming more than double the recommended daily guidelines on at least one occasion in the last week (National Alcohol Harm Reduction Strategy for England, 2004); an increasing proportion of these are women. It is therefore suggested that as the extent of female problem
drinking appears to be converging with that of male problem drinking, addiction beliefs may also be converging across the sexes.

4.2.2. *Female problem drinkers had a stronger belief in their self-efficacy to abstain from drinking in high-risk situations*

Previous studies into abstinence self-efficacy have often failed to detect statistically significant gender differences in self-efficacy beliefs (DiClemente et al, 1994; Kellett, 2002). However, the current study detected that women had a stronger belief in their overall ability to abstain from drinking in high-risk situations, as well as in situations characterised by 'Withdrawal and cravings'. A possible explanation for this draws on the research of Thom (1986) who found that women who presented to alcohol services were significantly more likely than men to feel that drinking was not their only problem. Problem drinking for women perhaps is more likely to take place within a context of caring responsibilities, relationship pressures and mental health issues such as depression and low self esteem (Ettore, 1992). It is therefore suggested that the women in the present study demonstrated a higher perceived self-efficacy to abstain from drinking because they did not consider it to be the fundamental root of their problems but rather a materialisation of other problems. Female participants may therefore have felt that drinking was one of the more 'controllable' difficulties in their lives.

It is advised that the findings of the current study are interpreted cautiously. The power of the statistical analysis that identified a significant gender difference in self-efficacy beliefs was low, thus there was a 45% likelihood of falsely rejecting the research hypothesis in favour of the null hypothesis. The sample of female problem
drinkers was also small (n = 15). The effect size or strength of difference between the groups was, however, found to be large.

Initially, the finding that female problem drinkers had a stronger belief in their ability to abstain seems to contradict the finding that there were no gender differences in client-held models of addiction, based on the assumption that if female problem drinkers felt they had stronger overall abstinence self-efficacy, they should adhere to a more free-will model of addiction than male problem drinkers. Alternatively, the current study explored only self-efficacy to abstain from drinking, rather than self-efficacy to control drinking and ‘abstinence as the only cure’ is a feature of the disease model of addiction. As such it could be implied that the disease model had more resonance for female participants than their male counterparts. However, this study did not demonstrate any relationship between addiction beliefs and perceived self-efficacy to abstain.

4.2.3. **Participants with previous experience of a specialist alcohol service (which does not subscribe to a disease model) did not demonstrate less belief in the disease model**

The above finding refutes the intuitive suggestion that prior experience of a non-disease model service would have a significant effect on participants’ addiction beliefs. However, this study did not explore the nature or duration of participants’ previous contact, or the amount of time that had lapsed since their previous contact with the non-disease orientated service, as participants were unable to recall this information accurately. There was no differentiation between those participants with several months of treatment from participants who may have only attended for an assessment appointment and opted out of further intervention when the specialist
service did not match their personal philosophy, as observed by Keene & Raynor (1993). It was assumed in the current study that the assessment appointment would have highlighted the services' ethos, but it could be argued that clients who chose to opt out at this stage would not have 'bought in' to the controlled drinking philosophy of the specialist service as opposed to those participants who attended over a more prolonged period.

Despite the methodological limitations of the study as described above in addition to the low power of the statistical analysis, several possible explanations exist for the lack of a significant difference in addiction beliefs between participants with and without experience of the specialist alcohol treatment service. Firstly, there may be a discrepancy between the 'publicised' ethos of the specialist service and the beliefs of treatment providers in the specialist service, such that staff may either personally adhere to a disease model within a non-disease philosophy service. The influence of the beliefs of professionals on clients' addiction beliefs has been demonstrated by Moyers & Miller (1993) who found that therapists who endorsed a disease model of addiction were more likely to impose their own treatment goals on their clients, including abstention rather than controlled drinking. They also found that disease model beliefs were adhered to more significantly by those professionals with a personal history of alcohol or drug use. Thombs (1999) indicated that practitioners might adhere to an addiction model or theory “without fully understanding all its concepts and limitations” (pp 10). It is possible therefore that the beliefs staff hold concerning addiction are capable of influencing client beliefs regardless of, or independently from, the philosophy of the service overall. Conversely, staff may adopt the model that has resonance for the client in order to establish client-centred
care. Further research is required to explore the extent to which staff beliefs impact on client models of addiction.

An alternative explanation for the above finding also concerns the possible independence of addiction beliefs from service philosophies, but in this case considers client-held beliefs. It is proposed that clients who have experienced previous input from any alcohol treatment service in the past and who return for further intervention may feel some sense of failure. Adherence to a model of addiction that identifies the cause of problem drinking as a progressive, relapsing and irreversible disease may help to remove the potential stigma and guilt of returning to any treatment service.

4.2.4. Participants with previous experience of Alcoholics Anonymous did not demonstrate a stronger belief in the disease model

The finding that contact with AA did not lead to a stronger belief in the disease model is in contrast to the belief that Alcoholics Anonymous (AA) is responsible for the widespread preservation of the disease model worldwide (Yalisove, 1998). It also contrasts with the research of Schaler (1997) who found that alcohol treatment providers who demonstrated a stronger belief in the disease model were either current or former AA attendees, although Schaler was unable to make a causal link between these two factors.

Whilst the small sample size and low statistical power involved in the current study may limit the utility and generalisability of the above finding, a number of possible explanations might account for it. As already described, the participants in the current study were classed as having previous contact with any treatment service regardless of duration of attendance. It is possible therefore that a participant may have attended
AA for one session and opted out due to a divergence in personal beliefs and service philosophies. Fiorentine & Hillhouse (2000) established that regular attendance at a Twelve-step programme was determined by the individuals’ level of affiliation to the programme’s philosophy. It could be argued that a large number of problem drinkers will have accessed AA due to its accessibility and public high profile, without necessarily having conviction towards the disease model to which AA subscribes. As a result, problem drinkers may regularly attend AA for the social networks (Beckman, 1993) and not commit to the principle of abstinence either overtly or covertly.

Finally, the lack of evidence of strongly held disease model beliefs from clients with previous AA contact could be indicative of the current viewpoint of Alcoholics Anonymous. Instead of being entirely representative of a disease model stance, Miller & Kurtz (1994) recognised an intermingling of disease and moral philosophies in AA. Kurtz (1988) identified release, gratitude, humility and tolerance as spiritual elements within the AA movement. It is possible therefore that the concept of AA representing a traditional disease model of addiction at the expense of other philosophies is gradually becoming outdated, particularly perhaps in the UK.

4.2.5. Participants with previous experience of hospital detoxification did not demonstrate a stronger belief in the disease model

No female participants in the current study reported having experienced hospital detoxification, which confirmed the findings of a recent Canadian study (Callaghan & Cunningham, 2002). They found that considerably fewer women than men were referred for inpatient hospital detoxification, possibly as a result of practicalities such as child care arrangements. This gender difference in experience of hospital detoxification could also be related to issues of shame and stigma as discussed by Ettorre (1992). Societal expectations regarding women’s drinking behaviours could
influence the decision of female problem drinkers to access alcohol treatment services. Thom (1986) identified that female problem drinkers were less likely to view drinking as their only problem. Therefore, women may be less likely than men to present to their General Practitioner and either directly request alcohol treatment, or to accept hospitalisation as a treatment approach.

It was hypothesised that participants with previous hospital detoxification experience would show a stronger belief in the disease model of addiction based on the perception that hospital detoxification was a process of medical withdrawal from alcohol and would therefore reinforce the disease notion. However, this study did not support this hypothesis for a number of possible reasons, including low statistical power due to small sample sizes. It is also suggested that, whilst a large number of clients who receive hospital detoxification aim to achieve abstinence following discharge, a number adopt a goal of controlled drinking. Controlled drinking seems incompatible with the disease model of addiction, which states that problem drinking results from an inability to control consumption. The explanation given to the client for the detoxification may also have an influence on the addiction beliefs such that clients who have been told their detoxification is necessary on medical grounds may relate more to a disease model of addiction rather than a model which implies they are volitional decision-makers in their own problem drinking.

Overall, the current study did not find evidence to support the hypothesis that contact with individual services (i.e. AA, hospital detoxification and / or specialist alcohol services) influenced addiction beliefs. This may be because a number of other influences serve to shape addiction beliefs apart from service contact. Fingarette
(1988) opined that the disease model of addiction persists within society due to support from the media, the medical community and the alcohol industry. The public are “poorly informed, misinformed or misled” (pp 28) to believe that only a small number of individuals are diagnosable as alcoholics rather than acknowledging the broader social, emotional and physical difficulties that heavy drinking can cause. The apparent resonance that the disease model has with the public has been demonstrated by Crawford & Heather (1987). They found that 69.5% of the British public endorsed a disease model of addiction. It seems likely therefore that relatives and partners of problem drinkers, who may well hold a disease model, may also influence the beliefs of problem drinkers themselves. It could be argued that it may be easier for partners and relatives to view the problems drinker’s behaviour as a disease because it reduces the stigma associated with heavy drinking.

4.2.6. The number of units of alcohol consumed per week was not related to a belief in the disease model

McClure (2000) demonstrated that belief in the disease model was positively related to the severity of drinking in 53 ‘recovering alcoholics’. The current study however failed to identify a relationship between the disease model and the amount of alcohol consumed. An explanation for this finding concerns the association between the disease model and abstinence. Those participants who adhere to a disease model may be more likely to believe in the concept of abstinence rather than controlled drinking. For them, drinking does not exist on a continuum but is an all-or-nothing phenomenon, characterised by the Alcoholics Anonymous adage “One drink, one drunk”. As such, disease model supporters would regard the consumption of any amount of alcohol as taboo, independent of quantity; thus refuting the hypothesis that
heavy drinkers (classified by the amount of alcohol units consumed per week) would be more likely to hold disease model beliefs.

4.2.7. Participants who were currently abstinent did have a stronger belief in their ability to abstain from drinking in high-risk situations

Skutle (1999) identified a significant relationship between male problem drinkers’ self-efficacy beliefs and the severity of their alcohol use. Self-efficacy expectancies decreased as severity of drinking increased. The finding in the present study that participants who were currently abstinent had high abstinence self-efficacy beliefs could be explained in terms of self-efficacy theory. Bandura (1997) stated that the strength of an individual’s self-efficacy expectation determines the choice of goal, the time invested in achieving that goal and the amount of effort expended. Therefore those individuals with stronger beliefs in their ability to remain abstinent in high-risk situations would be more likely to pursue the goal of abstinence than individuals who have lower self-efficacy expectations or controlled drinking self-efficacy. Strecher et al. (1986) stated that efficacy expectations are shaped by a number of factors including personal experiences of success. Therefore those individuals who were successfully maintaining abstinence would strengthen their efficacy expectancies, which in turn may self-perpetuate abstinent behaviour.

4.2.8. The length of time drinking had been a problem was not found to be related to perceived self-efficacy to abstain from drinking in high-risk situations

There was an intuitive assumption that the greater length of time drinking had been a problem, the greater the effort expended and time invested in the drinking behaviour and thus the lower the self-efficacy beliefs in the ability to abstain. This was not found to be the case in the current study, possibly because this hypothesis assumes the
individual wishes to achieve abstinence rather than controlled drinking. Another reason why the original hypothesis was not supported may concern the motivation of the clients, which may have moderated the potential effect of drinking history in the current study. All participants completed the questionnaires at the point of their initial assessment interview with the specialist alcohol treatment service. It is suggested that motivation to achieve abstinence or controlled drinking is likely to be at its highest at this point in what Thom (1984) called the client’s “help-seeking career”. Studies have attempted to investigate the maintenance of heavy drinking in ‘untreated’ problem drinkers by assessing the perceived drawbacks of withdrawal (Orford et al., 2002). If the current study had chosen to involve problem drinkers who had not yet accessed treatment services, it is possible that the original hypothesis may have been supported and a relationship may have been established between length of time drinking had been a problem and self-efficacy beliefs.

A subsidiary analysis was conducted to evaluate whether contact with services as a dichotomous independent variable affected participants’ self-efficacy beliefs. The difference in self-efficacy scores between the two groups was not significant although small sample sizes and low statistical power could limit the generalisability of this finding. However, using Cohen’s (1988) guidelines, the effect size was interpreted to be moderate. This suggests that there is a moderate strength of association between contact with any services and self-efficacy beliefs. Whilst it is acknowledged that a number of potential factors shape clients’ self-efficacy beliefs including physiological states and emotional states (Strecher et al. 1986), cautious interpretation of this result suggests that previous experience of services (successful or unsuccessful) may also positively influence an individual’s belief in their ability to engage in abstinence.
4.2.9. There was no relationship between addiction beliefs and perceived self-efficacy to abstain from drinking in high-risk situations

The potential relationship between addiction beliefs and perceived self-efficacy had not been tested empirically before, and it was hypothesised that the clients with a stronger belief in the disease model would show lower confidence in their ability to abstain from drinking in high-risk situations. This was based on the assumption that an adherence to a disease model implies a belief in the irreversibility and progressive nature of problem drinking, in which the individual is not responsible for their own recovery. However, the current study did not support this hypothesis and no relationship between addiction beliefs and perceived self-efficacy was found. It is suggested that paradoxically, clients who subscribe to a disease model may have equally strong self-efficacy beliefs as those clients who hold a free-will model of addiction. Successful abstention within a disease model may contribute to a sense of self-efficacy for clients.

4.3. Methodological implications of the current study

4.3.1. Choice of design and procedure

The design of the study was dictated by the aims of the research. These aims investigated a) whether addiction beliefs and self-efficacy were related to gender, contact with services and drinking patterns; and b) whether there was a relationship between addiction beliefs and perceived self-efficacy to abstain from drinking. Participants were drawn from clients attending their initial assessment appointment with a specialist alcohol treatment service. A quantitative methodology was chosen because well-established measures existed to investigate the independent variables.
and because it was a less time-consuming process for participants at the point of initial assessment.

The chief investigator was present whilst the participants completed the *Addiction Belief Scale* and the *Alcohol Abstinence Self Efficacy Scale*, both self-report measures. This was advantageous because any questions could be dealt with quickly and completed questionnaires could be checked for missing items. Issues concerning the validity of self-report measures in the alcohol field have been documented in the literature (Midanek, 1982). Research suggests that men are more likely than women to under-rate both the quantity and frequency of their drinking behaviour (Garrett & Behr, 1974) and this possibility needed to be attended to. Davies (1997) questioned the validity of verbally attained addiction beliefs within a framework of potentially distorting variables including self-presentation and self-esteem issues. Lennox & Dennis (1994) recommended a triangulation procedure in which multiple sources of information are accessed to reduce the potential for biases and errors in reporting. Whilst these issues were not felt to be significant enough to warrant an alternative design for the current study, the limitations of self-report measures in this context is acknowledged along with the potential benefits of triangulation of data sources in future research.

4.3.2. Critique of measures used

The Addiction Belief Scale (Schaler, 1995) was chosen as a measure of client held models of addiction for a number of reasons. It was a well-established scale with high internal consistency, which examined strength of belief in two recognized models of addiction. Comprising 18 items, it was also brief to administer. However, a number
of amendments were made to the ABS as a result of the pilot study, including the removal of reference to drug use. The reliability of the scale reduced following these alterations, represented by a drop in Cronbach’s alpha values from .91 to .73. The pilot study informed a decision to retain the original wording of the ABS supported by a disclaiming statement made by the chief investigator, who pointed out that the measure was American in origin and used words which were not necessarily endorsed by the specialist treatment service under study.

It is acknowledged that the ABS was originally designed for use with a sample of treatment providers rather than clients. However, it has previously been used with a clinical sample of participants (e.g. McClure, 2000). Nevertheless, the instructions for completion may be misleading for participants who are asked to indicate the extent to which they agree or disagree with statements about addiction. They are not specifically asked to respond with regard to their own behaviour and therefore responses cannot be attributed solely to their own addictive behaviours, but to addictive beliefs they may hold about themselves and / or others generally. The ABS does not have distinctly defined scoring cut-off points to determine whether a respondent’s total score corresponds to a ‘disease’ score or a ‘free-will’ score. Instead, it recommends that the higher the score, the stronger the belief in the disease model. An individual’s score on its own therefore has little interpretative clinical meaning. Whilst it is recognized that a score below 45 could be assumed to represent a belief in the free-will model of addiction, it was acknowledged that this distinction was not made by the author of the ABS and was therefore judged to be an inappropriate presumption in the current study.
The *Addiction Belief Scale* is tied closely to the disease and free-will models of addiction and only allows the investigation of only these two models of addiction belief. It does not encompass other models such as social, behavioural, and/or personality-based models. Whilst the disease and free-will models are polar opposites, it may be deceptive to consider all addiction beliefs falling somewhere along a continuum between them. An alternative measure that incorporates a wider variety of conceptual domains is the *Addiction Belief Inventory* (ABI; Luke et al., 2002). This self-report questionnaire is composed of 64 items across eight belief scales including: control; abstinence; treatment; responsibility; genetic basis and coping responses. With hindsight, the *Addiction Belief Inventory* may have proved a more useful measure in the current study. However, at the point of designing the study and data collection, the *Addiction Belief Inventory* was still a relatively new measure. It is suggested that any further investigations in client held addiction beliefs consider the use of this measure in order to explore a wider number of addiction ideologies.

The *Alcohol Abstinence Self Efficacy Scale* (DiClemente et al., 1994) is a 20-item self-report measure and was chosen for the current study because it was brief to administer and has demonstrated high reliability and construct validity. Participants in this study found it easy to complete. The AASE assesses clients' beliefs regarding their ability to abstain from drinking in high-risk situations and as such it is a useful predictor of performance in those specific situations. For many clients of the specialist alcohol service, controlled drinking rather than abstention is a more desirable goal of treatment. Questionnaires exist which measure controlled drinking self-efficacy, including the *Situational Confidence Questionnaire* (Annis & Graham,
1988) and it could be argued that this measure would have been an appropriate choice for the current study. However, it was felt that the use of the AASE (as discussed in the methodology section) did not exclude those participants for whom abstinence was a preferred goal and its usage was therefore justified within these acknowledged limits.

The demographic data collection sheet was designed to record demographic details, drinking patterns and previous history of contact with services. It was hoped that specific information regarding the exact length of time since their previous contact and their number of contacts with services could also be collated. However, a large number of respondents found this information difficult to recall accurately and it was not felt to be precise enough to enable further analysis.

4.4. Clinical implications of findings

The current study raised a number of clinical implications associated with the initial presentation to treatment services by clients with problematic drinking. These are explored below in terms of referral pathways, assessment and treatment issues as well as the wider context of service delivery.

4.4.1. Referral pathways

Only 36.6% of the sample in the current study were female, however, this compares to a total of 29% female referrals to the specialist alcohol treatment service over the period 2002-2003. These statistics suggest that fewer female than male problem drinkers are assessed by alcohol treatment services. This could be an artefact of fewer
female problem drinkers in the population per se, but could also be a result of fewer women being referred to alcohol treatment services. Collins (1993) identified a reluctance from General Practitioners and other health professionals to recommend alcohol treatment to women with problematic drinking. This was possibly due to an incongruity between female gender stereotypes and female problem drinking. Promoting professional awareness concerning the prevalence and nature of female problematic drinking for health professionals including doctors, social workers and health visitors would help to address this. General Practitioners who understand that women with problematic drinking may not necessarily identify alcohol as their only problem will be in a better position to identify the needs of their patients. Provision of information regarding the appropriate referral routes to alcohol treatment services and reassurance that treatment does not necessarily mean hospitalisation would ensure that individuals with problem drinking receive the required support, regardless of their gender.

4.4.2. Assessment issues

The current study identified gender differences in self-efficacy beliefs such that women had a stronger belief in their ability to abstain from drinking. High coping self-efficacy at the start of treatment has been found by Rychtarik et al. (1992) to be related to positive outcome at follow up. However, it is acknowledged that males and females are not homogenous groups; whilst some men may display low perceived self-efficacy, other male clients may hold a relatively strong belief in their self-efficacy but perhaps of controlled drinking rather than abstinence. There may therefore be some clinical value in assessing clients’ levels of self-efficacy at the point of initial assessment to inform which clients, male or female, may require
specific input to enhance their belief in their ability to abstain or control their drinking. Measurement of self-efficacy using the AASE at the point of initial assessment may enable staff to identify high-risk situations for the client and develop coping skills to manage anticipated difficulties.

The current study indicated that self-efficacy was not related to the length of time drinking had been a problem. Aside from the methodological issues associated with using a questionnaire that measured abstinence rather than controlled drinking, this finding has clinical implications for how staff perceive clients at the point of initial assessment. Staff may assume that a client with a long history of problem drinking will have lower self-efficacy. This may not be the case in reality, and again justifies the measurement of clients’ readiness to change as well as self-efficacy beliefs at the initial appointment, possibly through the use of the AASE. This measurement, if repeated at a later stage of treatment (e.g. one month after initial assessment), would also inform the theory suggested earlier that motivation to achieve abstinence or controlled drinking is possibly at its highest at the point of initial service uptake.

Establishing client-held addiction beliefs at the initial appointment was not currently part of the routine clinical assessment procedure in the service under study. However, as the results of this study suggest that contact with services does not appear to influence or shape clients’ addiction beliefs, then it appears other factors may be involved. Gaining a better understanding of clients’ addiction beliefs at such an early point in intervention would not only help to identify these factors and understand the client’s reasons for entering treatment, but also assist staff to work within that individual’s framework of addiction. Rather than asking clients to complete a
standardised measure of addiction beliefs such as the ABS - the methodological limitations of which have already been explored - a simple evaluation of addiction beliefs could be collated using several parts of the existing standardised assessment procedure. Questions from the assessment form used by the specialist alcohol treatment service concerning the client's views on responsibility, problem development and goals for treatment could inform an understanding of the addiction beliefs that individual client holds. This approach is not designed to give accurate information on model affiliation or rate the strength of belief in one model over another, but instead inform the clinician of the range of addiction beliefs with which a client may enter treatment. A better understanding of addiction beliefs may lead to an increased level of engagement and / or lower drop-out rates, if the plan for intervention is congruent with the client's beliefs.

4.4.3. Intervention issues

The findings of the current study suggest that the relationship between addiction beliefs and treatment philosophy is far from clear-cut. There was no evidence to suggest that contact with individual services with specific ideologies or with treatment services as a whole influenced addiction beliefs. Indeed the research base demonstrated the value of mixing treatments that have a traditional disease model philosophy such as Twelve-step programmes and hospital detoxification, with more 'free-will' model interventions such as motivational interviewing (John et al., 2003; Schilling et al., 2002). The model of addiction held by the client does not appear to influence abstinence self-efficacy beliefs as the current study found no relationship between these variables. The disease model was not related to lower perceived self-efficacy as was initially predicted. This suggests that no one model of addiction has
superiority over another in terms of enhancing clients' beliefs in their ability to abstain. Staff in alcohol treatment services should therefore work within the framework of addiction that appears to have resonance for the client on an individual basis, rather than rigidly adhering to their own model or even the model of the service. Given the lack of support for hypothesis 3.1 (people with previous contact with a specialist alcohol team which has a non-disease model philosophy will have less belief in the disease model), it is conjectured that this may already be the case in the specialist alcohol treatment service in the current study.

It has been acknowledged that a number of factors shape the addiction beliefs of problem drinkers and it is proposed that one such influence may be carers, spouses or close relatives. As such, services that intervene and alter the clients' perception of their drinking may do so in conflict with clients' partners and close family. The role of significant others within the process of intervention for problem drinking should not be overlooked. Indeed, consideration of the role of friends and family in motivating and supporting clients to attend treatment or conversely, impeding progress, seems crucial. The integration of a number of therapeutic approaches to improve the social networks and system of support for problem drinkers has become an area of increasing research interest (Copello et al., 2002). Research studies into supportive interventions with the partners of heavy drinkers have achieved positive outcomes. These include improved physical and psychological symptoms for the relatives, increased confidence from professionals working with these relatives, and reduced resistance to treatment from problem drinkers themselves (Copello et al., 2000; Barber & Crisp, 1995).
The current study did not find evidence for any gender differences in client-held addiction beliefs. Burman (1994) advocated the development of alcohol treatment services for women, which emphasise empowerment goals and encouraged a sense of self. Whilst it is acknowledged that men and women do differ in certain aspects of drinking behaviour and circumstances, the lack of gender differences in models of addiction identified in this study suggests that empowerment and self-awareness remain valid treatment goals for both men and women.

The finding that neither length of time drinking had been a problem, nor contact with individual treatment services or alcohol treatment services per se had an effect on perceived abstinence self-efficacy in the current study has a number of clinical implications. Whilst it is acknowledged that the current study only measured self-efficacy for abstinence rather than a more general treatment goal, it could be argued that the intervention programmes investigated in this study, regardless of their philosophy, do not enhance abstinence self-efficacy or teach problem drinkers about their ability to engage in and change certain behaviours. Given that increased self-efficacy to abstain from drinking has been found to be related to positive outcome (Rychtarik et al., 1992) and in this study has been found to be related to abstinence status, there appears to be some benefit in increasing self-efficacy input to clients with an abstinence treatment goal. For instance, strategies to increase clients' beliefs in their own self-efficacy might include: relaxation training; acknowledgment of success; personal involvement in intervention planning; and goal setting (Gilchrist & Schinke, 1983; Maddux, 1995; Markus & Nurius, 1986). Research has demonstrated a possible relationship between abstinence self-efficacy and social support (Majer et
al., 2002), the implications of which could inform group interventions which allow peer modelling of effective coping skills.

The gender difference in abstinence self-efficacy beliefs identified by this study also has clinical value. If this finding translates to a larger population of individuals with problem drinking, then this has repercussions concerning the planning of treatment packages for men and women. If men show consistently lower perceived self-efficacy beliefs than women, the self-efficacy content of alcohol intervention packages should address this by implementing strategies already described, but particularly with male clients. The assessment of self-efficacy levels at both the start of intervention (and possibly throughout contact due to potentially elevated self-efficacy levels at the point of treatment uptake) would guide and facilitate an individual package of care.

4.4.4. The wider context of service delivery

Alongside the more direct service implications arising from the current study, a number of broader clinical issues have been identified concerning trends and circumstances around problematic drinking. The current study identified gender differences in the amount of alcohol consumed per week (mean amount for males = 176.4 units, compared to mean amount for females = 85.7 units). Data collected from the specialist alcohol service over the 12-month period 2002-2003 suggested that the current sample was representative of clients referred to the service over this period. Statistics from the National Alcohol Harm Reduction Strategy (2004) imply that alcohol consumption is increasing in women in the general population. However, data held locally pertaining to the specialist alcohol service in the current study did
not demonstrate increases in female alcohol consumption for referred clients over the past 15 years (personal communication, 23rd June 2003). It therefore seems necessary to draw a distinction between statistics regarding problem drinkers accessing services and problem drinkers in the general population. It could be argued that women in the wider population with potentially more severe problematic drinking had not accessed services for the reasons detailed below.

As well as the issue concerning potential gender biases in referral pathways, an alternative reason for the smaller number of women accessing alcohol treatment services concerns gender differences in the circumstances surrounding problem drinking. Women have been found to be significantly more likely than men to feel that drinking is not their main problem (Thom, 1986) and therefore may seek professional help for mental health or relationship difficulties rather than an alcohol problem. A number of barriers to alcohol treatment uptake for women have been identified in the literature such as shame, guilt, and fears of child protection procedures as well as practicalities such as childcare arrangements and transport difficulties (Raine, 2001). Treatment services which consider the wider context in which drinking takes place, coupled with attempting to overcome the barriers to service uptake may facilitate treatment intervention for female problem drinkers.

4.5. Theoretical implications and recommendations for further research

The methodological implications of using the Addiction Belief Scale, a measure that explores two distinct models of addiction, have already been discussed. However, theoretical implications exist in conjunction with the exploration of client held beliefs regarding the utility of a disease model, the possible co-existence of several models of
addiction in one individual and the alternative potential influences on the development of addiction beliefs. The current study also explored the conceptual link between addiction beliefs and self-efficacy. The contributions the present study has potentially made to the theoretical evidence base are now considered and areas for future research will be highlighted where appropriate.

4.5.1. The utility of a disease model

The literature base regarding the disease model of addiction suggests that it has become a scientifically outmoded concept, yet it still appears to have resonance with the general public (Krivanek, 1988; Crawford & Heather, 1987). The use of the Addiction Belief Scale in the current study suggested that participants showed some adherence to the disease model. Total scores ranged from 35 to 76 (maximum score = 90, higher scores indicating a stronger belief in the disease model). The relative value of these scores have already been discussed, but the present study showed that clients entering treatment with a specialist alcohol service had only a slightly stronger belief in the disease model than the sample of treatment providers investigated by Schaler (1995) when he developed the ABS. The mean total ABS score in Schaler's (ibid) study was 54.12, compared to 55.20 in the current study. The wide range of total scores in the present study suggests that whilst there was some endorsement of the disease model, something prevented its full acceptance as an explanation of problem drinking from participants in this sample. Examination of the least-endorsed and most-endorsed disease items on the ABS could be the key to understanding the conceptual strengths and weaknesses of the disease model as expressed by the ABS in the current study. Appendix [ix] details the percentages of respondents who endorsed
each item on the ABS, but in summary, the two most strongly endorsed and therefore most salient disease items on the ABS were:

"Alcoholics cannot control themselves when they drink".

and

"The most important step in overcoming alcoholism is to acknowledge you are powerless and can't control it".

26.8 % of respondents 'strongly agreed' with both of these statements. The least strongly-endorsed of the nine disease items was:

"The body rather than the mind determines whether one drinker will become addicted to alcohol and another will not".

Only 7.3 % of respondents strongly agreed with this statement. These findings suggest that of the three dimensions of the ABS identified by Schaler (1995) through factor analysis, the most resonant dimension in the present study was one of control, and the least resonant was one of dichotomous thinking. It is proposed that adherence to all the features of the traditional disease model may be an outdated concept in the minds of problem drinkers in the UK, which in turn may impact on addiction beliefs. For instance, some aspects of the model have more significance than others, and this study has identified the concept of control as being a relevant feature of the model. However, there is a danger in rejecting the entire model due to its apparent lack of scientific utility at the expense of understanding how clients conceptualise their problem drinking. This study has demonstrated how the disease model has generated hypotheses and informed theory development. In this regard it should still be classified as a useful theory (McMurran, 1994). Further research is required to gain a
better understanding of the role of control within a disease framework. This could involve a more detailed exploration into clients’ sense of power over the initiation and maintenance of problem drinking. This in turn could inform the development of empowerment strategies within treatment packages.

4.5.2. The co-existence of addiction models

The mean total score for the ABS indicated that participants were not unequivocally endorsing either a disease model or a free-will model of addiction. Instead, the current study supported previous research that suggested that individuals could support more than one addiction model. Crawford & Heather (1987) found that 20% of participants from a sample of the general public endorsed both a moral and a disease model. In a similar study by Blum et al. (1989), 35% of respondents affirmed dual-addiction beliefs. It therefore seems that differing beliefs can co-exist within an individual and it appears unlikely that individuals adhere to just one explanation of addictive behaviour. Thombs (1999) identified the need for ‘cognitive flexibility’ to deal with multiple frameworks. More recent theoretical attempts to explain the influences on addictive behaviours have also acknowledged this, demonstrated by McMurran’s biopsychosocial approach (1994). McMurran advocated that there was no single explanation for addiction. Instead of the traditional view that drinking is an irreversible and progressive disease, the integration of biological, psychological and social factors gives a more realistic rationalisation for fluctuations in problem drinking across the lifespan. Whilst the disease versus the moral or free-will model debate has been ongoing in the field of addiction for some decades, perhaps it is time for researchers to investigate the presence of a more integrated model of addiction in clients, treatment staff and the general public. The use of a measure that is not tied to a specific conceptual domain would assist in this goal and such a measure has been
designed by Luke et al. (2002). As suggested earlier, the aims of the current study could be re-evaluated using the *Addiction Belief Inventory* (Luke et al., 2002) to investigate the co-existence of client's addiction beliefs at the point of service uptake.

4.5.3. *Alternative influences on the development of addiction beliefs*

In the present study, previous contact with individual services with particular philosophies and services per se did not appear to influence clients' addiction beliefs. It is therefore hypothesised that other factors might be significant in shaping clients' addiction beliefs, such as the media, professionals and family members. This is currently an under-researched area, and it is suggested that further investigation into the etiology of addiction beliefs should consider such external influences. Whilst this study found no link between service contact and client-held models of addiction, it is acknowledged that the individual beliefs of staff members who represent these services were not examined. Moyers & Miller (1993) identified the significance of staff beliefs in treatment outcome. Staff who endorsed a disease model were less likely to negotiate treatment goals such as controlled drinking. Treatment providers' addiction beliefs also appear to be shaped by their own personal experiences of recovery (Schaler, 1995). Future research should concentrate on identifying the individual beliefs of staff and possibly contrast these with client-held beliefs. Whilst this study did not advocate the need for the precise matching of client and staff beliefs (instead suggesting that staff work flexibly within the model which most reflects the client's beliefs), it would be interesting to investigate the extent to which the personal beliefs of staff members align to the philosophy of the service in which they work, the extent to which addiction beliefs in either staff and clients effects the therapeutic
alliance as well as the impact of staff and clients' addiction beliefs on treatment outcomes and satisfaction.

4.5.4. The link between addiction beliefs and self-efficacy

Prior to the current study, little research had been undertaken to investigate the possible link between addiction beliefs and perceived self-efficacy. This study hypothesised that a stronger belief in the disease model would be associated with lower perceived self-efficacy to abstain from drinking. This was because the concept of self-efficacy, or the belief in one's ability to accomplish a certain goal appears to be in conflict with the message of uncontrollable and progressive disease of addiction. However, no such association was identified in this study. It was suggested that this finding could be explained by the seemingly paradoxical co-existence of heightened self-efficacy within a disease model, demonstrated for example, by an individual's adherence to the principle of abstinence. The finding from the current study should be interpreted cautiously due to the small sample size and other methodological limitations already discussed. However, it invites a new theoretical direction to be explored: that of the role of self-efficacy beliefs within different models of addiction. The results of the current study propose that the nature and strength of self-efficacy beliefs will remain independent from the addiction model to which an individual subscribes. However, further research with a larger sample size would determine whether this hypothesis is correct and whether this remains the case for other forms of self-efficacy beliefs such as controlled drinking self-efficacy.
4.6. Strengths and limitations of the current study

One of the key limitations of the present study concerns the small sample size, which had implications for the applicability and generalisability of the findings and has already been discussed in terms of limited statistical power of the analyses and the increased likelihood of Type II errors being made. A prospective power analysis prior to the data collection period indicated a sample of 35 male and 35 female participants was necessary to achieve appropriate statistical power for the between-subjects t-tests. Unfortunately, due to high non-attendance rates, receipt of fewer female referrals and the exclusion criteria described in the methodology section, the overall sample size was 41, comprising 15 women and 26 men. A number of the research hypotheses therefore compared groups with uneven sample sizes. For example, the comparison of addiction beliefs between participants who had and had not experienced previous hospital detoxification involved groups of 9 and 32 participants respectively.

Following the adjustment of uneven group sizes using the harmonic mean, the power of the t-test was retrospectively calculated as 0.56. It is worth noting the prospective power analysis suggested a sample of 70 participants and it is therefore suggested that the hypotheses in the current study should be re-examined with a larger sample size of participants. An extension to the data collection period would have enabled a larger number of participants to be recruited. Unfortunately, the time constraints of the present study did not allow for this.

The current study found two statistically significant results but it is acknowledged that these findings may have been the consequence of an inflated risk of Type I error, (i.e. rejecting the null hypothesis when it may be true) given that nine planned comparisons were made. In retrospect, it would have been advisable to perform a
Bonferroni adjustment in order to set a more stringent alpha level against which to judge statistical significance. A Bonferroni adjustment in the current study would have re-calculated alpha to 0.006, and subsequently caused all the results to be statistically non-significant. However, Field (2000) warns of the “trade-off” between reducing Type I errors and inflating the risk of Type II errors, particularly with small sample sizes. It is suggested therefore, that the results of the current study are interpreted with caution and a replication of the study with a larger number of participants would inform either the corroboration or rejection of these initial findings.

A number of issues influenced the external validity or the extent to which the results of the present study could be applied to a wider population of problem drinkers. Firstly, the measurement of addiction beliefs using the ABS, which considers only two conceptual domains of addiction, the disease model and the free-will model, imposed limitations on the generalisability of the findings. Participants’ responses can only be interpreted in terms of these two models and broader conclusions about other influences on the development of their beliefs cannot be drawn. Similarly, the AASE, which only investigates self-efficacy beliefs about abstention from alcohol, can only be used to assess abstention rather than a variety of behaviours including controlled drinking. Secondly, the timing of the participants’ involvement may affect generalisability. It has already been suggested that asking respondents to rate their perceived self-efficacy to abstain at the point of their initial assessment limits the results to that particular point in time. Participants may well feel at their most motivated at this point. However, these feelings of empowerment may not be present
in the wider population of problem drinkers, or in clients who are further into the process of intervention.

In order to overcome these threats to external validity, a replication of the current study with a larger sample size may be appropriate in order to establish whether the original results were due to chance. Clark-Carter (1997) advocated this technique to enhance external validity and suggested some aspect of the original study should be varied in the replication. In this case, it is recommended that the investigation into gender difference in self-efficacy scores could be repeated with participants one month after initial contact with the specialist alcohol service, in order to establish whether the result of the present study was a consequence of inflated motivational levels at initial presentation.

The possibility of large variations existing between the demographic details and drinking patterns of participants was explored in the early stages of data analysis. Potential confounding variables were identified which may have exerted an influence on the relationship between the independent and dependent variables. These included the amount of alcohol consumed and previous detoxification history on gender, and length of time drinking had been a problem on previous contact with the specialist service. Other factors that may have exerted a confounding influence may have included levels of anxiety and depression, or shame and guilt. O’Connor et al. (1994) found that individuals entering treatment for chemical and alcohol addiction showed significantly higher levels of shame when compared to a control group. Whilst it is acknowledged that controlling for these factors was beyond the scope of the current study, it remains a possibility that clients’ mental health status may complicate their
responses. The use of a standardised screening measures such as the Hospital Anxiety & Depression Scale (Zigmond & Snaith, 1983) as part of the assessment process could help to control for these potentially confounding variables in any further research or replication of the present study.

The present study endeavoured to collect data from a clinical sample of problem drinkers. It was felt that exploring the addiction beliefs of clients themselves was a clinically valuable and relevant task that would inform an under-researched area of knowledge. Close attention was paid to the ethical aspects of data collection and complete anonymity and confidentiality was observed throughout the research process. The presence of the chief investigator during the data collection period enabled the participants to seek clarification on the process and provided the opportunity to de-brief if necessary. Although the sample size in the current study was small, comparisons were made between the demographic and drinking variables of the sample and the referrals received by the specialist alcohol service over a 12-month period between 2002-2003. This comparison revealed that the participants in the present study were largely comparable to clients seen by the specialist service on variables including gender, ethnicity, age and units of alcohol consumed. In terms of external validity, this suggests that the generalisability of the findings from the sample to the wider population is possible.

A key advantage to the present study was the inclusion of a pilot study in order to verify aspects of the procedure. The pilot study was an invaluable source of information regarding the utility of the chosen measures, particularly related to the re-wording of the Addiction Belief Scale. Original amendments to the ABS concerned
the removal of the words “alcoholic” and “drug addict” in exchange for “problem drinker” and “drug user”. The term “addiction” was changed to “dependency”. This was in line with the parlance of the staff of the specialist alcohol treatment service. However, participants in the pilot study experienced comprehension difficulties regarding this alteration, which informed a decision to replace “addict” and “addiction” with “alcoholic” and “alcoholism”. The decision to remove all references to drug use from the ABS in order to improve clarity was also a result of the pilot study. It was felt that the pilot study process improved the overall design of the current study.

4.7. Summary and Conclusions

There were two aims of the current study. The first aim explored whether addiction beliefs and perceived self-efficacy were related to gender, contact with services and drinking patterns. Conversely to the predictions based on Schaler, (1995) no gender differences were identified in addiction beliefs in this sample of clients, yet women were found to have stronger self-efficacy beliefs in their ability to abstain. It was proposed that a lack of detectable gender differences in addiction beliefs was possibly due to a convergence in addiction beliefs between the sexes that corresponds to a convergence in drinking patterns observed in the general population. An explanation of the identified gender differences in self-efficacy drew on previous research which suggested that female problem drinkers did not consider drinking to be their only problem and that drinking was in response to other problems (e.g. relationships, depression, stress). It was hypothesised that women may feel drinking was more within their control than other more pervasive social, economic and emotional difficulties.
Contact with services (including a specialist alcohol service, Alcoholics Anonymous and hospital detoxification) did not affect addiction beliefs or self-efficacy to abstain from drinking in the present study. It was suggested that these findings reflected the influence of other factors in shaping addiction beliefs, including significant others, professionals and the media. Further research was recommended in order to investigate this prediction empirically.

With regard to drinking patterns, clients who were abstinent were found to have significantly stronger self-efficacy beliefs in their ability to abstain in high-risk situations. This was explained in terms of the experience of success strengthening self-efficacy expectancies. The prediction that the greater the amount of alcohol consumed would be associated with a stronger belief in the disease model of addiction was not supported in the current study. It was hypothesised that this finding may have been due to proponents of the disease model viewing drinking as an all-or-nothing phenomenon, exemplified by the use of abstinence as the only treatment. Therefore for those holding a disease model, quantity of alcohol consumed may be perceived as an irrelevant issue to beliefs about addiction; problem drinkers either drink or they are abstinent.

The final hypothesis within the first aim of the current study explored whether the length of time drinking had been a problem was related to self-efficacy beliefs. There was no support for the prediction that the greater the length of time drinking had been a problem, the lower the perceived self-efficacy. It was suggested that an inflated level of client motivation was a possible confounding factor at the point of data collection (which coincided with participants’ initial assessment appointment).
Replication of this investigation using a sample of participants with problematic drinking who had *not* accessed services, or who had accessed services at least for over a month was suggested as an area for future research.

The second aim of the research examined the possible relationship between addiction beliefs and perceived self-efficacy. This represented a gap in the current literature base, but it was predicted that the greater the belief in the disease model and thus belief in the irreversibility of problem drinking, the lower the perceived self-efficacy to abstain. This expectation was not supported in the present study and it was suggested that proponents of the disease model may well have a stronger perceived ability to abstain (as abstinence is a central construct within the disease model).

The measures used in the present study were the *Addiction Belief Scale* (ABS; Schaler, 1995) and the *Abstinence Self Efficacy Scale* (AASE; DiClemente et al., 1994). Whilst both represented well-established and reliable self-report measures, limitations included the domain-specific nature of the ABS, which only measured disease and free-will models of addiction beliefs. The AASE appeared to be an easy-to-complete measure, but the implications of using a self-efficacy scale that investigated only abstinence rather than controlled drinking was discussed. The validity of self-report measures within the study was also acknowledged.

The findings of the present study had a number of clinical implications. Firstly, it was suggested that raising awareness amongst potential referrers concerning the nature of problem drinking in women and appropriate treatment options (including alternatives to hospital detoxification) would help to ensure that clients received the correct
support. It was also proposed that self-efficacy levels were assessed at the point of initial assessment in order to identify those individuals who may benefit from intervention to enhance their perceived ability to either control their drinking or abstain. The value of involving family members and ‘significant others’ in intervention strategies was also introduced as an area deserving more investigation. Finally, the current study found that no one model of addiction has superiority in enhancing self-efficacy to abstain. This implies that staff within treatment services should attempt to work within the model of addiction that appears to have most meaning for the client.

To conclude, the present study investigated an under-researched area in the literature. As problem drinking continues to increase in the UK and become the subject of Government directives (National Alcohol Harm Reduction Strategy for England, 2004) it seems that gaining a better understanding of how problem drinkers view addictive behaviour is crucial in developing better treatment services from a user-led perspective.
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DSM-IV Criteria for Substance Dependence.

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three or more of the following, occurring at any time in the same 12 month period:

1) Tolerance, as defined by either of the following:
   a) A need for markedly increased amounts of the substance to achieve intoxication or the desired effect.
   b) Markedly diminished effect with continued use of the same amount of the substance.

2) Withdrawal, as manifest by either of the following:
   a) The characteristic withdrawal syndrome for the substance.
   b) The same (or closely related) substance is taken to relieve or avoid withdrawal symptoms.

3) The substance is often taken in larger amounts or over a longer period than was intended.

4) There is a persistent desire or unsuccessful efforts to cut down or control substance use

5) A great deal of time is spent in activities necessary to obtain the substance (e.g. visiting multiple doctors or driving long distances), use the substance (e.g. chain smoking), or recover from its effects.

6) Important social, occupational or recreational activities are given up or reduced because of substance use.

7) The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g. current cocaine use despite recognition of cocaine-induced depression or continued drinking despite recognition that an ulcer was made worse by alcohol consumption.)

Specify if:

**With Physiological Dependence**: Evidence of tolerance or withdrawal (i.e. item 1 or 2 is present).

**Without Physiological Dependence**: No evidence of tolerance or withdrawal (i.e. neither item 1 or 2 is present).
INTRODUCTION TO THE SERVICE

The Leicestershire Community Alcohol Team (CAT) is part of Specialist Services within Leicestershire Partnership NHS Trust. It consists of qualified health professionals (nurses, psychiatrists, psychologists, counsellors, etc.). We have access to a network of other services who can offer help.

Help is free and confidential within Leicestershire Partnership NHS Trust.

Members of the Community Alcohol Team do not see alcohol problems as a disease affecting “alcoholics”. We believe that people drink to help them cope with problems and the stress of everyday life. By learning to tackle these problems it can be possible for a person to change their drinking.

APPOINTMENTS

We can offer appointments at a place which is convenient for you, for example at a health centre or another venue if appropriate.

With prior notice, an interpreting service is available for people who do not have English as their preferred language. Signing is also available for people with hearing difficulties.

If you require any assistance with mobility or access please inform us prior to an appointment.

WHAT DOES THE SERVICE OFFER?

Following assessment, if appropriate, you will be allocated a named key worker who will work with you on a one-to-one basis to help with your alcohol problems. Your key worker could belong to any of the professions represented within the team.

We want you to be actively involved in your own care. Help can be in the form of advice, supported self-help, counselling, therapeutic sessions as well as support and advice for family or friends etc.

Your key worker will plan your care with you. Your plan of care will be reviewed with you at regular intervals and may include several types of help. We make every attempt to match our service appropriately to your needs, with access to a network of other related services.

Where appropriate, we encourage joint work with other professionals, for example your doctor. This is only done with your consent.

Your key worker will give you details of other organisations that may also be able to help you. If you feel you need someone independent to help you to express your views or make choices, your key worker can give you details of advocacy services.

If the Mental Health Act 1999 applies to you this will be explained in more detail by your key worker.

If a more formal approach to the co-ordination of your care is required then this will be explained to you by your key worker. You will be given a copy of the Trust leaflet on the Care Programme Approach.

CONFIDENTIALITY

Brief details about your referral is held on an electronic database within Leicestershire Partnership NHS Trust. However, this does not include personal information that you disclose to your key worker. All information held will not be disclosed outside of the Trust without your consent. More details regarding this are available on our information leaflet. Ask your key worker for a copy.

However, there are exceptions to this in the case of serious legal implications or possible risk to children. Your key worker will discuss this with you in more detail.

During your contact with us you may be involved with people undergoing training (e.g. nurses, social workers, doctors). They will be appropriately supervised and you will not see them without being informed or without your consent, refusal will not affect your care.

It is often helpful to involve family members or others in order to help you change your drinking, but they will not be contacted without your consent.

ACCESS TO RECORDS

You have the right to see your own personal file and to have information corrected where appropriate.

However, to see your records you may have to pay a fee. If you wish to see this information please ask your key worker who will explain the procedure.

Any information held about you is protected by the Data Protection Act 1998.
## Alcohol Abstinence Self Efficacy Scale

### The Alcohol Self-efficacy Scale (AASE) (DiClemente et al 1992)

At the present time, how confident are you that you would be able to abstain from drinking in the following situations:

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th></th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>When I'm feeling angry inside</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>When I sense everything is going wrong</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>When I am feeling depressed</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>When I feel like blowing up because of frustration</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>When I am very worried</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>When I see others drinking at a bar or at a party</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
<td>When I am excited or celebrating with others.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>When I am on holiday and want to relax</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>When people I used to drink with encourage me to drink</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>When I am being offered a drink in a social situation</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11.</td>
<td>When I have a headache</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12.</td>
<td>When I am physically tired</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13.</td>
<td>When I am concerned about someone else</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14.</td>
<td>When I am experiencing some physical pain or injury</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15.</td>
<td>When I dream about taking a drink</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16.</td>
<td>When I am in agony because of stopping or withdrawing from alcohol use.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
17. When I have the urge to try just one drink to see what happens.  2  3  4  5
18. When I feel a physical need or craving for alcohol  1  2  3  4  5
19. When I want to test my willpower over drinking  1  2  3  4  5
20. When I experience an urge or impulse to take a drink that catches me unprepared  1  2  3  4  5
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Uncertain</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Most alcoholics don’t know they have a problem and must be forced to recognize they are alcoholics.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Alcoholics cannot control themselves when they drink.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. The only solution to alcoholism is treatment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. The best way to overcome alcoholism is by relying on your own will power.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Alcoholism is an all or nothing disease: A person cannot be a temporary alcoholic with a mild drink problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. People can stop relying on alcohol as they develop new ways to deal with life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Alcoholism has more to do with the environments people live in than the alcohol they are addicted to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. People often outgrow alcohol addiction.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. The most important step in overcoming alcoholism is to acknowledge you are powerless and can’t control it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Abstinence is the only way to control alcoholism.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
11. The body rather than the mind determines whether one drinker will become addicted to alcohol and another will not.

12. Alcoholics can learn to moderate their drinking or cut down.

13. People become addicted to alcohol when life is going badly for them.

14. The fact that alcoholism runs in families means that it is a genetic disease.

15. You have to rely on yourself to overcome an addiction such as alcoholism.

16. Alcoholics can find their own ways out of addiction, without outside help, given the opportunity.

17. People who are alcoholics can never outgrow addiction and are always in danger of relapsing.

18. Alcoholism is a way of life people rely on to cope with the world.
### Appendix [v] Demographic data collection sheet

1. **Demographic details.**

   **Gender**
   - Male
   - Female

   **Ethnicity**
   - White-British
   - White-Irish
   - White-Other
   - Black-British
   - Black-Caribbean
   - Black-African
   - Black-Other
   - Chinese
   - Other
   - Asian-Indian
   - Asian-Pakistani
   - Asian-Bangladeshi
   - Asian-Other
   - Mixed-White/Asian
   - Mixed-White/Black-Caribbean
   - Mixed-White/Black-African
   - Other

   **Previous contact with THIS alcohol service?**
   - Never
   - Once or More. If so, when in last contact?.............

   **Previous contact with other agencies for alcohol problems**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>No. SESSIONS</th>
<th>HOW LONG AGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-patient alcohol treatment unit</td>
<td>.................</td>
<td>.................</td>
</tr>
<tr>
<td>Alcoholics Anonymous / self help</td>
<td>.................</td>
<td>.................</td>
</tr>
<tr>
<td>Therapeutic community</td>
<td>.................</td>
<td>.................</td>
</tr>
<tr>
<td>Voluntary agency</td>
<td>.................</td>
<td>.................</td>
</tr>
<tr>
<td>Other NHS Alcohol Service</td>
<td>.................</td>
<td>.................</td>
</tr>
<tr>
<td>Other</td>
<td>.................</td>
<td>.................</td>
</tr>
</tbody>
</table>

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### Employment status

<table>
<thead>
<tr>
<th>TYPE</th>
<th>LENGTH OF TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Employed</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Unemployed (available)</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Unemployed (sick)</td>
<td>..................</td>
</tr>
<tr>
<td>☐ House worker</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Retired</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Student</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Other</td>
<td>..................</td>
</tr>
</tbody>
</table>

### Relationship status

<table>
<thead>
<tr>
<th>Status</th>
<th>Length of time</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Single</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Married/Cohabiting</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Widowed</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Divorced</td>
<td>..................</td>
</tr>
<tr>
<td>☐ Separated</td>
<td>..................</td>
</tr>
</tbody>
</table>

### Frequency of drinking

How often typically drink?(days per week)..............No. units per week.............

How long has this been a problem?

☐ Less than a year

..............years
Appendix [vi] Consent form

Leicestershire Partnership NHS Trust

Community Alcohol Team
Drury House
50 Leicester Road
Narborough
Leicester LE19 2DF
Telephone: 0116 225 6350
Fax: 0116 225 6370

Content Form

A STUDY TO INVESTIGATE CLIENT-HELD BELIEFS ABOUT ADDICTION.

Principal Investigator: Kate Shirling-Rooke, Trainee Clinical Psychologist

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

Please initial box

☐ I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask any questions. The nature and purpose of the tests undertaken have been explained to me and I understand what will be required if I take part in the study.

☐ I understand that my participation is voluntary and I am free to withdraw at any time, without giving any reason and without affecting my normal care and clinical rights.

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

☐ I agree to participate in the above study.

Signature of client .................................................................Date............................

Name (Block capitals)...................................................................................................................

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

Name (Block Capitals)...................................................................................................................

Working with Leicester City Council, Leicestershire County Council and Rutland County Council to provide mental health and learning disability services

Trust Headquarters: George Nine House, Gipsy Lane, Leicester LE5 0TD Tel: 0116 225 6000

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PATIENT INFORMATION LEAFLET

A study to investigate client-held models of addiction

Principal Investigator: Kate Shirling-Rooke, Trainee Clinical Psychologist.

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with others if you wish. You can contact Kate if you have any queries or would like any further information at Drury House, tel: 0116 225 6350. Take time to decide whether you wish to take part.

1. What is the purpose of the study?

This study looks at the different ways men and women view their drinking behaviour, and whether previous contact with the alcohol service affects this. This knowledge will help us to develop better services for people referred to the Community Alcohol Team. The research is being undertaken as part of a Doctorate in Clinical Psychology degree.

2. Why have I been chosen?

This study is taking place from September 2003- January 2004. As you have been referred to the Community Alcohol service during this period, you are invited to participate. Approximately 80 other clients will be approached to take part.

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

This study will be part of your routine assessment interview. The only additional requirement will be two short questionnaires. This should take approximately 15 minutes. If you do not want to take part, then your assessment will continue according to normal clinical practice. You will not be required to provide any further information for the study following this initial assessment. You will not be identifiable in any report or publication. If you would like to know more about our findings, a summary will be available from the above address from October 2004.
4. Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part will not affect the standard of care you receive.

5. Will information obtained in the study be confidential?

Yes. The information from the questionnaires will remain confidential. You will NOT be identified in any documents related to this study.

6. What if something goes wrong?

We do not believe you will be harmed by taking part in this study. If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone’s negligence, then you may have grounds for a legal action but you may have to pay for it. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been approached or treated during the course of this study, the normal National Health Service complaints mechanisms should be available to you and you are not compromised in any way because you have taken part in a research study.

Thank you for taking the time to read this information.

Kate Shirling-Rooke, Principal Investigator.
Marilyn Christie, Supervising Investigator.
Appendix[viii]Letter of Ethical approval

Leicestershire Partnership NHS Trust

Research & Development Office
Daisy Peake Building
Towers Hospital
Gipsy Lane
Leicester
Tel: 0116-258-3723
Fax: 0116-246-2596
David.Clarke@leicspart.nhs.uk

DC/KS-R/0287/7105

14 November 2003

Miss Kata Shirling-Rooke
Trainee Clinical Psychologist
Leicester University
Department of Applied Psychology (Clinical Section)
104 Regent Road
Leicester
LE1 7LT

Dear Kate

Re: Client-held models of addiction

Please find enclosed a copy of correspondence from the Leicestershire Local Research Ethics Committee (Committee One), confirming that following the submission of your amended documentation the project has received formal ethical approval.

Under the Research Governance Policy of the Trust, confirmation of appropriate ethical approval is a necessary prerequisite for obtaining Trust Management Approval. I am happy to confirm therefore that Leicestershire Partnership NHS Trust formally approves the study to proceed, subject to the following conditions:

- You abide by the conditions imposed by the LREC
- All correspondence with the LREC is routed through the Trust Research Office (including the obligatory progress/final report as detailed).
- The agreed protocol is adhered to.
- A summary of any findings is reported to the Trust/Clinical Service/Participants at the conclusion of the study.
- Any changes in the protocol, timescale etc. are notified to the R&D Office.
- At the conclusion of the study, a final report form is completed.
- A copy of any subsequent publication is lodged with the Trust.
- That paperwork related to the study may be subject to audit at any time.

This letter also serves as confirmation that as Principal Investigator you are covered by the terms of the Trust’s research indemnity for the duration of the project.

With best wishes on the success of your study.

Regards,

Dr. Dave Clarke
[R&D Manager]

Leicestershire Partnership NHS Trust
Headquarters George House Gipsy Lane Leicester LE5 2TD TEL: 0116 258 2000 FAX: 0116 225 3624
Chairman: Dr Wendy Hitching DBE MA BA JP Chief Executive: Dr Maggie Caffrey
www.leicspart.nhs.uk
a) Endorsement of ‘Disease’ items (%) from the Addiction Belief Scale (Schaler, 1995):

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly disagree (%)</th>
<th>Disagree (%)</th>
<th>Uncertain (%)</th>
<th>Agree (%)</th>
<th>Strongly Agree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Most alcoholics don’t know they have a problem and must be forced to recognise they are alcoholics”</td>
<td>4.9</td>
<td>29.3</td>
<td>22</td>
<td>24.4</td>
<td>19.5</td>
</tr>
<tr>
<td>“Alcoholics cannot control themselves when they drink”</td>
<td>4.9</td>
<td>19.5</td>
<td>7.3</td>
<td>41.5</td>
<td>26.8</td>
</tr>
<tr>
<td>“The only solution to alcoholism is treatment”</td>
<td>4.9</td>
<td>7.3</td>
<td>26.8</td>
<td>41.5</td>
<td>19.5</td>
</tr>
<tr>
<td>“Alcoholism is an all or nothing disease, a person cannot be a temporary alcoholic with a mild drinking problem”</td>
<td>7.3</td>
<td>9.8</td>
<td>17.1</td>
<td>41.5</td>
<td>24.4</td>
</tr>
<tr>
<td>“The most important step in overcoming alcoholism is to acknowledge you are powerless and can’t control it.”</td>
<td>12.2</td>
<td>14.6</td>
<td>19.5</td>
<td>26.8</td>
<td>26.8</td>
</tr>
<tr>
<td>“Abstinence is the only way to control alcoholism”</td>
<td>9.8</td>
<td>24.4</td>
<td>19.5</td>
<td>24.4</td>
<td>22.0</td>
</tr>
<tr>
<td>“The body rather than the mind determines whether one drinker will become addicted to alcohol and other will not”</td>
<td>7.3</td>
<td>24.4</td>
<td>36.6</td>
<td>24.4</td>
<td>7.3</td>
</tr>
<tr>
<td>“The fact alcoholism runs in families means that it is a genetic disease”</td>
<td>24.4</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
<td>9.8</td>
</tr>
<tr>
<td>“People who are alcoholics can never outgrow addiction and are always in danger of relapsing”</td>
<td>7.3</td>
<td>12.2</td>
<td>22.0</td>
<td>41.5</td>
<td>17.1</td>
</tr>
</tbody>
</table>
b) Endorsement of ‘Free-will’ items (%) on the Addiction Belief Scale (Schaler, 1995).

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree (%)</th>
<th>Disagree (%)</th>
<th>Uncertain (%)</th>
<th>Agree (%)</th>
<th>Strongly Agree (%)</th>
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</thead>
<tbody>
<tr>
<td>“The best way to overcome alcoholism is to rely on your own will power”</td>
<td>22.0</td>
<td>14.6</td>
<td>17.1</td>
<td>39.0</td>
<td>7.3</td>
</tr>
<tr>
<td>“People can stop relying on alcohol as they develop new ways to deal with life”</td>
<td>26.8</td>
<td>53.7</td>
<td>12.2</td>
<td>4.9</td>
<td>2.4</td>
</tr>
<tr>
<td>“Alcoholism has more to do with the environments people live in than the alcohol they are addicted to”</td>
<td>14.6</td>
<td>31.7</td>
<td>22.0</td>
<td>24.4</td>
<td>7.3</td>
</tr>
<tr>
<td>“People often outgrow alcohol addiction”</td>
<td>9.8</td>
<td>4.9</td>
<td>9.8</td>
<td>48.8</td>
<td>26.8</td>
</tr>
<tr>
<td>“Alcoholics can learn to moderate their drinking or cut down”</td>
<td>12.2</td>
<td>36.6</td>
<td>17.1</td>
<td>26.8</td>
<td>7.3</td>
</tr>
<tr>
<td>“People can become addicted to alcohol when things are going badly for them”</td>
<td>39.0</td>
<td>39.0</td>
<td>12.2</td>
<td>7.3</td>
<td>2.4</td>
</tr>
<tr>
<td>“You have to rely on yourself to overcome an addiction such as alcoholism”</td>
<td>7.3</td>
<td>34.1</td>
<td>19.5</td>
<td>29.3</td>
<td>9.8</td>
</tr>
<tr>
<td>“Alcoholics can find their own way out of addiction without outside help”</td>
<td>4.9</td>
<td>22.0</td>
<td>36.6</td>
<td>24.4</td>
<td>12.2</td>
</tr>
<tr>
<td>“Alcoholism is a way of life people rely on to cope with the world”</td>
<td>24.4</td>
<td>56.1</td>
<td>12.2</td>
<td>4.9</td>
<td>2.4</td>
</tr>
</tbody>
</table>
Potential confounding demographic and drinking variables for contact with services
(Nominal data) Chi-Square & Fishers Exact Probability test*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Contact with specialist service</th>
<th>Contact with AA</th>
<th>Contact with detox</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\chi^2$</td>
<td>$p$</td>
<td>$\chi^2$</td>
</tr>
<tr>
<td>Gender</td>
<td>1.003*</td>
<td>0.502</td>
<td>0.000*</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>0.675*</td>
<td>0.636</td>
<td>0.135*</td>
</tr>
<tr>
<td>Employment status</td>
<td>0.278</td>
<td>0.598</td>
<td>3.621*</td>
</tr>
<tr>
<td>Relationship status</td>
<td>1.649</td>
<td>0.199</td>
<td>0.316*</td>
</tr>
<tr>
<td>Contact with CAT</td>
<td>-</td>
<td>-</td>
<td>0.510*</td>
</tr>
<tr>
<td>Contact with AA</td>
<td>0.510*</td>
<td>0.491</td>
<td>-</td>
</tr>
<tr>
<td>Contact with detox</td>
<td>1.789*</td>
<td>0.248</td>
<td>0.248*</td>
</tr>
<tr>
<td>Abstinence status</td>
<td>0.510*</td>
<td>0.491</td>
<td>0.696*</td>
</tr>
</tbody>
</table>

* 25% of cell have less than five items.

Potential confounding demographic and drinking variables for contact with services
(Continuous data) Mann Whitney U.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Contact with specialist service</th>
<th>Contact with AA</th>
<th>Contact with detox</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$Z$</td>
<td>$p$</td>
<td>$Z$</td>
</tr>
<tr>
<td>Age</td>
<td>-0.041</td>
<td>0.9698</td>
<td>-1.577</td>
</tr>
<tr>
<td>Length of time drinking has been a problem</td>
<td>-2.414</td>
<td>0.016</td>
<td>-0.634</td>
</tr>
<tr>
<td>Amount of units drunk per week</td>
<td>-1.247</td>
<td>0.212</td>
<td>-0.766</td>
</tr>
<tr>
<td>No. days drink per week</td>
<td>-0.577</td>
<td>0.564</td>
<td>-0.766</td>
</tr>
</tbody>
</table>