Attachment and Early Maladaptive Schemas in Alcohol Dependence

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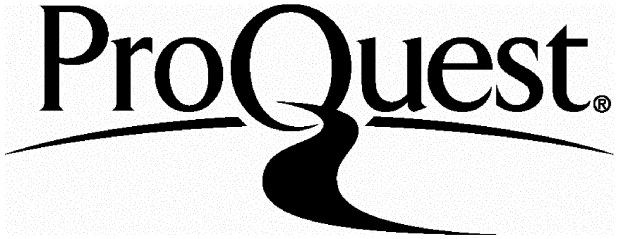

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Abstract

This study examines the concept of attachment in relation to alcohol use. The process by which insecure attachment increases the likelihood of addictive behaviour is considered, and one possible mechanism, which is via cognitive representations of the self and others, is explored. In addition, the concept of dissociation is discussed, and addictive behaviour as a dissociative process is considered in relation to attachment and cognitive schemas.

Participants for the alcohol dependent group were recruited from local alcohol services, including the Community Alcohol Team (CAT) and inpatient detoxification units. Participants in the control group were recruited from local hospital and community services.

The Attachment Style Questionnaire was used to measure attachment anxiety and avoidance, and the short form of Young's Schema Questionnaire was used to calculate dimensional scores on each maladaptive schema and schema domain. The Curious Experiences Inventory provided a measure of dissociative experiences when not under the influence of alcohol or other substances. A short interview was used to obtain additional information on demographics, personal history, and alcohol use.

The results of this study support the hypothesis that alcohol dependent participants display more insecure attachment than recreational users, and disorganised attachment in particular was highlighted. The alcohol dependent sample were found

to have significantly more Early Maladaptive Schemas (EMS) than the non-clinical group, and to score more highly on each schema domain, supporting the proposition that negative beliefs about the self and others are related to alcohol dependence. However, a specific pattern of schema domains was not clearly identified with this population.

The clinical group were found to have higher levels of dissociation than the control group, supporting the idea of alcohol dependence as 'chemical dissociation'. However, heavier alcohol use did not predict higher levels of dissociation within either the alcohol dependent or recreational participants. Severity of alcohol dependence was associated with higher levels of depersonalisation and overall dissociation in both groups, and in addition with amnesia in the control group.

The relationship between attachment, EMS and dissociation was investigated in an exploratory way, with confusing results. The most reliable finding is that avoidance was surprisingly not associated with any measure of dissociation in either group, while attachment anxiety was related to the depersonalisation sub-scale in both groups.

The implications for future research and clinical interventions are discussed.

Introduction

Problems relating to the use of alcohol are widespread, with extensive medical, psychological and social difficulties associated with heavy use. However, there remain significant gaps in psychological understanding in this area. Alcohol dependence has been linked with attachment difficulties, although the exact nature of the relationship is not clear. The study reported in this thesis attempts to delineate the relationship between attachment and alcohol dependence, and to explore potential cognitive mediating factors.

A brief description of alcohol dependence is presented, followed by considerations such as prevalence, co-morbidity, and sub-types of alcohol dependence. Some existing models of alcohol dependence are outlined. Attachment theory is then presented as a possible foundation for a comprehensive model of alcohol dependence, and additional factors including cognitive schemas and dissociation are then discussed.

Alcohol Dependence

The term 'alcoholism' was first used by Magnus Huss in 1865 (Chick & Cantwell, 1994). Until relatively recently, the term has been used to describe problem drinking, but its definition has remained quite variable, and so not particularly helpful in thinking about the myriad of issues surrounding the problematic use of alcohol. In the last 30 years, epidemiological study has led to the operationalisation

of definitions which distinguish between alcohol use, dependence and the social, mental, and physical problems caused by these.

Alcohol dependence syndrome, as defined by the ICD-10 (World Health Organization, 1992) is 'a cluster of physiological, behavioural and cognitive phenomena in which the use of [alcohol] takes on a much higher priority for a given individual than other behaviours that once had greater value (ICD-10, p. 75). Diagnosis involves three or more of the following elements:

- Strong desire or compulsion to use alcohol;
- Difficulty in controlling alcohol use;
- Physiological withdrawal when alcohol use is reduced or stopped;
- Evidence of tolerance to the effects of alcohol;
- Progressive neglect of alternative pleasures or interests;
- Persistence with alcohol use despite clear evidence of overtly harmful consequences.

Prevalence

Farrell *et al* (1998) report the findings of the Office of Population, Censuses and Surveys (OPCS) national psychiatric morbidity study, comprised of three major surveys assessing the prevalence of alcohol consumption and dependence, drug use and psychological problems in various settings in the UK. The rate of alcohol dependence was found to be 5% in the general population, and higher in psychiatric institutions (7%) and homeless populations (21%). Paykel *et al* (2000) categorised these prevalence rates by area of residence, differentiating urban, rural and semi-rural

populations. They found significant differences, with the highest rates among urban dwellers (5.5%), followed by semi-rural (3.9%) and rural communities (3.5%). Ryan (1992) reports that prevalence also varies by gender, with rates of 'heavy drinking' ranging from 2% among women to 8% for men in London. Mason and Wilkinson (1996) report that in the OPCS morbidity study, rates of alcohol dependence were 3 times higher among men than among women.

Co-morbidity

Alcohol dependence has been reported to have high rates of co-morbidity with other psychological disorders, in particular with anxiety and depression. One of the first major investigations of co-morbidity rates was the Epidemiologic Catchment Area (ECA) study in the USA (Regier *et al*, 1990), which reported a 37% rate of co-morbid psychiatric disorder among those with an alcohol disorder, and a lifetime prevalence of alcohol dependence of 22% among those with another psychiatric illness. The most common co-morbid disorders among those with an alcohol disorder were anxiety disorders (19%), antisocial personality disorders (14%) and affective disorders (13%).

In the UK, the OPCS study (Farrell *et al, 1998)* used the Clinical Interview Schedule (Revised) (CIS-R) to assess psychiatric symptomatology, and reported that alcohol problems were associated with a greater number of neurotic disorders. The prevalence of alcohol dependence among those classified as having no neurotic disorders was 5%, compared to 11% among those with one disorder, and 21% among those with two or more. However, Farrell *et al* point out that the direction of the

relationship between alcohol problems and psychiatric disorder is not evident from these results.

Davidson (1995) examined depressive symptomatology during hospital admissions due to alcohol dependence, and found depression to be strongly related to current drinking status. Most symptoms remitted within one to two weeks of detoxification from alcohol, suggesting that symptoms of depression may be result from heavy drinking, rather than being a causal factor in drinking behaviour. Kushner, Sher and Erickson (1999) investigated the nature of the relationship between alcohol dependence and anxiety disorders, and found a reciprocal relationship, whereby each type of disorder may lead to and maintain the other.

Alcohol Dependence Typologies

Typologies have been proposed which distinguish different drinking patterns (Jellinek, 1960), personality types (Knight, 1937), psychiatric diagnoses (Winokur, Rimmer & Reich, 1971), dynamics influencing drinking (Blane, 1968) and patterns of heritability (Cloninger, 1987). Although many have protested that these typologies are either unconvincing or unhelpful, Levin (1990) suggests that, despite their limitations, typologies have been important steps in the continued attempt to better understand alcohol dependence. As well as identifying different types of problem drinker, many of the typologies which have been proposed contain inherent inferences or suggestions about the aetiology of alcohol dependence. The complexity of this issue of aetiology can been seen in the various systems, which

reflect the genetic, physiological, psychological and social factors which have been implicated in alcohol difficulties.

Perhaps the most influential of these typologies is Jellinek's (1960) taxonomic system. Although its validity is questionable, particularly in that individual's classification can change over time, the fundamental concept of distinguishing between patterns of drinking has influenced subsequent research and practice enormously. Jellinek hypothesised five categories of alcoholism, and named them alpha, beta, gamma, delta and epsilon alcoholism, which differentiate the psychological and physiological aspects of alcohol dependence. Jellinek did not consider the first two of these to be true diseases, representing as they did primarily psychological dependence, and physical side effects of alcohol use respectively, without other dependence or withdrawal symptoms or significant impairment. Gamma alcoholics experience both physical and psychological dependence and impairment. Their drinking is heavy and characterised by loss of control once a drink has been taken. This category represents the 'typical' alcoholic seen in treatment centres, although it can include individuals who never come into contact with services. Delta alcoholics are those who experience physical dependence and withdrawal, without psychological symptoms, such as people in cultures where heavy social drinking is the norm. Finally, epsilon alcoholism is periodic or binge drinking, characterised by periods of heavy drinking separated by periods of abstinence.

Since Jellinek's original taxonomy, researchers have attempted to define more accurately patterns of problematic drinking. For example, Epstein *et al* (1995)

described four categories, steady, binge, episodic and sporadic drinking, and demonstrate good validity for this classification system of sub-types of alcohol dependence. However, overall, the results of such studies have not been particularly consistent, and the only convincing distinction, which is still used in research and clinical contexts, is between Jellinek's gamma and epsilon categories, or continuous versus periodic / binge drinking.

Another type of taxonomic system of alcoholism is that which considers clinical aspects of the individual, such as those of Knight (1937) and Blane (1968). Knight (1937) developed a two-category system, which differentiated between 'essential' and 'reactive' alcoholics on the basis of their developmental level. Essential alcoholics are those who have never accomplished the developmental task of separation-individuation, and are fixated at the anal stage of psychosocial development. Reactive alcoholics, are those who have developed more adequate object relations, and have had an independent adult life, before 'becoming' an alcoholic in response to psychological conflict. Knight saw reactive alcoholism as more of a temporary psychological problem which could be resolved relatively easily, as opposed to essential alcoholism, which has saw as an inherent part of the individual's psychological development.

Finally, Blane (1968) differentiated between individuals on the basis of their capacity for independence. He described 'dependent alcoholics', who are similar to Knight's essential alcoholics, and who are unhealthily dependent adults. 'Counterdependent alcoholics' assert their fierce independence by denial of any dependence needs and reaction formation, and may display antisocial personality traits. Finally,

'dependent-counterdependent' alcoholics feel their conflict around dependency actively and acutely, and experience most pain of the three groups around the conflict, which Blane felt made them most amenable to treatment.

More recently, Johnson *et al* (2000) have attempted to sub-type alcohol dependent patients by age of onset, and suggest that they can be sub-divided into those whose alcohol problems were evident before the age of 20, between 20 and 25 years, and after 25 years of age. They report that lower age of onset is associated with greater severity of alcohol-related problems, psychopathology and mood disturbance and poorer social functioning among other things. This study may reflect the variety of casual factors in alcohol difficulties, including the physiological addiction to alcohol itself, which is perhaps more of a factor in late onset problems, while underlying psychological disturbances might be more severe in those who develop alcohol problems early in life. This points to the possibility of developmental elements in alcohol dependence, and particularly in more severe alcohol dependent patients.

Models of Alcohol Dependence

In 1981, Shaffer and Burglass wrote that the study of addiction had not yet produced a comprehensive model of addictive behaviour, and that consequently almost any information was relevant, in the absence of a prominent convincing theory. It seems as though little has changed in this respect, since despite attempts to explain the aetiology of addictive behaviours, and particularly alcohol dependence, there still exists no one widely accepted theory of dependence and addiction.

One issue which is frequently discussed is whether alcohol dependence should be seen as a disease, a moral aberration, or simply a bad habit (Levin, 1990). Early disease models stemmed from work by Jellinek (1952, 1960), in an attempt to reduce the prevalent attitude of blame towards those with alcohol problems and increase treatment availability. Even when it is accepted as a disease, as it has often been, Jellinek (1960) points out that it is not clear whether it is a physical, mental and emotional disease, or some combination of all three. The contemporary disease model is characterised by four elements:

- Alcohol dependence is a unitary, identifiable phenomenon;
- There are constitutional differences in those who have or will develop alcohol problems and those who will not, and these difficulties are not caused by alcohol itself;
- Alcohol dependence involves a loss of control over drinking, so abstinence is the only goal of treatment; and
- The individual suffering from alcohol dependence is a helpless victim of uncontrollable internal physiological mechanisms (George & Marlatt, 1983).

The 'internal physiological mechanisms' which have been proposed in explaining alcohol dependence as a disease include allergies to alcohol (Eastman, 1984), biochemical deficiencies (Shields, 1977), and personality deficits (McClelland, Davis, Kalin & Wanner, 1972). However, research in these areas has failed to provide convincing evidence for their role in the aetiology of alcohol problems. In addition, since the exact nature of the 'disease' of alcohol dependence has not been established, effective medical treatments have been rather limited. In fact, George and Marlatt (1983) point out that existing treatments for alcohol dependence tend to

use medical and other arguments to encourage abstinence, when, by its own definition, the disease model purports that the individual is incapable of such control.

The principal alternatives to the disease model of alcohol dependence have been those approaches which emphasise behavioural principles such as positive and negative reinforcement, and social learning, as triggering and maintaining excessive drinking. Existing theories include the anxiety reduction model, excessive appetite theory and psychodynamic models of addiction.

The anxiety reduction model, which was proposed by Hodgson, Stockwell and Rankin (1979), states that drinking serves to reduce stress levels in individuals susceptible to high levels of tension, and is maintained by negative reinforcement. This model is supported by anecdotal reports that drinking 'to reduce anxiety and cope with stressful situations is one of the most common reasons given by heavy social drinkers and problem drinkers for their behaviour' (Stockwell, 1995). The high levels of anxiety seen in this population further lends support to the model.

The excessive appetite model (Orford, 2001) sees alcohol dependence as the most typical example of a range of difficulties which arise when usually unproblematic 'appetitive behaviours' become uncontrollable and excessive. The model, which is applied equally to alcohol use, drug-taking, eating, gambling and sexual behaviour, sees these behaviours as having functions related to mood regulation, expression and identity. These are multiply determined, with characterological factors amplified by social and environmental contributors, such as availability and social learning. These determinants are mediated by personal choices based on attachment to the behaviour

and the potential risks involved, which may result in a conflict of motives around the behaviour. Orford proposes that the intrapersonal processes of motivation and learning, which occur within diverse sociocultural contexts, account for the development of a strong attachment to an appetitive activity, such as alcohol dependence. Self-control is diminished to the point that potentially normal behaviour presents as a 'disease'. The personal conflicts which may arise can result in giving up excessive behaviours, which accounts for the reports of change occurring spontaneously, outside treatment.

Psychodynamic approaches have tended to explain alcohol dependence by emphasising the defensive functions of addictions in general. Hughes (1999) summarises the defensive functions of substance misuse as denial of dependence on another, and displacement of that need from the object, to the substance. Alcohol (and other substances) can also have an avoidant function, in helping the individual cut off from painful emotions, such as depression, anxiety or anger.

Kohut's (1971, 1977) model of 'self-psychology' also provides a basis for psychoanalytic understanding of addictive behaviours, including alcohol dependence. In this model, the drug can be seen as a 'self-object', which is felt to be part of the self and over which control is expected: "the drug... serves not as a substitute for loved or loving objects... but as a replacement for a defect in the psychological structure" (Kohut, 1971). The drug acquires a significant role in dealing with life experience, by affecting mood, raising self-esteem, providing energy, a sense of power and intense emotional experiences or reducing negative emotional

experiences, which have at their base a 'defect' arising from early childhood experience.

Each of these models accounts for certain aspects of addictive behaviours, but fail to provide a comprehensive explanation, and none has emerged as a satisfactory psychological theory of alcohol dependence or addiction. However, all the models outlined above may have some merit in explaining different aspects of alcohol dependence, and many have elements in common. For example, the disease model emphasises the uncontrollable nature of alcohol dependence, and is favoured by many alcoholics in the AA movement, who may feel it explains their lack of control over drinking and the apparently constitutional nature of their difficulties. The anxiety reduction model accounts for the high level of anxiety seen in those with alcohol problems, and may explain the attraction of excessive alcohol use in the face of numerous apparent drawbacks. However, it fails to account for individual differences in alcohol use, and seems a somewhat simplistic explanation of such a complex phenomenon. Excessive appetite theory combines a number of aspects of alcohol dependence, such as characterological issues and environmental factors, but does not fully explain how these result in alcohol dependence. Further, this theory emphasises personal choices, which does not fit well with accounts of addictive behaviours as involuntary rather than being controlled decisions to use drugs or alcohol. Finally, psychodynamic models seem to describe thoroughly the underlying psychological mechanisms and difficulties, but have not been supported in research, and do not account for the conscious aspects of alcohol dependence, and the cognitive elements involved.

Therefore, it seems that any comprehensive model of alcohol dependence needs to take all the elements into account. Attachment theory provides a foundation for development of a model of alcohol dependence which incorporates these elements, and allows for different levels of explanation, including interpersonal and cognitive factors.

Attachment Theory

Attachment theory was first proposed by John Bowlby (1958, 1960) to explain the bond between a child and its primary care-giver, and the theory has subsequently been developed by others. Significant developments include the identification of patterns of attachment (Ainsworth, 1985; Ainsworth, Blehar, Waters & Wall, 1978), development of measures of attachment in adults (Main & Goldwyn, 1985), and the study of the role of attachment in romantic relationships between adults (Shaver and Hazan, 1988).

Bowlby's (1969, 1973, 1980) developmental theory of attachment integrated ideas from many sources, including psychoanalysis, learning theory, ethology and experimental psychology in explaining both the selective bonds which form between individuals, and the impact of actual or potential disruption of these bonds on psychological functioning. He proposed that a sound attachment to one care-giver, the *attachment figure*, is necessary for the optimal psychological development of the child, and that the failure to develop such an attachment, or the disruption of an attachment bond at an early age has detrimental consequences for psychological functioning and contributes to psychopathology.

An attachment relationship as conceptualised by Bowlby is uniquely different from other relational bonds. West, Sheldon & Reiffer (1987) describe three central *attachment behaviours,* which differentiate attachment from other relationships. These are (1) the child's *seeking proximity* to the attachment figure, (2) the attachment figure's role as a *secure base* from which the child can safely explore the world around it, and (3) the infant's *protest at separation* from the attachment figure, which usually involves attempts to avoid such a separation. Collectively, these attachment behaviours are known as the *attachment system,* which is particularly evident in strange or threatening situations and is directed towards a specific individual, the attachment figure.

Attachment relationships have different qualities, depending on the early experience of the child, in particular the response of the attachment figure to the child. The concept of *maternal sensitivity,* the ability to recognise and respond directly and appropriately to the infant's signals, is considered the most crucial factor in the quality of attachment (Ainsworth, Blehar, Waters & Wall, 1978). This is comparable to psychoanalytic models of 'good enough' mothering (Winnicott, 1965), which see the process by which a mother consistently responds appropriately and sensitively to her baby, as crucial. This sensitive responding allows the child to develop a sense of himself as a real, independent and valuable person, which is central to healthy psychological development (Bion, 1962a, 1962b; Fairbairn, 1954).

Ainsworth and Wittig (1969) developed a laboratory procedure known as the Strange Situation which allowed them to observe infants' reactions to separation from, and

reunion with their mothers, in an unfamiliar setting, which accentuates the typical attachment behaviours . From this procedure, three categories of attachment were identified: secure, avoidant and anxious/ambivalent (Ainsworth *et al*, 1978). These categories describe the infant's reaction to separation from the caregiver and their response when the caregiver returns, as well as other more general aspects of their behaviour during childhood. Ainsworth *et al* have also described the types of maternal behaviour which lead to these different patterns of attachment relationship.

Securely attached infants are upset by separation, but exhibit a positive response to the caregiver on their return. They are children who engage in active exploration, but are quite wary of strangers during infancy. Mothers of securely attached children are consistently sensitive and responsive to their infant's signals, and are generally available and warm towards the child.

Ainsworth *et al* (1978) described two categories of insecure attachment, avoidant and anxious/ambivalent. Children with avoidant patterns of attachment appear detached on separation and avoid the caregiver when reunited. In general, they behave as though they are disinterested in the mother, focusing their attention instead on toys, or other objects in the room. This exploratory behaviour differs from the confident exploration of a securely attached child, in that it is " devoid of the true interest that is inherent in non-anxious exploration" (Ainsworth *et al*, 1978, p320). Mothers of avoidant children are described as rejecting, rigid and hostile. They tend to be insensitive to their infant's signals and rebuff or deflect when the infant attempts to gain proximity, particularly when this involves bodily contact with the infant.

Anxious / ambivalent attachment results in significant, visible distress and much protest on separation, followed by anger and ambivalence upon reunion. These infants tend to be preoccupied with the mother's availability generally, appearing clingy and overly dependent. Mothers of anxious / ambivalently attached children tend to respond inconsistently to their infant's signals, which results in the child's anxiety about whether the parent will be available or responsive to them.

Main and Solomon (1986, 1990) later identified a fourth pattern of attachment, *disorganised / disoriented.* These children appear to have a conflicting drive for both the closeness craved by anxiously attached children, and the avoidance of intimacy of avoidantly attached children. Consequently, they exhibit a somewhat chaotic, disorganised pattern of attachment behaviours, and withdrawal, on separation from and reunion with the mother (Main & Solomon, 1990). Disorganised attachment is the result of frightening or frightened responses from caregivers, which is often followed by some degree of comfort from the caregiver, which leads to confusion in the child as to what to expect from caregivers, and therefore how to behave towards them. It is often seen in children who have suffered abusive experiences early in life.

Ainsworth's three major attachment "types" can also be conceptualised as 'regions in a two-dimensional space' (Brennan, Clark & Shaver, 1998), the two dimensions being *avoidance* (discomfort with closeness and dependency) and *anxiety* (crying, failing to explore confidently in the absence of the mother, and angry protest directed at the mother during reunions). These dimensions relate to strategies for managing insecurity and ensuring caregiver attention when necessary (Main, 1990). Securely attached individuals have a primary strategy which involves the differential and

flexible use of the attachment behaviours described above, or the *attachment system.* In the absence of secure attachment, secondary strategies for obtaining caregiver attention are learned. These involve either a hyperactivation of the attachment system and excessive preoccupation with maintaining proximity to the attachment figure (anxiety) or a suppression of the attachment system, and persistent avoidance of closeness (avoidance).

These two dimensions can be organised to form four categories of attachment, depending on whether anxiety and avoidance are low or high. Infants who are low on anxiety and avoidance are neither anxious about abandonment, nor avoidant in their behaviour, in other words, they are securely attached. Infants who are anxious about abandonment, but not avoidant, are preoccupied or anxious about closeness (*anxious attachment*). Those who are avoidant of closeness, but who do not appear anxious, exhibit dismissingly *avoidant attachment.* Finally, high anxiety and avoidance represents *disorganised attachment*, which combines anxiety about abandonment with avoidant behaviour, resulting in a combination of both hyperactivation and suppression of the attachment system, and results in a conflict between preoccupation with closeness and avoidance of intimacy (Hesse, 1999; Lyons-Ruth & Jacobvitz, 1999). These four categories are consistent with Ainsworth et al's description of secure, anxious / ambivalent and avoidant attachment, and Main and Solomon's (1990) fourth category of disorganised attachment.

Internal Working Models

Over time, the pattern of interaction which characterises the parent-child relationship becomes represented in the child, as *internal working models* of the self and others. This is particularly in terms of the self being loveable or unlovable, and of others being caring, rejecting, protecting etc. Through the relationship with her parents in childhood, a child builds up images of herself and her parents, which influence how she feels about herself and about each parent, as well as how she expects to be treated by them and how she plans to behave towards them. Thus, secure children develop models of themselves as worthy of love and of their caregivers as available and loving. Anxiously attached children develop models of themselves as loveable and needing their caregiver's love and attention, but of the caregiver as generally unavailable, and therefore have to struggle to obtain that attention. Avoidant children see themselves as not deserving the caregiver's love or attention, and the caregiver as distant and unavailable, and so develop an expectation that they can only rely on themselves. Disorganised attachment, associated with abusive or extremely inconsistent responses from caregivers, results in the child developing multiple, incompatible models of himself. These multiple models result in the conflict between intimacy and avoidance seen in individuals who display disorganised attachment.

These internal representations, or working models, also influence the individual's perception of, and therefore response to external events, particularly interpersonal events, and their strategies for processing attachment related thoughts and feelings. The consistently adaptive use, hyperactivation, suppression or disorganised use of

the attachment system becomes embedded and relied on chronically, to cope with, particularly, attachment related stress. Although internal working models are primarily unconscious, there are parallels with cognitive models of core beliefs and schemas, which will be discussed later.

Once an attachment has been formed, it is extremely resistant, and can persist regardless of subsequent experience. However, there are certain attachment related events, such as loss or abuse, which can influence a child's internal representations, and thus their subsequent strategies for processing thoughts and feelings.

Attachment theory, as a developmental theory, is concerned with both normal and pathological development. Secure attachment provides an optimal developmental pathway, while insecure attachment creates a imperfect pathway along which development can proceed, from childhood into adolescence. By adolescence and adulthood, the manifestation of the attachment relationship will have moved from external observable behaviours and interactions, to internal representations of relationships, in terms of beliefs and expectations (Main, Kaplan & Cassidy, 1985). Furthermore, the internal representations of relationships which result from early attachment are enduring, and continue to have an influence on the individual's interpersonal relations, other than the relationship with the main attachment figure, throughout the lifespan. Caspi and Elder (1988) suggests that one way relational styles from childhood affect later relationships is that they are likely to be evoked in other similar situations, particularly in ambiguous situations, and that they are then likely to elicit responses from others which validate that relational pattern. This not only explains the repetition of attachment patterns across generations (Main, Kaplan

& Cassidy, 1985; Sroufe & Fleeson, 1988), which has been well demonstrated, but also means that individuals are likely to find themselves repeating patterns of relationships throughout their life.

Adult Attachment

Attachment theory proposes that the attachment with the primary caregiver in infancy has far reaching effects across the lifespan, in terms of interpersonal relations and response to adversity. This proposition has been tested by many researchers who have attempted to assess adult attachment and its impact on psychological well-being in adulthood.

Hazan and Shaver (1987) applied attachment theory to adults in their conceptualisation of romantic love as an attachment process. They applied the three patterns of attachment identified by Ainsworth *et al* (1978) to adolescent and adult romantic-attachment orientations, and found that people could be categorised according to one of three romantic attachment-style prototypes, which paralleled Ainsworth et al's infant attachment categories. Levy and Davis (1988) used Hazan and Shaver's (1987) categories as dimensional measures, by asking people to rate how well each category described them. They found that the three ratings could be reduced to two dimensions, one corresponding to avoidance (discomfort with closeness and dependency) and the other to anxiety (about abandonment). Simpson (1990) similarly broke Hazan and Shaver's prototypes down into single statements, to form Likert scale items, and also found that two distinct factors could be obtained from the results. These were called "security vs. avoidance" and "anxiety" (about

abandonment). Subsequent studies obtained similar results, and Brennan, Clark and Shaver (1998) conclude that the research consistently demonstrates that adult attachment measures primarily assess the two dimensions of avoidance and attachment-related anxiety.

Bartholomew (1990) proposed a two-dimensional, four category model of adult attachment, defined by two underlying dimensions of *models of the self*, and *models of others*, which can be positive or negative. A positive model of the self, combined with a positive model of others, is concordant with a secure attachment style. A negative view of the self, with a positive view of others, represents anxious attachment, with high anxiety about relationships and need for closeness. A positive view of the self with a negative view of others represents avoidant attachment, characterised by self-sufficiency and avoidance of dependency. Finally, a negative view of the self and negative view of others represents a disorganised attachment, with conflicting feelings about closeness to others.

This model of adult attachment is consistent with the two dimensional, four category model of attachment described by Brennan et al (1998). The dimension of self can be seen as analogous with the dimension of anxiety, which increases as the *models of self* become more negative. Similarly, *models of others* is equivalent to avoidance, which also increases as others are viewed more negatively. This suggests that adult attachment can be conceptualised in a similar way to infant attachment.

Attachment and Psychopathology

Right from Bowlby's original formulation of attachment, there has been an inherent understanding that secure attachment is desirable, in that it acts as a protective factor against later psychological difficulties, while insecure attachment is a risk factor for psychopathology. Attachment theory proposes a model of personality development which is seen in the context of the individual's close relationships with family members and other people. It specifies the mechanisms by which healthy or problematic psychological development progresses. Early experience with caregivers stimulates dispositions towards cognitive, emotional and behaviour patterns in relationships, which promote resilience or vulnerability in the face of stressful life events. Attachment theory hypothesises specific relationships between attachment style or attachment related events, and characteristic ways of thinking, feeling and behaving, which predispose the individual to specific psychopathology.

For example, the early loss of a caregiver, or experiences which approximate the loss or lack of a secure relationship, such as rejection or maltreatment by a parent, may result in feelings of hopelessness, failure, and being unlovable. These internal models will be carried into adulthood, where they continue to affect psychological wellbeing. Specifically, the expectation of hostility and rejection from others, with its consequent behaviour in anticipation, can influence an individual's interpersonal relationships in such a way as to predispose to depression (Bretherton, 1985; Cummings & Cicchetti, 1990). These experiences of rejection and abuse are likely to be related to avoidant or disorganised attachment, through the processes discussed previously. Given the relationship between depression and alcohol dependence, it

may be that these sorts of attachment difficulties are also relevant in the development of alcohol problems.

Anxiety disorders are explained by attachment theory as representing an underlying anxiety regarding the potential unavailability of the attachment figure. Bowlby (1973) suggested that a family environment characterised by high levels of parental control through overprotection or rejection is most likely to be associated with such anxiety. Warren et al (1997) examined the relationship between attachment patterns in childhood and later anxiety disorder, and found that resistant attachment was significantly predictive of anxiety disorder in adolescence. Again, this suggests that avoidance may be a salient factor in alcohol dependence, given the relationship with anxiety, and the finding that alcohol is often used to reduce anxiety and tension (Hodgson, Stockwell and Rankin (1979); Stockwell, 1995).

Theoretical links have also been proposed between attachment and other disorders. For example, Cole-Detke and Kobak (1996) propose a model of eating disorders, which links the function of dissociation from emotional distress in bulimia (Heatherton & Baumeister, 1992), and the need for self-control in anorexia (Slade, 1982; Fairburn, Shafran & Cooper, 1999) with avoidant attachment. Their model is based on the finding that early experience which leads to a child feeling that she is incapable of independence, or unlovable, may lead to the development of an avoidant coping strategy, and is likely to lead to the development of externalising symptoms (Dozier, Stovall & Albus, 1999). Cole-Detke and Kobak (1996) see the sufferer's disordered eating as an attempt to gain control over their world through eating patterns, which direct attention away from internal distress.

Attachment and Alcohol Dependence

Cole-Detke and Kobak's (1996) model of eating disorders might have relevance in alcohol dependence also, as eating disorders are often seen as a form of addictive behaviour (Wilson, 1993, Haddock, 2000), with similarities in terms of underlying psychological difficulties. Indeed, the excessive appetite model (Orford, 2001) outlined above is equally applicable to eating disorders and alcohol dependence, as well as other substance misuse disorders.

Another link between eating disorders and alcohol dependence is dissociation, which is seen as an important factor in both disorders (Heatherton & Baumeister, 1992; Roesler & Dafler, 1993). The role of dissociation in alcohol dependence might point to disorganised attachment among this group, as dissociation is seen as an important factor in the relationship between disorganised attachment and psychopathology (Liotti, 1999). The multiple and mutually incompatible representations of the self, which develop as a result of inconsistent messages about one's self and one's caregiver, present the child with an unresolvable dilemma. She can neither go to the caregiver for comfort, nor withdraw and deny the need for such comfort. It is thought that the only way for children to cope with this situation is to cut off, or dissociate, from some parts of the self, focusing only on compatible needs, which can then be gratified. This pattern of coping with emotional distress becomes ingrained, and relied on heavily throughout the lifespan. In extreme cases this can become manifest as a dissociative disorder, but it may also become apparent in dissociative symptoms, such as eating disorders (Everill & Waller,1995) self harm (Jarvis & Copeland, 1997; Kashgarian, 1999) or substance misuse (Briere & Runtz, 1987).

Given the relationship between general psychopathology and attachment, and specifically dissociation, it seems likely that alcohol problems may also be related to attachment difficulties, in particular to avoidant and disorganised attachment. In fact, Blane's (1968) model of alcohol typologies has striking parallels with attachment theory. His 'dependent alcoholics' could be seen as anxiously attached individuals, while 'counterdependent alcoholics' appear to have a pattern of avoidant attachment, and 'dependent-counterdependent alcoholics' appear similar to individuals with disorganised attachment styles.

It has been proposed that substance abuse may be associated with a delayed maladaptive attachment transition in young adults (Hofler & Kooyman, 1996). This model sees the addiction as a means of coping with the painful urge for physical closeness, by moving the urge for a relationship with the attachment figure, toward a "neutral object," the drug, which becomes the attachment object, and serves as a secure base. The addicted person thus becomes able to withdraw from close relationships and intimacy. This would be consistent with disorganised attachment, as the addicted person is able to withdraw from real human intimacy, while still retaining a semblance of attachment with the neutral object.

Hofler and Kooyman (1996) point out similarities between the attachment behaviours described above, and the behaviour of an addicted person towards the drug, including proximity seeking, or availability of the drug, and the feeling of security when the attachment figure / drug is around. Drugs alleviate pain, anger and other negative emotions, just as a secure attachment helps a child cope with these

emotions. When threatened with the removal of the secure base, the drug of choice, separation protest can be seen, as the importance of the drug increases.

Schema Theory

Attachment theory proposes that the mechanism which links early relationships with later emotional difficulties is the development of *working models* (Bowlby, 1973), or internal representations derived from interactions with caregivers about 'the self as worthy or unworthy' (p.238) and about the 'accessibility and responsiveness of attachment figures' (p. 235). One of the ways that attachment influences later cognitive processing and behavioural responding may be through the development of mental representations, such as schema about the self, others and the world. Blatt (1995) suggests that it may be useful to consider various types of psychopathology in terms of impairments in the development of cognitive-affective schema or representational structures.

Recent research on the nature of working models has emphasised their general and abstract nature (Bartholomew & Horowitz, 1991; Shaver, Collins & Clark, 1996). Shirk (1998) points out that these abstract images of the self and others may not be specific enough to account for the situational variation in interpersonal behaviour and emotional response. He suggests that while early attachment provides a model of caregiver's responsiveness to the self in times of stress, that the consequent internal models are derived from only one kind of interpersonal relationship, and that it is likely that children develop other models in the context of different kinds of relating.

Shirk hypothesises that *interpersonal schemas* build on working models of attachment to provide the individual with more specific models and expectations regarding the self and others in a broader range of situations and contexts. Similarly, Cyranowski and Andersen (1998) suggest the development of *sexual self-schemas*, also based on attachment representations, which provide expectations about, and influence behaviour in, romantic and sexual relationships.

Both Shirk's and Cyranowski and Andersen's models focus on interpersonal schemas, which are thought to influence interpersonal behaviour in particular. Young's (1990) Schema Focused approach, focuses more on individual schemas, and their direct relationship with psychopathology. This approach is based on cognitive models of psychopathology, which hold that pervasive cognitive themes, or schemas, about the self and others, which develop during childhood, organise information at a cognitive level, and affect self perceptions and interpersonal relationships. This model could be seen as a cognitive parallel to Bartholomew's (1990) attachment dimensions of positive and negative models of the self and others. Young (1990) proposed a classification system of common Early Maladaptive Schemas (EMS) which underlie psychopathology. Young's 15 EMS are classified under five broader *schema domains* outlined in table 1 below.

Table 1: Description of schema domains and component schemas

Schema Domain	***Description***	***Early Maladaptive Schemas***
Disconnection and Rejection	Expectation that one's emotional needs will not be met consistently.	Abandonment / Instability Mistrust / Abuse Emotional Deprivation Defectiveness / Shame Social Isolation
Impaired Autonomy & Performance	Expectations about self and others interfere with successful, autonomous functioning.	Dependence / Incompetence Vulnerability to harm or illness Enmeshment / Undeveloped Self Failure
Impaired Limits	Deficiency in internal limits and responsibility to others.	Entitlement / Grandiosity Insufficient Self-control / Self-discipline
Other-directedness	Neglect of own needs in favour of others' to obtain love or avoid rejection.	Subjugation Self-sacrifice
Overvigilance & Inhibition	Excessive control of spontaneous feelings or rigid rules about behaviour.	Overcontrol / Emotional Inhibition Unrelenting Standards / Hypercriticalness

The existence of these basic schemas, within the higher order structure of the five schema domains has been supported by subsequent research (Lee, Taylor & Dunn, 1999; Schmidt, Joiner, Young & Telch, 1995). Lee *et al* also conclude that the pattern of maladaptive schemas also fits well with existing models of psychopathology, and described it as a promising way of identifying and evaluating the schemas underlying psychological disorders.

The schema model fits with the idea of alcohol dependence as a form of 'chemical dissociation', which distracts attention from the emotional distress caused by these extreme negative views of the self, and the anxiety resulting from negative views of others.

Guidano (1986) suggests a model of development of the self, which integrates these aspects of attachment and cognitive development. He suggests that attachment provides rules for perceiving and relating to the world, and influencing personal styles of coping with stress and regulating emotional experiences. Attachment is seen as an organising framework, upon which emotional and cognitive growth can take place with stability and continuity. Guidano suggests that the identification processes involved in attachment and in the development of internal working models, provide the child with emotional schemata, which organise their perceptual and cognitive experiences, and give consistency to their sense of self. The self-knowledge, which evolves from these emotional and cognitive processes, becomes represented as a stable set of abstract emotional, cognitive and behavioural rules, providing a feeling of congruence with subsequent experience. In accord with current conceptualisations of internal working models as general and abstract

(Bartholomew & Horowitz, 1991; Shaver, Collins & Clark, 1996), Guidano states that it is only with the development of higher cognitive skills, that individuals can begin to organise their self-knowledge on a more explicit and conscious level. This is consistent with schema based models (Shirk, 1998; Young, 1990) which see attachment as an underlying, organising framework, upon which more detailed cognitive models are based, which provide more specific, concrete rules, which influence behaviour in a range of situations.

Young's schema theory (1998) also includes these aspects of emotional and cognitive functioning, in his conceptualisation of *coping styles* and *schema modes.* Coping styles refer to the ways individuals adapt to schemas and painful childhood experiences. *Schema modes* are 'moment-to-moment emotional states and coping responses', which tend to be triggered by particular types of situations to which an individual may be sensitive, and lead to an extreme reaction, which often has negative consequences for the individual.

Coping Styles

Young sees coping styles as normal attempts to survive in difficult early environments, which become entrenched, and therefore repeated long after they are adaptive, and hinder psychological development.

Schema theory describes three main ways of coping with early maladaptive schemas: *surrender* to schemas and repetition of patterns; *avoidance*, blocking or dissociation

of schemas; and *overcompensation*, or actively attempting to behave in contrast to the schemas.

Schema Modes

At any given moment, one or more schemas may be predominant, while others are latent. A schema mode represents "those schemas or coping responses that are currently active for an individual". Schema modes can also be seen as aspects of the self, involving specific schemas or coping responses, which are dissociated from other parts of the self to varying degrees. Changes in schema modes, and in the degree of dissociation range from normal mood changes to dissociative states and even Dissociative Identity Disorder.

Schema theory identifies 10 schema modes, grouped into four categories: *Child modes*, which may be vulnerable, angry, impulsive or happy; *Maladaptive Coping modes*, which include compliant surrender, detached protector, and overcompensator; *Maladaptive Parent modes*, which are punitive and demanding; and *Healthy Adult mode*, which counteracts the destructive unhealthy modes, and accommodates appropriate adult functioning.

Given the nature of addiction, as a form of 'chemical dissociation' from emotional distress, it seems likely that the relationship between addiction and attachment may be mediated by specific schemas, such as those proposed by Young (1990). In particular, the schema domains of disconnection and impaired limits may be related to the difficult and abusive childhood experiences of many individuals who become

dependent on alcohol. In terms of coping styles, avoidance is seen as related to the use of addictive behaviours and the withdrawal associated with substance abuse. Finally, the dominant schema modes associated with alcohol misuse might be child and maladaptive coping modes, rather than parental and healthy adult modes.

The literature on attachment suggests that insecure attachment, and avoidance in particular, may be associated with addictive behaviours, of which alcohol dependence is a prominent example. Cognitive models suggest that an immediate trigger for such difficulties are early maladaptive schemas. This leads to the current hypothesis that the relationship between attachment and alcohol dependence is mediated by negative models of the self, and a lack of emotional regulation and coping skills to deal with the consequent psychological distress. Consequently, dissociation is used to distract oneself from the unbearable and unmanageable feelings, and substance use, including alcohol abuse is used as a form of 'chemical dissociation' to facilitate this process.

Research Questions

This study will examine the first element of this proposal, namely the relationship between attachment, early maladaptive schemas and dissociation in alcohol dependence. Emotional regulation and coping skills will not be assessed, but may be important factors to consider in future research.

The specific hypotheses of the study are as follows. Attachment and schemas will be associated with degree of alcohol use and abuse. Specifically, *(H_1)* recreational users

will show more secure attachment than alcohol abusers, and alcohol dependent participants will score more highly on the YSQ than non-dependent participants, both *(H_2)* in terms of numbers of schemas endorsed, and *(H_3)* in the extent to which those beliefs are endorsed. In addition, *(H_4)* it is expected that specific schemas or types of schemas will be related to heavy alcohol use.

(H_5) - Higher levels of dissociation will be associated with higher level of alcohol use, and *(H_6)* group differences in dissociation will be evident. The dependent group are expected to report more dissociative experiences than the non-dependent group.

Additionally, although not a specific hypothesis of this study, it has been suggested that certain attachment styles will be associated with particular patterns of schemas (Cyranowski and Andersen, 1998). Due to the lack of previous studies in this area, specific hypotheses about alcohol users are precluded. However, it seems reasonable to speculate that more secure attachment will be associated with fewer maladaptive schemas than less secure attachment. Exploratory analyses will be conducted on the relationship between attachment anxiety and security and specific types of schemas. Similar exploratory analyses will look for relationships between attachment and dissociation, and early maladaptive schemas and dissociation.

Methodology

Design

An independent group design was used to compare alcohol dependent participants with control participants who were social drinkers. The study was approved by the Institute of Psychiatry Ethical Committee (Appendix I)

Participants

Participants for the alcohol dependent group were recruited from local alcohol services, including the local Community Alcohol Team (CAT), inpatient detoxification units, and voluntary alcohol services. Managers of each service were approached and informed about the study, and their agreement was obtained to approach staff for help with identifying and recruiting participants. Staff were similarly informed about the study, including inclusion and exclusion criteria. They were then able to identify suitable clients from their service, and ask them to consider taking part in the study. Clients who were agreeable were given information about the study (Appendix II) by a researcher and asked for their informed consent to participate (Appendix III).

Participants in the control group were initially recruited from local community services, including housing benefits and DSS offices. This was intended to reduce sampling bias between clinical and non-clinical groups. However, it proved difficult to recruit many participants with this strategy, and subsequently support staff at a

local hospital including porters, security and catering staff were also included. Attempts were made to match the clinical and control groups in terms of age, socio-economic status (defined by education and occupation), ethnicity, relationship status and mood.

Measures

The concepts under investigation were adult attachment, cognitive schemas and dissociation. A self-report questionnaire measure was selected to assess each.

Adult Attachment

There has been much controversy and debate over the measurement of adult attachment using self-report measures. The Adult Attachment Interview (AAI) is considered the gold standard of adult attachment measures, and self-report measures are thought to be less valid. However, given restraints on time and resources, the use of the AAI was not viable in this case. Therefore a self-report measure needed to be identified, which would be most applicable to the study and to the participants involved.

Early measures of adult attachment such as that developed by Hazan and Shaver (1987) involved a forced choice question, which asked respondents to select one description which best described them, and an attachment category was assigned as a result of this choice. Subsequent measures developed these three items into longer and more reliable and valid questionnaires, for example Griffin and Bartholomew's

measure (1994), focusing on the two dimensions underlying attachment – anxiety and avoidance. However, responses to items on these questionnaires tend to depend on the respondent being in a long-term romantic relationship, or at least having had some significant experience of such a relationship. This type of measure was not considered appropriate for use with people with chronic alcohol problems, as it was felt that many of them would not have had much experience in such relationships, and this was supported by discussions with staff in the alcohol services involved.

Therefore, it was felt that a measure of adult attachment which did not make specific reference to romantic relationships would be preferable. Feeny, Noller and Hanrahan (1994) developed the Attachment Style Questionnaire for this purpose. It is based on previously well validated self-report measures, but adapted to be used with subjects with little or no experience of romantic relationships. A further advantage of this measure is that the data obtained can be used dimensionally, consistent with recommendations that data should be conceptualised in dimensional terms (Crowell, Fraley and Shaver, 1999). This is based on recent research which suggests that there is no evidence for a true attachment typology, but rather that the conceptual types or styles are regions in a two-dimensional space (Fraley & Waller, 1998). The ASQ is a 40 item self-report questionnaire, and items are scored on a 6 point scale, from totally disagree to totally agree. Respondents can be assessed in terms of security, anxiety and avoidance, and the latter two can also be further distinguished into need for approval and preoccupation with relationships (Anxiety) and relationships as secondary and discomfort with closeness (Avoidance). The authors report good internal consistency (alpha coefficients ranging from 0.55 to 0.88) and satisfactory test- retest reliability (.86).

Cognitive Schemas

Young's Schema Questionnaire (1990) was developed for use within cognitive therapy to assess the cognitions, affects and behaviours underlying psychological difficulties. It is based on cognitive models of psychopathology, which hold that pervasive cognitive themes, or schemas, about the self and others, develop during childhood. These schemas organise information at a cognitive level, and affect self perceptions and interpersonal relationships. Young (1990) proposed a classification system of common Early Maladaptive Schemas (EMS) which underlie psychopathology.

The Schema Questionnaire is composed of 205 items assessing 16 core beliefs or schemas. Subsequent research validated 15 of the 16 original schemas, and Young developed a shorter version with 75 items assessing these 15 schemas (Young, 1998). The longer version has been shown to have good test-retest reliability (R = .76) and internal consistency (Cronbach's alpha =.90) (Schmidt *et al*, 1995). The same authors demonstrated convergent validity in correlations between YSQ scores and overall psychological distress and depression.

The short form of the Schema Questionnaire has been found to have comparable psychometric properties as the longer version, and therefore to be appropriate for clinical and research use (Waller, Meyer & Ohanian, 2000), with an overall internal consistency alpha of .96, and for each sub-scale of at least .80. The short version

was also found to discriminate as reliably as the longer version between a clinical group (bulimic women) and a healthy comparison group ($F_{2, 91} = 75.5$, $p < 0.0001$).

Given these similarities in reliability and validity, the short form of the Schema Questionnaire was selected for use in this study, and dimensional scores on each early maladaptive schema were calculated.

Dissociation

The Curious Experiences Inventory (CES) (Goldberg, 1999), a revision of the Dissociative Experiences Scale (Burnstein & Putnam, 1986) was used to provide a measure of dissociative tendency. It contains 31 items relating to dissociative experiences, providing measures on three subscales of depersonalisation, absorption and amnesia, based on respondent's experiences when not under the influence of alcohol or other substances. Goldberg (1999) reports good internal consistency (alpha .84) and validity (ranging from .51 to .57) for the CES.

Additionally, the *Short Form Alcohol Dependence Data Questionnaire* (SADD-Q) (Raistrick, Dunbar & Davidson, 1983) was used to assess severity of alcohol dependence, and the *Hospital Anxiety and Depression Scale* (Zigmond & Snaith, 1983) was used to provide a measure of depression and anxiety which was used in matching groups. The SADD-Q has been shown to have good internal reliability (Spearman's rho = .87; Raistrick, Dunbar & Davidson, 1983), concurrent validity (rho = .53 to .61) and general construct validity (rho = .49) (Davidson & Raustrick, 1986). The internal consistency of both sub-scales of the HADS had been

demonstrated, alpha = .93 on the Anxiety scale (HADS-A), and .9 on the Depression scale (HADS –D) (Moorey et al, 1991). Test-retest reliability for healthy subjects is .92 on the anxiety scale and .89 on the depression scale (Snaith & Zigmond, 1994). Construct validity has also been demonstrated by Moorey et al (1991), with correlations of .37 for anxiety and .55 for depression, and concurrent validity of .54 and .79 for anxiety and depression respectively has been reported.

A short interview was also used to obtain some information on demographics, personal history, and past and current alcohol use, which was used to confirm participants' suitability for each group. Qualitative information regarding alcohol use, including participants' own perceptions of their alcohol use and their pattern of use. See Appendix IV for interview schedule).

Procedure

Participants were asked to attend a single session lasting between 30 minutes and one hour. The first part of each session consisted of a structured interview about personal information, drinking habits and other drug use. This was followed by the administration of the standardised questionnaires. Due to the very probing and personal nature of the measures, and the potentially vulnerable state of the clinical group, each participant was asked how they felt at the end of the session, and given the opportunity to discuss any issues arising from their participation before ending.

Overview of Data Analysis

SPSS version 9 was used to compare groups using independent samples t-tests and analyses of variance. Levene's test for equality of means was used to check normal distribution of the data. Pearson correlations were used to explore associations between variables. Where non-parametric statistics were necessary, chi-square and Kendall's tau correlations were used.

Unless stated, the numbers in each analysis are 24 in each group. There were a number of missing observations, including one set of HADS data in the clinical group, due to the participant becoming restless and refusing to continue, and CES questionnaire data missing from another participant who was unable to remember a time when he had not been under the influence of alcohol. The number of units consumed per week were not recorded for two currently abstinent participants in the clinical group, due to confusion over current and normal drinking habits. The degrees of freedom, which are reported for each test, vary considerably due to unequal variance between the two groups.

Results

Demographics

The clinical and control groups were compared in terms of age, gender, ethnicity and relationship status, measures of socio-economic status, including education, occupation and residential status, as well as on HADS anxiety and depression scores.

The clinical group was made up of 19 men and 5 women, who ranged in age from 30 to 56, with a mean of 39.1 (± 7.21). The control group was composed of 20 men and 4 women, aged from 22 to 52, with a mean of 35.5 (± 9.3). This age difference was not statistically significant ($t_{42} = 1.53$, $p = 0.14$).

In terms of gender, ethnicity, and relationship status, there were no statistically significant differences between the two groups. Frequencies for each group are shown in Table 2.

Table 2: Number and percentage of participants by gender, ethnicity and relationship status

	Clinical Group *Number (percentage)*	**Control Group** *number (percentage)*
Male	19 *(79.2)*	20 *(8.3)*
Female	5 *(20.8)*	4 *(16.7)*
Total	*24*	*24*
British	17 *(70.8)*	17 *(70.8)*
Other white background	5 *(20.8)*	2 *(8.4)*
Asian	0 *(0)*	2 *(8.4)*
Black (inc. African, Caribbean and other black background)	2 *(8.4)*	3 *(12.4)*
Total	*24*	*24*
Single	11 *(45.8)*	14 *(58.3)*
Married (inc. co-habiting)	8 *(33.3)*	9 *(37.5)*
Divorced / separated	3 *(12.5)*	1 *(4.2)*
Widowed	2 *(8.4)*	
Total	*24*	*24*

The groups were also compared on measures of socio-economic status, including education, occupation and housing status. Significant differences were only found in occupation, with more of the control group being employed in professional roles than the clinical group, while more of the clinical group were unemployed or not working due to ill health. However, when the last occupation held by participants was accounted for, these differences were no longer significant.

Anxiety and depression

In terms of anxiety and depression, the groups were found to be significantly different, the clinical group (N = 23) being both more anxious ($t_{45} = 4.1$, $p < .001$) and depressed ($t_{45} = 4.47$, $p < .001$) than the non-clinical group (N = 24). HADS-A scores ranged from 2 to 18 (mean = 11.6, ± 4.9) for the clinical group, and from 1 to 17 (mean = 6.4, ± 3.7) for the control group. Depression scores in the clinical group ranged from 3 to 15 (mean = 9.4, ± 3.1) and in the control group from 0 to 12 (mean = 4.8, ± 3.8).

HADS scores were also categorised by the level of symptomatology indicated, i.e. none, mild, moderate or severe. The percentage of participants who fell into each category are illustrated in Figures 1 and 2.

Figure 1: Percentage of participants in displaying mild, moderate and severe anxiety.

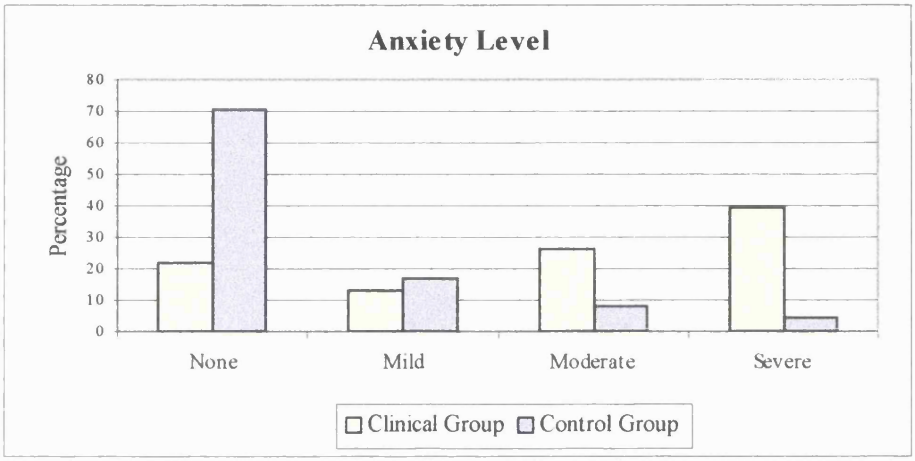
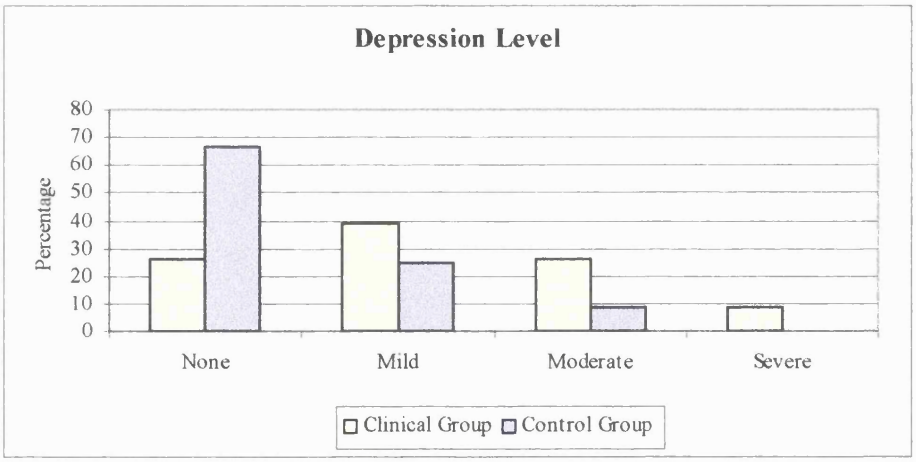


Figure 2: Percentage of participants in displaying mild, moderate and severe depression.



Substance use

The groups were compared on four areas of substance use: self-report measures of alcohol use, subjective description of alcohol use, binge drinking, and other drug use.

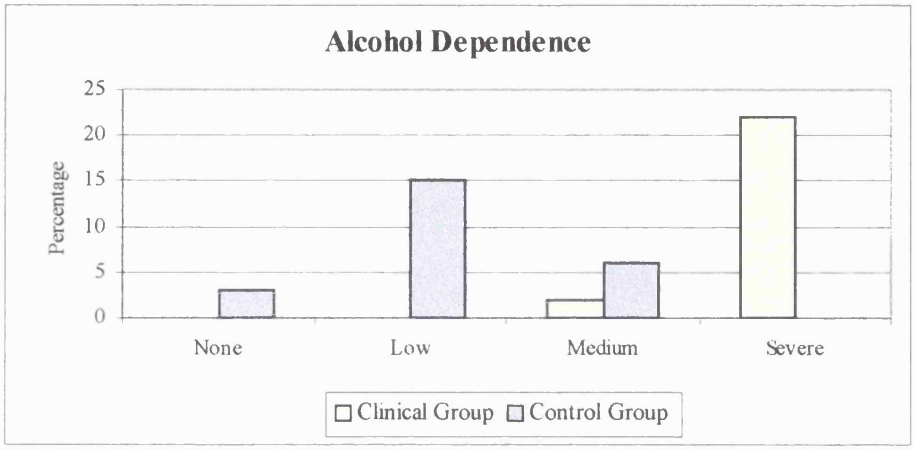
Self-report measures of alcohol use

These included scores on the SADD-Q, numbers of drinking days per week, units of alcohol consumed per week.

On the SADD-Q, the clinical group's scores ranged from 16 to 44, with a mean of 30.4 (± 7.7). The control group's scores ranged from 0 to 16, with a mean of 5.9 (± 4.8). A t-test was conducted which demonstrated that this difference was statistically significant ($t_{38} = 13.18$, $p < 0.001$).

The scores were also categorised into low (1-9), medium (10-19) and high dependency (20 – 45), and compared. The majority of the clinical group fell into the high dependency category (22, 91.7%). The remaining 2 (8.3%) were categorised as medium dependency. The control group were categorised mainly as low dependency (15, 62.5 %). The next frequent grouping was medium dependency (6, 25%), with only 3 people (12.5 %) falling into the no dependency group. Results are shown in Figure 3.

Figure 3: Percentage of participants in each displaying mild, moderate and severe alcohol dependence.



Drinking patterns were assessed by determining the number of drinking days per week, and units of alcohol consumed per week, which was compared between the groups. The clinical group all reported drinking 7 days per week, although most had not had a drink for up to three weeks because of hospitalisation. In the control group, the number of drinking days ranged from 1 to 7, with a mean of 3.33 (± 1.93). A t-test revealed that this difference was significant ($t_{23} = 9.33$, $p < 0.001$).

Units of alcohol consumed per week ranged from 84 to 840 in the clinical group (mean = 250.8, ± 163.8), and from 2 to 49 in the control group (mean = 24.5, ± 14.5). A t-test confirmed that this difference was significant ($t_{21} = 6.46$, $p < 0.001$). The relationship between SADD-Q scores and units per week was examined in each group separately. A significant relationship was found between these measures of alcohol use for both the alcohol dependent (*tau* = .44, p = .005) and control (*tau* = .45, p = .003) groups, with SADD-Q scores increasing as the quantity of alcohol consumed increased.

Subjective view of alcohol use

Participants were asked to describe their pattern of alcohol use and whether they thought they had a problem with alcohol use. Of the clinical group, all 24 participants said they were dependent drinkers, and all of the control group described themselves as recreational drinkers. All of the clinical group felt they had a problem with alcohol, but 2 (8.3%) said this was in the past. One of the control group (4.2%)

was unsure whether they had a problem with alcohol use, the remaining 23 (95.8%) said they did not, and never had.

When asked the reasons for their pattern of alcohol use, 21 (87.5%) of the control group cited socialising, and 3 (12.5%) said they drank to celebrate special occasions. Among the clinical group, 11 (45.8%) felt it was an illness or uncontrollable problem; 3 (12.5%) said their drinking was in response to their mood; 2 (8.3%) said it had gradually got out of control; 2 (8.3%) said they drank to get drunk; 2 (8.3%) cited life events as the reason for drinking; 1 (4.2%) said they drank to cope with psychological problems; 1 (4.2%) said it depended on financial situation; and 2 (8.3%) were unsure.

When asked the reason for recent days not drinking, 11 (45.8%) cited treatment or hospitalisation, 3 (12.5%) reported physical illness, and 10 (41.7%) had not had any recent days when they had not been drinking. The reasons for non-drinking days among the control group were that they only drank when socialising (16, 66.7%); making a point of not drinking (3, 12.5%); drinking on special occasions only (2, 8.3%); and financial constraints (1, 4.2%). 2 (8.3%) were not sure.

The clinical group were also asked about their reasons for seeking help. Most people (6, 25%) said they wanted to get their life under control; 5 (20.8%) cited physical illness as the motivation to stop drinking; 3(12.5%) said they felt dependent on alcohol, and wanted to stop; 2 (8.3% had sought help on medical advice; and one person (4.2%) cited each of the following reasons: financial reasons; interference

with work; family and children; and being forced to get help. 4 people (16.7%) were unsure why they had sought help.

Binge drinking

Participants were asked whether they ever engaged in binge drinking, defined by occasions when they drank significantly more than usual, and how much they drank on such occasions if they did. Half (12) of the clinical group said that they did binge drink, while the other half said they did not. Among the control group, 17 (70.8%) said they did binge drink, and only 7 (29.2%) did not. This did not represent a significant difference between the groups ($\chi^2_1 = 2.18$, $p = 0.14$). The quantity of alcohol consumed during a binge ranged from 20 units to 100 units (N = 17, mean = 48.3, ± 23.5) among the clinical group, and from 4 to 36 units (N = 12, mean = 18.9, ± 9.7) among the control group, representing significantly more units among the clinical group ($t_{14} = 4.08$, $p = 0.001$). The frequency of binges among those who reported binge drinking in the clinical group ranged from less than once a month (2, 16.6%) to once or twice a week (4, 33.3%). Three people (25%) reported bingeing once a month, and another 3 reported bingeing 2 to 3 times per month. Among the control group, binges were reported less than once a month (6, 35.3%), once a month (3, 17.6%), two to three times per month (7, 41.2%) and once or twice a week (1, 5.9%). The numbers in each group were too small to perform any statistical tests.

Those who reported binge drinking were asked the reasons for doing so. Of the clinical group, 4 (33.3%) said they binged in response to mood or negative life events, including anniversaries; 3 (25%) said they drank more when they had money

to do so; 3 (25%) said they binged for social reasons and on special occasions; and 2 (16.7%) were unsure. Among the control group, all 17 who reported binge drinking said they did so for social reasons or on special occasions.

Other drug use

Participants were asked what other mood altering drugs they had used in the past or were currently using. The groups were compared in terms of the number of other drugs ever used, as well as on current and past use of different types of drug.

The number of drugs used ranged from 0 to 9 for the clinical group (mean = 2.6, ± 2.5), and from 0 to 6 for the control group (mean = 1.5, ± 1.6). A t-test was conducted, which demonstrated that this difference was not statistically significant ($t_{39} = 1.77$, $p = 0.08$).

The groups were than compared on current and past use of opiates, stimulants, hallucinogens and other drugs.

The results are shown in Figures 4 and 5.

Figure 4: Percentage of clinical group using other drugs in the past and currently.

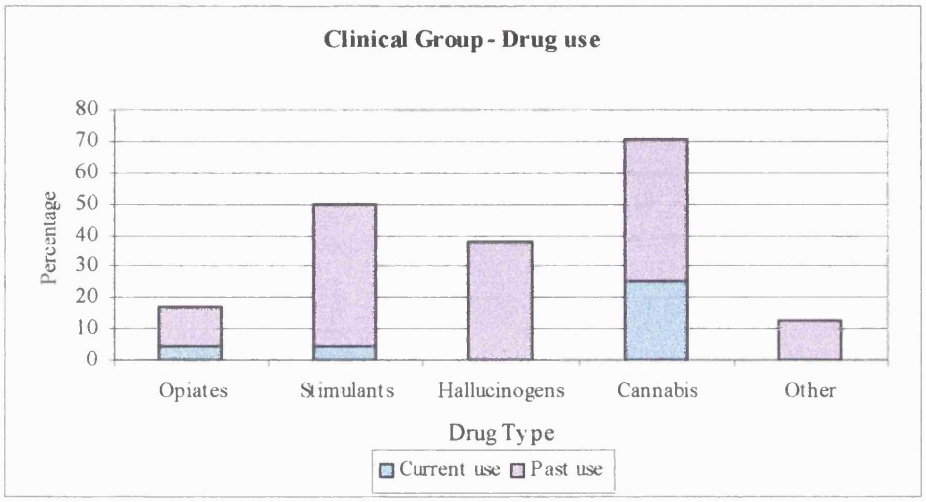
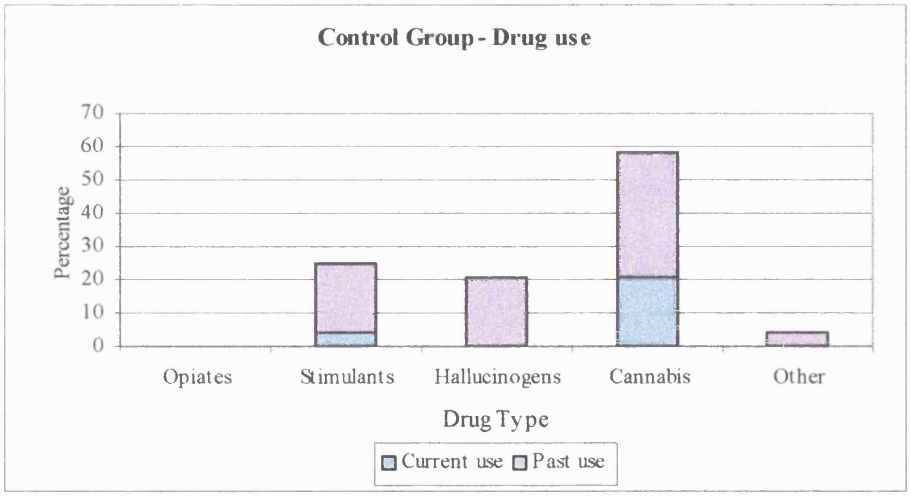


Figure 5: Percentage of control group using other drugs in the past and currently.



Chi square tests were conducted to assess the significance of differences between the clinical and control groups in terms of drug use. Significant differences were found in opiate use ($\chi^2_1 = 4.36$, $p = 0.04$). None of the control group had ever used opiates, while 1 of the clinical group was currently using, and 3 had used in the past. However, the numbers involved were very small, which reduces the validity of this result.

Only one person in each group (4.2%) reported current use of stimulants, including cocaine, crack cocaine, amphetamines and ecstasy, and 11 of the clinical group reported past use (45.8%), compared with 5 (20.8%) of the control group. This difference was not found to be significant ($\chi^2_1 = 3.2$, $p = 0.74$).

No participants reported current use of hallucinogens, including LSD and any other hallucinogens, and slightly more of the clinical group reported past use (9, 37.5%) compared to the control group (5, 20.8%). Again, this difference was not significant ($\chi^2_1 = 1.6$, $p = 0.2$).

Cannabis use was also similar across the groups. 17 (70.8%) of the clinical group had used cannabis at some time, of whom 6 (25%) were current users, while 11 (45.8%) had used it in the past. Of the control group, 14 (58.3%) had used cannabis, 5 (20.8%) were current users while 9 (37.5%) were no longer using it. This difference was not statistically significant ($\chi^2_2 = 8.2$, $p = 0.66$).

Other drugs (including solvents, ketamine and Gamma Hydroxy Butyrate -

GHB) were used very infrequently by participants. 21 (87.5%) of the clinical group, and 23 (95.8%) of the control group reported no other drug use, and the 12.5% and 4.2% who reported using other drugs had done so in the past. Again the numbers were too small to perform statistical tests.

Slightly more of the clinical group were smokers (20, 83.3%) compared to 13 (54.2%) of the control group. More of the control group were ex-smokers (8, 8.3%, compared to 2, 33.3%). These differences did not reach statistical significance ($\chi^2_2 = 5.29$, $p = 0.71$).

Psychological Adjustment

Participants were asked a series of questions about general psychological adjustment, including whether they had ever experienced psychological difficulties, received psychological treatment, whether they had ever been in institutional care, or experienced a traumatic event.

Of the control group, only 2 people (8.3%) reported any psychological problems. Of these, 1 (4.2%) had experienced depression, and 1 (4.2%) anxiety. Among the clinical group, 12 (50%) had received some sort of psychological treatment. Of these, 10 (83.3%) had been treated at a primary care or outpatient level, and 2 (16.7%) had received inpatient treatment.

Four people (16.7%) in the clinical group had experienced an anxiety disorder, 9 (37.5%) had suffered from depression, 1 (4.2%) reported having a psychotic illness

in the past, and 1 (4.2%) had been diagnosed with personality disorder. Three people (12.5%) said they had had psychological difficulties which were alcohol related. Of the 12 people who reported psychological difficulties, 6 (50%) reported one disorder, and 6 (50%) reported two.

None of the control group had been in institutional care at any point in their lives, while three of the clinical group had. Of these, 2 (8.3%) had been in care between the ages of 2 and 16, and 1 (4.2%) had been in care after the age of 16.

Traumatic experiences

10 (41.7%) of the clinical group reported traumatic experiences in childhood, while only 2 (8.3%) of the control group did so. This represents a statistically significant difference ($\chi^2_1 = 7.11$, $p = .008$). Two (8.3%) of the clinical group reported more than one trauma in childhood, compared with none of the control group. The frequency with which each type of trauma was reported is shown in Table 3.

Of the clinical group, 18 (75%) reported traumatic events in adulthood, while only 4 (16.7%) of the control group reported experiencing any trauma as adults. Again this difference is statistically significant ($\chi^2_1 = 16.45$, $p < 0.001$). Four people (16.7%) in the clinical group reported more than one adult trauma, compared with no-one in the control group. The frequency of reported traumas in each group is shown in Table 4 below.

Table 3: Number and percentage in each group reporting childhood trauma.

	Clinical Group (N = 24)		**Control Group (N = 24)**	
	N	*%*	*N*	*%*
Sexual abuse	3	12.5		
Physical abuse	4	16.7	1	4.2
Emotional abuse / Bullying	3	12.5		
Bereavement / separation	3	12.5		
Domestic violence	1	4.2		
Parents divorce			1	4.2
Total	**10**	**41.7**	**2**	**8.3**

Table 4: Number and percentage in each group reporting adult trauma.

	Clinical Group (N = 24)		**Control Group (N = 24)**	
	N	*%*	*N*	*%*
Sexual assault	2	8.3		
Physical abuse	1	4.2		
Emotional abuse / Bullying	1	4.2		
Victim of crime	2	8.3		
Illness / injury	3	12.5	1	4.2
Bereavement / separation	11	45.9	3	12.5
Imprisonment	1	4.2		
Domestic violence	1	4.2		
Total	**18**	**75**	**4**	**16.7**

Attachment

Scores on the Confidence, Anxiety and Avoidance sub-scales of the Attachment Style Questionnaire (ASQ) were calculated and compared across groups. Firstly, the groups were compared on confidence, which relates to attachment security. This scale discriminates between secure and insecure individuals, regardless of specific levels of anxiety and avoidance, with higher scores indicating more secure attachments. Secure individuals tend to score around 36.4, while anxious and avoidant individuals score around 31 - 32 (Feeney, Noller & Hanrahan, 1994). In this sample, the alcohol dependent group scored between 17 and 43 (mean = 26.7, ± 7.3) while the control group scored in the range of 28 to 47, (mean = 37.1, ± 4.8). A t-test confirmed that this represents a significant difference in attachment security between the groups ($t_{39.7}$ = -5.8 (d.f. = 39.7) $p < 0.001$), with the control group exhibiting significantly more secure attachment than the clinical group.

The groups were then compared more specifically on anxiety and avoidance. Scores on the anxiety sub-scale of the ASQ can range from 14 to 84, and avoidance from 15 to 90. The authors report mean scores of 43.08 on anxiety and 37.25 on avoidance among participants classified as securely attached (Feeney, Noller & Hanrahan, 1994). Anxiously attached individuals score a mean of 54.83 on anxiety and 43.33 on avoidance, and avoidant individuals score 45.48 on anxiety and 46.15 on avoidance. In the clinical group, scores ranged from 36 to 85 (mean = 61.7, ± 13.1) for anxiety and from 46 to 82 (mean = 64.3, ± 9.4) on avoidance, suggesting high levels of both anxiety and avoidance among this group. In the control group, anxiety scores ranged from 33 to 70 (mean = 48.6, ± 11.6), and avoidance scores ranged

from 23 to 75 (mean = 48.8, ± 12.5), which represents slightly high levels of attachment anxiety and higher than average levels of avoidance.

A multivariate analysis of variance was used to assess group differences in attachment anxiety and avoidance. An initial test showed highly significant differences (Wilk's Lambda: $F_{2,45} = 13.1$, $p = <.001$). Again, a second analysis was conducted to control for the effects of HADS anxiety and depression scores, and the result remained significant ($F_{2,42} = 7.86$, $p = .001$).

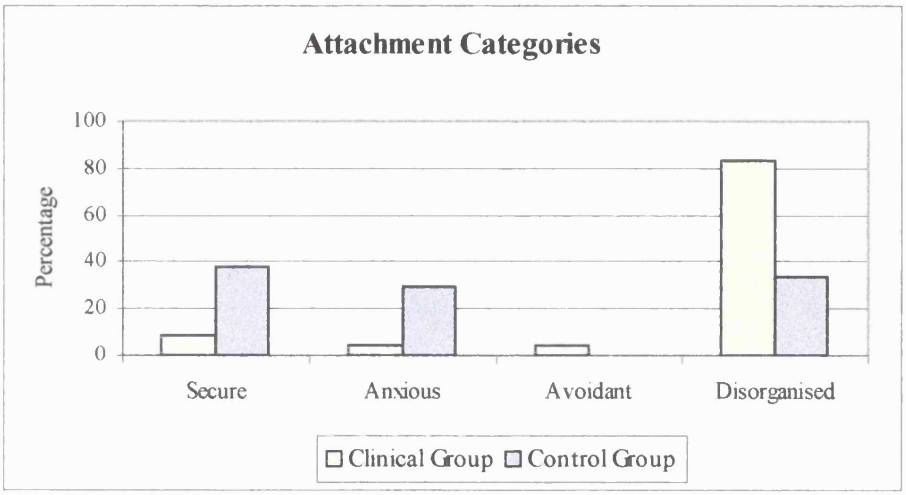
The data was also analysed by looking at the relationship between SADD-Q scores and units consumed per week, and attachment. A non-parametric test was used because of the lack of variation in SADD-Q scores within the alcohol dependent group. In both the alcohol dependent and control groups, SADD-Q scores were not found to be significantly related to attachment anxiety or avoidance.

Within the alcohol dependent group only, units of alcohol were found to be related to avoidance ($r = 0.46$, $p = 0.031$), but not to anxiety, indicating that the more avoidant individuals were, the more they tended to drink, while higher attachment anxiety did not have this effect. However, this relationship was not apparent in the control group, where units per week were not found to be related to attachment anxiety or avoidance.

Attachment Categories

Scores on the anxiety and avoidance scales were categorised into high and low, using the midpoint of each scale as a cut-off. Participants were then categorised as secure (low anxiety and avoidance), anxious (high anxiety, low avoidance), avoidant (low anxiety, high avoidance) or disorganised (high anxiety and avoidance). The percentage of each group who fell into each category are shown in Figure 6.

Figure 6: Percentage of participants in each attachment category.



Although the numbers in each category are too small to allow reliable statistical analyses to be carried out, an informal examination of the data suggests that while disorganised attachment is related to alcohol dependence, anxious attachment is not. Only one person in the sample, who was a member of the clinical group, was categorised as avoidant.

Early Maladaptive Schemas

Each individual's score was calculated for each of the 15 schemas, and a cut-off of 3 was used to determine whether an individual had scored significantly on any given schema, consistent with the suggested clinical use of the schema questionnaire (Young, 1998), which treats a score of 3 as a significant endorsement of any item. The total number of 'significant' early maladaptive schemas was calculated for each participant, and a t-test was conducted to compare the control and clinical groups. The number of schemas in the control group ranged from 0 to 8, with a mean of 2.8 (± 2.1). In the clinical group, the number of schemas ranged from 2 to 14, with a mean of 8.9 (± 3.9). This difference was significant ($t_{35.4} = 6.67$, $p < .001$), reflecting more maladaptive schemas among the clinical participants.

The 15 early maladaptive schemas were then condensed into the five broader *schema domains*, and a repeated measures analysis of variance was used to examine group differences in these domains.

Descriptive statistics for each group are shown in Table 5.

Table 5: Descriptive statistics for schema domains.

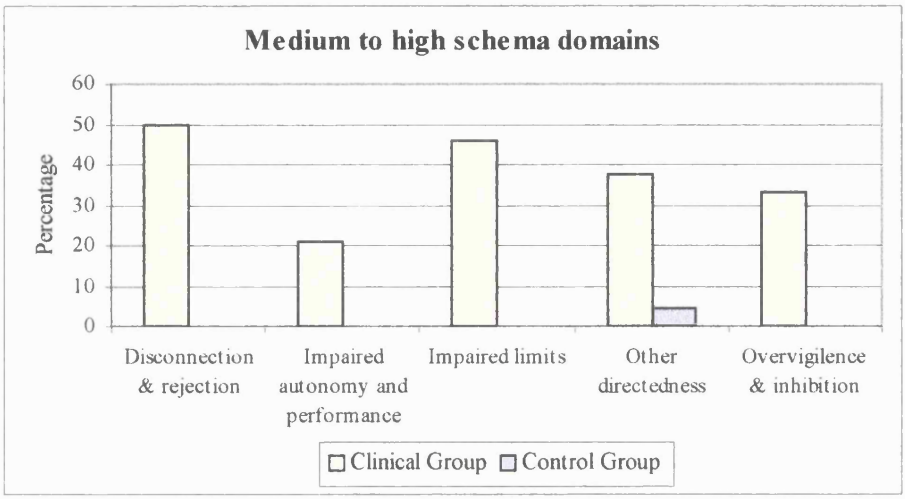
	Clinical Group (N = 24)		**Control Group (N = 24)**	
	Range	**Mean** *(S.D.)*	Range	Mean *(S.D.)*
Disconnection & rejection	1.4 – 5.36	3.56 *(1.23)*	1 – 3	1.80 *(0.63)*
Impaired autonomy & performance	1.35 – 4.6	2.81 *(1.04)*	1 – 2.75	1.64 *(0.51)*
Impaired limits	1.8 – 5.2	3.55 *(0.78)*	1 – 3.6	2.51 *(0.81)*
Other directedness	1.3 – 6	3.45 *(1.36)*	1 – 4.7	2.53 *(0.81)*
Overvigilance & inhibition	1.9 – 5.4	3.56 *(1.03)*	1.3 – 3.7	2.54 *(0.71)*

It is apparent from the mean scores for each group that the alcohol dependent group scored higher on all schema domains than the control group. A repeated measures analysis of variance was carried out to assess the significance of these group differences. Initially, a significant difference was detected (Wilk's Lambda: $F_{4, 45}$ = 5.36, p = 0.001). However, once anxiety and depression were included in the analysis, this difference became non-significant ($F_{4, 42}$ = 2.33, p = 0.07). No effect was found within subjects on schema domains, illustrating that there was no significant difference between schema domains.

The relationship between SADD-Q scores and units of alcohol per week and schema domains was also examined. In the alcohol dependent group, neither SADD-Q scores nor units per week were related to any of the five schema domains. In the control group however, higher SADD-Q scores were related to higher scores on both *disconnection and rejection* (*tau* = .31, p = .04) and *impaired autonomy and performance* (*tau* = .48, p = .002), while units per week were only related to *impaired autonomy and performance* (*r* = .43, p = .035).

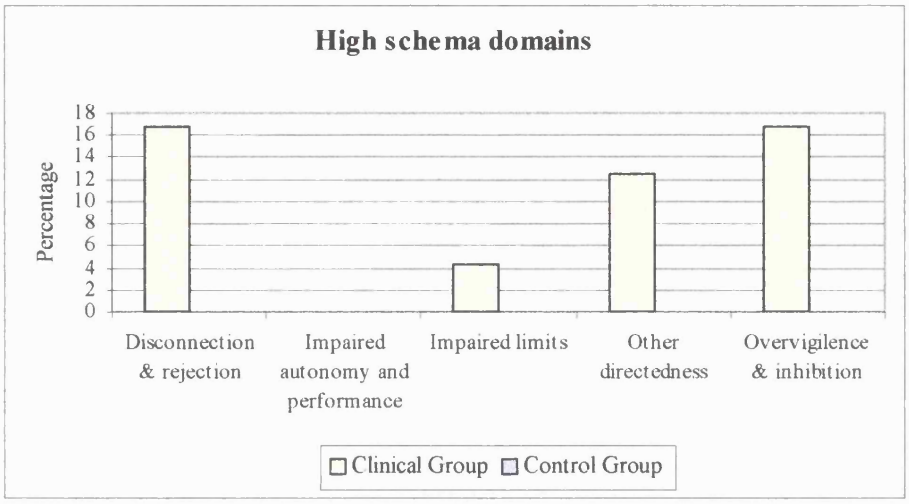
Again a cut-off of 3 was used to confer significance of schema domains for each participant. The percentage of participants in each group who obtained significant scores (3+) on each domain are shown in Figure 7 below.

Figure 7: Percentage of participants scoring medium to high (3+) on each schema domain.



This illustrates the significance of all domains, with *impaired autonomy and performance* to a slightly lesser extent, in the alcohol dependent group, while very few of the control group scored highly on any domain. The scores were then recalculated with 4 as a cut-off point, to assess the extent to which participants in each group scored in the higher range for each domain. The results are shown in the Figure 8.

Figure 8: Percentage of participants scoring high (4+) on each schema domain.



Again, this suggests that *impaired autonomy and performance* plays a lesser role than the other domains, and identifies *disconnection and rejection* and *impaired limits* as particularly relevant, although *other-directedness* and *overvigilance and inhibition* remain significant. None of the control group obtained high scores on any domain.

Dissociation

A multivariate analysis of variance was conducted to examine group differences in overall dissociation scores, as well as scores on the amnesia, absorption and depersonalisation sub-scales. Significant differences were found between the clinical and control groups on all aspects of dissociation, with the clinical group higher on all sub-scales (see Table 6 below) and the overall effect was significant (Wilk's Lambda: $F_{4,42} = 4.75$, $p = .003$).

Table 6: Curious Experience Scale (CES) Manova statistics.

	Clinical Group Mean *(S.D.)* *N = 23*	***Control Group*** Mean *(S.D.)* *N = 24*	***F***	***P***
CES total	61.0 *(17.9)*	44.3 *(9.6)*	16.3	.000
Amnesia	9.1 *(3.5)*	6.3 *(1.6)*	13.0	.001
Absorption	18.4 *(5.3)*	13.8 *(3.5)*	12.27	.001
Depersonalisation	13.8 *(5.0)*	10.0 *(3.5)*	8.82	.005

However, given the significant differences between the groups in levels of anxiety and depression, it was decided to repeat the test, controlling for these variables. In the second analysis, significant differences remained between the groups on overall effect ($F_{4, 42} = 2.83$, $p = .04$). When examined individually, the differences in total dissociation scores ($t = 6.1$, $p = .02$), amnesia ($t = 5.6$, $p = .02$) and absorption scores ($t = 4.23$, $p = .05$) remained, while the difference in depersonalisation scores became non-significant ($t = 1.88$, $p = .18$).

SADD-Q scores were positively correlated with both depersonalisation (*tau* = .36, p = .02) and CES total (*tau* = .34, p = .03) in the clinical group, and with amnesia (*tau* = .34, p = .04), depersonalisation (*tau* = .32, p = .05) and CES total (*tau* = .4, p = .01) in the control group. Units of alcohol consumed were not related to any aspect of dissociation in either group.

Relation between trauma and alcohol dependence, dissociation and attachment

T-tests were conducted to compare those who had suffered traumatic experiences with those who had not, in terms of alcohol dependence, levels of dissociation and attachment. However, the number reporting such traumas in the control group were too small to allow for comparisons to be made within this group. Therefore, only the clinical group had been analysed in this way. Those reporting childhood trauma (N = 10) scored higher on overall dissociation ($t_{21} = -2.41$, $p = 0.03$), as well as on each of the sub-scales of amnesia ($t_{21} = -2.5$, $p = 0.02$), absorption ($t_{21} = -2.2$, $p = 0.04$) and depersonalisation ($t_{21} = -2.4$, $p = 0.03$). Adult trauma (N = 18) was only related to higher scores on attachment anxiety ($t_{16} = 2.86$, $p = 0.01$).

Relations between attachment, early maladaptive schemas and dissociation

Exploratory analyses were carried out by correlating each of the variables with each other. This was done separately for the clinical and non-clinical groups. The results are described in detail below, although it is important to bear in mind the exploratory nature of these findings, and their limited reliability. In order to reduce type I error, significance thresholds have been increased to 0.01.

Attachment and schemas

In the clinical group, only anxiety was related to the number of schemas (r = .61, p = 0.002). In the control group, both anxiety (r = .59, p = 0.002) and avoidance (r = .55, p = 0.005) were related to the number of schemas.

In the clinical group, anxiety was related to *disconnection & rejection* (r = .63, p = .001) and *impaired autonomy and performance* (r = .63, p = 0.001). Avoidance was not significantly related to any domain at the .01 level of significance.

The relationship was slightly different among the control group, where both anxiety and avoidance were related to *disconnection and rejection* (r = .56, p = 0.001; and r = .54, p = .007 respectively), and anxiety was additionally related to *overvigilance and inhibition* (r = .54, p = .007).

Attachment and dissociation

Among the clinical group, attachment anxiety and avoidance were not related to any aspect of dissociation at the .01 level of significance. In the control group attachment anxiety was related only to depersonalisation ($r = .57$, $p = 0.004$), while avoidance was not related to any aspect of dissociation.

Schemas and dissociation

In the clinical group, only *disconnection and rejection* and *impaired autonomy and performance* were related fairly strongly to most dissociation scores, with the exception of *disconnection and rejection* and the amnesia sub-scale, which was not significant at the .01 level. The other three schema domains (*impaired limits, other-directedness* and *overvigilance and inhibition*) were not significantly related to any aspect of dissociation.

In the control group, the picture is more confused. *Disconnection and rejection* was related only to the total CES score, while *impaired autonomy and performance* was related to both depersonalisation and total score. *Impaired limits* was not related to any aspect of dissociation, while *other-directedness* was related to absorption and *overvigilance and inhibition* related to absorption and the total score. See Tables 7 and 8 for details of these correlations in both groups.

Table 7: Pearson correlations between schemas and dissociation in the clinical group.

		Amnesia	Absorption	Depersonalisation	Total Dissociation
Disconnection & rejection	R	.45	**.58**	**.70**	**.68**
	p	.03	**.004**	**<.001**	**.001**
Impaired autonomy & performance	R	**.54**	**.72**	**.73**	**.75**
	p	**.008**	**<.001**	**<.001**	**<.001**
Impaired limits	R	.44	.25	.21	.32
	P	.04	.25	.33	.13
Other-directedness	R	.41	.48	.52	.46
	P	.05	.02	.01	.03
Overvigilance & inhibition	R	.26	.23	.31	.29
	p	.24	.30	.15	.18

Table 8: Pearson correlations between schemas and dissociation in the control group.

		Amnesia	Absorption	Depersonalisation	Total Dissociation
Disconnection & rejection	*r*	.31	.36	.49	**.52**
	p	.14	.09	.02	**.01**
Impaired autonomy & performance	*r*	.39	.33	**.52**	**.6**
	p	.06	.12	**.009**	**.002**
Impaired limits	*r*	.31	.46	.32	.44
	p	.15	.03	.13	.03
Other-directedness	*r*	.05	**.52**	.36	.36
	p	.83	**.009**	.08	.09
Overvigilance & inhibition	*r*	.42	**.53**	.44	**.54**
	p	.04	**.008**	.03	**.007**

Discussion

The main findings of the study, in relation to the research questions will be summarised, before discussing in more detail the implications of these. Group differences in attachment, early maladaptive schemas (EMS) and dissociation will be described, followed by secondary findings concerning aspects of alcohol and other drug use, and psychological adjustment. Finally, the more exploratory analysis of correlations between the main variables in the study will be discussed.

The results of this study support hypothesis 1, with alcohol dependent participants displaying more insecure attachment than recreational users, supporting the suggestion that attachment difficulties play a part in the aetiology of alcohol dependence. Alcohol dependent participants display higher levels of attachment anxiety and avoidance, suggesting a pattern of disorganised attachment, while non-dependant participants displayed more secure attachment overall. Attachment anxiety alone does not seem to be related to alcohol difficulties.

Hypotheses 2 was also supported, as the alcohol dependent sample were found to have significantly more EMS than the non-clinical group, supporting the proposition that negative beliefs about the self and others are related to psychopathology, in this case alcohol dependence. However, hypothesis 3 was not supported after controlling for mood and neither was hypothesis 4 confirmed, as a specific pattern of schema domains was not clearly identified with this population.

Hypothesis 5 was not supported by the results. Heavier alcohol use did not predict higher levels of dissociation in either the alcohol dependent or recreational participants. Neither was alcohol dependence (SADD-Q score) related to all aspects of dissociation, although it was associated with higher levels of depersonalisation and overall dissociation in both groups, and in addition with amnesia in the control group.

Hypothesis 6 was supported, as the clinical group were found to have higher levels of dissociation than the control group, not only overall, but on two of the three sub-scales of dissociation. Significant differences were found in *amnesia* and *absorption*, but not in terms of *depersonalisation* once the effects of anxiety and depression were controlled for. This is consistent with previous findings that addicted populations display high levels of dissociation, and supports the idea of substance dependence as 'chemical dissociation'.

The relationship between attachment, EMS and dissociation was investigated in an exploratory way, with confusing results. The most reliable finding is that avoidance was surprisingly not associated with any measure of dissociation in either group, while attachment anxiety was related to the depersonalisation sub-scale in both groups.

The clinical and control groups were not matched on anxiety and depression. It appears that alcohol dependent individuals exhibit high levels of anxiety and depression, and that particularly those undergoing detoxification experience quite severe levels of anxiety. This is consistent with previous reports of high prevalence

of mood disorders among alcohol dependent patients (Farrell *et al,* 1998). It is hard to determine the effect this might have had on the results, particularly given the reciprocal relationship between anxiety and alcohol problems described by Kushner, Sher and Erickson (1999), but attempts were made to minimise this statistically. This resulted in the significant differences in schema domains becoming statistically insignificant, suggesting that these scores are highly related to levels of anxiety and depression.

Attachment

The results highlight the role of attachment difficulties in alcohol dependent participants, and suggest that avoidance appears to be particularly related to alcohol dependence. The role of avoidance in alcohol use is further supported by the finding that higher levels of avoidance are related to heavier drinking, while anxiety is not. Although it has been noted that attachment categories are not as valid a way of examining attachment as the dimensions of anxiety and avoidance, they do provide a useful way of describing patterns of these dimensions. In terms of these attachment categories, these results highlight *disorganised attachment* as that most associated with problem drinking.

This is consistent with suggestions in the literature that addiction may act as a substitute for secure attachment, with the drug representing an attachment object, while still enabling detachment from real relationships (Hofler & Kooyman, 1996). Similarly, the role of dissociation in alcohol dependence, as suggested by Roesler

and Dafler (1993), is emphasised, as this has been found to be highly associated with disorganised attachment (Liotti, 1999).

However, these findings were not clear cut, in that a number of the control group emerged as disorganised or anxious in their attachment style, and some of the alcohol dependent group displayed secure attachment. While the numbers were too small to make this categorisation reliable, it is nevertheless an interesting finding. These equivocal findings may be a reflection of heterogeneity among the alcohol dependent group, perhaps in terms of underlying psychological difficulties associated with different patterns of attachment. For example, the scarcity of individuals categorised as avoidant may be a reflection of the small numbers in the study, or might be suggestive of something more. It may be that avoidant individuals exhibit a particular pattern of drinking behaviour, which was not assessed in this study. For example, binge drinking could be hypothesised to be associated with attachment avoidance in particular, without concomitant anxiety, which would allow an individual to function without alcohol on a daily basis, but to periodically withdraw enormously from human contact.

Blane's (1968) typology which relates closely to different attachment issues might be helpful in differentiating sub-groups within the sample. In these terms, this sample of chronic heavy drinkers would seem to reflect 'dependent' and 'dependent-counterdependent' alcoholics (anxious and disorganised) more than 'counterdependent alcoholics' who seem to be avoidantly attached. This would make sense in that the individuals in this sample had experienced the high degree of difficulty around drinking which is necessary to bring one into contact with statutory

services. This could reflect a low level of independent functioning generally, which is consistent with highly anxious individuals. In contrast, those who experience a need for avoidance without a great deal of attachment anxiety may be more capable of functioning independently most of the time, with intermittent periods of lower functioning. This group might be represented among binge drinkers, who tend to fit this pattern of functioning.

The sub-group of securely attached individuals within the alcohol dependent group might be differentiated in term of age of onset of their problems with alcohol use as suggested by Johnson *et al* (2000). During the data collection, it became apparent that several individuals among the clinical group described their alcohol use as gradually increasing and getting out of control. This was strikingly different from those who described heavy alcohol use from a very young age, and who did not seem to have experienced moderate alcohol use at any time as an adult. It may be that those individuals who are securely attached have progressively developed dependence on alcohol, perhaps in response to negative life events, social circumstances and physiological addiction to alcohol. This would differentiate them on psychological grounds from those who have fairly severe attachment issues, stemming from difficult and abusive childhood experiences, and who have used alcohol as a coping mechanism almost from the outset. These two groups could be defined in Jellinek's (1960) terminology as alpha or beta alcoholics, and gamma alcoholics respectively. This distinction would also be consistent with Knight's (1937) two-category system, which differentiates between 'essential alcoholics', who have failed to separate successfully, and whose alcohol difficulties are an inherent part of their psychological make-up, and reactive alcoholics, who have matured

psychologically, but developed a more temporary alcohol problem in response to later conflict.

It is also interesting to note that while non-dependant participants displayed more secure attachment overall, they still exhibited slightly elevated levels of anxiety and avoidance compared to a group of securely attached individuals reported elsewhere (Feeney, Noller & Hanrahan, 1994).

The relationship between SADD scores, alcohol intake and attachment was unclear, with different associations between these variables across the groups. Within the clinical group, no relation was seen between SADD scores and attachment, possibly related to the lack of variation among SADD scores, but quantity of alcohol drunk was positively correlated with avoidance. This suggests that even within a group of chronically heavy drinkers, more attachment difficulties are associated with greater alcohol consumption. Again this might suggest sub-groups within the alcohol dependent groups, perhaps differing in severity of alcohol problems, or in underlying psychological issues.

In the control group, the opposite was seen, with SADD scores increasing as the quantity of alcohol consumed increased, but neither of these seemed to be associated with attachment issues. This could suggest that alcohol difficulties lie on a continuum, with alcohol dependent individuals at one end, with more serious underlying issues, such as attachment difficulties, but that more moderate drinkers may also experience difficulties with alcohol, perhaps related to less intrinsic difficulties, such as life circumstances.

The evidence that the alcohol dependent population is comprised of sub-groups, with different underlying psychological difficulties relating to their alcohol use, would also be an important consideration in treatment. It may be that those with later onset problems could benefit from short term therapy, aimed particularly at initial change and relapse prevention, such as the CBT approaches prevalent in alcohol services. However, if another group of individuals suffer from deeper psychological disturbances, such an approach is unlikely to be particularly effective, and such individuals are likely to benefit from a longer term therapeutic approach which would address these issues in the context of their alcohol use.

Early Maladaptive Schemas

The results demonstrated that the alcohol dependent group had more negative beliefs about themselves and others than the non-dependent group, and that they scored more highly on all schema domains, demonstrating that they hold these beliefs more strongly. However a specific pattern of schema domains did not emerge as particularly relevant in this sample. In order to assess which schema domains were most relevant to alcohol problems, the means for each group were calculated, as well as the percentage of each group who could be said to hold strong beliefs associated with each domain. From the mean scores on schema domains, it can be seen that there is little variation between the domains, although *impaired autonomy and performance* is slightly lower than the other four. Therefore, in accord with the suggested clinical use of the schema questionnaire, the percentage of participants

scoring medium and high on each domain were identified. It was only when high scores were used that differences began to emerge between domains.

The most significant schema domains among the dependent group were *disconnection and rejection* and *impaired limits*, followed by *other-directedness* and *overvigilance and inhibition. Impaired autonomy and performance* appeared to be the least relevant in this group. This is consistent with predictions that *disconnection and rejection* and *impaired limits* would be particularly salient in this population, but the finding that *other-directedness* and *overvigilance and inhibition* are similarly high was not anticipated. In fact, the high levels of EMS among this group might suggest that alcohol dependence is not particularly related to one or two types of early experience and associated schemas. Rather, it may be that the underlying psychological difficulties associated with alcohol dependence take various forms, and cannot be described easily or differentiated from other types of emotional distress.

It may also be that the alcohol dependent group in this study are not a homogenous group in terms of alcohol and psychological difficulties. It may be that there is more than one type of alcohol dependent individual, and the discriminating issues are related to particular patterns of psychopathology and schemas. For example, *impaired autonomy and performance* and *other-directedness* might be related to Knight's (1937) essential alcoholics and Blane's (1968) dependent alcoholics, while *impaired limits* and *overvigilance and inhibition* could be seen in a group such as that characterised by Blane's counterdependent alcoholics. If these categories are related to attachment anxiety and avoidance as suggested previously, then the high

levels of both in this sample would explain the wide variety in YSQ scores. This is consistent with disorganised attachment, which was found to be high in this group, and which is associated with multiple models of self and others, hence the high levels of many different schema domains.

Scores on the YSQ were significantly related to anxiety and depression scores on the HADS, and this association confounded the differences on YSQ scores. One possible explanation is that YSQ scores are affected by mood states, and the concurrent cognitive biases, which would be particularly applicable to depression. If this is so, then there are serious implications for the use of this questionnaire in assessment. Rather than tapping specific core beliefs, which might differentiate between different types of underlying psychological difficulties, the YSQ could be so affected by depression that most clinical populations will endorse many of the items, as a result of negative cognitive biases. The significance of this in alcohol dependent patients is in terms of how these negative biases affect recovery and potential relapse. This will be discussed further under clinical implications.

No specific pattern of schema domains emerged in the alcohol dependent group, which further emphasises the lack of differentiation in this group. The results therefore fail to identify specific schemas, or patterns of schemas in this sample. However, this might be a reflection of the multiple, incompatible, working models described by Bowlby, which is consistent with the high levels of disorganised attachment and dissociation in this group. In the control group, a relationship was found between SADD-Q scores and *disconnection and rejection* and *impaired autonomy and performance*, and between alcohol consumption and *impaired*

autonomy and performance. This suggests that these might be related to increased alcohol use, and this might warrant further investigation.

However this is in contrast to the finding in the alcohol dependent group, that *impaired autonomy and performance* was less prominent than the other schema domains, suggesting that while it may be a factor in non-addicted populations, it is not part of a specific mechanism in alcohol dependence.

The relationship between alcohol use and *disconnection and rejection* in the control group supports the proposition that this type of painful view of the self and the world may be related to heavier use of alcohol.

Dissociation

After controlling for anxiety and depression, significant differences were found between the groups in overall dissociation, and the amnesia and absorption sub-scales of the CES, but not on the depersonalisation sub-scale. The clinical group displayed higher levels of amnesia, absorption and overall dissociation than the control group. The lack of significant finding on the depersonalisation scale might reflect the similarities in anxiety symptoms and items on this sub-scale, such as the light-headedness and sense of derealisation caused by hyperventilation in panic attacks, and items which describe experiences such as *feeling that my body did not belong to me*, *looking at the world through a fog so that people and objects appeared far away or unclear*, and feeling *disconnected from my body*.

Despite the methodological difficulties associated with the use of this questionnaire with alcohol dependent participants (discussed below), the results illustrate differences in dissociation levels between the groups. This supports the proposal that alcohol dependent individuals do tend to dissociate from emotional distress, possibly due to early traumatic experiences, which are prevalent in this group. These findings suggest that their use of alcohol is another, more powerful way in which they dissociate, rather than being a substitute for psychological dissociation (Briere & Runtz, 1987; Ostendorf, 1996).

Interestingly, while the clinical group scored predictably highly on alcohol dependence, and significantly higher than the control group, nevertheless, several of the non-alcohol dependent participants obtained scores in the region of low and even medium dependence. This could be a reflection of undetected alcohol problems among this group, however, the amount of alcohol consumed by this group was significantly lower than the dependent group, as was the frequency of their drinking, the frequency of heavy drinking episodes and the amount of alcohol consumed during these. The groups also differed in their reported reasons for drinking, with the majority of the dependent group citing psychological reasons or stating that it was uncontrollable, while the control group all gave socialising or special occasions as the reason for alcohol use. While this itself could be related to the experience of being involved with services, only one of the control group had even considered that their drinking might be a problem, and none reported any adverse consequences from their drinking. From a purely subjective observation of these individuals, they appeared distinctly different in their psychological and social and functioning from the alcohol dependent participants, as is evident in their occupation history.

In terms of binge drinking, it is interesting that the non-dependent report as much, if not significantly more than the alcohol dependent group. However, the quantity of alcohol consumed during a 'binge' was significantly more among the clinical group, and the frequency of binges also seemed to be slightly less among the control group. The reasons for binge drinking perhaps illustrate the difference between the groups most explicitly. Among the clinical group, heavier than usual drinking tended to be in response to mood or environmental factors, or when financial constraints allowed it. This suggests that drinking was restrained at other times because of these financial constraints. Those who did not report heavier drinking episodes in this group, reported that this was because their drinking was so heavy and continuous that this would not have been possible. All of the control group who reported binge drinking said they did so in particular social circumstances, and this, coupled with the amount of alcohol and frequency of their binges, and the fact that they did not report any concerns about their drinking, suggests that their heavy drinking is qualitatively different from that reported among the alcohol dependent group, in that it is heavier, more uncontrollable, and a response to underlying psychological states rather than social conditions.

In terms of other drug use, including smoking, the clinical group tended to have used more substances than the control group, but the difference was not statistically different. The groups differed only in terms of opiate use, which was more likely, although still infrequent, among the clinical group.

More obvious differences were seen in terms of psychological adjustment, with the dependent group reporting more psychological problems and involvement with higher level psychiatric services than the control group, and being more likely to have been in institutional care at some point in their lives, and to have experienced trauma as children and as adults.

Interestingly, given the reported levels of anxiety and depression among problem drinkers (Davidson, 1995; Regier *et al*, 1990) only four people reported anxiety disorders among the clinical group, although 15 were categorised as medium or high on the HADS anxiety measure. Similarly, more of this group reported depression than anxiety disorders, (9 compared to 4) despite the fact that the HADS scores suggest greater levels of anxiety than depression among the group (15 scored medium or high on anxiety, compared to 8 on the depression scale). This may be a reflection of the severity of anxiety symptoms as a side-effect of alcohol withdrawal, which is perhaps not experienced as much of an ongoing or recurring feature of people's psychological experience as depression seems to be.

While more of the dependent group had been in institutional care, the numbers who had were still relatively small, making it difficult to assess the effect of this on other psychological factors. Reports of trauma were more prevalent among the clinical group, but the very small numbers in the control group reporting such experiences again make it difficult to examine associations with attachment, EMS or dissociation. However, preliminary observations suggest that both institutional and traumatic experiences are related to insecure attachment, EMS and dissociation, as well as alcohol dependence, as would be expected of such adverse early experience.

Trauma

Childhood trauma was not found to be related to attachment anxiety or avoidance, contrary to what would be expected. Trauma was not differentiated into type 1 and type 2 experiences, type 1 being more profound attacks on the self, which have a greater impact on emotional and psychological development. In addition, the age at which the traumatic events occurred, and mediating variables, such as relationship to perpetrators and responses of significant adults, were not recorded. These are important factors in determining the effect of trauma on a child, and the failure to include these in the results may have confounded the findings regarding the effect of trauma on psychological variables.

The possible role of trauma in accounting for the group differences identified in this study has not been addressed. It may be that exposure to trauma, particularly in childhood, is the primary factor accounting for addictive behaviour, in this case alcohol dependence, and responses on the adult attachment measure are another consequence of traumatic experiences. This would mean that the inferred causality of the differences in attachment may be inappropriate. This could be assessed by including an analysis of the effects of trauma, which was not done in the current study. The lack of sufficient numbers reporting trauma in the control group precluded a comparison of the effects of trauma across the groups, but this may be an important consideration in future research.

Childhood trauma was significantly related to all aspects of dissociation as expected. This is consistent with previous research which reports that trauma, particularly in

childhood, leads to dissociation as a coping mechanism on the part of the child, and that dissociation often comes to be relied on as a coping strategy throughout life in response to emotional distress. The high levels of disorganised attachment, dissociation and childhood trauma in this sample, are consistent with Liotti's (1999) model of dissociation as a result of attachment disorganisation, and the literature on dissociation as a form of coping with the trauma of such abuse (Briere & Runtz, 1987), but the exact relationship between trauma, attachment and dissociation is unclear, as trauma was not found to be related to attachment in this study.

Adult trauma was not found to be related to dissociation, which could be expected, as the use of dissociation as a coping mechanism tends to develop earlier in life (Liotti, 1999). Adult trauma was surprisingly related to attachment anxiety. However, the numbers in this particular analysis were rather small, and therefore should be interpreted with caution. It could be that trauma in adulthood is related to anxiety symptoms, which were shown to be related to attachment in this sample. This relationship might be reflected in the association between adult trauma and attachment anxiety.

Methodological Considerations

During the interviews, the question arose whether the responses on many of the items reflecting negative views of the self could be attributable to alcohol dependence, and the personal and social difficulties those individuals had experienced as a result. However, several participants who engaged in discussion after the interview were

asked whether this was the case, and all replied that these views were not coloured by their alcohol problems, but that they had always felt that way about themselves.

Other issues also presented themselves regarding the use of questionnaires with alcohol dependent participants. For example, The CES was sometimes difficult to complete, as it asks for information regarding occasions when the subject is not under the influence of alcohol or drugs. Many of the alcohol dependent group, particularly those undergoing inpatient detoxification, reported that as they were continuously intoxicated, that they could not answer the questions. For many, the only sober period in the last few years was the current inpatient period, when the effects of withdrawal from heavy alcohol use would be likely to influence their responses strongly. In particular, the similarity between anxiety symptoms and dissociative experiences discussed above seems likely to have been an issue. In addition, many of the experiences listed would be highly related to intoxication and post-intoxication states, making it harder to respond accurately. This applies particularly to items on the amnesia sub-scale, such as those describing experiences of *being told that I sometimes do not recognise a friend or family member*; having *no memory for some important event*, and finding *evidence that I had done things that I did not remember doing.*

Although experience of these events in relation to alcohol use would not warrant an endorsement of the item, it is likely that the clinical group's responses could have been influenced by their alcohol use, thereby increasing their scores on this sub-scale particularly.

The reliance of this study on self-report measures is a further shortcoming, as individuals' responses these measures tend to intercorrelate to a degree by their very nature. This increases the chance of encountering type 1 error, and finding associations which do not reflect the reality of the psychological process involves. This was particularly true of the exploratory correlations between attachment, EMS and dissociation. However, in this instance the level of significance required to confer significance was raised to .01, which excluded several relationships which had been found to be significant at the .05 level. This will have reduced the type 1 error somewhat, although these results still need to be treated as preliminary result, of interest in terms of directed future research, but not reliable as they stand.

A related issue is the cross-sectional nature of the data, which measures the variables at one point in time (adulthood) and makes inferences about psychological development across the lifespan and the impact of this on current behaviour. Attachment theory postulates that responses to an adult attachment measure are indicative of early attachment experience. However it is important to bear in mind this limitation in the present study. For example, it is conceivable that other aspects of the participants' life experiences contributed to their responses at the time of the study. This is particularly true of the alcohol dependent participants, whose severe and chronic alcohol problems, and the resultant emotional, interpersonal and social difficulties are likely to have contributed greatly to their current feelings about themselves and close relationships. This means that responses on the ASQ could be more attributable to a lifetime of heavy drinking and the consequences of this, than to early experiences of a relationship with a caregiver. This is equally true for responses on the YSQ and the CES. Each of these could be affected by the consequences of

alcohol dependence, such as failure to achieve academically or professionally, and cognitive deficits due to alcohol abuse. Although this study has inferred that responses on these measures are in some way indicative of the psychological roots of alcohol dependence, it is equally plausible that they could be the result. This could be addressed in future research by using prospective studies and improving the design and measures in the study to address this difficulty.

The relatively small numbers in the sample precluded several analyses which might have provided more information on the relationship between attachment and alcohol dependence. For example, the sample size did not allow for statistical analysis of attachment categories. Although it has been stated that categorical attachment measures are a less valid way of studying attachment than dimensional methods, nevertheless, the effect of the interaction between scores on the two dimensions of anxiety and avoidance is difficult to assess without referring to the four attachment categories. Furthermore, this is consistent with previous work on attachment, and provides a convenient way of describing a complex pattern of emotional development.

Use of these categories would require larger sample sizes than were available in this study, and might help illuminate the relationship between attachment issues and alcohol dependence more fully. For example, disorganised attachment was highlighted in the current sample, but the lack of avoidant individuals does not allow for a full discussion of the role of avoidance in this population.

Similarly, the numbers were too small to allow an examination of individual schemas, either across groups or in relation to attachment issues. Significant differences were not identified in schema domains, which were used to reduce the chance of type 1 error, but in doing so the detail and specificity of the YSQ was diminished.

There were indications that the alcohol dependent group was not homogenous, and that this may have confounded the results. Detailed information regarding the pattern of each individual's dependence was not recorded, which might have enabled sub-groups to be analysed. Indeed, initially a three group design had been planned, comparing chronic, binge and recreational drinkers, which would have overcome this limitation to some degree. Unfortunately, difficulty in recruiting binge drinkers from alcohol services resulted in this group being excluded from the study and the two group design was used.

Group differences in anxiety and depression are a particular problem in this study. Initially, attempts were made to match the groups on these variables, but this proved impossible in practice. In particular, the alcohol dependent participants undergoing detoxification experienced extremely high levels of anxiety, which is in fact a side effect of withdrawal from heavy alcohol use. Similarly depression symptoms have been shown to be prevalent among alcohol dependent individuals, and to a greater extent before and during detoxification form alcohol (Davidson, 1995). While attempts were made to reduce the confounding effect of these group differences by co-varying anxiety and depression in the statistical analyses, it is impossible to be sure that such significant group differences have been fully controlled. This is

particularly evident in the analysis of the YSQ data, which was highly related to anxiety and depression, and no effect was found of the YSQ alone. It may be that the differences between the groups on this measure is not accounted for by anxiety and depression, as the results suggest, but whether a third factor is involved, or if the clinical group would have obtained similar results regardless of current anxiety or depression symptoms is beyond the scope of this study to determine.

The generalisability of these results is questionable, given the relatively small sample size, and the methodological limitations outlined above. The alcohol dependent sample was recruited from two sources, an inpatient detoxification setting and an outpatient community alcohol team. While these do represent two different patient groups, there may be a lot of overlap, in that many individuals who complete inpatient detoxification go on to attend outpatient services. Furthermore, this is likely to represent the most extreme end of alcohol dependence, as the level of use which leads to contact with statutory services tends to be extremely high. Therefore, there may be many individuals who experience difficulties with alcohol use, who do not come into contact with alcohol services, or who attend self help organisations such as Alcoholics Anonymous, or voluntary sector services. Such individuals may experience very different psychological issues in relation to their alcohol use, and different mechanisms regarding attachment, EMS and dissociation may characterise these groups.

Clinical Implications

Given the relationship between attachment and alcohol dependence, psychological interventions should aim to address these issues directly. This could be done in psychoanalytic therapies, although these issues can also be addressed in schema focussed therapy, through the use of the therapeutic relationship in particular. Since the alcohol dependent sample have been shown to have a high level of EMS, this type of therapy is further indicated.

Another way of addressing attachment issues in treatment might be to use existing service configurations, such as the keyworker system, which is one of the main interventions in alcohol treatment services, both in inpatient and community treatment. The keyworker relationship is often fairly long-term, and could be used to address attachment issues directly. This might indicate greater continuity between inpatient detoxification and subsequent rehabilitation or outpatient treatment. In either setting, psychologists could provide training and supervision to nurses and alcohol workers, to help them identify attachment issues, and to use the more personal aspects of their relationship with clients to address issues of trust and dependency etc.

However attachment issues are addressed in treatment, either through individual psychotherapy, or in the therapeutic milieu and relationships with staff, these findings suggest that treatment outcome might benefit from identifying attachment issues early in an individual's contact with alcohol services. This could be done during initial assessments, by including a short attachment questionnaire to identify areas which might be related to alcohol use, and which could be addressed during subsequent treatment. This assessment might also differentiate those individuals

with more profound psychological issues from those whose difficulties stem primarily from social and personal circumstances, and direct people to the most appropriate treatment options.

Although specific schemas or schema domains have not been identified within this sample, the findings suggest that negative beliefs about the self and others are a feature of this client group's psychological presentation, and should therefore be targeted directly. Schema focussed therapy provides a tool for assessing these beliefs individually, and a structured way of addressing them in treatment, while bearing in mind issues of attachment, and how these may be addressed through the therapeutic relationship.

The strong relationship between anxiety and to a greater extent, depression and EMS, suggest that these profound negative views may be influenced by more superficial symptoms of anxiety and depression, which are prevalent in this population. Therefore, failure to address anxiety and depression directly is likely to hinder any therapeutic approach which aims to challenge these beliefs. This would suggest that psychological, and perhaps also pharmacological treatment of anxiety and depression should be an important focus of any intervention. It also seems likely that the earlier this is begun, the better the outlook for any subsequent treatment. For example, this could be started during inpatient detoxification, or immediately after, and anxiety and depression should be borne in mind during any subsequent treatment, as an increase in these symptoms may impede progress, or contribute to relapse.

Implications for future research

Some of the research questions in this study have not been satisfactorily answered. These might be answered more fully if the methodological limitations of this study could be addressed in future research.

The use of self report measures in this study was a limitation which could be overcome by employing a variety of measures. For example, the Adult Attachment Interview (Main & Goldwyn, 1985) could be employed to provide a more reliable assessment of attachment issues. In particular, the use of the CES with this population seemed fraught with difficulty. Assessing individuals after a longer period of sobriety, and employing additional measures of dissociative experiences might overcome some of the problems with this measure.

The relatively small sample size presented several difficulties in this study. Future studies with access to larger sample might wish to look at the relationship between disorganised attachment, trauma and dissociation in this population, perhaps using attachment categories as a way of examining the interaction between attachment anxiety and avoidance. Larger sample would also allow the analysis of differences in individual schemas, and might be able to identify specific schemas or patterns of schemas as relevant in this clinical population.

Future studies could also sample alcohol dependent patients with different clinical and personal characteristics, such as age of onset and pattern of alcohol use, and examine the differences in attachment, EMS and dissociation across these groups.

One difference which might particularly elucidate some of the issues this study failed to clarify is binge drinking. A extension of the current study, addressing the methodological issues outlined, could include a group of problematic binge drinkers, and compare this group with chronic and recreational drinkers in terms of attachment and cognitive variables.

By recruiting participants from a wider range of settings, including voluntary services and self-help groups, and perhaps even heavy drinkers who have not been in contact with alcohol services, future research could obtain more representative samples of those who experience difficulties in their use of alcohol. A large enough sample of this type would allow for comparisons between drinkers and might illuminate the issues relating to typology discussed previously.

This type of sampling might also allow the identification of problem drinkers not currently experiencing such high levels of anxiety and depression as in this sample. This would enable the use of designs which control more adequately for anxiety and depression than was possible in the present study.

Finally, future studies could include additional aspects of schema theory, such as coping styles or schema modes, which might prove to be more immediate mediating factors in the relationship between attachment and alcohol dependence.

Conclusion

In summary, the present project attempted to shed light on the relationship between attachment and alcohol dependence, and to begin describe the role of cognitive factors in this process. To this end, it has achieved its aims to a moderate degree, identifying avoidance as a central issue in alcohol dependence, and confirming high levels of negative beliefs and dissociation in this population. Methodological limitations preclude making general assumptions about this clinical population, but the findings have provided a basis for thinking about interventions with alcohol dependent individuals and for directing future research in the area.

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Appendix I

Letter of Ethical Approval

Institute of Psychiatry

at The Maudsley

Ethical Committee (Research)

Research Ethics Co-ordinator
Margaret M Chambers MSc

Room W109
De Crespigny Park
Denmark Hill
London SE5 8AF
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KING'S College LONDON
Founded 182

ETHICAL COMMITTEE (RESEARCH)

19 February 2001

Dr S Wanigaratne
Marina House
63-65 Denmark Hill

Dear Dr Wanigaratne

Re: Examination of the relationship between attachment style and early maladaptive schemas in substance use: a comparison of chronic, binge and recreational users of alcohol (053/00)

The Chair of the Ethical Committee (Research) has taken action to approve this study from an ethical point of view.

Please note that this approval is subject to confirmation by the full Committee when it meets on 16 March 2001. Initial approval is given for one year. This will be extended automatically only on completion of annual progress reports on the study when requested by the EC(R). Please note that as Principal Investigator you are responsible for ensuring these reports are sent to us.

Please note that projects which have not commenced within two years of original approval must be re-submitted to the EC(R).

Any serious adverse events which occur in connection with this study should be reported to the Committee using the attached form.

Please quote Study No. 053/00 in all future correspondence.

Yours sincerely,

Margaret M. Chambers.

Margaret M Chambers
Research Ethics Coordinator

Appendix II

Information Sheets

Information Sheet

Examination of the role of relationships and personal beliefs in alcohol use.

What is this study about?

We are conducting a study to examine how the types of relationships we have with other people, especially early relationships in childhood, and the different patterns of beliefs about ourselves and the world that we hold, affect drinking habits. It is hoped that the results will help us to understand alcohol use better, and allow us to develop better treatments for alcohol dependence.

What is involved?

Participants will be asked to attend an interview which will last about one hour. During this time, they will be asked a few questions about themselves and their drinking habits, and asked to complete a number of questionnaires.

Confidentiality

Clients of alcohol services in the South London and Maudsley NHS Trust will be invited to take part in the study. No individual information about participants will be made available to anyone except the researchers involved in the study. Total confidentiality is assured.

Taking part in the study

We hope that individuals will agree to take part in the study, but participation is voluntary. Everyone is entitled to refuse to take part, or withdraw from the study at any time, and this will not affect their treatment in any way.

For more information about the study please contact:

Caoimhe McAnena or Dr Shamil Wanigaratne,
Marina House, 63-65 Denmark Hill, London, SE5 8RS
Telephone: 0207 740 5721

Information Sheet

Examination of the role of relationships and personal beliefs in alcohol use.

What is this research about?

We are conducting a study to examine how the types of relationships we have with other people, especially early relationships in childhood, and the different patterns of beliefs that we hold about ourselves and the world, affect drinking habits. It is hoped that the results will help us understand alcohol use better, and allow us to develop better treatments for alcohol dependence.

Who is being asked to take part?

As well as people with alcohol dependence problems, we would like people who use alcohol but who have not experienced difficulties with alcohol use to take part in the study. This will allow us to compare problematic alcohol use with social drinking.

Confidentiality

The study will be completely confidential. No information about participants will be made available to anyone except those researchers involved in the study.

Thank you for taking the time to read this.

For more information about the study please contact:

Ms Caoimhe McAnena or Dr Valerie Curran

Sub-department of Clinical Health Psychology,
University College London
1-19 Torrington Place, London, WC1E 6BT

Telephone: 020 7391 1258

Appendix III

Informed Consent Form

Informed Consent Form

Examination of the role of relationships and personal beliefs in alcohol use.

I have received a copy of the information sheet for the above study, and understand the purpose of the project and that it is a confidential study.

I consent to take part in the study, and understand that I will be asked to participate in a one hour interview with a researcher, during which I will be asked about myself and my alcohol use.

I have read and understood the information sheet for this study.

Signed:_____

Print name:_____

Date:_____

Witnessed by:_____

Appendix IV

Interview Schedule

Alcohol Research Questionnaire

Date ☐☐☐

Date of Birth ☐☐☐
Age ☐☐

Gender ☐
(1 – male, 2 – female)

Are you currently: **please circle:** ☐

1 = single	*4 = divorced*	*7 = widowed*
2 = married	*5 = separated*	
3 = co-habiting	*6 = long-term relationship*	

What qualifications have you obtained? **please circle:** ☐
(1 – vocational 2 – o-level 3 – A-level 4 – university 5–post-graduate)

Current occupation: ☐

1 = professional / business	*5 = unemployed*
2 = skilled	*6 = retired*
3 = unskilled / manual	*7 = not working due to ill-health*
4 = student	*8 = other*_____

How many years ago did you last work? ☐☐

Occupation when working: ☐

1 – professional / business	*4 – student*
2 = skilled	*5 = unemployed*
3 = unskilled / manual	*6 = other*_____

Do you currently live in: ☐

1 = your own home	*4 = with family / friends*
2 = private rented accommodation	*5 = hostel / sheltered accommodation*
3 = council / HA rented	*6 = other (please specify)*

Ethnic background:

White	***Mixed***	***Asian or Asian British***
1 = British	*4 = White & Black Caribbean*	*8 = Indian*
2 = Irish	*5 = White & Black African*	*9 = Pakistani*
3 = Other White background	*6 = White & Asian*	*10 = Bangladeshi*
	7 = Other mixed background	*11 = Other Asian background*

Black or Black British	***Chinese or other ethnic group***
12 = Caribbean	*15 = Chinese*
13 = African	*16 = Any other background*
14 = Other Black background	*Specify other*_____

Place of birth: _____

Current Drinking Patterns:

Choosing from the responses below, how would you Describe your durrent drinking pattern?

1 *Binge drinker / occasionally lose control of drinking*
2 *Dependent / daily drinker* ☐
3 Recreational / social drinker
4 Daily drinking + binges
5 Controlled drinker
6 *Other* _____

What do you think are your reasons for this pattern of drinking?

How often do you drink?

1 Non-drinker
2 Drink on special occasions only (less than once a month)
3 Occasional drinker (at least once a month but less than once a week)
4 Regular drinker: 1 to 3 times a week
5 Regular drinker: 4 to 6 times a week
6 Binge drinker: occasionally lose control of drinking
7 Daily drinker

Have you ever had a problem with alcohol use? ☐
0 – no
1 = yes – current
2 = yes – past
3 = unsure

If yes, what do you think the reasons might be?

Have you ever had treatment for your alcohol use? ☐
0 = no 3 = outpatient
1 = detox only *4 = inpatient & outpatient*

If you have sought help for your drinking, what were your reasons for doing so?

Current Typical Weekly Drinking Patterns

	Number of drinks (glasses / measures / pints)	Size of drinks (large / small / half)	Type of drinks (wine / beer / strong beer / spirits / cider)
Mon			
Tue			
Wed			
Thur			
Fri			
Sat			
Sun			

Or describe your drinking pattern below:

Has there ever been a time when your drinking pattern was very different from this?
If so, please describe a typical week at that time:

	Size of drinks (large / small / half)	Number of drinks (glasses / measures / pints)	Type of drinks (wine / beer / strong beer / spirits)
Mon			
Tue			
Wed			
Thur			
Fri			
Sat			
Sun			

Or describe your drinking pattern at that time below:

When was this?

Are there ever occasions when you drink more than usual?
1 = Yes 2 = no

On such occasions, how much would you drink? (PLEASE ESTIMATE)
Type of alcohol:

Number of drinks:

What are the reasons for drinking more heavily? E.g. special occasions, social etc.

In a typical MONTH, how many times do you have a heavy drinking episode?
1 = None *4 = 1 or 2 times a week*
2 = Once a month *5 = 3 to 6 times a week*
3 = 2 or 3 times a month *6 = Every weekend*

In the last month, how many days have you had without drinking?
1 = None *4 = Once a week* *7 = Every day*
2 = 1 day *5 = 1 or 2 days a week*
3 = 2 or 3 days *6 = 3 to 6 days a week*

Please tick if you use / have used:	**Currently**			**In the past**		
	Regularly	**Occasionally**	**Prescribed**	**Regularly**	**Occasionally**	**Prescribed**
Heroin						
Methadone						
Benzodiazepines						
Crack cocaine						
Cocaine powder						
Amphetamines						
Ecstasy						
Lsd						
Other hallucinogens						
Cannabis						
Solvents						
Ketamine						
GHB						
Tobacco						

Have you ever had treatment for drug use?
0 = no *3 = outpatient*
1 = detox only *4 = inpatient and outpatient*
2 = inpatient treatment *5 = medical only*

Psychiatric History

Have you ever been treated for any Psychological / emotional problem (s)? ☐

0 = no *1 = yes – GP / counselling* *2 = outpatient psychiatry / psychology*
3 = inpatient *4 = unsure* *5 = other*_____

Please give details:

Have you ever been diagnosed with any psychiatric illness? ☐

0 = no *1 = yes* *2 = unsure*

Please give details:

Have you ever been diagnosed with any organic cognitive impairment? ☐
(e.g. Korsakoff's, dementia)
0 = no *1 = yes* *2 = unsure*

Please give details:

Personal History

Have you ever been in institutional care? ☐

0 = no *2 = 2 – 16 years old*
1 = under 2 *3 = 16 years plus*

Have you ever had an experience that you described to yourself as traumatic?

Please give brief details:

In childhood:

In adulthood: