

**Redefining binge drinking and exploring the relationship between
emotional distress, coping and thought control**

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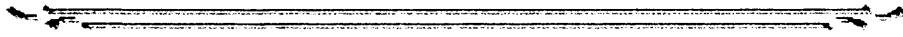
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Abstract



ABSTRACT

A conceptual review of the literature highlighted the need to propose a new definition of binge drinking and explore the role of emotional distress, dispositional coping and thought control processes in the maintenance of problem drinking. Binge drinking was redefined as a clinical condition that must satisfy the following three criteria: a) binge drinking is undertaken in discrete periods of time; b) the amount of alcohol consumed is excessive in comparison with the person's usual pattern; and c) the effects of binge drinking cause clinically significant distress or interference with the person's social, occupational or other important areas of functioning. A clinical sample of Binge Drinkers (n=18), Non-Binge Drinkers (n=33) and a sample of Non-Problem Drinkers (n=27) were compared on measures of emotional distress (BDI, Beck, Rush, Shaw & Emery, 1979; BAI, Beck, Epstein, Brown & Steer, 1988), coping (CISS, Endler & Parker, 1990) and thought control (TCQ, Wells & Davies, 1994). The results revealed that Binge Drinkers were significantly less depressed than Non-Binge Drinkers, although both groups were more depressed than Controls. Binge Drinkers did not differ from Non-Binge Drinkers on measures of anxiety or coping. However, both reported higher levels of anxiety and utilized more emotion-focused coping strategies when compared with the Controls. Finally, the Binge Drinkers tended to use fewer social control strategies for controlling their unwanted thoughts. Conversely, the Non-Binge Drinkers tended to adopt distraction strategies for managing their unpleasant thoughts. The clinical and research implications are critically discussed.

Introduction



CHAPTER 1

INTRODUCTION

Binge drinking has long been recognised as a specific pattern of drinking (for example, Jellinek, 1960; Tomsovic, 1974), yet, little progress appears to have been made towards identifying factors, which either reliably and adequately explain or discriminate, binge drinkers from other drinkers, be they problematic or social. Intuitively, it could be proposed that the area of binge drinking is under-researched, however, a review of over 50 studies, identified that this apparent lack of understanding may originate from a lack of consensus as to what constitutes a “binge”.

The term binge has been used to describe a number of excessive behaviours, including eating, drinking, gambling, other drug use and sex (Weingardt, Baer, Kivlahan, Roberts, Miller & Marlatt, 1998; Orford, 1985). Apparently originating from an old English dialect in Lincolnshire, meaning ‘to soak’, binge was later used to describe a drinking spree or bout (Keller, McCormick & Efron, 1982, cited in Weingardt *et al.*, 1998). Interestingly we now appear to have come full-circle from the early definitions (Jellinek, 1960; Tomsovic, 1974; Cahalan & Room, 1974), which proposed that a definition of problematic binge drinking should encompass the detrimental effects observed on a person’s psychosocial well-being. The interim period has observed a wealth of research incorporating these quite disparate views of binge drinking and numerous definitions and attempts at classification of alcohol dependence and abuse have been made.

Binge drinking has raised concern among health professionals due to the adverse implications it has been found to have on a person’s psychological, social and physical well-being. Binge drinking has been associated with: increased risk of stroke (Hansagi, Romelsjo, Gerhadrsson, de Verdier, Andreasson & Leifman, 1995), or other neurological damage (Hunt, 1993; Tomsovic, 1974; Wetterling, 1999) and premature death (Smith, Lewis, Kercher & Spitznagel, 1994; Vaillant, 1983), especially in people with pre-existing coronary artery disease (Puddey, Rakic, Dimmitt & Beilin, 1999). These effects might be related to the physiological process of repeated

bingeing and withdrawal (Hunt, 1993), or could be a reflection of engaging in risky behaviours, such as drink driving (Duncan, Donnelly, Nicholason & White, 1999). A tendency for increased aggression has also been linked to binge drinking and its consequences on personal relationships (Murphy & O'Farrell, 1994; 1996). Finally binge drinkers have been found to be more likely to be divorced or separated and unemployed (Robin, Long, Rasmussen, Albaugh & Goldman, 1998; Moore, Smith & Catford, 1994; Bennett, Smith & Nugent, 1991), in addition to suffering from more psychiatric problems (Robin *et al.*, 1998) than other problem drinkers.

1.1. Problems in the Definition & Classification of Binge Drinking

As can be seen from the comprehensive list of chronological definitions of binge drinking presented in Appendix A, a binge can range from anything between four or five drinks in a row (Wechsler, Dowdall, Davenport & Rimm, 1995a) to drinking for days, weeks or months interspersed with successive periods of abstinence (Sanchez-Craig, 1980; Conners, Tarbox & McLaughlin, 1986). Binge drinking also suffers from an inconsistency in descriptive terminology, being frequently subsumed under the titles of 'episodic' or 'bout' drinking.

1.1.1. Binge Drinking as a Typology

Although Jellinek's work is considered instrumental in alcohol research with regard to identifying different forms of excessive drinking phenomena (Epstein, Kahler, McCrady, Lewis & Lewis, 1995; Orford, 1985), and binge drinking has been associated with one subtype of his typology of alcoholism, namely, *epsilon*, he never actually used the term binge in his descriptions of periodic heavy drinking (Weingardt *et al.*, 1998). Furthermore, Jellinek (1960) declined to describe this pattern of drinking stating that it seemed to be the '*least known species of alcoholism*', although he believed that '*in the course of their periodic bouts, epsilon alcoholics may cause serious damage*' (p39).

Several studies (for example, Epstein, Kahler, McCrady, Lewis & Lewis, 1995; Babor, Dolinsky, Meyer, Hesselbrock, Hofmann & Tennen, 1992) have misconstrued Jellinek's (1960) description of *gamma* rather than *epsilon* alcoholism to imply binge drinking. However, this 'species' of alcoholism was classified according to the necessary involvement of, '*acquired increased tissue tolerance to alcohol, adaptive*

cell metabolism, withdrawal symptoms and 'craving', i.e. physical dependence, and loss of control' (p37), none of which have since been deemed necessary components of binge drinking. Jellinek (1960) also stated that there was a marked progression from psychological to physical dependence.

With a remit of ultimately matching clients to treatments, Babor, Dolinsky, Meyer, Hesselbrock, Hofmann & Tennen (1992) conducted a one-year prospective study with 321 diagnosed 'alcoholics', attempting to classify binge drinking by taking Jellinek's gamma-delta distinction and comparing it with a variety of other one-dimensional typologies¹, including, 'primary vs. secondary alcoholism', 'parental alcoholism', 'gender comparisons' and 'subtypes derived from MMPI profiles (personality disorders)'. In addition to the misattribution of Jellinek's (1960) species, the typologies were found to have poor discrimination with respect to the participants' drinking patterns or presenting symptoms, other than in areas which were closely related, such as 'alcoholics with anti-social personality disorder indicating more alcohol-related social problems than primary alcoholics', which is of little revelation. A vast amount of overlap was also found between sub-types for example; those with secondary alcoholism also had a high incidence of parental alcoholism.

Epstein *et al.* (1995) also attempted to empirically classify alcoholics, devising a complicated system of 'binge', 'episodic', 'sporadic' and 'steady' drinkers. Despite the criticisms made of previous vague and unreliable definitions, the self-described superior classification system by Epstein *et al.* (1995) is still based purely on the quantity and frequency of drinks of consumed.

1.1.2. Defining Binge Drinking on the Basis of Alcohol Consumption

The reliance on quantity-frequency measures appears to have dominated research in recent years, especially in the arenas of student and general population surveys. The epitome of these definitions is the so-called 'five/four' measure (i.e. five drinks in a row for men and four for women), which was initially proposed by Wechsler *et al.* (1995a) in light of the physiological differences between men and women

¹ 'A typology is a system for the classification and study of individuals who share one or more common characteristics. Accordingly, a typology for the classification of alcoholics is a set of assumptions and rules used to identify homogeneous groups, usually according to biological, psychological or social characteristics' (Babor *et al.*, 1992, p1415)

(Shakeshaft, Bowman & Sanson-Fisher, 1998), yet there is little to explain its widespread use. Despite the relatively recent use of the ‘five/four’ definition in research, Weingardt *et al.* (1998) believe that it can be traced back to the community surveys conducted by Cahalan & Room in the late 1960s, where the heaviest drinking proportion of the population were categorized as those who drank ‘several times a week with usually three or more drinks per occasion’, or ‘nearly every day with five or more drinks at least once in a while’. This in fact contradicts Cahalan & Room’s (1974) definition of a binge drinker (see Appendix A). In criticism of the ‘five/four’ definition, Weingardt *et al.* (1998) stated that,

“Although some college students clearly behave in a way consistent with the concept of a drinking spree, it is not clear if ‘five or more drinks in a row’ for men or ‘four or more drinks in a row’ for women should be associated with concepts of loss of control and the existence of psychosocial problems [as described by Jellinek, Cahalan and colleagues and the WHO]²” (p156)

Schuckit (1998) also believed that the use of these definitions creates confusion in identifying the clinical phenomena of a binge and can lead to the misidentification of groups, such as those who limit their drinking to weekends, as problem binge-drinkers (e.g. Moore, Smith & Catford, 1994). Further limitations can be envisaged in assessing actual amounts of alcohol consumed in a binge episode by measuring consumption on a ‘more than’ basis (Shakeshaft *et al.*, 1998).

1.1.3. Binge Drinking Defined by its Impact

Schuckit (1998) went on to suggest that the impact of binge drinking on everyday functioning needed to be considered to redress this balance, in essence returning to the earlier concepts of binge drinking. In proposing that a definition of, ‘*several days of extended intoxication with interference in usual obligations*’ (p124), Schuckit (1998) stated that it should be operationalized as, ‘*at least two days during which a person repeatedly administers a substance to the point of intoxication and gives up his/her usual activities and obligations in order to use the substance*’ (p123).

² Author’s parentheses

Although, clearly superior to the school of ‘five/four’, it is again socially defined, with no consideration afforded to the impact of this pattern of drinking on a person’s life and well-being. Schuckit (1998) implied that activities and obligations should be entirely abandoned, rather than a state of intoxication being reached, where, clinically significant distress or impairment in social, occupational or other important areas of functioning is caused (American Psychiatric Association, 1994). Additionally, interim periods between binges are not defined, raising the question of whether total abstinence is a necessary requirement, or perhaps more realistically that the binge is atypical with regard to the person’s usual pattern of drinking.

Each of the published definitions suffers from a lack of precision and specificity with seemingly arbitrary cut-off points. Consistency across researchers and settings is distinctly lacking and criteria defining a binge are unclear. Furthermore, definitions are not sufficiently detailed for either clinical or research use, being purely demographic in nature. Although binge drinking is not specified as a particular disorder in DSM-IV (American Psychiatric Association, 1994), criteria for other psychiatric disorders specify that the problem must ‘cause clinically significant distress or impairment in social, occupational or other important areas of functioning’. Interestingly, Dawson, Grant & Harford (1995) on studying the association of alcohol consumption with DSM-IV alcohol problem domains, concluded that, binge drinking should not be included as a component of the problematic drinking domain. This was based on the weak associations reported for tolerance and withdrawal with heavy drinking, which contradicted earlier findings by Cahalan & Room (1974). However, a binge was measured according to the relative frequency of drinking five or more drinks, which would consequently render these results as further evidence of the futility of this definition. On the other hand, it may suggest that tolerance and withdrawal are not necessary components for a diagnosis of problematic binge drinking.

1.1.4. Summary of the Problems in Existing Definitions of Binge Drinking

In summary, over the past forty years a wide range of definitions have been applied to binge drinking, and although some have been shown to be superior to others, none are without fault. It is still unclear as to what constitutes a binge and as discussed throughout this section this lack of clarity has led to a number of difficulties in this

area of research. Nevertheless, this research has highlighted the difficulties encountered by problematic drinking and the need for a clearer, more precise definition in order to inform both research and clinical practice. Consequently, from inception of this study through to data analysis, defining binge drinking has formed a core component of the research. Preliminary work, which had previously been completed at the Leicester and Leicestershire Community Alcohol Service (Deeming, unpublished), where this study was being conducted, was considered in conjunction with the literature review. The process of developing an alternative, improved definition was further informed by the principal investigator's ongoing clinical work with problem drinkers and anecdotal evidence obtained from experienced clinicians working in the addictions field. A new definition of binge drinking, which attempted to address the difficulties highlighted in defining binge drinking, was finally arrived at and it was consequently proposed that binge drinking is a clinical condition that must satisfy all three criteria of:

Criterion A Binge drinking is undertaken in discrete periods of time.

Criterion B The amount of alcohol consumed is excessive in comparison with the person's usual pattern.

Criterion C The effects of binge drinking cause clinically significant distress or interference with the person's social, occupational or other important areas of functioning.

The proposed definition attempts to incorporate the salient factors necessary to discriminate binge drinking from other patterns of drinking. It is believed to have advantages over other definitions by incorporating the adverse psychosocial implications of binge drinking, which would exclude people who drink excessively at weekends, or when celebrating, but who do not consider their drinking to be problematic. Clarification of the binge period without relying on a subjective quantity/frequency measure is also advantageous in making comparison across studies possible and allows for consideration of individual differences. The inclusion of the terms 'discrete' and 'excessive in comparison to usual' were designed to exclude people who drink in a continuous fashion, but who may have an occasional 'day off'. It also attempted to incorporate the sense of binge drinkers having 'on' and 'off' periods of drinking, without stipulating how long these should be. Although this

definition can be seen to overcome a number of the difficulties identified in the pre-existing definitions, this however also raises some of the potential disadvantages in avoiding explicit statements regarding minimum and maximum periods of drinking. Problem drinkers, for example who repeatedly relapse may be confused with binge drinkers, as with this definition, the distinction would be at the discretion of the clinician. However, it could be argued that a binge drinker is a person who undergoes repeated relapse. The criterion of usual pattern of drinking should aid in differentiating a person who was clearly undergoing a period of relapse from a binge drinker, although care needs to be taken in obtaining an accurate assessment of the drinking pattern over time. Despite these potential drawbacks, it is proposed that with the use of this new definition that the identification of binge drinkers should be improved. This then suggests that differences would be identified between binge drinkers and other drinkers on variables such as demographic, health and socio-economic characteristics.

1.2. Problems in the Measurement of Binge Drinking

Another area of confusion has surrounded the measurement of a binge, with disagreement as to whether this should be recorded as units or milligrams of alcohol, number of drinks, or on the basis of biological markers, such as serum Gamma GT levels. Once more, each method has been subject to a number of limitations, as discussed below:

1.2.1. Problems in Using Units of Alcohol or Number of Drinks as a Measure

Department of Health Guidelines (1995) recommended that drinking 1-2 units of alcohol per day is beneficial to health and that 3-4 units per day will not accrue significant health risk for men over 40. This has been interpreted by the media and some medical experts (Edwards, 1996) to indicate an increase of safe limits from 21 to 28 units of alcohol per week for men and from 14 to 21 units for women. This is, however, misleading as Wright & Cameron (1997) found. Although the British men in their study drank within the total weekly limits, they often exceeded the daily targets which was concluded had the potential to increase binge drinking³. Bingeing

³ More than 8 units of alcohol on one day (Office of Population Censuses and Surveys, 1995)

at least once in a 4-6 week period was reported to be universal among men who regularly drank 22-28 units per week.

The Moore, Smith & Catford (1994) general population survey provided further confirmatory evidence of the potential for misidentification of binge drinkers based on units of alcohol consumed. With a binge being considered as drinking half the weekly-recommended limits in one session, a high proportion of binge drinkers (28%) were identified, indicating a poor discriminative value, with those who 'binged' on a daily basis being included.

Further difficulties in classifying a binge pattern of drinking according to units of alcohol can be envisaged, such as the reliability of using self-report measures (Midanik, 1982; Poikolainen, 1985). Buck & Morgan (1999) found that although perceptions and actual levels of alcohol consumption were fairly well related in the 1995 *Living in Britain* survey, approximately 15% of participants were dissonant about their drinking. They were found to perceive themselves as drinking 'moderately', whilst actually drinking at potentially harmful levels according to the government's sensible drinking limits.

In addition, taking an arbitrary amount (e.g. half the recommended limit) raises questions as to the frequency of alcohol consumption, the exact period in which the alcohol is consumed and the effects this may have on the person. It has been identified that many people may consume their allocated allowance of alcohol units at the weekend, without it having the associated detrimental effects associated with a problematic pattern of binge drinking (Seppä, Koivula & Sillanauke, 1992).

Often in student studies, a binge is taken to be more than five drinks (e.g. Andrew & Cronin, 1997; Delk & Meilman, 1996; Schulenberg *et al.*, 1996; Beck & Treiman, 1996; Murgraff *et al.*, 1996), or more than eight drinks in a row (Lee, Crombie, Smith, Tunstall-Pedoe, 1990). However, there is debate as to what constitutes a 'standard drink', as this is subject to both inter-study and inter-continental variation, varying across volume and percentage alcohol (Turner, 1990; Sanchez-Craig, 1986). Wechsler & Austin (1998) highlighted that the prolonged binges of problem drinkers '*can last for weeks and certainly longer than the time needed to consume five drinks*'

(p122). Use of this classification appears to result in the over-inclusion of otherwise social drinkers in a problem population, leading to the question of pathologizing what appears to be normal behaviour.

1.2.2. Problems in Using Biological Markers to Measure Binge Drinking

A variety of laboratory tests are widely available for use in the detection of alcohol misuse, including blood alcohol concentration (Lewis, 1987), serum Gamma Glutamyl Transferase (Fyffe, 1996; Lee, Crombie, Smith & Tunstall-Pedoe, 1990), Mean Corpuscular Volume (Fyffe, 1996) and Carbohydrate Deficient Transferrin (Fyffe, 1996). Each of these has been used extensively as diagnostic markers for excessive alcohol use (see, Lewis, 1987; Fyffe, 1996; Lee, Crombie, Smith & Tunstall-Pedoe, 1990), however, usefulness as measures of binge drinking appear to be extremely limited.

Firstly, the metabolism of alcohol is known to be affected by body weight, mass and water ratio (Wechsler *et al.*, 1995a), the quantity and time period during which alcohol is consumed (Lewis, 1987) and whether it is taken with food (Lewis, 1987), all of which have implications on the reliability of calculating blood alcohol concentrations. Lewis (1987) also found that even one hour after alcohol is consumed, it is difficult to be confident about the concentration of alcohol.

Both raised serum Gamma Glutamyl Transferase (GGT) and Mean Corpuscular Volume (MCV) can be criticized on the basis of being purely physiological measures, with very variable sensitivity (Fyffe, 1996). Reliability is also confounded by the influence of factors such as, polydrug use, other liver disease, pancreatic disease and neurological disorders, which can produce elevated results (Fyffe, 1996; Lee, Crombie, Smith & Tunstall-Pedoe, 1990).

Carbohydrate deficient transferrin (CDT) has been recently introduced as a superior biological marker to confirm and detect alcohol misuse (Fyffe, 1996). Although this test may be superior to both the MCV and the GGT, Wetterling, Veltrup, Driessen & John (1999) concluded that all of these laboratory parameters were insufficient in distinguishing different patterns of drinking in a sample of 'chronic alcoholics'.

It can therefore be concluded that none of the biological markers can reliably identify different patterns of drinking, being unable to identify the time period during which the alcohol was consumed, or whether this amount was consumed on a regular basis (Lewis, 1987). Furthermore, the procedures are invasive, with a delay in the provision of information and they have not been proven to be superior to assessment by trained clinicians in detecting problematic alcohol use (Skinner, Holt, Sheu & Israel, 1986).

1.2.3. Problems in Existing Questionnaire Measures

Numerous measures and questionnaires have been developed to aid in the diagnosis of problem drinkers. Several of these measures have been utilized in binge drinking research, such as, the Michigan Alcoholism Screen Test (Selzer, 1971); the CAGE Questionnaire (Ewing, 1984); the Severity of Alcohol Dependence Questionnaire (Stockwell, Hodgson, Edwards, Taylor & Rankin, 1983) and the Short Alcohol Dependence Data Questionnaire (Davidson & Raistrick, 1986). However, these questionnaires are subject to a number of limitations, including poor psychometric properties and an inability to reliably discriminate between patterns of drinking. In addition, several measure other dimensions such as craving (Alcohol Craving Questionnaire (Singleton, Henningfield & Tiffany, 1994) and the Desires for Alcohol Questionnaire (Clark, 1994) both reviewed by Love, James & Willner, 1998), or sensation-seeking (the Sensation-Seeking Scale (Zuckerman, 1979) and the Inventory of Sensation-Seeking (Arnett, 1994) also reviewed by Love *et al.*, 1998), rather than binge drinking *per se*. Further exploration of these limitations follows:

1.2.3.1. Poor Psychometric Properties

The psychometric properties of some of the questionnaires, such as the CAGE Questionnaire, have not been widely published, which in this particular instance, may be a reflection of the questionnaire only comprising four items. For those, which have demonstrated good psychometric properties, such as The Michigan Alcoholism Screening Test (MAST) (see Selzer, Vinokur & van Rooijen, 1975), The Severity of Alcohol Dependence Questionnaire (SADQ) (see Cooney, Meyer, Kaplan & Baker, 1986) and the Short Alcohol Dependence Data (SADD) Questionnaire (see Davidson & Raistrick, 1986), the evidence is rarely based on alcohol-dependent or abuse populations (see for example, Selzer, *et al.*, 1975) and norms have not generally been

produced. Furthermore, many take a very specific focus, such as the SADQ, which is based on the presence of withdrawal symptomatology, hence limiting generalisations to other aspects of alcohol-dependency or abuse.

1.2.3.2. Poor Discriminant Validity

None of the afore-mentioned measures have been shown to reliably discriminate binge drinkers from other drinkers. The MAST, for example, only detected 32% of those who self-reported binge drinking in a study of 507 mothers by Kemper, Greteman, Bennett & Babonis (1993). It has also been criticized for being over-inclusive when used to identify alcohol-dependent drinkers (Selzer, Vinokur & van Rooijen, 1975). Likewise, the CAGE questionnaire performed poorly in detecting either binge or heavy drinkers in an older primary care population (Adams, Barry & Fleming, 1996). Furthermore, the CAGE was not considered to be a diagnostic instrument and related solely to the likelihood of having a problem with drinking (Ewing, 1984). Using the SADQ, which concentrated almost exclusively on the intensity and frequency of psychophysiological withdrawal symptoms and their relief through further drinking, Stockwell, Murphy & Hodgson (1983) found that 'mainly binge' and 'mainly continuous' drinkers obtained equally high scores. Finally, the SADD was designed to distinguish those with mild to moderate drinking problems from those considered to be alcohol-dependent and hence has little to offer with regard to identifying binge drinkers.

1.2.3.3. Measurement of Craving or Sensation-Seeking Rather Than Bingeing

As with the other alcohol measures the psychometric properties of the craving and sensation-seeking measures are subject to criticism, for example, fluctuating levels of reliability have been found for the Sensation-Seeking Scale (SSS), hence reliability of the scale is questionable, especially as some scores were quite low (see Andrew & Cronin, 1997). However, the main criticism of the use of these questionnaires is through their use in discriminating binge drinkers from other drinkers on the assumption that craving or sensation-seeking are exclusive factors of this drinking pattern, without providing any theoretical evidence to support this assumption.

The following summary by Robin, Long, Rasmussen, Albaugh & Goldman (1998), succinctly highlights the limited value of these screening measures in detecting binge drinking:

“Some of the frequently used assessment instruments for alcohol disorders, such as the Michigan Alcohol Screening Test (Selzer, 1971) are incapable of detecting binge drinking behaviour (Manson, Shore, Baron, Ackerson, Neligh, 1992). This is because diagnostic criteria for alcoholism are oriented toward the inability to stop drinking, physical dependence, social and occupational dysfunctions and duration of problems, or are based on the need to use alcohol daily to function adequately (Walker & Kivlahan, 1984)” (p518).

1.2.4. Summary of the Problems in the Measurement of Binge Drinking

In conclusion, none of the measures discussed above are capable of reliably discriminating binge drinkers from other types of drinkers. The generic use of units or number of drinks is flawed by an inconsistency of either cut-off points or standard quantities. The biological markers are both intrusive in administration and lack specificity and reliability. Finally, the questionnaire measures suffer from poor psychometric properties and some measure alternative constructs, such as sensation-seeking. These inadequacies in available measures add further support for the need for a new more specific reliable definition of binge drinking for use in future research.

1.3. Psychopathology of Binge Drinking

Given the ambiguity surrounding the definition of a binge drinker, it is of little surprise that few factors differentiating this population have been reliably identified. Much of the research in this area has been conducted with either student samples (e.g., Turrisi, 1999; Norman, Bennett & Lewis, 1998; Beck & Treiman, 1996; Delk & Meilman, 1996; Murgraff, White & Phillips, 1996; Schulenberg, Wadsworth, O'Malley, Bachman & Johnston, 1996; Wechsler, *et al.*, 1995; Stacy, Bentler & Flay, 1994), or through the medium of general population surveys (e.g. Bennett, Smith & Nugent, 1996; Carpenter & Hasin, 1998; Duncan & Donnelly, 1999; Hilton, 1987; Lee, Crombie, Smith & Tunstall-Pedoe, 1990; Moore, Smith & Catford, 1994; Richmond, Wodak, Kehoe & Heather, 1998; Robin, Long, Rasmussen, Albaugh & Goldman, 1998; Seppä, Koivula & Sillanaukee, 1992; Wright & Cameron, 1997), the merits and limitations of which will be discussed in due course.

1.3.1. Prevalence of Binge Drinking

1.3.1.1. Clinical Population Research

Research on the prevalence of binge drinking in clinical populations is sparse, with little contributing to the identification of salient characteristics of this population of problem drinkers. Surprisingly, some of the earlier studies (Tomsovic, 1974; Sanchez-Craig, 1980; Connors, Tarbox & McLaughlin, 1986) offer more to our understanding, utilizing comparatively better definitions than those conducted in recent years. Tomsovic (1974) found that of 179 male veterans attending an alcoholism rehabilitation programme in USA, 86 (48%) were binge drinkers. A binge was defined according to a pattern of limited drinking or abstinence interspersed with periods of heavy drinking. Tomsovic (1974) then considered the concept of loss of control in relation to binge drinking and whether this resulted in any deterioration in health and social functioning. In comparison with continuous drinkers, binge drinkers were found to report lower levels of education and IQ, more legal and occupational difficulties and a greater number of years of problem drinking. Tomsovic (1974) concluded that this pattern of drinking was relatively more socially destructive and many binge drinkers seemed to be seeking an intense psychic experience that pre-empted social obligations. However, the sample was selective, being limited to male veterans and drinkers perceived to have a 'mild' problem being excluded.

Furthermore, follow-up was completed with fewer than half the original sample, restricting the generalization of any conclusions drawn.

Sanchez-Craig (1980) focused on neurological deficits associated with different drinking patterns, examining the relationships between duration of problem drinking, drinking pattern and performance on the Trail Making Test (Armitage, 1946, cited in Sanchez-Craig, 1980). Defining a 'bout' as: *'drinking to occur for several days, weeks or months, separated by periods of abstinence'* (p1084) and 'daily drinking' as: *'5 or more days per week'* (p1084), they identified 37.5% of men and 22.7% of women as 'bout' drinkers. The 180 subjects (120 female) were recruited from a halfway house for 'Skid Row alcoholics' (p1083) who were characterized by multiple arrests for drunkenness, repeated admissions to detoxification centres and Accident & Emergency departments, frequent use of welfare services and hostels, impoverished social life, poor work history and multiple substance use, especially tranquilizers (Sanchez-Craig, 1980). No comparison was made between groups on these variables, although the groups did not differ significantly either on age or duration of problem drinking. Murphy & O'Farrell (1994; 1996) adopted Sanchez-Craig's (1980) definitions of problematic drinking in their studies on marital aggression and violence in 'alcoholic' males. They reported a relatively high rate of 45% binge drinkers in the 1994 sample of 107 men. Prevalence rates were unfortunately not reported in the 1996 study.

Of the 235 alcoholics admitted to a private inpatient alcoholism program in America, Connors, Tarbox & McLaughlin (1986) identified 43 (18.3%) as binge drinkers. These were defined as those *'who typically drank for several consecutive days, weeks or months, separated by periods of abstinence'* (Connors, Tarbox & McLaughlin, 1986, p107). However, it was only possible to reliably classify 61% of the sample as either binge or continuous drinkers⁴, with the remaining 39% having characteristics of both patterns of drinking. Binge drinkers were significantly more likely to have had alcoholic parents; more often reported past or current liver functioning problems; tended to report longer periods of previous abstinence and had a greater number of alcohol-related arrests and hospitalisations. Connors, Tarbox & McLaughlin (1986)

⁴ *'Those who drank five or more days per week, with little variability from week to week'* (p107).

attempted to further discriminate the groups on the basis of these variables, however, the results obtained were not greater than those expected by chance. Hence, it was concluded that more refined operational definitions need to be developed in order to elucidate more powerful variables to reliably distinguish these patterns of drinking.

Dunne, Galatopoulos & Schipperheijn (1993), defining binge as '*prolonged consumption of alcohol over days or weeks with long intervening periods of abstinence*', found in their sample of alcohol dependent white men (n = 121) and women (n = 121), 17 (14%) and 34 (28%), respectively were binge drinkers. Similar rates were found by Wetterling, Veltrup, Driessen & John (1999), in their study of 241 (64 females; 177 males) 'chronic alcoholics', referred for hospital detoxification in Germany, with 22% being classified as *episodic drinkers*. In this instance, the authors made an implicit statement for using this terminology as opposed to binge drinking on the basis that, '*definitions [of binge drinking⁵] in the literature are rather different (Epstein et al., 1995)*' (p334). Episodic drinkers were subsequently defined as, those with '*less frequent, irregular alcohol consumption with longer (>5 days) sober periods and some binges (less than 1 per week)*' (p331). In comparison with other types of drinkers (Continuous⁶ and Frequent Heavy Drinkers⁷), it was concluded that episodic drinkers were older with a lower number of alcohol-related medical disorders than frequent heavy drinkers. No gender differences were found in the rate of alcohol-related disorders. Both episodic and continuous drinkers were classified less frequently as alcohol dependent according to ICD-10 than frequent heavy drinkers. The ratio of males to females in each group was not made explicit therefore no conclusions could be drawn as to whether gender was related to drinking pattern.

Smith, Lewis, Kercher & Spitznagel (1994) studied predictors of mortality in 103 alcoholic women, who had been admitted to an American psychiatric hospital between 1967 and 1968 with a 20-year follow-up period. Co-morbidity with either depression, schizophrenia or anti-social personality disorder was high (73.8%), but unfortunately this was not reported separately for each group. Furthermore, the proportion of women classified as binge drinkers was unclear, both from the

⁵ Author's parenthesis.

⁶ (Almost) daily alcohol consumption without binges

⁷ Frequent alcohol consumption (more than 3 days per week) with frequent intoxication (more than once per week)

perspective of no specific definition being provided, with terminology being frequently interchanged between 'binge' and 'bender' and the fact that 80% of the so-called binge drinkers had a long history of 'daily drinking'.

Kokavec & Crowe (1999) in their comparison of cognitive performance in binge versus chronic alcohol misusers, selected a sample of 50 binge drinkers, who consumed alcohol⁸ on two days/week or less and 50 individuals who consumed alcohol daily⁹, of a total 600 case files at an Alcohol Related Brain Injury Assessment Support Centre in Australia. Inclusion criteria were stringent due to the aims of the study, for example, excluding clients who had a previous history of psychiatric disorder, a neurological disease unrelated to alcohol misuse, or any major physical complaints. Participants were also statistically matched on demographic variables, hence, it was impossible to gauge an accurate prevalence rate of binge drinkers in this sample, or identify any specific characteristics of this population.

Considering evidence from other clinical populations where alcohol dependence or abuse were not considered the primary diagnosis, only two studies were identified. In their study of reasons for drinking in relation to drinking pattern among psychiatric outpatients in the USA, Carey & Carey (1995) found that psychiatric outpatients who endorsed multiple reasons for drinking were more likely to engage in binge drinking. However, they were equally likely to drink heavily on a regular basis and no clarification of binge drinking was provided, other than comparing participants on the number of drinks consumed per drinking occasion.

Likewise, Adams, Barry & Fleming (1996) restricted the binge drinkers to those drinking more than six drinks per occasion. They then identified 14% of men and 3% of women aged 61-65 attending primary health care settings, as binge drinkers. The proportion of binge drinkers was found to decrease with age.

⁸ 10 or more standard alcoholic drinks per occasion, with an average of 40.7 standard drinks on 2 days (or less)/week (<814g of ethanol/week)

⁹ Average of 38.2 standard drinks on a daily basis (2674g ethanol/week).

1.3.1.2. Summary of Clinical Population Research

In summary, the prevalence of binge drinkers ranges from 28% (Dunne *et al.*, 1993) to over 40% (Tomsovic, 1974; Murphy & O'Farrell, 1994) in clinical samples of males with alcohol problems. Rates for female binge drinkers are substantially lower (14%), although only the Dunne *et al* (1993) study makes any gender comparisons. Prevalence rates in other clinical non-alcoholic samples are lower as is intuitively expected. Considering the individual characteristics of binge drinkers, Tomosovic (1974) found that they were less well-educated, had more legal and occupational difficulties and had a longer duration of problematic drinking. Whereas, Connors *et al* (1986) identified that binge drinkers were more likely to have had alcoholic parents, experienced more liver functioning problems and been arrested or hospitalised for alcohol-related problems. None of the other studies reviewed made comparisons based on demographic variables. Hence, there is little evidence to suggest the ways in which binge drinkers differ from other drinkers. Any comparisons made have been hindered by inconsistencies in defining binge drinking.

1.3.1.3. General Population Surveys

An array of research in the field of binge drinking has been conducted through the medium of general population surveys, with a seminal study conducted by Cahalan & Room (1974) as reviewed by Connors, Tarbox & McLaughlin (1986). As with research in the clinical arena, these studies have adopted the more quantity-frequency based definitions in recent years (for example, Richmond, Wodak, Kehoe & Heather, 1998; Moore, Smith & Catford, 1994; Bennett, Smith & Nugent, 1991; Lee, Crombie, Smith & Tunstall-Pedoe, 1990). Especially in the United States, researchers have favoured definitions, such as half the weekly-recommended limit (Moore *et al.*, 1994), or more than five drinks in a row (Duncan, Donelly, Nicholson & White, 1999), which increases the likelihood of over-estimating the number of binge drinkers.

These surveys are open to further criticism, not least being the tendency for respondents in this type of survey to under-estimate their alcohol consumption (Wilson, 1980, cited in Moore, Smith & Catford, 1994; Bennett, Smith & Nugent, 1991). Seppä, Koivula & Sillanaukee (1992) also identified that a pattern of binge drinking at weekends has at times been misconstrued as problematic. They suggested that this was more reflective of normal social drinking. Despite these limitations,

some, admittedly limited, indication of the pervasiveness of this pattern of drinking is provided. There are also some suggestions as to who may be at potential risk of developing a problem with binge drinking.

Cahalan & Room (1974) conducted a national survey in the USA, and found that 6% of their sample were binge drinkers¹⁰. Binge drinking was found to be more common among younger, single drinkers, of lower socio-economic status. It was also strongly related to other alcohol-related problems, such as, symptomatic drinking, job problems, loss of control drinking and belligerence, although was considered to precede psychological dependence and the socio-economic difficulties identified.

Although Hilton (1987), in conducting a national survey of 5221 people in the USA, adopted the same methodology as Cahalan & Room (1974), binge drinkers were not distinguished from other drinkers. Prevalence rates of men (9%) and women (5%) exhibiting problematic drinking behaviour were calculated purely on a quantity-frequency basis. Using scales such as drinking '5 or more drinks in a single day' and drinking 'once per week or more often', to indicate frequent heavy drinking, it is of little surprise that younger men were identified as the population at most risk. This was highlighted in a study of British men who habitually drank 1-4 units of alcohol per day (Wright & Cameron, 1997). As recommended by the Office of Population Censuses and Surveys (1995), a binge was defined as more than 8 units of alcohol. They found that even in the over 40 year-old group who recorded less frequent binges than younger drinkers, 27 of the 38 participants recorded at least one binge over a 4-6 week period.

Moore, Smith & Catford (1994) surveyed 12,167 people (aged 18-64) in Wales. Just over 28% of men and 8% of women reported binge drinking at least once a week, with 2.7% of men and less than 1% of women, bingeing most days, taking binge as half the weekly-recommended limits. Binge drinkers were again most likely to be young, single, divorced or separated males, of lower socio-economic status, with no

¹⁰ Binge drinking was defined as "*behaviour which, however, sporadic, is an indication that [the drinker] is prepared to treat drinking as a serious and single-minded pursuit rather than an incidental occurrence... Thus drinking becomes a singular behavioural objective for variable periods of time. In addition, periods of binge drinking are typically separated by periods of usually abstinence or in some cases significantly lower levels of consumption.*" (p19)

higher education, who mainly drank beer. Drinking was concentrated at weekends, as predicted, and interestingly, 86.4% of 'sensible' drinkers in this study also drank mostly at weekends. Furthermore, binge drinking 'most days', again does not fit the clinical picture as this does not account for the binge-abstinence, or binge-controlled pattern.

These findings replicated those of an earlier survey conducted by Bennett, Smith & Nugent (1991) on 8,441 Welsh men and women, aged 18-64 years. Characteristics and figures for binge drinkers were identical, although a slightly higher proportion of men (4% of the total) binge drank 'most days'.

Lee, Crombie, Smith & Tunstall-Pedoe (1990) questioned the drinking habits of 4,949 Scottish men, aged 40-59 years, 497 of whom were unemployed. Binge drinking was initially taken as >8 units in one day and identified 58.8% of the unemployed and 35.5% of the employed group as binge drinkers. The relatively high proportion of binge drinkers may be a further reflection of the low cut-off points identifying weekend drinkers, especially as Saturday was identified as the day on which the largest number of units was consumed. The data were actually re-analysed by the authors using a cut-off of >14 units per day and figures decreased to 10.7% and 25.6%, respectively for the employed and unemployed. The higher prevalence rate may also be due to the older age group, which is representative of clients presenting to alcohol services in the U.K. (Cameron, 1995).

Looking at more selective populations, Richmond, Wodak, Kehoe & Heather (1998) conducted a cross-sectional survey of 852 police in Australia. Police were selected, because they were viewed as an at-risk population for unhealthy lifestyles, especially excessive alcohol use, but who were unlikely to access general health services being primarily young and male. Thirty-two percent of the men and 23% of the women were reported to binge drink¹¹, with 56% of men and 48% of women aged 18-29 reported to drink excessively¹². No relationship was found between excessive

¹¹ >8 and >6 drinks for men and women, respectively, in a row, 2 or more times per month

¹² Weekly alcohol consumption exceeding 8 drinks for men and 6 for women, two or more times a month (Australian National Health & Medical Council, 1992 recommendations)

drinking and stress symptoms, although figures were not reported for the binge-drinking group.

1.3.1.4. Overview of General Population Survey Findings

Prevalence figures for binge drinking portrayed in these surveys are higher than expected from estimations of alcohol dependence (Mason & Wilkinson, 1996), or prevalence of DSM-IV (American Psychiatric Association, 1994) alcohol abuse and/or dependence (Grant, Harford, Dawson, Chou, Dufour & Pickering, 1994). Moore & Wilkinson (1996) reported an overall rate of alcohol dependence of 4.7%, with men being three times as likely to be dependent than women in a sample of 18,571 people in Great Britain. Dependence was considered to include, loss of control, symptomatic behaviour and binge drinking, rather than adhering to recognised diagnostic criteria, such as those presented in DSM-IV, or ICD-10. However, the Grant *et al.* (1994) survey sponsored by the National Institute on Alcohol Abuse & Alcoholism (NIAAA) in the USA in 1992, obtained an overall prevalence rate of 7% for one-year alcohol abuse, dependence or both, when using DSM-IV (American Psychiatric Association, 1994) criteria. In this study, the finding that men were three times more likely than women to meet criteria for alcohol abuse and/or dependence, was consistent with Moore & Wilkinson (1996), although the ratio was lower in the youngest, non-black, age group, suggesting that alcohol problems may be increasing for Caucasian females.

1.3.1.5. Research on Student Populations

Much of the research on binge drinking, especially that conducted in USA, has used a student population. Binge drinking was again defined as >5 drinks in a row (Turrisi, 1999; Andrew & Cronin, 1997; Delk & Meilman, 1996; Schulenberg, Wadsworth, O'Malley, Bachman & Johnston, 1996; Beck & Treiman, 1996; Murgraff, White & Phillips, 1996), or >5 drinks for men and >4 drinks for women (Wechsler, Dowdall, Davenport & Castillo, 1995). Perhaps not surprisingly the prevalence of binge drinking has been found to be consistently high in student populations. Delk & Meilman (1996) found that 62.6% of Scottish students and 40.4% of American students binge drank. Schulenberg *et al.* (1996) reported binge-drinking figures of 40% for 21 and 22 year olds and 28% for high-school seniors. Wechsler *et al.* (1995) found 50% of men and 39% of women drank more than 5 and 4 drinks, respectively.

Beck & Treiman (1996) found 78.7% of students who had *ever* drunk, reported binge drinking. Andrew & Cronin (1997) even found that binge drinking rose from 9% at the age of 14 to 65% at the age of 16 and Murgraff *et al.* (1996) found that **all** the 102 students in their study engaged in binge drinking to some extent.

One study by Liu & Kaplan (1996) used a more realistic measure of binge drinking, '*as much as a fifth of liquor, or three bottles of wine, or as much as three six-packs of beer in a day*', and subsequently, reported rates of 2.9% for engaging heavily in binge drinking.

1.3.1.6. Summary of Research on Student Populations

In summary, although research on student populations has proliferated binge drinking research, the majority of these studies have limited usefulness in deepening our understanding of the binge drinkers who present to clinical services. They have however, highlighted the inadequacies of the quantity-frequency definitions and provided evidence to suggest that drinking 5 or more drinks at a time is normative behaviour, not a serious drinking problem.

1.3.2. Poor Measurement of Emotional Distress

With regard to the co-morbidity of alcohol problems, numerous links have been made with other psychological disorders, for example, people with a diagnosis of alcohol dependence or abuse have been found to demonstrate high levels of anxiety (Walfish, Massey & Krone, 1990), depression (Smith *et al.*, 1994) and anger (Walfish, Massey & Krone, 1990) in comparison with non-clinical samples. Personality disorders, especially, anti-social personality disorder are also common among this population (31.3%) (Marchiori, Loschi, Marconi, Mioni & Pavan, 1999; Smith *et al.*, 1994). However, when considering binge drinkers, only the presence of aggression, in isolation from other psychological disorders, appears to have been investigated. Evidence seems to suggest that binge drinkers are more prone to aggressive outbursts than other problem drinkers (Murphy & O'Farrell, 1994; 1996).

Murphy & O'Farrell (1994) compared physically aggressive male alcoholics (n=71) and non-aggressive counterparts (n=36), and found that binge drinkers¹³, were over-represented in the "maritally aggressive" group. The husbands were classed as aggressive on the basis of one positive response being obtained on the Conflict Tactics Scale (Straus, 1979, cited in Murphy & O'Farrell, 1994), during the past year. This scale was designed to assess physical aggression in marriage and its psychometric properties were not reported. Furthermore, exclusion criteria were strict, for example, anyone who met DSM-III-R criteria for diagnosis of schizophrenia, delusional disorder, bipolar disorder, major depression, other psychotic disorders, or borderline personality disorder, was excluded from the study.

The finding that men who physically abused their partners were more likely to have more negative styles of communicating with their spouses and maintained strong beliefs about the negative influences of alcohol on their marriage, was replicated by Murphy & O'Farrell in their 1996 study. Jacob & Leonard (1988) similarly found in their study of 49 'alcoholics' and their wives, that binge drinkers had more social problems, fights, arguments with friends about drinking and demonstrated fewer problem-solving skills than 'steady couples'.

These samples were however, restricted to married men and correlation between factors was unclear. For example, were negative communication styles restricted to the binge-drinking group? It should be noted that, younger men in newer marriages have a higher prevalence of marital aggression and factors associated with violence might reflect relationship development norms rather than stable individual or relationship differences (Murphy & O'Farrell, 1994). Furthermore, alcoholics have been found to generally display violent behaviour (Romelsjö, 1995, cited in Wetterling *et al.*, 1999).

From a different perspective, Shepherd *et al.* (1989) found that of 539 adult victims of assault attending an A&E department in a UK hospital, 74% male victims and 42% female victims reported alcohol consumption in the 6 hours prior to assault. Thirty percent of the males and 4% of the females had consumed more than 10 units.

¹³ who drink for several consecutive days, weeks, or months separated by periods of abstinence.

The apparent lack of literature examining the influence of other co-morbid disorders in relation to patterns of drinking is somewhat surprising, as one might expect the influence of problems such as anxiety and depression to impact on the way in which a person uses or abuses alcohol, be this whether they are primary or secondary in nature. There is clearly a need to examine these factors with the use of reliable standardised measures if we are to reach a better understanding of the psychopathology and role of emotional distress in binge drinking.

1.3.3. The Role of Gender

Much has been written on issues regarding gender and alcohol (Bongers, Van de Goor, Van Oers & Garretsen, 1998; Kaplan, 1996; Thom & Green, 1996; Waterson, 1996; Smith, Bentler & Flay, 1994; Saunders, Baily, Phillips & Allsop, 1993; Seppä, Koivula & Sillanaukee, 1992; Schmidt, Klee & Ames, 1990). Emphasis has been placed on the historical demoralisation of female drinkers and the notion that alcohol is used as a coping strategy for internalised stress (Bongers *et al.*, 1998; Schmidt *et al.*, 1990). Despite the paucity of research on gender differences between binge drinkers, some interesting findings have been made.

The Dunne, Galatopoulos & Schipperhijn (1993) study found that 20-30 year old professional women were twice as likely to be binge drinkers than men. Twice as many women as men were found to drink alone at home (14% v 7%), but almost as many women as men were drinking openly in bars with their spouses or friends (74% v 79%). This finding may be a reflection of the shift in attitude towards social acceptability of female drinking (Thom & Green, 1996). Unfortunately, the drinking preferences of binge drinkers were not made explicit. On the question of women presenting to alcohol services, it appears that they remain to be under-represented in comparison with men, despite being more inclined to seek help for emotional or health problems (Beckman & Amaro, 1984; Thom, 1984; Smith, 1992, cited in Thom & Green, 1996).

A number of characteristics have been associated with women and problem drinking, which include, anxiety (Dunne *et al.*, 1993) and depression (Dunne *et al.*, 1993; Hatsukami & Pickens, 1982), poor self-esteem (Plant, 1997; Schmidt *et al.*, 1990), poor body image (Plant, 1997), inadequate peer relationships (Waterson, 1996) and

polydrug use (Thomas, 1995). However, it is recognised that there is a methodological difficulty in determining whether psychological characteristics are precursors or consequences of problem drinking, or both, hence, identifying basic personality traits of 'alcoholic' women is no longer viewed as a fruitful area of research (Schmidt *et al.*, 1990). Finally,

"Personality features of female alcoholics may characterise women with an emotional problem in general and that the only common characteristic of alcoholic women is that they misuse alcohol." (Beckman, 1976; cited in Schmidt *et al.*, 1990, p182).

1.3.4. The Role of Ethnicity & Cultural Factors

Cultural variations in drinking pattern and accepted alcohol consumption have been well documented, for example the 'Mediterranean drinking style' has been described as access being required to alcohol at all times, and the 'Scandinavian style' typifying the binge approach, with little or no alcohol drunk during the week and excess amounts consumed at the weekends (Fyffe, 1996). However, these patterns are generalised across the population, rather than being indicative of a drinking problem. One population has, nonetheless, been singled out for demonstrating a high proportion of problematic binge drinking, namely, the American Indians. Binge drinking in this group has been described as,

"...Abrupt and intense bouts of episodic drinking, or binges, during which large quantities of alcohol are consumed almost non-stop over a period of several days. Upon completion of these episodes, which often occurs only after 'the money runs out' (Westermeyer, 1979) or unconsciousness prevails (Reyzynko & Ferguson, 1978; Curley, 1967) the binge drinker apparently refrains from alcohol until the next, seemingly unpredictable outburst, weeks or months later."

(Robin, Long, Rasmussen, Albaugh & Goldman, 1998, p518).

This binge drinking has been described as a flamboyant exhibition emulating the male war party of former years (Levy & Kunitz, 1974, cited in Robin *et al.*, 1998), whilst, on the other hand, the dysfunctional and destructive consequences have been

identified to include abnormally high rates of death, illness and alcohol-related arrests (May, 1989; May, 1982, cited in Robin *et al.*, 1998). Robin *et al.* (1998) conducted a study of 582 American Indians and obtained extremely high rates of binge drinking, with 62.9% ($\pm 3\%$) of men and 24.9% ($\pm 2.4\%$), of women describing this pattern at some time during their lifetime. Furthermore, of these binge drinkers, 97% of males and 91% of females met criteria for alcohol dependence (DSM-III-R). Male binge drinkers were 3.2 (± 0.3) years older than non-binge drinkers, with an average age of 36.4, although there was no age difference for females. Binge drinking was also significantly associated with an increased likelihood for multiple psychiatric disorders and social, employment, legal (including violence), or physical problems (Robin *et al.*, 1998).

The role of ethnicity does not appear to have been considered in any other research on binge drinking. Research on the Asian population, which is of particular relevance to this study, being the predominant ethnic minority population in Leicestershire (Johnson, 2000), is especially lacking. Grant, Harford, Dawson, Chou, Dufour & Pickering (1994) and Hilton (1987) in their studies of the prevalence of alcohol dependence and abuse in the American public, did however, 'over-sample' the black population, based on observations of higher rates of alcohol-related disease, specifically liver cirrhosis in this group. Alcohol dependence and abuse were, nevertheless, found to be higher in the non-black population, 7.68% versus 5.28%, according to DSM-IV criteria (Grant *et al.*, 1994). Comparative figures were not provided in the Hilton (1987) study.

When considering ethnicity and culture in substance use research, Cheung (1993) highlighted that many studies fail to recognize the presence of sub-cultural differences within an ethnic group, often simply classifying groups as, 'Black', or 'Asian'. However, to adequately assess the role of ethnicity or culture would be a complex process requiring a great deal of information, such as, whether the participants are first, second or third generation inhabitants of the country, what is their native and preferred language and the effect of mixed-race parentage (Cheung, 1993).

1.3.5. Summary of Research into the Psychopathology of Binge Drinking

In summary, research in the area of psychopathological concomitants of binge drinking is inconclusive and a number of areas, such as the role of emotional distress, especially when accounting for gender or ethnic factors, are under-researched. It is therefore proposed that in utilizing the new definition of binge drinking as described in section 1.1.4., that an adequate exploration of these factors would be possible. Hence our understanding and ability to identify psychopathology in binge drinkers would be improved.

1.4. Theoretical Models of Psychopathology in Binge Drinking

Traditional models of alcohol from the biological and behavioural schools of thought have been put forward to explain ‘alcoholism’, or ‘alcohol dependence’. Some of these, for example, the disease model in the USA, have been very influential in approaches taken by researchers investigating binge drinking, with much emphasis being given to concepts, such as ‘loss of control’ (e.g. Wechsler *et al.*, 1995a; Tomsovic, 1974). Despite the proliferation of such models, it was recognised almost twenty years ago that the,

“...control of drinking, like any other behaviour, is a function of cues and consequences, of set and setting, of psychological and social variables; in short, control, or the loss of it, is a function of the way in which the problem drinker construes his situation...The traditional disease model is woefully inadequate, narrow and incomplete, and yet it has been reified and oversold.”

(The British Psychological Society, 1984, p15).

Furthermore, the literature encompassing these models is huge, review of which is beyond the scope of this study and many good reviews are available (see, for example, Peele, 1995; Blane & Leonard, 1987; Orford, 1985). More importantly, the evidence from successful treatment outcome research has been based in psychological theory and practice (Cameron, 1995). Consequently if our understanding of problematic drinking patterns, such as binge drinking is to be improved, it is necessary to draw on these psychological models and theories, which have been demonstrated to be effective in clinical treatment.

1.4.1. Coping and Binge Drinking

Coping skills have been identified as instrumental in a person's psychological and physical well-being when confronted with stressful life events (Endler & Parker, 1990). Furthermore, inadequate coping skills have been associated with every aspect of health, including, illness, absenteeism at work, interpersonal conflict, poor self-concept and general distress (Endler & Parker, 1999). A lot of research has looked at peoples' use of alcohol as a coping behaviour with stress. The emphasis has been on attempting to cope with problems by drinking, rather than tackling the source of the stress. It is therefore expected that people who cope poorly with stress would be more likely to drink, hence for them, alcohol could be considered a functional process. It is logical that binge drinkers would differ in their ways of coping from other drinkers, as anecdotal evidence suggests that they cope with problems for most of the time. In order to have an understanding of the role of dispositional coping for binge drinkers it is important to explore the theoretical conceptualisations of coping.

Over the past sixty years, much has been written on coping (see for example, Zeidner & Endler, 1996; Lazarus, 1993; Endler & Parker, 1990) however, two main schools of thought have dominated coping theory: *situational* coping, where coping is conceptualised as a process and *dispositional* coping, with coping being conceptualised as an individual style.

1.4.1.1. Situational versus Dispositional Coping

The concept of dispositional coping does in fact originate from the field of psychoanalysis, with Freud's (1933) description of unconscious defense mechanisms. In this instance, the individual was considered to have little or no control over the strategies selected to cope with stress. Research generated from this theory led to the identification of a variety of coping styles, which were regarded as inflexible personality characteristics (Lazarus, 1993). This dispositional view was attractive, especially in the assessment of coping, where it was implied that people could be characterized by their preferred, consistent ways of coping with adversity (Schwarzer & Schwarzer, 1996).

This hierarchical view of coping was challenged on the basis of research findings in the late 1970s, which indicated that coping styles were not fixed and that individuals

utilized different coping strategies to adapt to difficult and stressful events (Lazarus, 1993; Schwarzer & Schwarzer, 1996). Hence, the situational conceptualisation of coping as a relational process between the individual and the environment was introduced (Lazarus, 1993).

In essence, it was noted that cognitive and behavioural efforts to manage psychological stress changed over time and that these were shaped by the situational context (Lazarus, 1993; Endler & Parker, 1990). Individuals were observed to actively and consciously select and engage in particular coping behaviours (Folkman & Lazarus 1985; Folkman, Lazarus, Gruen & DeLongis, 1986). Evidence also suggested that individuals could purposefully select the most appropriate coping behaviour to fit the situation (Edwards & Endler, 1989; Endler & Parker, 1989; Fleischman, 1984; Miller *et al*, 1988, cited in Endler & Parker, 1990) and that these were adapted throughout the stressful encounter (Schwarzer & Schwarzer, 1996).

The development of this theory, initially termed the cognitive-transactional theory of stress by Lazarus & Folkman (1984) has been instrumental in the development of current knowledge of coping, especially in providing a taxonomy of the types of processing which contribute to stress reactions (Matthews & Wells, 1996).

1.4.1.2. Emotion-Focused and Problem-Focused Coping

Lazarus & Folkman (1984) initially defined two distinct styles of coping, which had been earlier distinguished, but not labelled (Endler & Parker, 1990), as *emotion-focused* and *problem-focused* coping. They proposed that the function of emotion-focused coping was to regulate distressing emotions, which could be achieved either by 'changing the way the stressful relationship with the environment was attended to' (for example, through vigilance or avoidance), or by 'changing the relational meaning of what was happening' (for example, through denial or distancing). These coping strategies referred to a person-orientation, which included emotional responses, self-preoccupation and fantasizing reactions (Endler & Parker, 1990). This method of re-appraising the situation is said to be less threatening, although may require considerable effort, as the actual stressor hasn't changed (Schwarzer & Schwarzer, 1996; Lazarus, 1993). The label of maladaptive coping has also been applied to emotion-focused coping strategies, as although they may aid in maintaining an

emotional equilibrium, problem-solving strategies are still required to manage the stress or threat (Zeidner & Saklofske, 1996).

On consideration of problem-focused coping, this was defined as, 'changing the troubled person-environment by acting on the environment oneself' (Lazarus & Folkman, 1984; Lazarus, 1993). In this instance, it was the attempt to change that was viewed as important, rather than the degree of success achieved and in some cases the attempts might have even had detrimental side-effects (Schwarzer & Schwarzer, 1996). Problem-focused coping is often interchanged with 'task-focused', or adaptive coping, as it was said to have a task-orientation (Endler & Parker, 1990) and was active in making adjustments to the stressor itself or the problematic relationship (Zeidner & Saklofske, 1996).

In relation to the terminology of maladaptive and adaptive coping, Zeidner & Saklofske (1996) stated that, coping strategies in themselves should not be pre-judged in this way and that it is for whom and under what circumstances that the coping strategy is adaptive.

Endler & Parker (1990) added to the distinction of emotion-focused and problem-focused coping, by proposing that coping was multidimensional and incorporated a third basic strategy of *avoidance*. Avoidance was considered to include either person- or task-oriented strategies. This was exemplified by the instance described by Endler & Parker (1990) of an individual's ability to avoid a particular stressful situation by, 'seeking out other people (seeking social support) or, by engaging in another task rather than the task at hand (distraction, for example, watching TV rather than studying)'.

The evidence to support this conceptualisation was provided through their study in which the Multidimensional Coping Inventory (MCI) was developed and tested for its reliability and validity. Endler & Parker (1990) concluded that the strength of the association between coping and measures, such as anxiety, depression, and personality dimensions, varied across the Task, Emotion and Avoidance subscales of the MCI and hence implied that coping could not be a unidimensional entity.

Further work has been conducted on the multidimensionality of coping, with a number of authors identifying alternative dimensions. For example, Klauer, Flipp & Ferring (1989, cited in Schwarzer & Schwarzer, 1996) established the three dimensions of, 'focus of attention', 'sociability' and 'response level' in relation to coping with chronic illness. However, the dimensions of emotion-focused, problem-focused and avoidance appear to have received the most attention and are most widely accepted. Irrespective of terminology, there seems to be an agreement that coping should now be considered as a multidimensional concept. Schwarzer & Schwarzer (1996) stated that a multilevel conceptualisation was obviously implied by the high degree of situational or intraindividual variability in coping. They also allied themselves with the belief that a few stable dimensions of coping exist at a higher cognitive level, and that these are theoretically linked to a number of specific strategies, which work at lower levels. The exact number of dimensions is still open to debate and further work by Cook & Heppner (1997) has suggested that conceptualising coping, as three distinction dimensions may be inadequate in assessing the coping process.

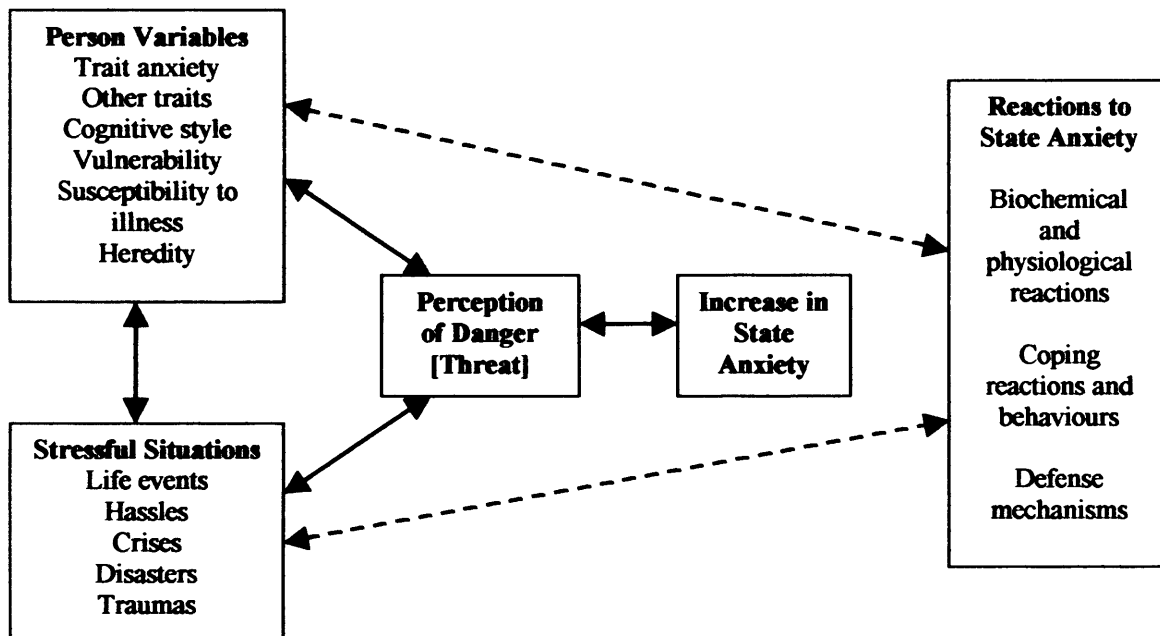
1.4.1.3. Interactional Models of Coping

A further issue revolves around the confusion and disagreement abounding in the psychological literature regarding the distinction between stress, anxiety and coping (Endler & Parker, 1999). In response to this lack of clarity, Endler (1988; 1993; 1997; cited in Endler & Parker, 1999) devised an interaction model of anxiety, stress and coping as shown in Figure 1.

Primarily, this model was based on the assumption that there was a continuous process of interactions between person and situation variables, which led to the perception of danger or threat. This could affect both the person and situation variables and resulted in changes in state anxiety. The changes in state anxiety then initiated further changes, which included, physiological and biochemical reactions and coping behaviours or defense mechanisms to adjust to the change (Endler & Parker, 1999). These reactions were reported to interact with each other and in essence a feedback loop was observed. Endler & Parker (1999) on the basis of this model concluded that research which focuses exclusively on coping behaviours and

reactions, without considering the social and psychological context would ultimately have very limited theoretical and practical utility.

Figure 1: Interaction Model of Anxiety, Stress, and Coping¹⁴



1.4.1.4. The Role of Appraisal and Attention in Coping

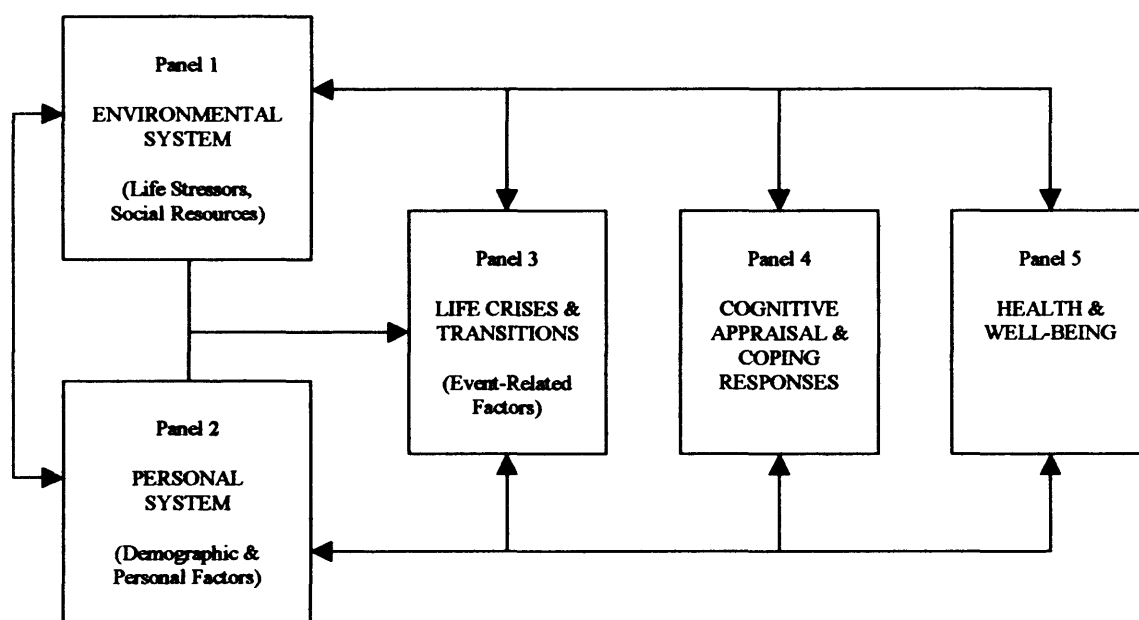
An extension of the integrative approach proposed by Endler & Parker (1999) has been the consideration of a cognitive appraisal of stressful events (Holahan, Moos & Schaefer, 1996). Holahan, Moos & Schaefer (1996) in their review of Moos & Schaefer's (1993) conceptual framework of the coping process (see Figure 2), concluded that cognitive appraisal had a central mediating role in the coping process.

In this model, *environmental* factors (ongoing life stressors, such as chronic illness and social coping resources, such as family support) and *personal* factors (sociodemographic characteristics and personal coping resources, such as self-confidence) are considered to be relatively stable. These factors were said to influence the significant life crises and transitions people face throughout their lives. These combined influences were then considered to shape health and well-being either directly or indirectly through cognitive appraisal and coping responses. These

¹⁴ From Endler & Parker (1999)

relationships were described as being bi-directional in nature with reciprocal feedback indicated at each stage of the model (Holahan, Moos & Schaefer, 1996).

Figure 2: A General Conceptual Framework of the Coping Process¹⁵



The Moos & Schaefer (1993) model makes some headway in identifying the reciprocal relationship between person and environmental factors, and suggests that the coping process could be potentially alterable. Although this conceptualisation could aid in our understanding of the determinants of emotional disorders, including alcohol misuse, knowledge about the ways in which different types of life stressors and social resources influence each other is still lacking (Holahan, Moos & Schaefer, 1996).

Nevertheless, Holahan, Moos & Schaefer (1996) concluded that taking this focus on the coping process encouraged a ‘competence-enhancing view of a person’s adaptive strengths and of his or her potential for resilience and personal growth’. Schwarzer & Schwarzer (1996) echoed this point in their summary of the salient factors involved in the coping process:

¹⁵ From Moos & Schaefer (1993), reviewed by Holahan, Moos & Schaefer (1996)

- “a. coping need not be a completed ‘successful’ act, but an effort has to be made*
- b. this effort need not be expressed in actual behaviour, but can be directed to cognitions as well*
- c. a cognitive appraisal of the taxing situation is a prerequisite of initiating coping attempts.” (p107).*

In addition to the identification of cognitive appraisal of stressful events, it is becoming increasingly apparent that the degree of attention afforded to the distress caused is important in a person's ability to employ adaptive coping strategies (Matthews & Wells, 1996; Wells & Matthews, 1994b; Wood *et al.*, 1990). Matthews & Wells (1996) have suggested that the impairments observed in coping as a consequence of emotional distress may be related to a cognitive-attentional syndrome characterized by heightened self-focus of attention.

It has been observed that emotional distress might impair coping by either a general impairment being associated with worry and loss of resources, or through a bias towards selecting maladaptive coping strategies, such as rumination (Matthews & Wells, 1996). In these instances, the person might have already had low expectations of their ability to achieve desired goals and then motivation is dampened by self-focus. On the other hand their emotions might have been so intense, or the rumination so pre-occupying that they could not concentrate on their desired goal (Wood *et al.*, 1990).

Self-focus has been associated with a reduction in active coping in stressful and cognitively demanding situations (Wells & Matthews, 1994b) in addition to amplifying negative mood and biasing the retrieval of negative information (Morgan, Matthews & Winton, 1995). Matthews & Wells (1996) believed that the distress syndrome observed, might have been,

“modelled as a dynamic interaction between retrieval of generic plans for action from LTM [long-term memory]¹⁶ and on-line formulation of coping strategies and other responses. Some coping strategies may contribute to maintaining or enhancing representations of negative self-beliefs in LTM, putting the person at risk of clinical affective disorder. These dysfunctional strategies are of several types, including perseverative worry (emotion-focused), monitoring for external threat (task-focused) and thought suppression (avoidance).” (p596).

This conclusion formed the basis of Wells & Matthews’s (1994) Self-Regulatory Executive Functioning (S-REF) model of emotional disorder, which is comprehensively evaluated in section 1.4.2.3.. Finally, Morgan, Matthews & Winton (1995) highlighted that the choice of coping strategy is computed by S-REF processing on the basis of self-knowledge, immediate situational cues and personality dispositions, such as neuroticism and private self-consciousness. Should these factors encourage the retrieval of negative items of knowledge, then less adaptive coping strategies will be selected (Morgan, Matthews & Winton, 1995).

In summary, it can therefore be concluded that coping is a complex multidimensional concept, which involves a dynamic relationship between person and situational factors. This relationship is influenced by the person’s degree of self-focus and attention afforded to cognitively appraising the stressful situations encountered.

1.4.1.5. Coping Theory Applied to Alcohol Misuse

Considering the application of coping theory to alcohol misuse, research has been conducted in the area of identifying particular coping styles as risk factors for the development of alcohol abuse (see Wills & Hirky, 1996), or else coping has been identified in hind-sight as a reason for problem drinking (for example, Cunningham, Sobell, Sobell, Gavin & Annis, 1995). However, once again, little consideration has been offered to associations between coping and different of patterns of drinking.

¹⁶ Author’s parentheses

Carpenter & Hasin (1998) found in their general population survey looking at the relationship between reasons for drinking alcohol, DSM-IV diagnoses and alcohol consumption that, no statistically significant associations were demonstrated between emotional coping motives and the frequency of binge drinking or average daily ethanol consumption. However, they reported that those who met the criteria for alcohol dependence were more likely to report emotional coping motives for drinking. This study, was nevertheless, subject to a number of limitations, the most striking being the conclusions about coping being drawn from results on a 'reasons for drinking' scale devised by the authors, rather than a standardised measure. The implied meaning and applications of 'emotional coping' is therefore impossible to ascertain, hence any generalisations to future research are restricted. Furthermore, the limitations of the definition of binge drinking used, namely, 5 drinks in a row have been previously highlighted.

These limitations are emulated in the wider alcohol misuse literature. The Cunningham *et al.* (1995) study, for example, looked at whether problem drinkers were more likely to drink as a consequence of negative affect and suggested that alcohol was used as a coping mechanism, without extrapolating the underlying assumptions behind this statement. Some consistencies are however indicated when specific coping styles have been studied and it appears that problem drinkers do tend to rely more on emotion-focused coping strategies than problem-focused strategies. Cooper, Russell & George (1988) in comparing 119 adults meeting DSM-III criteria for alcohol abuse with 948 non-problem drinkers, concluded that avoidant styles of coping with emotion were associated with more serious drinking problems, but this was only for those who expressed a greater belief in the positive reinforcing properties of alcohol.

Wills & Hirky (1996) in their review of research on the relation of coping processes to risk for substance abuse, postulated three models of the coping functions of substances:

1. *Direct affect regulation*, where the use of substances produced a change in affective states, either through the reduction of tension, or by increasing positive affect and decreasing negative affect;

2. *Attention diversion*, where a physiological process operated to divert attention from unpleasant self-awareness;
3. *Performance enhancement*, which is achieved through physiological arousal or other (non-specified) mechanisms.

The particular coping function, salient for the individual was also considered to be influenced by a number of vulnerability factors, namely: biological factors, such as gender and temperament; a genetic predisposition to alcohol abuse; social and cultural environmental factors, such as a general lack of adaptive coping skills; or an experience of stressful life events (Wills & Hirky, 1996). These factors were believed to increase vulnerability to substance abuse through inducing attractive perceptions of the coping functions of substance use, such as, regulation of affective states, distraction from unpleasant self-awareness, or the 'magical' enhancement of otherwise ordinary or stressful situations (Wills & Hirky, 1996).

When these vulnerability factors were present, Wills & Hirky (1996) noted that some types of coping strategy have been identified as more risky. For example, avoidant coping strategies may lead the person to deny the existence of problems, seek distraction from the unpleasant feelings experienced and avoid engaging in effortful positive reinforcing activities which may disconfirm their negative appraisal of the situation (Wills & Hirky, 1996). Hence, it was postulated that when avoidant modes of coping are adopted more frequently, the person would gravitate increasingly towards substance abuse for its perceived coping effect (Wills & Hirky, 1996).

A criticism of these approaches to coping and alcohol misuse, is that the implicit assumptions underlying the models discussed by Wills & Hirky (1996) have been generalised across a number of substances, rather than specifically for alcohol. They are also based on the premise that the coping functions of substances are learned through initial exposure and subsequent use in different situations. This has then been used as an explanation of why individual differences are observed in the salience of particular functions (Wills & Hirky, 1996). This observation is open to criticism, in that the interaction of other variables is ignored, in addition to the over-emphasis on physiological reactions. Furthermore, a theoretical paradox is evident, as although alcohol may in itself be construed as a coping strategy, it also has the potential to be

the product of deficits in other coping mechanisms (Wills & Hirky, 1996). Interestingly, the adoption of *any* coping strategies appears to have been diminished in people who abuse substances (Wills & Hirky, 1996).

With regard to treatment outcomes, Holahan, Moos & Schaefer (1996) replicated findings in an earlier study by Perri (1985) and found that reliance on cognitive approach coping was associated with better outcome at a two-year follow-up, whereas the outcome for those who used avoidant coping strategies was found to be poorer, with regard to level of alcohol consumption and presence of depression. This intuitively leads to the question of relapse in alcohol abuse, which again is worthy of discussion in its own right due to the abundance of literature. Unfortunately, although this is of interest in consideration of why binge drinkers have the ability to control their drinking for substantial periods of time and then apparently relapse, a comprehensive review of this area is once more beyond the scope of this study. One important implication in the relapse literature is that stress has been identified as a predisposing factor for relapse, especially in cases where social support from significant others has been unavailable or restricted. Furthermore, those who have attempted to cope with their stress in whatever manner have been found to be less likely to relapse and resume problem drinking (Wills & Hirky, 1996).

1.4.1.6. Coping and Emotional Distress

Endler & Parker (1999) described the role of coping in mediating between antecedent stressful events and consequences, such as depression, anxiety, psychological distress and somatic complaints, as vitally important on reflection of the recent proliferation of research in this area. As they indicated, a number of associations have been identified between particular styles of coping and various emotional disorders. Emotion-focused coping appears to be most problematic, with positive correlations being found with depression (Endler & Parker, 1990; Billings & Moos, 1985), anxiety (Endler & Parker, 1990), neuroticism (Endler & Parker, 1990; McCrae & Costa, 1986) and Type A behaviour (Endler & Parker, 1990).

Endler & Parker (1990) also found in their study that both anxiety and depression, especially for women, were negatively correlated with task-focused coping, which they concluded added further evidence to the finding that individuals who adopted

emotion-focused coping strategies were more likely to suffer from some form of psychopathology. Although, the causal relationship between these factors is unclear, the relationship between emotion-focused coping and depression may be because this type of coping has often entailed avoidant-oriented fantasy and self-blame (Holahan, Moos & Schaefer, 1996).

Wood, Saltzberg, Neale, Stone & Rachmiel (1990) suggested that the link between depression and avoidant coping strategies may be related to the association between self-focussed attention and depression. They found in a study of 40 men living in the community, that those men who were highly self-focused reported using passive and ruminative coping styles, which in turn were associated with distressed affect. These styles were indicative of the school of emotion-focused coping. Wood *et al.*'s (1990) review of previous research in the area of self-focused attention had indicated that a ruminative style of coping was characteristic of women and that those who were depressed were more likely to utilize coping responses that resembled the characteristics of self-focused attention. Hence, Wood *et al.*'s (1990) study had aimed to assess whether men who tended to ruminate were more depressed than those who used problem-focused coping strategies, such as distraction, or whether this was in fact gender-biased. Consequently, their findings implied that although women might have adopted emotion-focused coping strategies more often than men (Endler & Parker, 1990), it was the association between the employment of these strategies and levels of attention directed at the self when experiencing distress that was important.

It should be noted that, although the term avoidance implies a negative connotation and has generally been associated with psychological distress, avoidance has actually been viewed as an adaptive strategy in some circumstances (Holahan, Moos & Schaefer, 1996). For example, the finding that women tend to use more avoidant coping strategies may be a reflection of the finding that women tend to seek social support to cope with stressful events and this has been classified as an avoidant strategy.

1.4.1.7. Measurement of Coping

With the conceptual changes in our understanding of coping, researchers have developed a number of self-report measures of coping reactions and behaviours (Cook

& Heppner, 1997). These measures typically ask people about the specific coping behaviour(s) they are likely to, or usually use when confronted with a stressful situation (Endler & Parker, 1999; Lazarus, 1993). However, despite the theoretical distinction between dispositional and situational coping, few studies have actually considered the implications of these distinct approaches in the construction of new measures, or in their research methodology (Lazarus, 1993).

This is exemplified by the distinction between intra-individual and inter-individual approaches (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986). The intra-individual approach is rooted in the process concept of coping and hence measures the coping behaviours of the same individual across stressful situations, in order to understand the impact these stressful situations have on a person's coping strategies (Endler & Parker, 1999; 1990). The inter-individual approach on the other hand was developed from the trait school of coping, where coping scores are aggregated over different measurement periods, or are measured on a single occasion to obtain a stable index of an individual's coping styles (Endler & Parker, 1999; 1990). The majority of research has adopted this latter approach to coping and has hence assumed an unsubstantiated level of consistency of coping responses across different situations (Endler & Parker, 1999; Schwarzer & Schwarzer, 1996), despite the theoretical advances in process research.

Reviews by Schwarzer & Schwarzer (1996), Cook & Heppner (1997), and Endler & Parker (1999) of the many self-report coping measures developed over the past 30-years have highlighted this factor, stating that the majority of measures have been developed empirically rather than theoretically. The unsatisfactory psychometric properties, unstable factor structures and lack of cross-validation of many of these measures have also been reported (Schwarzer & Schwarzer, 1996; Cook & Heppner, 1997; Endler & Parker, 1999). However, a certain degree of generality has been deemed necessary in order to measure coping due to the assumption that people have a tendency to select a limited number of coping strategies that they reapply in different situations (Schwarzer & Schwarzer, 1996). Furthermore, it is believed that an individual's coping behaviours will be drawn from the same school, whether that be emotion-focused, problem-focused or avoidance, although the actual responses observed will be different (Schwarzer & Schwarzer, 1996).

In light of these difficulties, Endler & Parker (1990) went on to construct an inventory which aimed to reliably and validly assess preferred coping styles, or strategies typically used in coping with stressful situations, namely the Coping Inventory for Stressful Situations (CISS). This inventory was based on the empirical assumptions addressed in the interactional model of anxiety, stress and coping, as described in Endler & Parker (1999). A full description of this measure and its substantial psychometric properties are presented in section 2.3.1. This measure was considered to be a 'state-of-the-art inventory' at the time of conducting this study (Schwarzer & Schwarzer, 1996), although the difficulty of measuring coping as a process, which includes interrelated dimensions of cognitive, affective and behavioural components remains to be adequately addressed (Cook & Heppner, 1997; Schwarzer & Schwarzer, 1996). Due to the interdependency of coping strategies, it has also been suggested that a ratio method of scoring coping strategies may be preferable to the raw coping scores for emotion-focused, problem-focused and avoidance subscales (Cook & Heppner, 1997).

1.4.1.8. Summary of Implications for Coping in Binge Drinking

The field of coping offers a number of possibilities in differentiating patterns of problematic drinking, as intuitively the pattern of binge drinking would suggest that binge drinkers utilize coping strategies in the face of stress that differ from the people who choose to drink more or less continuously. Review of the literature has indicated that this area of research has been neglected and hence warrants investigation.

1.4.2. Thought Control and Binge Drinking

The way that people use alcohol to cope with stress is directly related to the beliefs that people hold about alcohol and its effects. For instance, problem drinkers may believe that drinking is a good strategy for avoiding thinking about the stress, or blocking out the unpleasant thoughts and emotions they are experiencing. However, this area has not been well explored in the cognitive behavioural literature and the research that has been conducted has tended to focus on cravings or urges. Beck, Wright, Newman & Liese (1993) for example, proposed that alcohol urges are activated in 'high risk situations', which could be 'external' (e.g. being in the company of other drinkers, or receiving wages), or 'internal' (e.g. emotional distress, or boredom). These situations then trigger alcohol or drug-use beliefs and result in a craving or urge for alcohol.

In a similar vein to Beck *et al.* (1993), Tiffany (1992) considered the way in which drug urges or cravings were elicited in suggestive situations. However, the model proposed by Tiffany (1992) was based on experimental evidence from eliciting smoking urges, making assumptions drawn to other substance use tentative. Tiffany (1992) attempted to explain craving as a form of metacognition¹⁷, or 'a thought about a thought'. However, appraisals of the thought content or cognitive processes in these urges were not considered (Wells, 1995; Wells & Matthews, 1996). Furthermore, a heavy reliance was placed on the person being distracted through 'absent-minded relapses' when schemata or beliefs about the substance were unconsciously activated.

If these alcohol urges are however perceived as thoughts, one would expect that if the person tries to suppress these thoughts a rebound effect would be observed. In essence, by trying to stop thinking about drinking, the problem-drinker ends up thinking about it more. In a similar way if unhelpful thought control strategies, such as punishment and worry, are used, the person is more likely to succumb to drinking. The S-REF model (Wells & Matthews, 1994; 1996) is a good model to explain this process as it talks about unwanted thoughts and how people deal with them. This model will be discussed in due course, following a consideration of previous attempts at understanding thought control and alcohol misuse.

¹⁷ Metacognition has been defined as 'the appraisal of the content of thought, or appraisal of cognitive processes'. (Wells, 1995).

1.4.2.1. Metacognition and Alcohol Misuse

Toneatto (1995) proposed a 'Regulation of the Cognitive States' (RCS) model, which hypothesised that the abusive consumption of psychoactive substances was maintained by the substance's ability to modify uncomfortable cognitive states, particularly emotional distress. In essence the substances served to 'block out' any unwanted thoughts, feelings, sensations, perceptions or memories, resulting in tolerance to the source of the distress, such as marital disharmony. Toneatto (1995) described these events as metacognitions and stated that they could be the product of either interactions with the environment, or internal cognitive processes. This self-regulatory process of modification was said to occur primarily through a process of reinforcement, whereby a reduction of attention to the undesirable states induced a feeling of 'numbness', 'detachment', or 'euphoria', which was considered a preferable cognitive state.

1.4.2.2. Criticisms of the RCS Model

Toneatto (1995) in a review of self-regulatory models, such as the tension reduction theory (Conger, 1956), stress-dampening theory (Sher, 1987), self-awareness models (e.g. Hull, 1981), expectancy theories (e.g. Brown, Goldman & Christiansen, 1985), conditioning theories (e.g. Baker, Morse & Sherman, 1987) and the self-medication hypothesis (Khantzian, 1985) claimed superiority of the RCS model through its emphasis on the role of metacognition in the maintenance of substance abuse, rather than focusing primarily on emotion. However, the descriptions of metacognition, of which Toneatto (1995) identified three types, were naïve with respect to our current understanding of this concept. Toneatto (1995; 1999) also tended to confuse beliefs, or descriptions and statements about feelings with metacognition.

In addition, the model was based on evidence from the literature on reasons for drug use and expectancy and relapse, which Toneatto (1995) himself criticized. No experimental or clinical research was provided to substantiate the underlying assumptions that, substance abusers have learned to appraise certain cognitive states as 'harmful, overwhelming, or dangerous' and that refraining from substances 'leads to an unmediated encounter with these [undesirable] cognitions'. Toneatto (1995) acknowledged that extensive work was required to fully elucidate and validate the model. Finally, Toneatto (1995) likened substance abuse to phobias, whereby the

individual was considered to be ‘avoiding internal phobic stimuli’ and on the basis of this, a graded exposure treatment approach was advocated, which again digressed from metacognition and its roots in cognitive therapy.

Despite the limitations of this model the importance of attention to unwanted thoughts in the development of emotional disorder and the consequences this has for substance abuse have been highlighted. Wells & Matthews (1994) have gone on to claim that the way in which people deal with their unwanted thoughts is related to successful or unsuccessful behavioural and emotional control. This implies that emotional disorders are not simply developed and maintained by dysfunctional beliefs about external stimuli, or misconstrued bodily sensations, as is stipulated in earlier cognitive theories, but are to do with the way that these events were processed at a metacognitive level. The S-REF model proposed by Wells & Matthews (1994; 1996) explains this process and talks about unwanted thoughts and how people deal with them.

1.4.2.3. S-REF Model

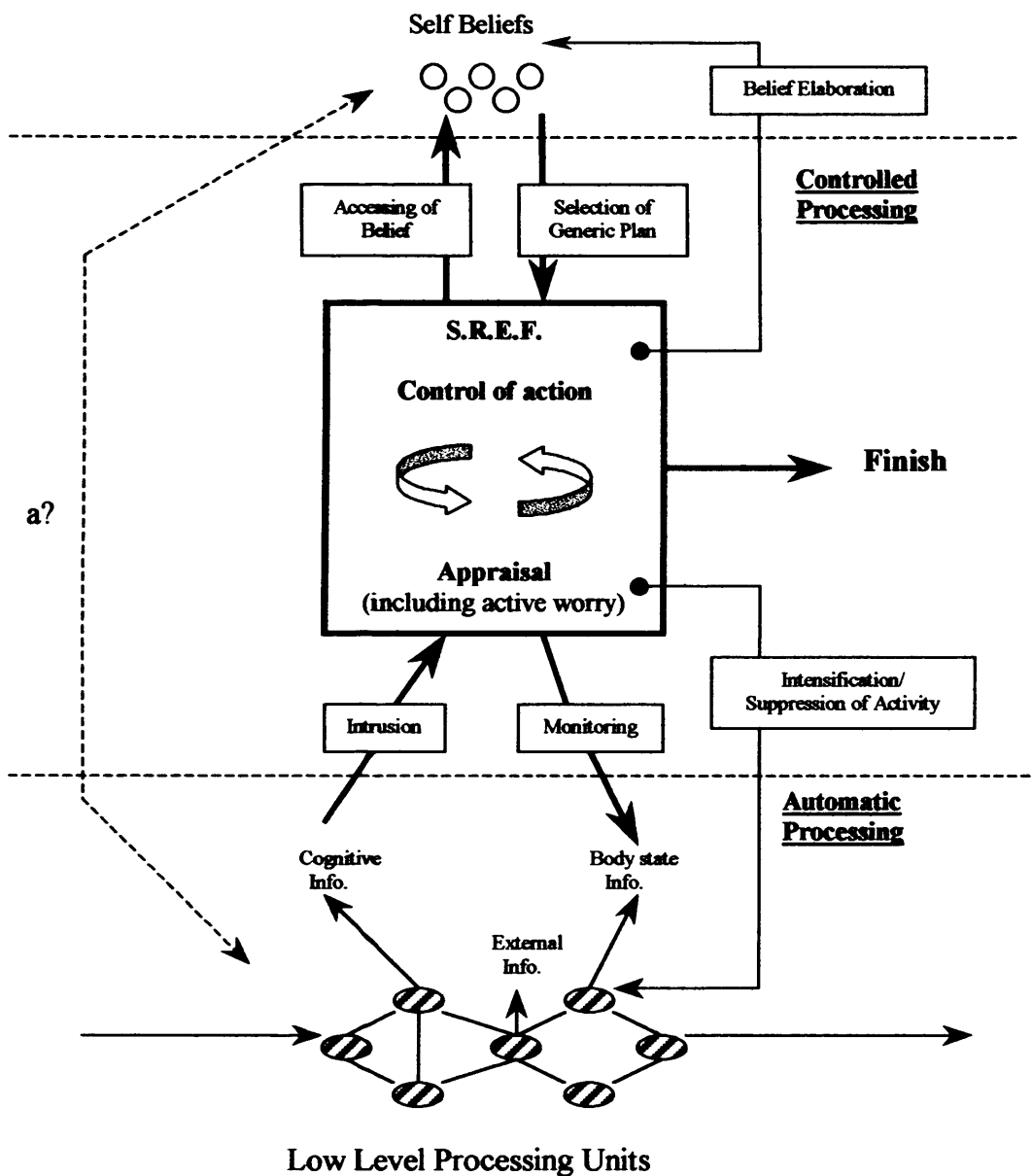
The S-REF or Self-Regulatory Executive Function model (see Figure III) of dysfunctional cognitive processing in emotional disorder was based on a multi-level cognitive architecture, which incorporated three interacting levels (Wells & Matthews, 1996):

1. *“A level of automatic and reflexively driven processing units.*
2. *A level of attentionally demanding, voluntary processing.*
3. *A level of stored knowledge or self-beliefs.”*

(Wells & Matthews, 1996, p882)

According to Wells & Matthews (1996) different modes or configurations of processing could be identified within this cognitive architecture. Firstly, stimuli are subjected to some automatic, or ‘low-level’ processing, which may activate the S-REF by generating intrusions. The self-regulatory processing being driven by self-beliefs, then performs the task of appraising whether these external events, or internal physiological changes are significant and hence warrant attention.

Figure 3: Schematic Representation of the S-REF Model of Emotional Disorder¹⁸



It has been claimed that the self-regulatory executive function is the most relevant in emotional disorder (Wells & Matthews, 1996), as it is this process which determines whether or not dysfunctional self-beliefs will become the focus of our attention. This dynamic process is controlled by either increasing the sensitivity of the lower-level processing units to identify target stimuli, or by diverting attention to other demanding processing operations.

¹⁸ From Wells & Matthews (1994)

Two types of self-belief have been specified in the S-REF model, being described as *declarative* and *procedural* beliefs (Wells & Matthews, 1996). Declarative beliefs are those, which make a statement about ourselves, such as *'I am a failure'*, or *'I am seriously ill'*. Whereas procedural beliefs can be understood as the plans which direct cognitive activities involved in this processing system, including selective attention, memory retrieval, appraisal and meta-cognitive processing in response to stimuli. In essence, the personal significance of thoughts is also appraised and decisions are consequently made as to which cognitive functions are necessary to meet the goals of these thoughts, or whether they could be ignored. The execution of these plans could be temporarily suspended by the diversion of attention to other processing activities. This could be problematic if the initial goals are left unmet, or if the attention is directed to a less important, or troublesome activity, such as ruminating, or 'active worry' (Wells & Matthews, 1996).

In this instance, rumination is problematic as it: depletes processing resources that could have been used to disconfirm dysfunctional beliefs; reduces the potential for congruent information to be processed; and probably blocks access to fear structures, deemed necessary for healthy emotional processing (Wells & Papageorgiou, 1998). Hence, activation of dysfunctional beliefs is maintained in place of attention being diverted to lower levels of processing that require less conscious involvement. Emotion is reported to occur at this point as the original goals have not been met.

An example, provided by Wells & Matthews (1996) illustrates this process in real-life terms:

"...consider how a failure to express oneself clearly at a meeting will lead to little emotion if the meeting is appraised as inconsequential from the outset. However, if performance in the meeting is appraised as personally relevant, such that performing badly means a loss of research funding, a self-appraisal of poor performance will trigger a more chronic period of S-REF activity and negative emotion." (p884).

As a consequence of this observation, it has been suggested that emotional disorders may be caused by attentional bias (MacLeod & Hagen, 1992). Evidence for attentional bias has been obtained from experiments using the Stroop test (Myers,

1998), where it has been found that when words have particular relevance to a disorder, then the person is distracted and pays attention to this word. A common example used is that of a spider phobic who was distracted by the word 'spider'. However, Wells & Matthews (1996) believed that attentional bias was part of a wider syndrome of maladaptive cognitive-emotional functioning, rather than being a simple predisposing factor for emotional disorders.

This belief was based on the evidence that attentional bias declined when improvements were observed during therapeutic intervention (Wells & Matthews, 1994). They went on to propose that attentional bias was a consequence of a 'voluntary threat-monitoring strategy', whereby, generic plans for the control of selective attention were made accessible through S-REF activity. A strategy was then implemented to focus attention on channels associated with the threat (Wells & Matthews, 1996). Hence, attentional control strategies were considered to be one element of the person's strategies for coping with stress (Matthews & Wells, 1996).

1.4.2.4. The S-REF Model and Thought Control

The degree of control a person perceives himself or herself to have over the level of attention afforded to distressing stimuli is directly related to emotional disorder. For example, an anxious or depressed person may have limited awareness of their ability to control their levels of attention focused on the distressing thoughts. Furthermore, the emotional processing of images may be blocked by worrying about stressful events and in turn sensitise the person to these images, so that they are triggered more frequently by a greater range of stimuli (Wells & Papageorgiou, 1998). This can be understood in terms of thought suppression, which has been identified to increase conversely the frequency of the unwanted thoughts or images (Harvey & Bryant, 1999; Davies & Clark, 1998; Salkovskis & Reynolds, 1994; Haaga & Allison, 1994; Clark, Winton & Thynn, 1993; Wegner, Schneider, Knutson & McMahon, 1991; Lavy & van den Hout, 1990).

The S-REF model accounts for this phenomenon by the belief that in trying to suppress thoughts, the mechanism which checks if goals have been met is activated, hence the unwanted thought is actually afforded more attention through this

monitoring system (Wells & Matthews, 1996). Consequently thought suppression is not considered an adaptive method for controlling unwanted thoughts.

Another method of controlling unwanted thoughts is through distraction, in which the distraction activity through necessity diverts attention away from the thought. This is considered to be more successful than thought suppression, however, distraction has its limitations, in that if the original thought is of personal relevance and has implications for the person's well-being, the potential for permanent distraction is unlikely. Wells & Matthews (1996) state that, any self-discrepancy will be prone to re-institute self-regulatory processing once the distraction ceases.

Wells & Matthews (1996) have also observed that some individuals may experience emotional difficulties as a consequence of being unaware of their own ability to control their unwanted thoughts. The model of generalized anxiety proposed by Wells (1995), in which meta-cognitive beliefs that 'prolonged active worry is desirable' are a core feature, exemplified this. Wells (1995) identified that in this instance individuals are unlikely to attempt to control their thoughts. Another possibility is that both negative and positive beliefs about worrying may be held, which leads to a state of cognitive dissonance. Consequently fewer problems are believed to be caused by avoiding triggers for worry. However, this leads to increased focus on these potential triggers, which in itself creates worry and leads to a cycle of increasing intrusions (Wells & Matthews, 1996).

In summary, S-REF activity is maintained by various cycles, which the person may be unable to terminate. These include, meta-cognitive beliefs that prolonged worry is desirable, instances where a source of threat is located by the threat-monitoring strategies, or dysfunctional social cycles, in which increasingly negative signals are expressed to other people. The severity of the distress caused is dependent on the extent of the dynamic maintenance of S-REF activity. In individuals without an emotional disorder, this activity can be fleeting or non-existent (Wells & Matthews, 1996). Wells and Matthews (1996) concluded that:

“...as in Beck’s (1967) work, emotional disorder is intimately related to negative self-knowledge, which, in the S-REF model, serves to maintain S-REF activity, and to focus attention on negative aspects of the self. However, the model extends Beck’s (1967) view of disorder by emphasising that self-knowledge is, to a large degree, expressed indirectly, through its influence on the real-time processing associated with the S-REF syndrome, which is the more proximal cause of dysfunctional cognition and emotion.” (p887).

1.4.2.5. The Thought Control Questionnaire

Although theoretical advances had been made in the understanding of the thought control process and its implications in the maintenance of emotional disorders, evidence was still lacking as to which strategies were adopted by whom to control unwanted thoughts (Wells & Davies, 1994, Purdon & Clark, 1994). Hence, the Thought Control Questionnaire (TCQ) was developed by Wells & Davies (1994) in an attempt to address these questions and develop a better understanding of which control behaviours were ‘involved in the transformation of normal intrusive thoughts into the pathological varieties’.

The questionnaire items were generated from semi-structured interviews with 10 patients classified as having an anxiety disorder and 10 control participants. Factor analysis of these items resulted in five dimensions of thought control, namely, distraction, social control, worry, punishment and re-appraisal, which each incorporated six statements to elicit thought control strategies. The psychometric properties of the TCQ are reported in section 2.3.2..

Wells & Davies (1994) concluded that high scores on the ‘worry’ and ‘punishment’ subscales were predictive of emotional vulnerability and/or psychopathology. The association with worry was believed to be due to the function this strategy has in facilitating cognitive-affective and behavioural avoidance (Wells & Davies, 1994). The lack of similar association with the other subscales was postulated to indicate that these dimensions were consequently related to emotional stability and adaptation. However, Wells & Davies (1994) acknowledged that this was only an assumption as these factors were not assessed. Furthermore, Wells & Davies (1994) envisaged a problem in making this assumption on finding a significant positive correlation

between private self-consciousness and the re-appraisal subscale. This was due to the previous indications that self-consciousness is a stress vulnerability marker (Wells & Matthews, 1994). However, they then concluded that focussing on one's thoughts was a likely component of re-appraisal and that if this was taken to be flexible, periodic and positive, that it would not necessarily result in increased stress.

The TCQ is a relatively new measure and consequently only a few published studies have reported its use with clinical samples, nevertheless these are worthy of review.

1.4.2.6. Research Evidence on Thought Control

The main applications of both thought control theory and the TCQ have not surprisingly been in the fields of trauma (Warda & Bryant, 1998 and Morgan, Matthews & Winton, 1995) and obsessive-compulsive disorders (Amir, Cashman & Foa, 1997), where intrusive thoughts are a core phenomenon. To the author's knowledge, the TCQ had not been utilized with a problem drinking population at the time of the study, however several links had been made with the use of thought suppression as a coping strategy (Morgan, Matthews & Winton, 1995).

Firstly, Morgan, Matthews & Winton (1995) studied whether coping and personality predicted the occurrence of post-traumatic intrusions in 44 victims of a flood in Perth, Scotland. It was hypothesised that more severe symptoms would be predicted by a greater use of emotion-focused and avoidance coping strategies, with fewer task-focused strategies being employed. Coping strategies were assessed by the Coping Inventory for Stressful Situations (Endler & Parker, 1990). The findings were reported to be consistent with the S-REF model (Wells & Matthews, 1994), in that certain types of emotion-focused coping led to greater access to negative beliefs and that thought suppression had a tendency to prime subsequent intrusive thoughts. They also found that private self-consciousness was associated with more severe trauma symptoms. Morgan *et al.* (1995) suggested that this supported previous findings (Wells & Matthews, 1994) that private self-consciousness was associated with the use of ruminative coping strategies, which lead to a recycling of negative thoughts and restricted access to self-knowledge stored in the long-term memory, in stressful situations. Consequently the 'numbing' and 'loss of emotional reactivity' observed in the trauma victims were caused by being absorbed in rumination. They go on to

suggest that, detachment is a necessary conclusion for someone who chooses this type of emotion-focused coping strategy, despite the probability that it was not consciously selected. This study provides evidence to support the S-REF model but methods utilized to control the intrusive thoughts were not examined, as the focus was on thought suppression, which is only one method of thought control (Wells & Davies, 1994; Wells & Matthews, 1994).

Warda & Bryant (1998) examined thought control strategies in acute stress disorder (ASD) one month post-accident in a motor vehicle. They suggested that thought control strategies played a major role in ASD due to evidence that attempted suppression of traumatic memories in this disorder has been associated with increased intrusions (Harvey & Bryant, 1999). With a sample of 20 ASD and 20 non-ASD patients recruited from emergency hospital admissions, they found that those diagnosed with ASD by the Acute Stress Disorder Interview (Bryant *et al.*, in press, cited in Warda & Bryant, 1998), were more depressed, anxious and experienced more intrusive thoughts. Although ASD participants were found to use the thought control strategies of distraction, social control and re-appraisal most frequently, their use of worry and punishment was related to their intrusive, avoidance, arousal and depressive symptoms. Interestingly, the use of social control strategies was inversely related to measures of anxiety, depression and intrusion. Hence, it was suggested that not utilizing this coping mechanism and withdrawing from one's social environment might be associated with psychopathological responses to trauma.

This study supported previous findings by Amir, Cashman & Foa (1997), who looked at strategies of thought control in obsessive-compulsive disorder (OCD). Amir *et al.* (1997) found that punishment and worry were the only thought control strategies associated with OCD symptomatology in their sample of 55 participants diagnosed with OCD, although the most frequently used strategy was re-appraisal. However, these findings reflect the low use of worry and punishment thought control strategies in the non-clinical controls and hence any conclusions were tentative and causal relationships could not be explored (Amir *et al.*, 1997).

An earlier study by Purdon & Clark (1994), which was conducted at a parallel time with the development of the TCQ, studied obsessive intrusive thoughts rated on an

OCD scale, in non-clinical participants. It was concluded that, the extent to which a person believed in the inevitability of their upsetting intrusive thought the more likely it was to be perceived as uncontrollable. This belief rating was also found to be important in distinguishing participants who were described as 'highly obsessional' from those who were 'low obsessionals' (Purdon & Clark, 1994).

From a different perspective, Myers (1998) considered whether individuals with different coping styles reported using different strategies to control negative thoughts. The sample of 132 students was classified into a complex system of four groups of coping style: 'repressors (high defensiveness-low trait anxiety)', 'low anxious (low defensiveness-low trait anxiety)', 'high anxious (low defensiveness-high trait anxiety)' and 'defensive high anxious (high defensiveness-high trait anxiety)', according to criteria outlined by Weinberger *et al.* (1979, cited in Myers, 1998). Results indicated that 'repressors' used more distraction and fewer punishment thought control strategies than any of the other groups. This was suggested to be indicative of repressors avoidant style of coping, in that distraction may be an effective method of avoiding thoughts, which result in negative affect. Furthermore those who were highly anxious reported using significantly more worry strategies, which was not surprising. No between-group differences were found for any of the other thought control strategies, or for the number of strategies used in general.

1.4.2.7. Implications of Thought Control for Binge Drinking

In light of the involvement of thought control and role of attention in coping processes, it is of interest to consider whether binge drinkers also differ in their thought control strategies. This would have implications for treatment should any differences be found as identification of thought control processes would have consequences on the coping skills taught to problem drinkers. Furthermore, it has been acknowledged that the TCQ and in fact the S-REF model would benefit from further validation (Wells & Davies, 1994) which could be provided through investigation with a different population. It is envisaged that binge drinkers would be more likely to use worry and punishment thought control strategies as they could be seen to ruminate about their problems for a length of time, until the thoughts and problems become intolerable and drinking is seen as the way out.

1.5. Critique and Recommendations for Research

1.5.1. Summary of Theoretical and Clinical Implications of Current Research

In conclusion, the findings on binge drinking are inconclusive, which is likely to reflect the lack of consensus in its definition and classification. Much time is spent generally debating the merits of one phrase on another, be that alcoholism, alcohol dependence, problem drinking, or binge or bout. Hence, it is of little wonder, that progress towards identifying psychological factors associated with binge drinking has not made much headway. Some inferences have been made to suggest that there may be gender differences between binge drinkers, such as men being more aggressive and women internalising stress, and that binge drinkers suffer more adverse consequences, both socially and physically. However, the methodological inadequacies of these studies have already been highlighted. Finally, none of the measures or questionnaires available adequately differentiates between groups of problem drinkers.

Despite the lack of empirical research in the fields of coping and metacognition in relation to problematic drinking patterns, both offer attractive possibilities as to why binge drinkers adopt this particular pattern of drinking. Hence, with a more precise definition it is proposed that binge drinkers will be more accurately identified and the role of emotional distress, dispositional coping and thought control processes in binge drinking can consequently be explored.

1.5.2. Necessity for Further Research

With regard to psychological approaches in the treatment of problematic drinking, the initial focus is on developing skills to control drinking (Cameron, 1995), yet it is recognised that binge drinkers already have these skills, through their ability to be abstinent or drink in a socially controlled manner between drinking binges. Identifying psychological factors of binge drinking would therefore aid clinicians in taking a different, and hopefully more successful approach to treatment.

1.5.3. Summary of Emerging Hypotheses

1.5.3.1. Hypothesis I

Differences on basic demographic measures will be obtained when using the new definition of binge drinking proposed in this study.

1.5.3.2. Hypothesis II

Using the new definition, there will be a difference between Binge Drinkers, Non-Binge Drinkers and Controls on measures of anxiety and depression. It is expected that Binge Drinkers will be less depressed and anxious than Non-Binge Drinkers.

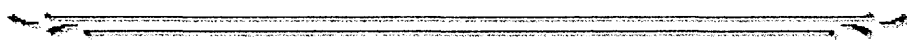
1.5.3.3. Hypothesis III

Differences in coping styles will be found between Binge Drinkers, Non-Binge Drinkers and Controls. It is expected that Binge Drinkers will use more problem-focused coping strategies than Non-Binge Drinkers, who are expected to adopt emotion-focused coping strategies.

1.5.3.4. Hypothesis IV

Differences in thought control processes will be found between Binge Drinkers, Non-Binge Drinkers and Controls. It is expected that Binge Drinkers will use more worry and punishment thought control strategies than Non-Binge Drinkers.

Methodology



CHAPTER 2

METHODOLOGY

2.1. Procedure

The current study, which was approved by Leicestershire Research Ethics Committee (see Appendix C), incorporated a between-group comparison design. Prior to data collection, a small pilot study of four subjects was carried out primarily to check for timing required to complete questionnaires. The average time for completion of the four standardised measures was 20 minutes.

2.1.1. *Participants*

The total sample comprised of 78 participants recruited from a help-seeking population divided into two broad groups: Problem Drinkers and a Control group.

2.1.2. *Recruitment of Problem Drinking Group*

The 51 Problem Drinkers were recruited from people attending for a pre-arranged initial assessment appointment with the Leicester and Leicestershire Community Alcohol Service, who considered themselves or were considered by others to have a problem with alcohol. At the time of the study the Community Alcohol Service was a multi-disciplinary community-based service, which provided free counselling for alcohol problems without requiring referral from other health professionals, such as general practitioners. During the course of the project the principal investigator was on the duty rota as part of the assessment team. Assessments were conducted in a variety of settings, including both health and voluntary sector establishments.

On completion of the standardised initial assessment, by the principal investigator, all clients were given information regarding the study, which required a twenty-minute extension to the standardized service procedure. Written consent was then obtained to complete the four paper-and-pencil questionnaires, with approval to access the clinical assessment data for research purposes. All participants were thanked on completion of the questionnaires and no payment was offered for participation. Allocation to either the binge drinking or non-binge drinking groups was conducted according to various definitions on completion of the data collection and is described in section 3.1.

2.1.2.1. Inclusion Criteria for the Problem Drinking Group

Inclusion criteria for the Problem Drinking group were broad, with anyone who considered themselves, or who was considered by others to have a problem with alcohol being approached.

2.1.2.2. Exclusion Criteria for the Problem Drinking Group

Clients who were judged to be under the influence of alcohol or who were extremely distraught at the time of first consultation were excluded from the sample. Participants who had reading difficulties or did not have English as their first language were given the opportunity to complete the questionnaires with the assistance of the principal investigator, although those who required the use of an interpreter were unfortunately excluded due to financial and time constraints, which were beyond the control of the principle investigator. All potential participants were reassured that access to treatment would not be affected should they decline to participate.

2.1.2.3. Response Rate for Problem Drinking Group

Of the 108 initial assessment appointments arranged for the principal investigator's duty sessions during the three-month data collection period, only 58 of these were attended. Of these, 51 (88%) completed the semi-structured interview and standardised measures. No refusals to participate occurred, however, four people were unable to complete the questionnaires due to their level of clinical distress and three did not have enough time, two of whom required the use of an interpreter (1 sign language; 1 Cantonese). The high DNA (36%) and cancellation (10%) rates were consistent with those generally observed within the Community Alcohol Service for first appointments (Arrindell, 1999).

2.1.3. Recruitment of Control Group

A Control group of 27 help-seeking people were recruited from a range of community health services, including psychology and dentistry in the Leicester City and the Leicestershire district. Potential participants were approached by their key worker who, following the provision of basic information regarding the project, obtained verbal consent for their participation. On agreement, participants were subsequently asked to state a preference for interview venue, with a choice of being seen

immediately in a separate room at the community services setting, or in their own home, at a later date.

No refusals to participate occurred. However, two participants later cancelled their appointments for assessment, due to unforeseen circumstances, including sickness and a house move. Interviews conducted were supplementary and non-conditional, with participation or declination to participate not affecting planned treatment in any way. Subjects were thanked for their participation and if interested were given any relevant alcohol service information.

2.1.3.1. Inclusion Criteria for the Control Group

Participants recruited via clinical psychologists described themselves as suffering from a variety of emotional and psychological problems, which were emulated to a lesser extent in the dentistry sample. However, the only inclusion criterion was that potential participants were seeking help from professionals within the health service.

2.1.3.2. Exclusion Criteria for the Control Group

Participants who had reading difficulties or did not have English as their first language were given the opportunity to complete the questionnaires with the assistance of the principal investigator, although again those requiring the use of an interpreter would have been excluded. People known to have, or who were suspected of having a problem with drinking, either at the time of assessment or in the past, were selected out by their key worker and hence not approached. No Control group participant who consented to the study reported experiencing any alcohol problems.

2.1.4. Confidentiality

Confidentiality was ensured throughout the study with each participant being allocated an individual code number. The codes were inserted at the top of all written information obtained, which was held solely by the principal investigator. Relevant information from the standardized assessment form was extracted and reproduced without any identifying information. At no point throughout the project could personal information be identified and no information was provided to key workers.

2.2. Characteristics of the Sample: Problem Drinkers and Controls

The semi-structured interview was based on the standard Community Alcohol Service procedure for assessment of problem alcohol use and related problems as shown in Appendix B. This was followed for all participants and all information was based on self-report. In addition to questioning on beliefs and reasons for drinking, salient information was obtained pertaining to demographic details, psychiatric and medical history, current mood, family history of alcohol problems, legal history, employment history, social support and relationship factors, prescribed medication and other drug use. This information was coded according to categories routinely used within the Community Drug and Alcohol Service.

The interview also incorporated a retrospective problem Drinking Diary of a *typical week in the past three months* (see Appendix B). It was decided to measure recent problem drinking by means of a diary in respect of the improved accuracy and reliability of this self-report method (Midanik, 1982; Shakeshaft, Bowman, & Sanson-Fisher, 1999) in comparison with other measures, such as laboratory testing. Use of a three-month time period allowed for the accurate identification of a typical binge-drinking pattern and quantity consumed, whilst minimizing problems of inaccurate recall (Shakeshaft, Bowman & Sanson-Fisher, 1998).

2.2.1. Demographic Characteristics

The age range for the sample as a whole was wide (20-67 years) with an average of 38.26 years. As shown in Table 1, Problem Drinkers were significantly older with an average of 40.67 years when compared to the Control group who averaged 33.70 years.

Table 1: Age Distribution in Years

| | WHOLE SAMPLE | PROBLEM DRINKERS | CONTROL GROUP | T (DF) | SIGNIFICANCE |
|------------------------------|-----------------|---------------------|------------------|-------------|--------------|
| Mean Age | 38.26 | 40.67 | 33.70 | 2.96 (2,76) | p<0.01 |
| Standard Deviation | 10.37 | 9.79 | 10.80 | | |
| Range | 20-67 | 20-67 | 21-58 | | |
| Total Sample Size | 78 | 51 | 27 | | |

In addition, the majority of the participants were male, white, British, employed and in a stable relationship, either married or cohabiting.

On considering the demographic characteristics of the problem drinking group first, 32 (62.7%) were male, 20 (39.3%) were married or living together, 19 (37.3%) were divorced or separated, 11 (21.6%) were single and one (2.0%) was widowed. Twenty-three (45.1%) were employed, with 11 (21.6%) and 9 (17.6%) being respectively unemployed or claiming sickness benefit. Two participants belonged to each of the other categories, namely, retired, house worker, student or other occupation. The majority were white (94.1%), and three were non-white or other European in origin.

Of the Control group, 63.0% (17) were female, with 15 (55.5%) being married or living together and 9 (33.3%) single. One participant was divorced. The majority were employed (66.7%), with 18.5% claiming either unemployment or sickness benefit. Three were students and one was a house-worker. Twenty-four (88.9%) were white and three were of Black-Caribbean, mixed or other European origin.

Table 2: Demographic Characteristics

| | <i>Problem Drinkers</i> | | <i>Control Group</i> | | χ^2 | <i>df</i> | <i>Significance</i> |
|--------------------------------------|-------------------------|------------|----------------------|------------|----------|-----------|---------------------|
| | <i>n</i> | <i>(%)</i> | <i>n</i> | <i>(%)</i> | | | |
| <i>Gender</i> | | | | | | | |
| Male | 32 | (62.7) | 10 | (37.0) | 4.70 | 1 | p<0.05 |
| Female | 19 | (37.3) | 17 | (63.0) | | | |
| <i>In Stable Relationship</i> | | | | | | | |
| Yes | 20 | (39.2) | 15 | (55.6) | 1.91 | 1 | NS |
| No | 31 | (60.8) | 12 | (44.4) | | | |
| <i>Employment</i> | | | | | | | |
| Employed | 23 | (45.1) | 18 | (66.7) | 3.93 | 2 | NS |
| Unemployed | 20 | (39.2) | 5 | (18.5) | | | |
| Other | 8 | (15.7) | 4 | (14.8) | | | |
| <i>Ethnicity</i> | | | | | | | |
| White | 48 | (94.1) | 24 | (88.9) | 0.68 | 1 | NS |
| Non-White | 3 | (5.9) | 3 | (11.1) | | | |
| <i>Social Circumstances</i> | | | | | | | |
| Living with Others | 33 | (64.7) | 23 | (85.2) | 3.66 | 1 | NS |
| Living Alone | 18 | (35.3) | 4 | (14.8) | | | |
| <i>Children</i> | | | | | | | |
| None | 16 | (31.4) | 20 | (74.1) | 13.62 | 2 | p<0.001 |
| At Home/Grown Up | 23 | (45.1) | 6 | (22.2) | | | |
| In Other Care | 12 | (23.5) | 1 | (3.7) | | | |

As can be seen from Table 2, there was a significant gender difference between Problem Drinkers and Controls. This is consistent with differences generally found between community health services and alcohol services. Women are more likely to present to services seeking help for emotional or health problems, but remain to be under-represented in alcohol services (Beckman & Amaro, 1984; Thom, 1984; Smith, 1992, cited in Thom & Green, 1996). Problem Drinkers also had more children than the Controls, which may be a reflection of their older age, although interestingly does not appear to be related to whether or not they were in a stable relationship. The increased tendency for the Problem Drinking group to be unemployed is likely to reflect the disruptive nature of alcohol misuse (Cameron, 1995).

2.2.2. Health-Related Factors

Further characteristics of the sample obtained from the semi-structured interview included health-related factors, which are presented in Table 3.

Table 3: Health Related Factors

| | <i>Problem Drinkers</i> | | <i>Control Group</i> | | χ^2 | <i>df</i> | <i>Significance</i> |
|---|-------------------------|------------|----------------------|------------|----------|-----------|---------------------|
| | <i>n</i> | <i>(%)</i> | <i>n</i> | <i>(%)</i> | | | |
| <i>Mental Health Problems</i> | | | | | | | |
| Yes | 38 | (74.5) | 12 | (44.4) | 6.94 | 1 | p<0.05 |
| No | 13 | (25.5) | 15 | (55.6) | | | |
| <i>Clinical Depression</i> | | | | | | | |
| Depressed | 46 | (90.2) | 14 | (51.9) | 14.62 | 1 | p<0.001 |
| Not Depressed | 5 | (9.8) | 13 | (48.1) | | | |
| <i>Clinical Anxiety</i> | | | | | | | |
| Anxious | 41 | (80.4) | 14 | (51.9) | 13.62 | 1 | p<0.001 |
| Not Anxious | 10 | (19.6) | 13 | (48.1) | | | |
| <i>Current Mood</i> | | | | | | | |
| Low/Irritable | 40 | (78.4) | 3 | (11.1) | 32.34 | 1 | p<0.001 |
| Fine | 11 | (21.6) | 24 | (88.9) | | | |
| <i>History of Hallucinations</i> | | | | | | | |
| Yes | 14 | (27.5) | 1 | (3.7) | 6.41 | 1 | p<0.01 |
| No | 37 | (72.5) | 26 | (96.3) | | | |
| <i>Physical Health Problems</i> | | | | | | | |
| Yes | 34 | (66.7) | 2 | (7.4) | 24.95 | 1 | p<0.001 |
| No | 17 | (33.3) | 25 | (92.6) | | | |
| <i>Sleeping Problems</i> | | | | | | | |
| Yes | 33 | (64.7) | 15 | (55.6) | 0.63 | 1 | NS |
| No | 18 | (35.3) | 12 | (44.4) | | | |
| <i>Eating Problems</i> | | | | | | | |
| Yes | 27 | (52.9) | 6 | (22.2) | 6.83 | 1 | p<0.05 |
| No | 24 | (47.1) | 21 | (77.8) | | | |
| <i>Prescribed Medication</i> | | | | | | | |
| Yes | 35 | (68.6) | 8 | (29.6) | 10.85 | 1 | p<0.001 |
| No | 16 | (31.4) | 19 | (70.4) | | | |

For psychological well-being, the Problem Drinking group were found to have experienced a significantly greater number of mental health problems, with almost 75% reporting having had a problem at some point during their lifetime. They more often described their mood as 'low' or 'irritable', with an adverse effect on their appetite, which was corroborated with a significantly greater number of Problem Drinkers reporting clinical levels of depression (90.2%) and anxiety (80.4%) than Control group participants (51.9% for both depression and anxiety). Self-ratings of current mood hence appeared to be reasonably reliable with regard to the presence of psychopathology.

The Problem Drinkers also took more medication (68.6%, which included, 25.5% anti-depressants; 11.8% Chlormethiazol¹) and reported experiencing more hallucinations, with 27.5% recounting this phenomenon either recently or at some point in the past. In addition, 58.8% of the Problem Drinkers reported experiencing symptoms of withdrawal at the time of assessment.

On consideration of physical health, it was apparent that the Control group was significantly less likely to be suffering from physical health problems, although these were generally taken by participants to imply alcohol-related problems and were consequently not an indication of general physical well-being.

2.2.3. Socio-Economic Factors

Looking at socio-economic factors, it can be seen from Table 4, that the Problem Drinkers were more likely to smoke cigarettes, with 74.5% describing themselves as smokers. However, no differences were found on the question of 'ever using' any other substances, such as cannabis, or amphetamines, with 40.5% of Problem Drinkers and 59.3% of Controls having tried illicit drugs at some time.

Although no significant differences were found between groups when considering current legal problems, it is interesting to note that significantly more Problem Drinkers had experienced legal problems in the past (45.1%). Of these drink-driving offences were reported most frequently (21.6%). Only 7.4% of the Control group had

¹ Chlormethiazol – An anticonvulsant and anti-epileptic drug used to reduce the symptoms of withdrawal from alcohol (Merrell, 1997).

ever committed any legal offences. The Problem Drinkers also reported a higher incidence of violence or aggression (45.1%), which was usually described as being alcohol-related. Only one of the Controls reported having been involved in pub fights when intoxicated. These findings were again consistent with previous research, which suggests that people with alcohol problems generally display violent behaviour (Romelsjö, 1995, cited in Wetterling *et al*, 1999). Interestingly both groups were as likely to have a parent or first-degree relative with alcohol problems (45.1% and 37.0% respectively for the Problem Drinkers and Controls).

Table 4: Socio-Economic Factors

| | <i>Problem Drinkers</i> | | <i>Control Group</i> | | χ^2 | <i>df</i> | <i>Significance</i> |
|--|-------------------------|------------|----------------------|------------|----------|-----------|---------------------|
| | <i>n</i> | <i>(%)</i> | <i>n</i> | <i>(%)</i> | | | |
| <i>Family History of Alcohol Misuse</i> | | | | | | | |
| Yes | 23 | (45.1) | 10 | (37.0) | 0.47 | 1 | NS |
| No | 28 | (54.9) | 17 | (63.0) | | | |
| <i>Smoking</i> | | | | | | | |
| Smoker | 35 | (74.5) | 14 | (51.9) | 3.92 | 1 | p<0.05 |
| Non-Smoker | 12 | (25.5) | 13 | (48.1) | | | |
| <i>History of Other Substance Use</i> | | | | | | | |
| Yes | 17 | (40.5) | 16 | (59.3) | 2.32 | 1 | NS |
| No | 25 | (59.5) | 11 | (40.7) | | | |
| <i>Current Legal Problems</i> | | | | | | | |
| Yes | 8 | (15.7) | 1 | (3.7) | 2.48 | 1 | NS |
| No | 43 | (84.3) | 26 | (96.3) | | | |
| <i>Legal History</i> | | | | | | | |
| Problems | 23 | (45.1) | 2 | (7.4) | 11.52 | 1 | p<0.001 |
| No Problems | 28 | (54.9) | 25 | (92.6) | | | |
| <i>History of Violence/Aggression</i> | | | | | | | |
| Yes | 23 | (45.1) | 1 | (3.7) | 14.20 | 1 | p<0.001 |
| No | 28 | (54.9) | 26 | (96.3) | | | |
| <i>Hobbies/Leisure Activities</i> | | | | | | | |
| Active | 23 | (45.1) | 16 | (59.3) | 1.42 | 1 | NS |
| Inactive | 28 | (54.9) | 11 | (40.7) | | | |

Furthermore, all of the Problem Drinkers had experienced some sort of problem as a result of their drinking. Two-thirds had experienced 'relationship difficulties' and over half the sample reported that their drinking had adversely affected their ability to work, be that through actual job loss, or reduced effectiveness in comparison with their usual level of ability.

2.2.4. Factors Related to Alcohol Consumption

A comparison of drinking patterns, incorporating the retrospective diary and reasons for drinking, indicated a number of significant differences between Problem Drinkers and Controls as shown in Table 5, below.

Table 5: Factors Related to Alcohol Consumption

| | <i>Problem Drinkers</i> | | <i>Control Group</i> | | χ^2 | <i>df</i> | <i>Significance</i> |
|--------------------------------------|-------------------------|------------|----------------------|------------|----------|-----------|---------------------|
| | <i>n</i> | <i>(%)</i> | <i>n</i> | <i>(%)</i> | | | |
| <i>Reasons for Drinking</i> | | | | | | | |
| Positive | 11 | (21.6) | 17 | (63.0) | 13.15 | 1 | p<0.001 |
| Negative | 40 | (78.4) | 10 | (37.0) | | | |
| <i>Preferred Beverage</i> | | | | | | | |
| Super-Strength | 15 | (29.4) | 0 | (0.0) | 16.97 | 2 | p<0.001 |
| Spirits | 18 | (35.5) | 5 | (18.5) | | | |
| Ordinary Strength | 18 | (35.5) | 22 | (81.5) | | | |
| <i>Sociability</i> | | | | | | | |
| Drinking Alone | 36 | (70.6) | 0 | (0.0) | 35.40 | 1 | p<0.001 |
| Drinking with Others | 15 | (29.4) | 27 | (100.0) | | | |
| <i>Location</i> | | | | | | | |
| Antisocial | 33 | (64.7) | 0 | (0.0) | 30.28 | 1 | p<0.001 |
| Social | 18 | (35.3) | 27 | (100.0) | | | |
| <i>Average Units Consumed</i> | | | | | | | |
| 200+ | 14 | (27.5) | 0 | (0.0) | 42.04 | 3 | p<0.001 |
| 101-200 | 16 | (31.4) | 0 | (0.0) | | | |
| 51-100 | 11 | (21.6) | 1 | (8.3) | | | |
| 0-50 | 10 | (19.6) | 26 | (96.3) | | | |

The Problem Drinkers drank for more negative reasons, with 78.4% drinking because of, 'loneliness and/or depression', in order to 'reduce tension and/or anxiety', because of 'life pressures' or a 'craving of oblivion' or to 'avoid withdrawals'. On the other hand, Controls were significantly more likely to drink for enjoyment or social reasons. This adds to the finding that all of the Controls preferred drinking with other people in social situations, such as the pub, or as an accompaniment to a meal, whereas 70.6% of the Problem Drinkers tended to drink alone, usually at home.

Finally, the majority of Problem Drinkers chose stronger alcoholic beverages, such as the 'super-strength' lagers or ciders (29.4%), or spirits (35.5%), although 35.5% of the sample drank ordinary strength beers or wine. None of the Controls reported drinking 'super-strength' alcoholic beverages.

Over a quarter of the Problem Drinkers were on average consuming in excess of 200 units of alcohol per week. It should be noted that the figures relating to units consumed were a global representation rather than exact quantities due to the difficulties in obtaining average consumption levels for the Binge Drinkers, who for example, may only binge once every three months, but then consume 200 units in three days. Considering the Department of Health's (1995) recommended safe limits of alcohol, all the Problem Drinkers drank in excess of the 28 units per week for men and 21 units per week for women. Interestingly, of the Controls, 7 women (41.2%) and 3 men (30%) drank in excess of these limits, although of these, only one man drank more than 50 units of alcohol per week.

It was also interesting to note that only three of the Problem Drinkers had not had any previous contact with agencies regarding their alcohol use prior to assessment. Twenty-one (41.2%) of the Problem Drinkers had been referred to the Community Alcohol Team on at least one prior occasion and in this instance 49% had referred themselves for help.

2.3. Standardized Measures

The semi-structured interview was complemented by four standardized measures.

2.3.1. *Coping Inventory for Stressful Situations (Endler & Parker, 1990)*

The Coping Inventory for Stressful Situations (CISS) was a 48-item multidimensional measure of coping, which assessed *Task-Oriented*, *Emotion-Oriented* and *Avoidance-Oriented* components of coping (Endler & Parker, 1999). The Avoidance dimension was further divided into a *Distraction Scale* and a *Social Diversion Scale*. Respondents were asked to rate on a scale of 1-5 (1 = 'not at all'; 5 = 'very much') the extent to which they engaged in a range of activities when encountering a difficult, stressful or upsetting situation.

The CISS was chosen in preference to the numerous coping measures available, due to its superior psychometric properties, theoretical basis and stable factor structure (Cook & Heppner, 1997; Schwarzer & Schwarzer, 1996). Alpha reliability coefficients for the test scores range from .76 to .92 (Endler & Parker, 1994; Cook & Heppner, 1997) with undergraduate samples. Estimates of internal consistency are

high (Cook & Heppner, 1997) and construct validity has been demonstrated (Schwarzer & Schwarzer, 1996) by appropriate correlations with the Way of Coping Questionnaire (Folkman & Lazarus, 1988, cited in Schwarzer & Schwarzer, 1996). The high degree of user-friendliness in both administration and interpretation, due to the inclusion of fewer items and scales than other measures, has also been reported (Cook & Heppner, 1997).

2.3.2. *Thought Control Questionnaire (Wells & Davies, 1994)*

The Thought Control Questionnaire (TCQ) was a 30-item questionnaire used to index the frequency of use of five strategies of thought control: Distraction, Social Control, Worry, Punishment and Reappraisal. Participants were asked to read the instructions printed at the top of the questionnaire prior to rating on a four-point Likert-type scale the frequency in which they utilized each of these techniques for controlling unpleasant and/or unwanted thoughts.

The TCQ was the best available measure to assess cognitive strategies used to control unwanted thoughts, and is based on Wells & Matthews (1994) S-REF model of affective disorders and distress. In relation to coping, the model proposes that certain types of emotion-focused coping tend to lead to greater access to negative self-beliefs and that thought suppression tends to prime subsequent intruding thoughts (Morgan, Matthews & Winton, 1995).

The TCQ has been demonstrated to have good psychometric properties. The five subscales possess moderately high internal consistency reliabilities, with Cronbach coefficient alphas ranging from 0.64 to 0.83 (Wells & Davies, 1994). Test-retest reliability was also high ($r = 0.67 - 0.83$) and the thought control strategies were shown to be associated with predictors of stress vulnerability, perceived lack of control over thinking and perceptions of diminished control over thinking in comparison with other measures (Wells & Davies, 1994).

2.3.3. *Beck Depression Inventory (Beck, Rush, Shaw & Emery, 1979)*

Symptoms of depression were assessed using the revised Beck Depression Inventory (BDI) (Beck *et al.*, 1979) with summed scores ranging potentially between 0 and 63. In this study, respondents were determined on clinical grounds to be suffering from

significant distress if their scores were above 9 (Beck & Steer, 1987). Participants were asked to state which of the four statements in each group '*best described the way they had been feeling in the past week, including today (the day of assessment)*'. The 21 symptoms and attitudes assessed, included: mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusations, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation and loss of libido.

The BDI was selected in preference to the numerous depression measures available, because of its excellent psychometric properties which are well documented (Beck & Steer, 1987; Robinson & Kelley, 1996; Richter, Werner, Heerlein, Kraus & Sauer, 1998) and the availability of normative data for alcoholic and other clinical populations (Beck & Steer, 1987). The revised BDI (Beck *et al.*, 1979) was produced to eliminate alternative wordings for the same symptoms and to avoid the double negatives (Beck & Steer, 1987) later found in the original BDI (Beck, Ward, Mendelson, Mock & Erbaugh, 1961). Subsequent revisions have been made to the BDI, resulting in the publication of the BDI-II (Beck & Steer, 1993, cited in Steer, Ball & Ranieri, 1997), however, further research still needs to be conducted regarding its psychometric properties, for example, construct validity in comparison with other measures (Steer, Ball & Ranieri, 1997).

2.3.4. Beck Anxiety Inventory (Beck, Epstein, Brown & Steer, 1988)

The Beck Anxiety Inventory (BAI) is a quick and easy 21-item scale that measures the severity of self-reported anxiety in adults (Beck & Steer, 1993). The scale has been shown to be superior to the Spielberger State-Trait Anxiety Inventory (Spielberger, Gorsuch & Lushene, 1970) in differentiating anxiety from depression (Creamer, Foran & Bell, 1995). Very good psychometric properties have been demonstrated when using the BAI with both clinical (Beck, Epstein, Brown & Steer, 1988) and non-clinical populations (Creamer, Foran & Bell, 1995).

One criticism of the BAI is that it measures panic symptoms rather than anxiety (Cox, Cohen, Dorenfeld & Swinson, 1996a & 1996b), however, factor analysis identified that the BAI was clearly distinguished from measures of 'fear of fear', which is

considered a central construct in panic disorder and agoraphobic avoidance (de Beurs, Wilson, Chambless, Goldstein & Feske, 1997). Hence, both Steer & Beck (1996) and Cox *et al.* (1996a & 1996b) concluded that the finding that panic disordered patients obtained high scores on the BAI reflected the high degree of anxiety expected in this population and that consequently this should not be viewed as a weakness of the BAI.

In completing the BAI, participants were asked to rate how much they had been bothered by each of the 21 common symptoms of anxiety over the past week prior and leading up to assessment, on a 4-point scale ranging from 0, '*not at all*' to 3, '*severely, I could barely stand it*'. The maximum score was 63 and for the purposes of this study, a cut-off point of 8 was used to indicate clinically significant levels of anxiety, as scores of seven or less were considered to reflect minimal levels of anxiety (Beck & Steer, 1993).

2.4. Selection of Statistical Procedures for Analysis

Prior to conducting any statistical analyses, the data set was examined to determine the appropriateness of using parametric statistics. Certain assumptions, including a normal distribution of mean scores, homogeneity of variance and an interval or ratio level of measurement, need to be satisfied for the use of parametric tests to be deemed appropriate (Howell, 1987).

Mean scores for each of the subscales of the CISS and TCQ and total scores on the BDI and BAI variables were considered to be interval level. Kolmogorov-Smirnov tests were used to assess whether the distribution of scores on these variables differed significantly from normal distribution. No significant differences were found; hence each variable could be assumed to have a normal distribution. Levene's tests of homogeneity of variance were also performed on the CISS, TCQ, BDI and BAI variables with comparisons between the Binge Drinking, Non-Binge Drinking and Control groups. Only the re-appraisal sub-section of the TCQ reached significance ($F = 3.73$, $df = 2,74$, $p < 0.05$). In this instance, the variances were fairly equal, being not greater than twice the size of the other standard deviations, which is considered tolerable, and hence does not violate the necessary assumptions (Howell, 1987).

In conclusion, these preliminary tests revealed that the questionnaire data met the assumptions considered essential for parametric analysis. The groups were subsequently compared on the subscales of each measure using Analysis of Variance in preference to a series of T-tests. Significance levels were set at $p < 0.01$ using the Bonferroni procedure, in order to account for the multiple comparisons, which could have increased the probability of a Type I error (Howell, 1987). Post-hoc Tukey's HSD tests were also conducted to assess the direction of any significant findings.

Data obtained from the semi-structured interview (demographic, socio-economic, health and drinking variables) were transposed into the categories generally used by the Leicester & Leicestershire Community Alcohol Service. Hence being categorical in nature, group differences were assessed using the Chi-square statistic. As presented in section 2.2., preliminary analysis of difference between the characteristics of the Problem Drinking group and Control group was conducted. Subsequent analyses utilized compared the new definition of binge drinking proposed in this study with pre-existing definitions. All analyses were performed using SPSS 9.0 for Windows.

Results



CHAPTER 3

RESULTS

3.1. Hypothesis I

Hypothesis I states that:

Differences on basic demographic measures will be obtained when using the new definition of binge drinking proposed in this study.

3.1.1. Characteristics of Binge Drinkers in Comparison with Non-Binge Drinkers

A comparison of the characteristics of Binge Drinkers with Non-Binge Drinkers was conducted in order to test Hypothesis I. Individual chi-square analyses were conducted for the definition proposed in response to review of the literature and a selection of other definitions, which have been proposed for binge drinking, as presented in Appendix D. The definitions (see Table 6) were selected on the basis of the literature review and aimed to incorporate various aspects which have been open to debate, such as the necessity for periods of abstinence, or controlled drinking between binges and the impact the binge has on psychosocial well-being.

Table 6: Definitions of Binge Drinking Used in Statistical Analysis

| | DEFINITION OF BINGE DRINKING | AUTHOR(S) |
|---------------------|---|--|
| Proposed Definition | <p>A: Binge drinking is undertaken in <u>discrete</u> periods of time</p> <p>B: The amount of alcohol consumed is <u>excessive</u> in comparison with the person's <u>usual</u> pattern</p> <p>C: The effects of binge drinking cause clinically significant <u>distress</u> or <u>interference</u> with the person's social, occupational or other important areas of functioning.</p> | (current study) |
| Definition I | Several days of extended intoxication with interference in usual obligations | Schuckit (1998) |
| Definition II | Episodes of alcohol consumption resulting in intoxication over a period of at least twenty-four hours interspersed with longer periods when drinking may be moderate, absent, controlled or abstained | Deeming (unpublished) |
| Definition III | Drinking to occur for days, weeks, or months successively separated by periods of abstinence | Sanchez-Craig (1980); Conners, Tarbox & McLaughlin (1986) |

The decision to include an unpublished definition was based on previous work conducted on defining binge drinking by Deeming (unpublished) in the Leicester and

Leicestershire Community Alcohol Service, which warranted the need for further investigation. A clear indication of the drinking pattern of each member of the Problem Drinking group was obtained using the drink diary and supplementary information acquired during the semi-structured interview. Should a binge pattern of drinking have become apparent, participants were questioned on salient aspects of their binge drinking including an in-depth analysis of the last binge. These included: what triggered and stopped the binge; duration of the binge and quantity consumed; duration and context of drinking during interim periods (i.e. abstinence or controlled social drinking); how often the binge occurred; participants' own understanding of why they binge drank rather than drinking in a continuous fashion and the effects of the binge on their psychosocial well-being, family relationships, responsibilities and ability to carry out everyday tasks. The drinking pattern of each participant was then considered according to the definitions presented in Table 6. It should be noted that the Schuckit (1998) definition was operationalized as *'at least 2 days during which a person repeatedly administers a substance to the point of intoxication and gives up his/her usual activities and obligations in order to use the substance.'* (p123), as recommended by Schuckit (1998). Allocation to either the 'Binge' or 'Non-Binge' categories was conducted initially by the principal investigator and was then repeated by two independent psychologists to assess the reliability of each definition. Group allocation was on the basis of the written information obtained during the semi-structured interview as outlined above, although some discussion was held for those participants where raters were in disagreement. However, the initial agreement rates of 99%; 100%; 98% and 98% were respectively obtained for the proposed definition and definitions I, II and III. Interestingly, the number of Binge Drinkers varied considerably across the definitions, as can be seen from Table 7, below.

Table 7: Prevalence of Binge Drinking According to Definition

| | PROPOSED DEFINITION | DEFINITION I | DEFINITION II | DEFINITION III |
|-----------------------|------------------------|--------------|---------------|----------------|
| Binge Drinkers | 18 | 13 | 16 | 22 |
| Non-Binge Drinkers | 33 | 38 | 35 | 29 |
| Total | 51 | 51 | 51 | 51 |

Despite this variation, chi-square analyses (see Appendix D) indicated that between-group differences failed to reach significance for the new definition or any other definition of binge drinking on any of the demographic variables. As such, there was insufficient evidence to support the hypothesis that differences on basic demographic measures would be obtained with the new definition of binge drinking. Some evidence was nevertheless provided for the parallel form validity of the new proposed definition, as the lack of differences implied that the new definition was measuring the same core variables as the other definitions.

The variation in number of Binge Drinkers across the definitions was however intriguing. Consideration of the Problem Drinkers excluded by the new definition, who were identified as Binge Drinkers according to other definitions, did highlight some of the potential comparative advantages of this proposed definition.

Firstly, drinkers who reported a pattern of regularly drinking on five or six days a week; just heavily at weekends; or 'bingeing' at times of celebration were excluded. The new definition also allowed for the inclusion of people who may be able to drink in a socially controlled way between binges. In the sample of Binge Drinkers obtained, all easily fitted into the new definition. However, two participants were difficult to allocate to the groups, due to some inconsistencies in descriptions of their drinking pattern. For example, one participant described being able to drink 'only one or two alcopops' when not distressed. This was initially regarded as a binge, but closer examination of the problematic drinking period identified that this was indicative of repeated relapses rather than a binge pattern. The other participant described drinking '4 to 5 pints' at the weekend and his wife's dislike of his drinking caused him distress. However, this was his regular pattern of drinking and although he abstained during the remainder of the week was not considered excessive in comparison with his usual pattern of drinking.

A further comparison was made of self-defined Binge Drinkers and Non-Binge Drinkers. Again no differences were found on any of the demographic variables. However, the term binge used by participants was not considered very reliable, as a number of people who drank almost every day, described themselves as maybe stopping for a day and then going on a 'binge' again.

3.2. Hypothesis II

Hypothesis II considered whether there were any differences between groups in their levels of emotional distress (see Table 8):

Using the new definition, there will be a difference between Binge Drinkers, Non-Binge Drinkers and Controls on measures of anxiety and depression. It is expected that Binge Drinkers will be less depressed and anxious than Non-Binge Drinkers.

Table 8: A Comparison of BDI and BAI Scores Between Groups According to Definition

| Definition | BDI Mean (SD) | F(2,75) | Post-hoc Tukey | BAI Mean (SD) | F(2,75) | Post-hoc Tukey |
|----------------------------|----------------------|----------------|-----------------------|----------------------|----------------|-----------------------|
| New Definition | | | | | | |
| Binge (n=18) | 18.89 (13.86) | 10.48*** | B=N>C | 19.11 (13.27) | 6.07** | B=N>C |
| Non-Binge (n=33) | 23.30 (8.51) | | | 22.12 (13.96) | | |
| Control (n=27) | 10.81 (10.33) | | | 10.93 (10.05) | | |
| Definition I | | | | | | |
| Binge (n=13) | 18.23 (12.89) | 10.41*** | B=N>C | 20.77 (14.12) | 5.69** | B=N>C |
| Non-Binge (n=38) | 22.95 (9.87) | | | 21.16 (13.70) | | |
| Control (n=27) | 10.81 (10.33) | | | 10.93 (10.05) | | |
| Definition II | | | | | | |
| Binge (n=16) | 17.50 (14.10) | 11.61*** | B=N>C | 18.50 (13.99) | 6.24** | B=N>C |
| Non-Binge (n=35) | 23.69 (8.42) | | | 22.23 (13.56) | | |
| Control (n=27) | 10.81 (10.33) | | | 10.93 (10.05) | | |
| Definition III | | | | | | |
| Binge (n=22) | 20.86 (12.34) | 9.37*** | B=N>C | 19.68 (15.53) | 5.95** | B=N>C |
| Non-Binge (n=29) | 22.41 (9.61) | | | 22.10 (12.25) | | |
| Control (n=27) | 10.81 (10.33) | | | 10.93 (10.05) | | |
| Whole Sample (n=78) | 17.96 (11.79) | | | 17.55 (13.38) | | |

*** p < 0.001 ** p < 0.01 * p < 0.05

Binge and Non-Binge Drinkers were found to be significantly more anxious and depressed than controls, irrespective of definition used. However, no differences between the Binge Drinking and Non-Binge Drinking groups were observed. Hence there was insufficient evidence to support the hypothesis that binge drinkers would differ from the other groups on measures of anxiety and depression.

Analysis of mean scores obtained on the BDI and BAI was however, somewhat misleading, as this did not consider whether participants met the criteria for clinical

depression and/or anxiety. Hence, results were re-analysed using the agreed cut-off points of 9 for depression and 8 for anxiety, which are presented in Table 9. As participants were categorised as either depressed/not depressed, or anxious/not anxious, the chi-square statistical test was used. Also, as no differences were observed between definitions, only the new definition was considered.

Table 9: A Comparison of the Presence of Clinical Depression & Anxiety

| | <i>Binge-Drinkers</i> | | <i>Non-Binge Drinkers</i> | | <i>Controls</i> | | χ^2 | <i>df</i> | <i>Significance</i> |
|--------------------------|-----------------------|---------|---------------------------|---------|-----------------|---------|----------|-----------|---------------------|
| | <i>n</i> | (%) | <i>n</i> | (%) | <i>n</i> | (%) | | | |
| <i>Anxiety</i> | | | | | | | | | |
| Anxious | 15 | (83.3) | 26 | (78.8) | 14 | (51.9) | 7.03 | 2 | p<0.05 |
| Not Anxious | 3 | (19.2) | 7 | (21.2) | 13 | (48.1) | | | |
| <i>Depression</i> | | | | | | | | | |
| Depressed | 13 | (72.2) | 33 | (100.0) | 14 | (51.9) | 19.69 | 2 | p<0.001 |
| Not Depressed | 5 | (27.8) | 0 | (0.0) | 13 | (48.1) | | | |
| <i>Total</i> | | | | | | | | | |
| | 18 | (100.0) | 33 | (100.0) | 27 | (100.0) | | | |

From Table 9, it can then be seen that the difference between Non-Binge Drinkers, Binge Drinkers and Controls on depression is highly significant at the 0.001 level. Excluding Control subjects from the analysis, a significant difference was found between Binge Drinkers and Non-Binge Drinkers ($\chi^2 = 10.16$, $df = 1,50$, $p<0.01$). Consequently, Non-Binge Drinkers were more depressed than Binge Drinkers, who were more depressed than the Control participants.

Although the difference between groups was significant on the presence of clinical anxiety, this appears to be restricted to a difference between Problem Drinkers and Controls, rather than between each group. The difference between Binge Drinkers and Non-Binge Drinkers was not significant on further analysis ($\chi^2 = 0.15$, $df = 1,50$, $p = 0.70$). Hence, partial evidence was provided to support the original hypothesis that differences would be found between the groups on measures of anxiety and depression.

3.3. Hypothesis III

Hypothesis III focused on the coping styles utilized by participants and proposed that:

Differences in coping styles will be found between Binge Drinkers, Non-Binge Drinkers and Controls. It is expected that Binge Drinkers will use more problem-focused coping strategies than Non-Binge Drinkers, who are expected to adopt emotion-focused coping strategies.

Table 10: A Comparison of Mean Scores Obtained on the CISS

| CISS Subscales | Binge Drinkers (B, n=18) | Non-Binge Drinkers (N, n=33) | Controls (C, n=27) | F (2,75) | Post-hoc Tukey |
|-------------------------|-------------------------------------|---|-------------------------------|-----------------|-----------------------|
| | Mean (SD) | Mean (SD) | Mean (SD) | | |
| Task | 2.91 (0.64) | 3.03 (0.94) | 3.42 (0.75) | 2.66 | |
| Emotion | 3.46 (0.62) | 3.46 (0.57) | 2.77 (0.84) | 8.91** | B=N>C |
| Avoidance | 2.53 (0.47) | 2.64 (0.61) | 2.90 (0.53) | 2.84 | |
| Distraction | 2.33 (0.55) | 2.46 (0.66) | 2.55 (0.68) | 0.65 | |
| Social Diversion | 2.73 (0.79) | 2.94 (0.97) | 3.56 (0.82) | 5.87* | B=N<C |

** p < 0.001 * p < 0.01

From Table 10, above, it is apparent that Binge Drinkers did not differ significantly from Non-Binge Drinkers on the basis of coping style. Nevertheless, significant differences were observed between Problem Drinkers in general and the Control group. Firstly, the Problem Drinkers utilized more emotion-focused coping strategies than controls ($F = 8.91$, $df = 2,75$, $p < 0.001$). This suggests that the Problem Drinkers attempted to reduce their stress by reacting with an emotional response that was self-oriented, such as blaming themselves, becoming pre-occupied or fantasizing about the situation. Such emotional reactions to stress often serve to increase the stress rather than reduce it (Endler & Parker, 1999).

Furthermore, the Control participants used significantly more social diversion coping strategies for coping with stress than either of the Problem Drinking groups ($F = 5.87$, $df = 2,75$, $p < 0.01$). This implies that Problem Drinkers were less likely to cope with stress by seeking out other people and hence reinforced the finding that they were more likely than the Controls to focus on themselves as the cause of the stress. This may also be a reflection of the Problem Drinkers tendency to drink in isolation and hence have reduced access to social support.

In essence, the original hypothesis was supported that there were differences in coping styles between Binge Drinkers, Non-Binge Drinkers and Controls, although this was restricted to the Problem Drinking group as a whole, rather than differentiating Binge from Non-Binge Drinkers. The Binge Drinkers did not utilize more problem-focused coping strategies than the Non-Binge Drinkers, although the Non-Binge Drinkers did adopt emotion-focused coping strategies, as expected.

3.4. Hypothesis IV

Hypothesis IV considered whether there were any between-group differences in the methods used for controlling unwanted and/or unpleasant thoughts, namely:

Differences in thought control processes will be found between Binge Drinkers, Non-Binge Drinkers and Controls. It is expected that Binge Drinkers will use more worry and punishment thought control strategies than Non-Binge Drinkers.

Table 11: A Comparison of Mean Scores Obtained on the TCQ

| <i>TCQ Subscales</i> | <i>Binge Drinkers (B, n=18)</i> | <i>Non-Binge Drinkers (N, n=33)</i> | <i>Controls (C, n=27)</i> | <i>F (2,74)</i> |
|------------------------------|--|--|--------------------------------------|------------------------|
| | Mean (SD) | Mean (SD) | Mean (SD) | |
| <i>Distraction</i> | 2.01 (0.50) | 1.79 (0.45) | 2.09 (0.42) | 3.50 |
| <i>Social Control</i> | 1.73 (0.50) | 2.22 (1.00) | 2.30 (0.64) | 3.25 |
| <i>Worry</i> | 2.07 (0.59) | 2.13 (0.60) | 1.80 (0.50) | 2.82 |
| <i>Punishment</i> | 1.84 (0.39) | 2.01 (0.67) | 1.85 (0.60) | 0.69 |
| <i>Re-appraisal</i> | 2.31 (0.91) | 2.33 (0.67) | 2.30 (0.65) | 0.03 |
| <i>Total</i> | 59.78 (10.59) | 63.13 (8.90) | 61.96 (8.48) | 0.76 |

** p < 0.001 * p < 0.01

The one-way ANOVA indicated no significant between-group differences on any of the subscales of the TCQ, at the significance level of $p < 0.01$. Consequently there was insufficient evidence to support the hypothesis that Binge Drinkers differed from either Non-Binge Drinkers, or Controls in the strategies used to control unwanted and/or unpleasant thoughts.

3.5. Summary of Results

3.5.1. Hypothesis I

No differences on basic demographic measures were obtained when using the new definition of binge drinking.

3.5.2. Hypothesis II

Using the new definition, Binge Drinkers differed significantly from other Non-Binge Drinkers and Controls on measures of depression, but not anxiety.

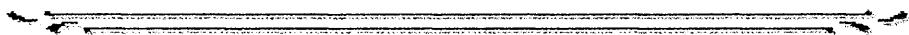
3.5.3. Hypothesis III

There were no differences in coping styles between Binge Drinkers and Non-Binge Drinkers, although both differed significantly from Controls. Problem Drinkers employed more emotion-focused and less social diversion coping strategies than controls.

3.5.4. Hypothesis IV

There were no differences in thought control processes between Binge Drinkers, Non-Binge Drinkers and Controls.

Discussion



CHAPTER 4

DISCUSSION

4.1. A New Definition of Binge Drinking

The new definition of binge drinking proposed in this study, classified binge drinking as a clinical condition, which must satisfy the following three criteria:

Criterion A: Binge drinking is undertaken in discrete periods of time.

Criterion B: The amount of alcohol consumed is excessive in comparison with the person's usual pattern.

Criterion C: The effects of the binge drinking cause clinically significant distress or interference with the person's social, occupational or other areas of functioning.

The above definition appeared to be effective in discriminating Binge Drinkers from other Problem Drinkers and attempted to address the inadequacies found in pre-existing definitions of binge drinking. The people excluded by this new definition, who were believed to have been misattributed as binge drinkers by other definitions, exemplified the potential advantages of utilizing three mutually exclusive criteria in defining binge drinking.

Firstly, the application of the criterion of 'the amount of alcohol consumed is excessive in comparison with the person's usual pattern' resulted in the exclusion of drinkers who reported a pattern of regularly drinking on five or six days a week, or just heavily at weekends. It also allowed for the inclusion of people who may be able to drink in a socially controlled way between binges. The necessity for a 'discrete period of drinking' was designed to exclude people experiencing a period of relapse. However, interpretations of 'discrete' may vary across clinicians and care would need to be taken in obtaining a detailed, accurate description of a person's drinking pattern at assessment to ensure that this criterion could be applied. The consideration of 'the effects of binge drinking causing clinically significant distress or interference with the person's social, occupational or other important areas of functioning', also attempted to ensure that people who occasionally 'binge', for example at a celebration, were not

included, as this would not incur significant distress in the majority of cases. This criterion was believed to be more inclusive than that proposed by Schuckit (1998) which states that only interference is relevant. Furthermore, the move away from quantity-frequency based measures, such as the five/four measures was desirable in allowing for the inclusion of purely problematic Binge Drinkers. Much debate has been held regarding minimum and maximum time periods for intoxication during a binge period, many of which appear to have been set arbitrarily. It is therefore proposed that this definition has advantages in allowing for individual variation, whilst still capturing the core binge drinkers. Finally, the new definition was an attempt to overcome the difficulties identified in previous binge drinking definitions and it is acknowledged that this is a working definition, which would clearly benefit from further validation in clinical and research practice.

Should this validation be obtained, the use of a more precise, reliable definition has a number of implications for clinical practice. For instance, each of the proposed criteria could become the focus of clinical intervention. Exploration of why the binge is discrete and doesn't lead to continuous drinking could facilitate the prediction of when binges occur and hence aid in the development of skills for adopting alternative strategies. Planning binges, on the other hand, could be effective. People could also work on reducing the amount of alcohol consumed during a binge, so that it becomes closer to their usual pattern. In identifying the distress or interference caused by the binge, people could be encouraged to consider the positive and negative consequences of bingeing and make more conscious informed choices about their drinking. The emphasis could also be on dealing with the events that trigger the binge.

On a final note, the proposed definition should be fairly easy to use and adopt in regular clinical practice as it takes a similar format to DSM-IV (American Psychiatric Association, 1994) diagnostic criteria, which are familiar to many mental health professionals. The use of three separate criteria may also aid the decision-making process in the identification of this clinical condition.

The finding that two participants were difficult to allocate to the Binge or Non-Binge groups highlighted the need for clear, accurate descriptions of a person's drinking.

Hence, the difficulty experienced was a reflection of measuring drinking pattern with a self-report diary and should not be considered a criticism of the definition.

Considering the lack of significant between-group differences on any of the demographic, health or socio-economic variables this was a little unexpected. Previous research had suggested that several differences, such as gender (Dunne *et al.*, 1993), employment status (Robin *et al.* 1998; Moore *et al.*, 1994; Bennett *et al.*, 1991) and physiological damage (Wetterling *et al.*, 1999; Hansagi *et al.*, 1995; Hunt, 1993; Tomsovic, 1974) would be observed. Furthermore, the findings by Tomsovic (1974) that binge drinkers had more legal and occupational difficulties were not substantiated. Neither was evidence provided to support the Connors *et al.* (1986) study, which found that binge drinkers were more likely to have had alcoholic parents, experienced more liver functioning problems and been arrested or hospitalised for alcohol-related problems. The lack of significant differences therefore implies that binge drinkers cannot be identified on purely demographic factors. The reason why binge drinkers do not differ from other problem drinkers on the basis of demographic characteristics is presently unclear.

The proportion of Binge Drinkers (35.3%) in the Problem Drinking sample is consistent with prevalence rates reported in a clinical sample by Sanchez-Craig (1980) and corroborates evidence from data held within the Leicester and Leicestershire Community Alcohol Service. It was however, slightly higher than figures presented by Dunne *et al.* (1993); Wetterling *et al.* (1999) and Adams *et al.* (1996), who reported prevalence rates of between 14 and 28 percent. Although the rate is lower than that reported by Tomsovic (1974) who identified 48% of the men in his study as binge drinkers. Consequently, it can be assumed that the prevalence rate obtained in this study is more indicative of a binge drinking population and the inconsistencies in previous studies are a reflection of the limitations of the definitions, as previously discussed (see section 1.3.).

4.2. Emotional Distress In Binge Drinking

Binge Drinkers were found to be less depressed than Non-Binge Drinkers, with 72.2% and 100%, respectively reporting clinical levels of depression. Although a significant number of Binge Drinkers were identified as depressed, the fact that fewer Binge

Drinkers were depressed has a number of clinical and theoretical implications. For instance, the coping literature suggested that problem drinkers might use alcohol to manage negative affect. However, this cannot be substantiated for Binge Drinkers, given that over a quarter were not depressed.

The finding that both the Problem Drinking groups were significantly more depressed than the Controls was however, consistent with previous research, which has demonstrated high levels of depression in people diagnosed with alcohol dependence or abuse (Smith *et al.*, 1994). This could reflect the depressant qualities of alcohol, which would also explain why the Non-Binge Drinkers were more depressed, being more likely to have a continuous stream of alcohol in their system. On the other hand, it could imply that people who are more depressed drink continuously in an attempt to regulate their negative affect.

Interestingly, no significant differences were found between Binge and Non-Binge Drinkers on measures of anxiety, with 83.3% of Binge Drinkers and 78.8% of Non-Binge Drinkers reporting clinically significant levels. It appears that anxiety is a core problem across all problem drinking patterns, as the levels were significantly higher than those reported by the Controls. The high prevalence of anxiety observed in the Problem Drinkers was consistent with previous research evidence (Walfish *et al.*, 1990).

Although the levels of anxiety and depression reported by the Control group were significantly lower than those of the Problem Drinkers, 51.9% still met the criteria for clinical depression and anxiety. This finding may be attributed to the participants recruited from psychology services, as a number of people reported depression or anxiety as being significant factors in their need to seek help from the psychologist.

Finally, considering other aspects of psychopathology, it had been suggested that binge drinkers were more prone to aggression than other drinkers (Murphy & O'Farrell, 1994; 1996; Jacob & Leonard, 1988). Although a standardised measure of aggression was not completed, the preliminary analysis of questions asked during the clinical interview regarding tendencies to become aggressive or violent when intoxicated either presently or in the past, indicated no significant between-group

differences. Consequently, the finding that Binge Drinkers may be more aggressive was not supported. As a matter of interest, although the difference was non-significant, 22.2% of Binge Drinkers reported a history of aggression or violence, whereas, 39.4% of Non-Binge Drinkers described themselves as aggressive when intoxicated. The Problem Drinkers were significantly more aggressive on this tentative measure than the Controls, which is in accordance with previous research (Walfish *et al.*, 1990). Further indications, such as the high prevalence of personality disorders (Marchiori *et al.*, 1999; Smith *et al.*, 1994) could not be substantiated or repudiated from the information obtained, as although a number of participants described being diagnosed with a personality disorder, this did not form part of the clinical assessment. To reliably assess the prevalence of personality disorders would have formed a research project on its own merits.

4.3. Binge Drinking and Coping

It was apparent that Binge Drinkers did not differ significantly from Non-Binge Drinkers on the basis of coping style hence it can be assumed that coping styles as measured do not differentiate patterns of drinking. Nevertheless, significant differences were observed between Problem Drinkers in general and the Control group. The Problem Drinkers utilized more emotion-focused and fewer social diversion coping strategies than Controls. This suggested that the Problem Drinkers attempted to reduce their stress by reacting with an emotional response that was self-oriented, such as blaming themselves, becoming pre-occupied or fantasizing about the situation. Such emotional reactions to stress often serve to increase the stress rather than reduce it (Endler & Parker, 1999), which may explain the association with high levels of anxiety in the Problem Drinkers. It also implied that Problem Drinkers were less likely to cope with stress by seeking out other people and hence reinforced the finding that they were more likely than the Controls to focus on themselves as the cause of the stress. This explanation also tallies with the finding that the Problem Drinkers preferred to drink in isolation.

The finding that the Problem Drinkers utilized more emotion-focused coping strategies is consistent with previous research (Carpenter & Hasin, 1998; Cooper *et al.*, 1988). Emotion-focused coping in drinkers may also be a reflection of the high levels of depression reported in this group. Depressed people have been found to use

more emotion-focused coping strategies (Endler & Parker, 1990; Billings & Moos, 1985) and alcohol has been implicated as a coping mechanism for negative affect (Cunningham *et al.*, 1995). However, it was not possible to identify the direction of the causal relationship between depression and emotion-focused coping from the data obtained.

Several other questions were raised which related to the dispositional nature of the coping measure. Although it was clear from the sample that cognitive, affective and behavioural components were salient in the drinking problem, the inter-relationship between these factors was difficult to ascertain. Also information about the stressor itself was not accessible through the CISS and this might have been different for each of the groups. Furthermore, the influence of environmental factors, such as social support, on the coping process was restricted to the knowledge that Problem Drinkers tended to avoid using social support mechanisms. As such, causal relationships cannot be reliably identified and conclusions about the coping process are limited.

Despite these limitations, some evidence was provided to support the interactional models of coping (Endler & Parker, 1999; Moos & Schaefer, 1993). For instance, the Problem Drinkers were more anxious and used more emotion-focused coping strategies. In relation to understanding the determinants of emotional disorders including alcohol misuse, it could be hypothesised that a use of emotion-focused coping strategies predisposes a person to these disorders. However, the antithesis of this hypothesis could also be true.

4.4. Binge Drinking and Control of Unwanted Thoughts

The lack of significant between-group differences on any of the subscales of the TCQ, at the significance level of $p < 0.01$ provided insufficient evidence to support the hypothesis that Binge Drinkers differ from either Non-Binge Drinkers, or Controls in the strategies used to control unwanted and/or unpleasant thoughts. However, significant differences were found at the 0.05 level, prior to the Bonferroni corrections. It could be argued that use of the Bonferroni procedure was conservative and its use is at the discretion of the researcher rather than being an essential requirement (Howell, 1987). Consequently, the significant results are worthy of discussion on the basis of identifying trends and areas for future research.

The one-way ANOVA indicated significant between group differences on two of the subscales of the TCQ, namely social control and distraction. In this instance, Binge Drinkers were found to use significantly fewer social control strategies for managing unwanted thoughts than Non-Binge Drinkers or Controls. It can therefore be assumed that Binge Drinkers did not tend to discuss their distressing thoughts with others, or seek advice on how they could be managed. Wells & Davies (1994) reported that this would imply that Binge Drinkers were less emotionally stable in comparison with the other groups (Wells & Davies, 1994). However, they did not provide evidence to support this assumption and alternative explanations could be that binge drinkers are more self-reliant or less socially confident. Furthermore, if the Binge Drinkers were found to be less emotionally stable, this might have been reflected in the depression and anxiety measures, which it was not. Consequently, no evidence was provided to support Wells & Davies' (1994) assumption about the association between social control strategies and emotional stability.

Secondly, Non-Binge Drinkers were found to use significantly more distraction techniques than either the Binge Drinkers or Controls. This suggests that these drinkers were not focussing on their unpleasant thoughts and instead, may have distracted themselves from their worries by drinking. Interestingly, distraction has been viewed as a positive thought control strategy, but this finding may support Matthews & Wells' (1996) hypothesis that people are unable to use distraction techniques indefinitely and that it can be problematic if initial goals are left unmet. This implies that people who drink on a continuous basis may use alcohol to distract themselves from their stresses and worries, in essence 'blocking things out' as many of them reported at interview. However, when the alcohol wears off, they are once more unable to cope with the unpleasant thoughts that re-submerge and hence return to the alcohol. This ties in with the use of emotion-focused coping strategies and that in seeing themselves as the creators of their distress, the Non-Binge Drinkers used alcohol to distract themselves from their unmanageable self-blaming thoughts.

Binge Drinkers, on the other hand, through their reduced use of distraction, may actually be thinking about the thoughts, but are unable to discuss these with anyone, as demonstrated by their tendency not to use social control thought control techniques. In essence, the notion that Binge Drinkers face reality at least most of the

time, whereas Non-Binge Drinkers do not is supported. Consequently, the retrieval of negative items of knowledge may be encouraged in Binge Drinkers via S-REF processing which leads to the selection of less adaptive coping strategies (Morgan *et al.*, 1995).

Matthews & Wells (1996) also suggested that emotional distress might impair coping by either a general impairment being associated with worry and loss of resources, or through a bias towards selecting maladaptive coping strategies such as rumination. However worry was not identified as a significant thought control strategy for the Problem Drinkers who were significantly more distressed. One would have expected the Non-Binge Drinkers, all of whom were depressed, to score highly on the worry subscale of the TCQ if this explanation had been cogent. Nevertheless, emotional distress may well have impaired coping in ways other than through worry, such as an inability to focus on positive self-beliefs.

This leads to the question of self-focus which has been associated with a reduction in active coping in stressful situations (Wells & Matthews, 1994b), in addition to amplifying negative mood and biasing the retrieval of negative information (Morgan *et al.*, 1995). However, if it is correct that Binge Drinkers are more self-focused than Non-Binge Drinkers this would not support the finding that negative mood is amplified as the Non-Binge Drinkers were more depressed.

4.5. Clinical Impressions from Assessment

In addition to obtaining the demographic and relevant background characteristics of the sample, the clinical interviews were extremely informative in obtaining a feel for the different drinking problems with an understanding of this population and the role alcohol played in their lives. A number of observations give good reason for discussion.

Firstly, a general clinical impression of Binge Drinkers in comparison with other drinkers was considered. From the clinical interview it appeared that the Binge Drinkers reported being able to manage for a while until things had built up or an external stressor occurred which then led them to binge. A number of the Binge Drinkers were unable to identify particular triggers and reported it as 'something that

happened every x number of months', although, time after time there was a sense of the binge providing a 'break from life'. Consistently, the Binge Drinkers reported being unable to stop once they had started, until either they had 'had enough', or an external factor caused them to cease drinking in this manner.

It also appeared that the Binge Drinkers sought help following a binge period, rather than being proactive and predicting that a binge would occur. This has implications for the findings regarding depression, in that the degree of depression may fluctuate throughout the binge period. Hence, the finding that Binge Drinkers were significantly less depressed than Non-Binge Drinkers may have been a result of the time of measurement. Further research is required to determine whether the level of depression reported is consistent throughout the binge period.

On consideration of thought control theory, it has been implied that people may use thought control strategies to manage cravings for alcohol (Toneatto, 1995; 1999); however, this theory was not substantiated by impressions obtained from the clinical interview. On asking people about their drinking, eliciting triggers for binges, factors which halted the binge and reasons for drinking, it was apparent that the majority were using alcohol to try to 'block out' thoughts and feelings created by interpersonal, or socio-economic difficulties in their lives. Others commented on using alcohol to manage stress or feelings of depression. Only a couple of participants mentioned thoughts and physical sensations of craving. Further analysis considering only participants who were clinically anxious emulated previous findings with anxious Binge Drinkers tending to use fewer social control strategies for controlling their unwanted thoughts than the anxious Non-Binge Drinkers or Controls. No significant differences between the depressed Problem Drinkers were found on the thought control measure. Neither were any differences found for anxious or depressed Drinkers on the coping measure. Consequently, no further conclusions can be drawn as to whether Binge Drinkers are trying to block out thoughts related to anxiety or depression.

4.6. Clinical Implications

The obvious implication for clinical services is the significant difference found on depression measures. This could aid in differentiating patterns of drinking, but care

should be taken as a significant number of Binge Drinkers were also depressed. Nevertheless, there are a number of treatment implications with such high levels of depression apparent in the Problem Drinking sample. Peoples' ability to carry out the cognitive-behavioural techniques often employed with this population may be restricted by their depression. This could imply that motivational interviewing techniques (Miller & Rollnick, 1991) would improve treatment outcome if employed at the beginning of any interventions, as the prevalence of depression would suggest that motivation to change would be adversely affected.

Expanding the assessment could offer further insight into the development and maintenance of problematic binge drinking. Pursuing reasons for drinking, for instance may be fruitful especially in identifying target areas for intervention. If it is identified that social interaction and methods of seeking social support are problematic, people could be encouraged to develop this aspect of their personal repertoire. Working on the expression of emotions may be an alternative avenue for Binge Drinkers. Non-Binge Drinkers on the other hand could be encouraged to face reality and look at more proactive ways of dealing with stress, rather than drinking to distract themselves from their problems. A more exploratory assessment could potentially help people to identify their distressing thoughts and consider how these may be better managed. More detailed information from the assessment would also aid in the development of further hypotheses about ways of differentiating binge drinkers from non-binge drinkers, in addition to providing an opportunity for assessing the validity and applicability of the new definition.

4.7. Strengths and Limitations of the Study

4.7.1. *Design*

The study was well designed and executed, incorporating a between-group design, which was necessary to achieve the aims of the study. The only limitation of the design was that it did not allow for the exploration of any causal relationships between variables. For example, Problem Drinkers who were depressed may have been depressed because of the depressant effects of alcohol, or they may have drunk excessively because they were depressed. Relationships between coping, thought control, anxiety and depression are also likely to be interactional. Longitudinal and/or

experimental research would aid in the understanding of these relationships and indicate the most salient points for intervention.

A further strength of the study was that group allocation was retrospective which offset the potential for experimenter bias effects in the recruitment of participants. The agreement rate for group allocation according to the definitions applied was also extremely high (over 98%). This provides evidence for the face validity of the new definition in that people can be easily identified as Binge Drinkers. Although as previously mentioned, obtaining accurate records of drinking is essential in order to reduce the error margin in the allocation of participants to groups. Again further validation of the proposed definition is desirable.

4.7.2. *Sample*

The main question regarding the sample was whether a larger sample size would have revealed significant differences. Unfortunately the size of the Problem Drinking group was restricted by the high DNA and cancellation rates for initial appointments. Problem Drinkers are a notoriously difficult group to recruit due to the erratic nature of the problem (Cameron, 1995). Recruiting existing clients from the Community Alcohol Team may have overcome this, however, this would have resulted in the introduction of a number of confounding variables. For example, interventions often focus on developing coping skills for reducing alcohol intake, which would have affected scores on the coping measures. Expectations about the study from prior discussion with key workers may also have skewed results. Relying on key workers for recruitment could have potentially biased the sample to include more Binge Drinkers, as they may have consciously, or unconsciously been selected out with the knowledge that this was the main focus of the study.

Recruitment of the Control group proved problematic, as several services approached, especially general practitioners, were wary of the study and the implications for their clients should a problem with substance use be identified. This was despite being informed that if necessary, access to the appropriate services would be ensured and that the study had received ethical approval. Consequently, the Control group participants recruited may have been biased, being selected from clinical psychology and dentistry services. However, the sample was representative of the populations

usually referred to these services, hence this effect appears to be minimal. In spite of this, the fact that clinicians selected out suitable participants may have meant that the sample was biased towards more 'approachable, friendly' clients.

Although all the assessments for the Problem Drinking group were conducted in city-centre locations, referral sources incorporated a wide regional area, covering both the city and county of Leicestershire. Hence the sample was not biased towards the socio-economic problems observed in inner cities, which might have explained the high rate of depression and unemployment. However, alcohol services in other Regions vary considerably, both in terms of being community-based and with regard to referral procedures. Generalisations across problem drinking samples may consequently be limited, although this could be addressed through replication of the study in other Regions. The practice of self-referral is relatively unusual in community mental health services and therefore may not be emulated in other services. The fact that many of the participants did self-refer may explain the high agreement rate for participation in the study, reflecting a vested interest in their treatment.

Considering ethnic and cultural variables, the Problem Drinking and Control groups did not differ in this respect; therefore the results are unlikely to be confounded by these factors. However, the ethnic minority participants came from quite diverse backgrounds and cultures, which has been highlighted as a difficulty in alcohol misuse research (Cheung, 1993). Hence, the confidence with which results could be generalized to ethnic minority populations is therefore reduced. In addition, despite the recruitment District having a higher than average representation of ethnic minorities, this was not reflected in the sample and these populations appear to be under-represented in the Community Alcohol Service. Although, the role of ethnicity and culture in binge drinking was not a main research question, and hence is not a criticism, given the minimal representation of ethnic minority populations, no conclusions about this factor can be drawn.

4.7.3. Measures

The best available measures were selected at the time of the study on the basis of their psychometric properties and previous use in research however, these still have their limitations.

Although the CISS has been considered as a ‘state of the art’ coping inventory (Schwarzer & Schwarzer, 1996), some constraints on its ability to adequately measure coping have still been noted. The main criticism is that the CISS is disposition-oriented and therefore only covers one facet of coping (Schwarzer & Schwarzer, 1996). This, in addition to the CISS only being able to measure three factors of coping strategies, could have explained the lack of significant differences between Binge Drinkers and Non-Binge Drinkers on coping. Differences may therefore have been obtained with the use of a situational measure of coping, which would be able to reflect the complexity and heterogeneity of the coping process. However, this type of measure is not yet available (Cook & Heppner, 1997; Schwarzer & Schwarzer, 1996).

Furthermore, the CISS asks people how they *usually* cope rather than asking about coping with specific threats or encounters. This method has been used extensively to address the problem of measuring coping style, however, Lazarus (1993) believes that the use of this word is misleading.

“Subjects may be giving away nothing more than a vague impression about how they would prefer to cope, perhaps influenced by what they believe is socially desirable or ideal, rather than what they have thought or done.”

(p242)

Endler & Parker (1999) acknowledged this potential constraint among others, on the validity of results obtained. Firstly, participants may have been subject to social desirability and hence may have ‘faked good’ in their responses. Other possibilities include deliberate malingering, or ‘faking bad’ and random responding. These constraints were nevertheless, beyond the control of the principal investigator and are considered to be an inherent problem in measures of subjective well-being which are usually designed to cover an extended time-frame, rather than a specific moment or circumstance (Lazarus, 1993). An additional measure of social desirability might

have assessed whether this was a significant problem in the study, however, the time requirements were already high and another measure may have deterred people from participating. This would have also adversely affected the rota-system used for recruiting the Problem Drinkers, as the use of an additional measure would have exceeded the allotted time of one-hour.

As far as the TCQ is concerned, it measures unpleasant or unwanted thoughts rather than specifying a particular unwanted thought. Hence no assumptions can be drawn as to whether the thought was alcohol-related, as suggested by Toneatto (1999) in his research on craving, or whether it was related to emotional and psychological discomfort caused by life stressors, as suggested in the clinical interview. Differences may have been obtained if the participants were asked to think of an unpleasant thought associated with their alcohol use, although this would have created problems for the Control group, especially as they only reported positive reasons for drinking. Furthermore, from the information obtained it is impossible to identify the frequency or level of distress caused by the thought, which could have implications on the thought control strategy used. A criticism observed in administering the questionnaire was that a number of participants questioned the items that are reverse scored, finding them conceptually difficult. Issues of social desirability may also have impacted on the results, as participants frequently commented on the punishment subscale items and it is less likely that they would have admitted to 'slapping' or 'pinching' themselves whilst the principal investigator was in close proximity. However, the TCQ was the only known measure at the time of the study which assessed the control of unwanted thoughts, consequently these criticisms are useful in the development of further thought control measures.

Considering the BDI, the main criticism is that, participants, in both the Problem Drinking and Control groups frequently commented on the distressing nature of some of the items on the BDI, especially those regarding suicidal ideation, which may have affected their responses. However, these items are considered necessary for an accurate identification of the presence of depression and the BDI is one of the most frequently used and validated measures of depression. The high prevalence of depression found would also suggest that these results were not affected by social desirability factors. It also appeared that some participants rated the items on a

general basis as opposed to 'during the past two weeks', which was exemplified by the question regarding weight loss.

Using the BAI, the high prevalence of anxiety found in the Problem Drinking group may be a reflection of anxiety caused by attending for an initial appointment for help with their drinking and the expectations this may have induced. However, this would not explain the prevalence of anxiety reported in the Control group, as participation in the study was supplementary to any involvement with the community service, with the majority of interviews being conducted in the person's own home. An alternative explanation may be that the levels of anxiety reported reflect the presence of withdrawal symptoms, which a number of people were experiencing at the time of assessment. A number of the items on the BAI are consistent with symptoms of withdrawal, such as, 'shaky', 'sweating', 'heart pounding or racing', and 'feeling hot'. This is to be expected, as the physiological process of withdrawal produces symptoms of anxiety (Roizen & Schneberg, 1977). Nevertheless, an alternative measure of anxiety, such as the State-Trait Anxiety Inventory (Spielberger *et al.*, 1970), which is less symptom focused may have been preferable with this population.

The use of a retrospective problem drinking diary using a time frame of a *typical week in the past three months* was effective in obtaining a clear picture of participants' drinking patterns. This method proved to have advantages in being easy and quick to complete. However, several problems could be envisaged in using this method to assess patterns of drinking in future research. In this study only the principal researcher obtained this data, hence consistencies in reporting were ensured. This could not be guaranteed if multiple researchers were to conduct the research as this method would be prone to inconsistencies and different interpretations. A binge pattern was difficult to express in the 'typical week' format as often a binge would last for two to three weeks, or even a couple of months. Further limitations of retrospective diaries have been documented, especially considering the reliability of self-report recall measures (Midanik, 1982; Poikolainen, 1985). Use of the time-line method developed by Sobell, Sobell, Leo & Cancilla (1988) may address these difficulties, as it has been found to have high reliability with both clinical and non-clinical populations and the authors state that it can be used for comparative evaluations of drinking behaviour across studies with different populations. However,

this method was not used in the present study due to its time-consuming nature and the higher level of involvement demanded from participants.

4.7.4. Analysis

An attempt to obtain comparable group sizes was made, however, the retrospective nature of group allocation in the Problem Drinking sample was restrictive in this aim. Consequently, the discrepancy between group sizes, although admittedly small, may limit the conclusions drawn regarding the differences between coping strategies and depression. Nevertheless, the ratio of Binge to Non-Binge Drinkers would appear to be representative of this population and an attempt to recruit more Binge Drinkers would have biased the results, in addition to being unreasonable within the time constraints of the project.

The possibility of a Type I error was reduced by adopting the Bonferroni procedure, however, this resulted in non-significant results on the TCQ, which were significant at the 0.05 level. Although the corrections were advisable given that multiple comparisons were made, there is an argument that this is a very conservative measure and that the decision regarding the use of the Bonferroni procedure is not rigid, being ultimately at the discrepancy of the experimenter (Howell, 1987).

The use of both parametric and non-parametric statistics was ordained by the nature of the data, hence the choice of statistical tests was indisputable. All analyses conducted were in order to answer the research questions and were therefore appropriate, however, other questions could have been asked from the data set. For example, it might have been of interest to consider whether emotion-focused Binge Drinkers differed in their thought control strategies. This would also examine the potential relationship between coping and thought control as proposed by Myers (1998). Further analyses could also have been conducted on gender differences, which have been intimated to be of interest in the binge drinking (Dunne *et al.*, 1993) and coping (Endler & Parker, 1990) literature. However, the number of potential analyses is infinite and the possibility of finding any differences, especially with reduced group sizes, would be more likely to occur by chance. This would also digress from the original research aims, which were rooted in psychological theory.

One aspect of the data, which could have been explored in more depth is the interview data. However, this would require the use of qualitative methodology and analysis techniques, which again did not fall under the remit of the study and would have resulted in a number of implications for research resources.

4.8. Implications for Future Research

4.8.1. *Longitudinal Outcome Research*

At the outset of the study, it was assumed that the differences envisaged between binge drinkers and non-binge drinkers, would imply the necessity for a different treatment approach. The lack of significant differences does not however, support this assumption, consequently the outcome of current treatment approaches could be examined, with reliably defined comparison groups. If the tendency for binge drinkers to utilize different thought control strategies was explored in greater depth, another possibility for outcome research would be to compare current treatment with treatment focusing on eliciting metacognitions and tackling the strategies that people use to control their unwanted thoughts. This would also inform us about the thought content, i.e. whether the thoughts are drink-related, or to do with life events as suggested in this study.

There is some potential for binge drinkers to have commonalities with binge eaters, which has not been previously explored. This offers several possibilities, for instance, applying the evidence-based approaches to binge eating with binge drinkers. Another possibility would be a comparison study of psychological factors between binge drinkers and binge eaters.

Finally, an understanding of the role of depression in problem drinking would be beneficial. A study examining depression over the course of a binge would answer the questions of whether Binge Drinkers are less depressed on cessation of the binge and whether this coincides with the time they seek help, as suspected in this study. Unfortunately, there are obvious constraints on a study of this nature, as it could be envisaged that recruiting people prior to having a binge would be problematic. The very nature of the binge, where important areas of functioning are abandoned and a significant level of distress is experienced, would imply that the likelihood of accurate records being kept during a binge is minimal.

4.8.2. Replication of the Study

Replication is always desirable to ensure that the effects observed can be substantiated. The limitations of the study could be addressed with generalizability of the findings being improved, especially if the study was repeated in a different geographical location. Recruitment of a larger sample might confirm the non-significant trends found on thought control strategies and provide more conclusive evidence that this could be a target area for intervention. The use of qualitative methodology may also be informative, especially given the limitations of some of the standardised measures.

4.8.3. Alternative Determinants of Binge Drinking

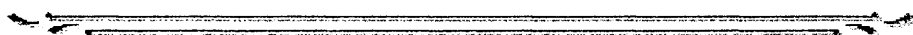
As the significant findings to differentiate Binge Drinkers from other Drinkers were limited, it would be of interest to explore whether alternative factors could lead to a better understanding of this pattern of problem drinking, now that binge drinkers can be reliably defined.

The nature and extent of the relationship problems reported in the current study was not adequately measured for any substantial conclusions to be drawn, as participants were simply asked whether their drinking had caused any problems. Yet, the finding that over two-thirds of the binge drinking group experienced relationship problems adds weight to the suggestion that this is a potential area for research. The use of a standardized assessment of family relationships and/or social support would therefore be recommended, and treatment focusing on these aspects could be evaluated. Findings from the UK Alcohol Treatment Trial (Heather, 2000) which, is in the process of comparing the effectiveness of Social Behaviour Network Therapy (SBNT) with Motivational Enhancement Therapy (MET) will be informative as to whether this avenue is worthy of pursuit when considering different drinking patterns.

Finally, personality factors have been researched in conjunction with coping (Endler & Parker, 1990) and alcohol misuse (see Blane & Leonard, 1987). Endler & Parker (1990) found for example, that neuroticism predicted greater use of emotion-focused coping and implied that it may influence symptoms through increased access to negative self-beliefs, leading to dysfunctional coping strategies, such as self-blame. Examining the relation between coping and personality factors may add to our

understanding of the determinants of binge drinking. For instance, examining personality factors, such as impulsivity might be fruitful in explaining why binge drinkers suddenly give up everything when they go on a binge.

Conclusion



CHAPTER 5

CONCLUSION

A conceptual review of literature highlighted the need to propose a new definition of binge drinking and explore the role of emotional distress, dispositional coping and thought control processes in the maintenance of problem drinking. Binge drinking was redefined as a clinical condition that must satisfy the following three criteria:

- a) Binge drinking is undertaken in discrete periods of time;
- b) The amount of alcohol consumed is excessive in comparison with the person's usual pattern; and
- c) The effects of the binge drinking cause clinically significant distress or interference with the person's social, occupational or other important areas of functioning.

Some evidence has been provided to support the validity and reliability of the new definition, which is proposed to be better at capturing the core Binge Drinkers than the pre-existing definitions of binge drinking. However, the need for further validation is acknowledged.

Interestingly, Binge Drinkers did not differ on any of the demographic, socio-economic or health-related variables. It can therefore be concluded that these factors are not salient in determining a problematic pattern of binge drinking. However, further research with a larger sample is required to confirm this finding. Consequently, no evidence was provided to support previous research, which had indicated that binge drinkers were: male (Dunne *et al.*, 1993); unemployed (Robin *et al.*, 1998; Moore *et al.*, 1994; Bennett *et al.*, 1991); divorced or separated (Moore *et al.*, 1994; Bennett *et al.*, 1991); with more physiological damage (Wetterling *et al.*, 1999; Hansagi *et al.*, 1995; Hunt, 1993; Tomsovic, 1974) and legal problems (Conners *et al.*, 1986; Tomsovic, 1974).

Considering emotional distress, Binge Drinkers were found to be significantly less depressed than Non-Binge Drinkers, although both groups were more depressed than

the Controls. This has a number of implications for both clinical practice and research. Depression may be a differentiating factor between the groups, but the high levels reported suggest that this is a considerable problem for all Problem Drinkers. As such, depression should be considered when assessing and treating these clients. Depression, could for example, impede people's ability and motivation to change their drinking.

Although both the Problem Drinking groups suffered significantly from anxiety, Binge Drinkers did not differ from Non-Binge Drinkers on this measure. Again the levels of anxiety reported raise concern for clinical practice. Although care should be taken in assessing whether the anxiety reported is confounded by the presence of withdrawal symptoms or attending for an initial appointment.

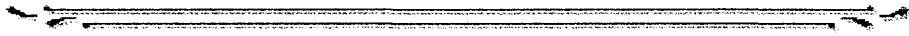
On the question of the role of dispositional coping in binge drinking, contrary to expectations, no significant differences were found between Binge Drinkers and Non-Binge Drinkers. However, both Problem Drinking groups used more emotion-focused and fewer social diversion coping strategies than the Controls. This is consistent with previous research and implies that the Problem Drinkers blame themselves, or become preoccupied with their problems and hence become caught in cycle of trying to avoid their problems by drinking, which serves to increase the stress.

Finally, Binge Drinkers tended to use fewer social control strategies for controlling their unwanted thoughts. It was therefore suggested that they did not discuss these thoughts with other people and hence could be viewed as more self-reliant or less socially confident than other drinkers. Conversely, the Non-Binge Drinkers tended to adopt distraction strategies for managing their unpleasant thoughts, which inferred that they used alcohol to distract themselves from their worries. In essence, the Non-Binge Drinkers appeared to block away their problems by drinking more or less continuously, whereas Binge Drinkers cope poorly with their problems, but do pay attention to their sources of distress.

A number of areas for future research were identified. Firstly, longitudinal research on the role of depression in binge drinking would be informative in whether the level

of depression is consistent across the binge period and if this then impacts on the type of coping and thought control strategies selected. Secondly, comparative outcome research on the treatment of binge drinking, for example, with other problem drinkers or binge eaters would be instructive regarding the effectiveness of current treatment approaches. This would then facilitate decisions as to whether alternative approaches, such as those used with binge eaters would be preferable. Finally, alternative determinants of binge drinking could be explored either quantitatively or qualitatively, for instance, the role of social support and family relationships or personality factors. There is still a long way to go in fully understanding what leads a person to binge drink, however at least with a consistent, reliable definition this should now be possible.

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CHAPTER 6

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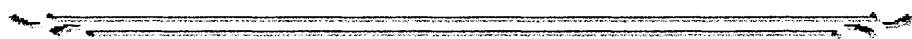
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Appendix A



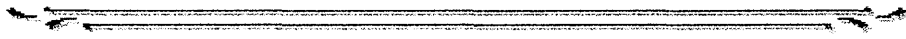
| DESCRIPTIVE TERM | DEFINITION | AUTHOR(S) |
|-----------------------|---|--|
| Epsilon | <i>Loss of control of the amount of alcohol they drunk</i> | Jellinek (1960) |
| Binge | <i>Periods of heavy drinking, followed by abstinence</i> | Tomsovic (1974) |
| Episodic | <i>(In binge drinking) the emphasis is not on the consumption itself, but rather on the fact that the respondent is making drinking his primary occupation, to the exclusion of other business or pleasures for an extended period of time. Binge drinking then, measures behaviour, which, however sporadic, is an indication that the respondent is prepared to treat drinking as a serious and single-minded pursuit rather than an incidental occurrence.</i> | Cahalan & Room (1974) |
| Bout | <i>Drinking to occur for days, weeks, or months successively separated by periods of abstinence</i> | Sanchez-Craig (1980) Conners, Tarbox & McLaughlin (1986) |
| Binge | <i>Drank heavily for at least 3 consecutive days with regular periods of abstinence lasting also at least 3 days</i> | Stockwell, Murphy & Hodgson (1983) |
| Episodic/ Periodic | <i>Drinking less than once a week with abstinent periods in the interim</i> | Marlatt & Miller (1984) |
| Binge | <i>More than 8 drinks in a row</i> | Lee, Crombie, Smith & Tunstall-Pedoe (1990) |
| Binge | <i>Prolonged consumption of alcohol over days or weeks with long intervening periods of abstention</i> | Dunne, Galatopoulos & Schipperheijn (1993) |
| Binge | <i>Half the weekly-recommended limits</i> | Moore, Smith & Catford (1994); Bennett, Smith & Nugent (1994) |
| Binge | <i>A pattern of heavy drinking that occurs in an extended period set aside for the purpose...the period is usually defined as more than one day of drinking at a time</i> | World Health Organisation (1994) |

Chronological Definitions of Binge Drinking

| DESCRIPTIVE TERM | DEFINITION | AUTHOR(S) |
|------------------|---|---|
| Binge | <i>Minimum of 3 Heavy & maximum of 14 Heavy & Moderate successive drinking days, followed by a minimum of 14 Abstinent or Light days, with a maximum of 4 deviations from this pattern</i> | Epstein, Kahler, McCrady, Lewis & Lewis (1995) |
| Binge | <i>More than 8 units of alcohol</i> | Office of Population Censuses & Surveys (1995) |
| Binge | <i>More than 5 drinks for men and more than 4 drinks for women</i> | Wechsler, Dowdall, Davenport & Rimm (1995a) |
| Binge | <i>More than 5 drinks in a row</i> | Beck & Treiman (1996); Delk & Meilman (1996); Murgraff, White & Phillips (1996); Schulenberg, Wadsworth, O'Malley, Bachman & Johnston (1996); Hasin & Paykin (1998) |
| Binge | <i>More than 6 drinks per occasion</i> | Adams, Barry & Fleming (1996) |
| Binge | <i>As much as a fifth of liquor, or three bottles of wine, or as much as three six-packs of beer in a day</i> | Liu & Kaplan (1996) |
| Binge | <i>Abrupt and intense bouts of episodic drinking, or binges, during which large quantities of alcohol are consumed almost non-stop over a period of several days. Upon completion of these episodes, which often occurs only after 'the money runs out' or unconsciousness prevails, the binge drinker apparently refrains from alcohol until the next, seemingly unpredictable outburst, weeks or months later</i> | Robin, Long, Rasmussen, Albaugh & Goldman (1998) |
| Binge | <i>Several days of extended intoxication with interference in usual obligations</i> | Schuckit (1998) |
| Binge | <i>Consumed alcohol (10 or more standard alcoholic drinks) on 2 days/week or less</i> | Kokavec & Crowe (1999) |
| Episodic | <i>Less frequent alcohol consumption with longer (>5days) sober periods and some binges (less than one per week)</i> | Wetterling, Veltrup, Driessen & John (1999) |

Chronological Definitions of Binge Drinking

Appendix B



INITIAL ASSESSMENT FORM - ALCOHOL

| | | | | |
|-------------|--------------|-------|---|-----------------------------------|
| DATE: | ASSESSED BY: | WHERE | <input type="checkbox"/> Advice Centre | <input type="checkbox"/> Home |
| REF NO: | KEYWORKER: | | <input type="checkbox"/> Prince Phillip House | <input type="checkbox"/> Hospital |
| NHS NUMBER: | | | <input type="checkbox"/> Other (state): | |

1st Appt Details:

Letter needed Y/N

(BLOCK CAPITALS PLEASE)

TITLE: FIRST NAMES:
(Mr, Mrs, Miss, Ms, Dr, Other)

LAST NAME:

PREFERRED NAME:

ADDRESS:

POSTCODE:

TEL NO:

DOB: ___/___/___ AGE ___)

GENDER: ☐ Male
☐ Female

CIVIL STATUS: ☐ Single
☐ Married/Cohab
☐ Widowed
☐ Divorced
☐ Separated

EMPLOYMENT: ☐ Employed
☐ Unemployed - available for work
☐ Unemployed - sick
☐ Houseworker
☐ Retired
☐ Student
☐ Other

ETHNICITY: ☐ White - British
☐ White - Other
☐ Black - Caribbean
☐ Black - African
☐ Black - Other
☐ Indian
☐ Pakistani
☐ Bangladeshi
☐ Chinese
☐ Other Asian
☐ Other
☐ Mixed
☐ Refused
☐ Not Asked

RELIGION: (if relevant):

PREFERRED LANGUAGE:

REFERRAL DETAILS

Who referred?

When?

Reason for Referral:

ADDRESS:

TEL NO:

MEDICAL DETAILS

GP NAME:

FUNDHOLDING? ☐ Yes ☐ No
OUT OF COUNTY? ☐ Yes ☐ No

ADDRESS:

TEL NO:

It is usual for the Services to write to the GP regarding a customer's treatment progress unless the customer objects.

Does customer agree to GP contact?

☐ Yes ☐ No

If no, reason why not:

OTHER AGENCIES EVER CONTACTED (for alcohol problems)

☐ NONE

EG: GP
GENERAL HOSPITAL
A&E
PRIVATE DOCTOR

PROBATION
SOCIAL SERVICES
PRISON

ALCOHOL TREATMENT UNIT
THERAPEUTIC COMM/REHAB
AA
VOLUNTARY AGENCY

OTHER:

PREVIOUS CAT CONTACT:

Medical History/Investigations

Psychiatric History

Eating/Sleeping/Mood

Any prescribed medication?

CURRENT CONTACTS:

NAME:

NAME:

ADDRESS:

ADDRESS:

Permission to contact if necessary:

PROBLEM DRINKING PATTERNS

Preferred Beverage:

Frequency: How often do they typically drink? (days per week)

Binge Drinker?

☐ Yes ☐ No

Where and with whom drinking? (predominantly)

RECENT DRINKING PATTERN

What would a typical drinking week look like? (last 3 months)

| WEEKDAY | Mon | Tues | Weds | Thu | Fri | Sat | Sun |
|--------------|-----|------|------|-----|-----|----------------|-----|
| MORNING | | | | | | | |
| AFTERNOON | | | | | | | |
| EVENING | | | | | | | |
| DAILY TOTALS | | | | | | | |
| | | | | | | TOTAL UNITS | |

Comments:

What's their drinking for, (ie what do they get out of it) and why do they do it?

What problems caused (finance, health, relationships)

Who thinks their drinking is a problem?

How long has this been a problem? ☐ < 1 year or ____ years

Have you been able to drink in a controlled way?

Ever totally abstinent in this time? YES/NO

If YES, describe:

Withdrawal symptoms

Have you ever had a fit/hallucination? When?

Why presented for help now?

DRINKING HISTORY/GENERAL COMMENTS

OTHER SUBSTANCE USE: (to include illegal, legal, prescribed drugs)

Cigarettes:

Caffeine:

Others:

Are any of these substances injected? _____ Which? _____

Has the individual shared injecting equipment in the last month? Y/N

Has the individual shared injecting equipment in the last 5 years? Y/N

Are you concerned about your substance use?

| | | |
|----------|---------|--------------------------|
| Consider | Hep C? | <input type="checkbox"/> |
| | Hep B ? | <input type="checkbox"/> |
| | HIV ? | <input type="checkbox"/> |

EMPLOYMENT HISTORY

Job History:

Alcohol related problems at work:

Use of Leisure Time:

CURRENT RELATIONSHIPS

Civil Status _____ For How Long? _____

With whom living? _____

Children: Number _____ Ages: _____

Do they live with you? Y/N If not, where do they live?:

Any problems with child care/meeting child(s) needs?

Current Social Situation (domestic, family, friends, housing)

Relevant Family History

CURRENT LEGAL STATUS

- | | |
|--|--|
| <input type="checkbox"/> None | <input type="checkbox"/> Court case pending |
| <input type="checkbox"/> Probation Order | <input type="checkbox"/> In custody/on parole |
| <input type="checkbox"/> Care order | <input type="checkbox"/> Suspended sentence |
| <input type="checkbox"/> Deferred sentence | <input type="checkbox"/> Community service order |
| <input type="checkbox"/> Fines pending | <input type="checkbox"/> Mandatory Treatment Order |

Details of offence(s):

PAST LEGAL HISTORY: (include any relevant offences, including drink-driving)

HISTORY OF VIOLENCE:

ASSESSMENT SUMMARY

Customers Perceived Needs:

Estimated length of contact with service:

Venue & time for follow up:

PROBLEM CHECKLIST

| | Not at all | 1 | 2 | 3 | 4 | 5 | Extreme 6 |
|------------------------|------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Drinking | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physical | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Psychological | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Relationships | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Practical Life Skills | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Self Esteem/Confidence | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Any Action Taken:

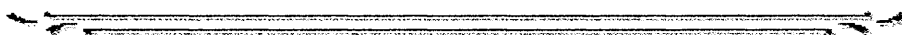
- ☐ Risk Assessment (according to service criteria)
- ☐ Shared Care (with whom) _____
- ☐ Child Protection

Signed:

Designation:

Date:

Appendix C



Melanie Sursham
Direct Dial 0116 2588610



LEICESTERSHIRE HEALTH

Gwendolen Road, Leicester LE5 4QF

Tel: (0116) 273 1173 Fax: (0116) 258 8577

DX 709470 Leicester 12

17 August 1999

Ms Sarah Heke
28 Raymond Road
Leicester
LE3 2AS

Dear Ms Heke

**A comparison of binge drinkers, problem drinkers and non-problem drinkers:
Psychological factors and alcohol-related beliefs - our ref no 5532**

Thank you for your recent letter in response to the concerns raised by the Leicestershire Research Ethics Committee and attaching a revised patient information sheet and consent form in relation to the above study.

You will be pleased to know that the Leicestershire Research Ethics Committee has now approved your request to undertake the above-mentioned research.

Your attention is drawn to the attached paper which reminds the researcher of information that needs to be observed when ethics committee approval is given.

Yours sincerely

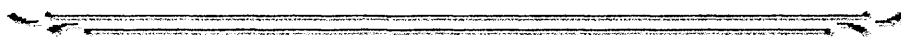
pp

R F Bing
Chairman
Leicestershire Ethics Committee
(Signed under delegated authority)

(NB All communications relating to Leicestershire Ethics Committee must be sent to the
Committee Secretariat at Leicestershire Health)



Appendix D



Demographic Characteristics of Binge vs. Non-Binge Drinkers

| | <i>New Definition</i> | | | <i>Definition I</i> | | | <i>Definition II</i> | | | <i>Definition III</i> | | |
|-------------------------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|
| | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 |
| <i>Gender</i> | | | | | | | | | | | | |
| Male | 11 (61.1) | 21 (63.6) | 0.03 ¹ | 10 (76.9) | 22 (57.9) | 1.50 ¹ | 9 (56.2) | 23 (65.7) | 0.42 ¹ | 14 (63.6) | 18 (62.1) | 0.13 ¹ |
| Female | 7 (38.9) | 12 (36.4) | | 3 (23.1) | 16 (42.1) | | 7 (43.8) | 12 (34.3) | | 8 (36.4) | 11 (37.9) | |
| <i>Ethnicity</i> | | | | | | | | | | | | |
| White | 17 (94.4) | 31 (93.9) | 0.01 ¹ | 12 (92.3) | 36 (94.7) | 0.10 ¹ | 15 (93.8) | 33 (94.3) | 0.01 ¹ | 20 (90.9) | 28 (96.6) | 0.72 ¹ |
| Non-White | 1 (5.6) | 2 (6.1) | | 1 (7.7) | 2 (5.3) | | 1 (6.2) | 2 (5.7) | | 2 (9.1) | 1 (3.4) | |
| <i>Referring Agent</i> | | | | | | | | | | | | |
| Self | 11 (61.1) | 14 (42.4) | 1.65 ² | 6 (46.2) | 19 (50.0) | 0.80 ² | 9 (56.2) | 16 (45.7) | 0.51 ² | 13 (59.1) | 12 (41.4) | 1.61 ² |
| Health | 5 (27.8) | 13 (39.4) | | 5 (38.5) | 13 (34.2) | | 5 (31.3) | 13 (37.1) | | 6 (27.3) | 12 (41.4) | |
| Other | 2 (11.1) | 6 (18.2) | | 2 (15.4) | 6 (15.8) | | 2 (12.5) | 6 (17.2) | | 3 (13.6) | 5 (17.2) | |
| <i>Previous Referral To CAT</i> | | | | | | | | | | | | |
| Yes | 8 (44.4) | 13 (39.4) | 0.12 ¹ | 7 (53.8) | 14 (36.8) | 1.16 ¹ | 6 (37.5) | 15 (42.9) | 0.13 ¹ | 11 (50.0) | 10 (34.5) | 1.24 ¹ |
| No | 10 (55.6) | 20 (60.6) | | 6 (46.2) | 24 (63.2) | | 10 (62.5) | 20 (57.1) | | 11 (50.0) | 19 (65.5) | |
| <i>Other Agencies Contacted</i> | | | | | | | | | | | | |
| None | 1 (5.6) | 2 (6.1) | 0.21 ² | 0 (0.0) | 3 (7.9) | 1.69 ² | 0 (0.0) | 3 (8.6) | 1.50 ² | 3 (13.6) | 0 (0.0) | 4.98 ² |
| Health | 11 (61.1) | 18 (54.5) | | 9 (69.2) | 20 (52.6) | | 10 (62.5) | 19 (54.3) | | 10 (45.5) | 19 (65.5) | |
| Other | 6 (33.3) | 13 (39.4) | | 4 (30.8) | 15 (39.5) | | 6 (37.5) | 13 (37.1) | | 9 (40.9) | 10 (34.5) | |
| <i>Self-defined Problem</i> | | | | | | | | | | | | |
| Recognised | 17 (94.4) | 29 (87.9) | 0.57 ¹ | 12 (92.3) | 34 (89.5) | 0.09 ¹ | 15 (93.8) | 31 (88.6) | 0.33 ¹ | 20 (90.9) | 26 (89.7) | 0.02 ¹ |
| Not Recognised | 1 (5.6) | 4 (12.1) | | 1 (7.7) | 4 (10.5) | | 1 (6.2) | 4 (11.4) | | 2 (9.1) | 3 (10.3) | |
| <i>Defined as Problem by Others</i> | | | | | | | | | | | | |
| Yes | 16 (88.9) | 26 (78.8) | 0.82 ¹ | 11 (84.6) | 31 (81.6) | 0.61 ¹ | 15 (93.8) | 27 (77.1) | 2.08 ¹ | 19 (86.4) | 23 (79.3) | 0.43 ¹ |
| No | 2 (11.1) | 7 (21.2) | | 2 (15.4) | 7 (18.4) | | 1 (6.2) | 8 (22.9) | | 3 (13.6) | 6 (20.7) | |

***p<0.001 **p<0.01 *p<0.05; All other results failed to reach significance. ¹df=1,50; ²df=2,49

Socio-Economic Characteristics of Binge vs. Non-Binge Drinkers

| | <i>New Definition</i> | | | <i>Definition I</i> | | | <i>Definition II</i> | | | <i>Definition III</i> | | |
|---|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|
| | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 |
| <i>Family History of Alcohol Misuse</i> | | | | | | | | | | | | |
| Yes | 7 (38.9) | 16 (48.5) | 0.43 ¹ | 6 (46.2) | 17 (44.7) | 0.01 ¹ | 6 (37.5) | 17 (48.6) | 0.54 ¹ | 11 (50.0) | 12 (41.4) | 0.38 ¹ |
| No | 11 (61.1) | 17 (51.5) | | 7 (53.8) | 21 (55.3) | | 10 (62.5) | 18 (51.4) | | 11 (50.0) | 17 (58.6) | |
| <i>In Stable Relationship</i> | | | | | | | | | | | | |
| Yes | 9 (50.0) | 11 (31.3) | 1.36 ¹ | 4 (30.8) | 16 (42.1) | 0.52 ¹ | 8 (50.0) | 12 (34.3) | 1.14 ¹ | 12 (54.5) | 8 (27.6) | 3.81 ¹ |
| No | 9 (50.0) | 22 (66.7) | | 9 (69.2) | 22 (57.9) | | 8 (50.0) | 23 (65.7) | | 10 (45.5) | 21 (72.4) | |
| <i>Social Circumstances</i> | | | | | | | | | | | | |
| Living with Others | 12 (66.7) | 21 (63.6) | 0.05 ¹ | 8 (61.5) | 25 (65.8) | 0.08 ¹ | 11 (68.8) | 22 (62.9) | 0.17 ¹ | 16 (72.7) | 17 (58.6) | 1.09 ¹ |
| Living Alone | 6 (33.3) | 12 (36.4) | | 5 (38.5) | 13 (34.2) | | 5 (31.2) | 13 (37.1) | | 6 (27.3) | 12 (41.4) | |
| <i>Children</i> | | | | | | | | | | | | |
| None | 5 (27.8) | 11 (33.3) | 0.28 ² | 5 (38.5) | 11 (28.9) | 0.45 ² | 4 (25.0) | 12 (34.3) | 0.45 ² | 6 (27.3) | 10 (34.5) | 1.44 ² |
| At Home/Grown up | 9 (50.0) | 14 (42.4) | | 5 (38.5) | 18 (47.4) | | 8 (50.0) | 15 (42.9) | | 12 (54.5) | 11 (37.9) | |
| In other care | 4 (22.2) | 8 (24.2) | | 3 (23.1) | 9 (23.7) | | 4 (25.0) | 8 (22.9) | | 4 (18.2) | 8 (27.6) | |
| <i>Hobbies/Leisure Activities</i> | | | | | | | | | | | | |
| Active | 10 (55.6) | 13 (39.4) | 1.23 ¹ | 6 (46.2) | 17 (44.7) | 0.08 ¹ | 10 (62.5) | 13 (37.1) | 2.85 ¹ | 10 (45.5) | 13 (44.8) | 0.00 ¹ |
| Inactive | 8 (44.4) | 20 (60.6) | | 7 (53.8) | 21 (55.3) | | 6 (37.5) | 22 (62.9) | | 12 (54.5) | 16 (55.2) | |
| <i>Employment</i> | | | | | | | | | | | | |
| Employed | 10 (55.6) | 13 (39.4) | 3.48 ² | 6 (46.2) | 17 (44.7) | 3.69 ² | 9 (56.3) | 14 (40.0) | 4.42 ² | 11 (50.0) | 12 (41.4) | 0.39 ² |
| Unemployed | 4 (22.2) | 16 (48.5) | | 3 (23.1) | 17 (44.7) | | 3 (18.8) | 17 (48.6) | | 8 (36.4) | 12 (41.4) | |
| Other | 4 (32.2) | 4 (12.1) | | 4 (30.8) | 4 (10.5) | | 4 (25.0) | 4 (11.4) | | 3 (13.6) | 5 (17.2) | |
| <i>Reasons for Drinking</i> | | | | | | | | | | | | |
| Positive | 4 (22.2) | 7 (21.2) | 0.01 ¹ | 1 (7.7) | 10 (26.3) | 1.99 ¹ | 4 (25.0) | 7 (20.0) | 0.16 ¹ | 4 (18.2) | 7 (24.1) | 0.26 ¹ |
| Negative | 14 (77.8) | 26 (78.8) | | 12 (92.3) | 28 (73.7) | | 12 (75.0) | 28 (80.0) | | 18 (81.8) | 22 (75.9) | |

***p<0.001 **p<0.01 *p<0.05; All other results failed to reach significance. ¹df=1,50; ²df=2,49

Socio-Economic Problems Related to Alcohol Use: A Comparison of Binge vs. Non-Binge Drinkers

| | <i>New Definition</i> | | | <i>Definition I</i> | | | <i>Definition II</i> | | | <i>Definition III</i> | | |
|---------------------------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|
| | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 |
| <i>Work Problems</i> | | | | | | | | | | | | |
| Problems | 10 (55.6) | 20 (60.6) | 0.12 ¹ | 10 (76.9) | 22 (57.9) | 1.50 ¹ | 9 (56.2) | 21 (60.0) | 0.06 ¹ | 12 (54.5) | 18 (62.1) | 0.29 ¹ |
| No Problems | 8 (44.4) | 13 (39.4) | | 3 (23.1) | 16 (42.1) | | 7 (43.8) | 14 (40.0) | | 10 (45.5) | 11 (37.9) | |
| <i>Current Legal Problems</i> | | | | | | | | | | | | |
| Problems | 3 (16.7) | 5 (15.2) | 0.02 ¹ | 2 (15.4) | 6 (15.8) | 0.00 ¹ | 3 (18.8) | 5 (14.3) | 0.17 ¹ | 4 (18.2) | 4 (13.8) | 0.18 ¹ |
| No Problems | 15 (83.3) | 28 (84.8) | | 11 (84.6) | 32 (84.2) | | 13 (81.2) | 30 (85.7) | | 18 (81.8) | 25 (86.2) | |
| <i>Legal History</i> | | | | | | | | | | | | |
| Problems | 7 (38.9) | 16 (48.5) | 0.43 ¹ | 6 (46.2) | 17 (44.7) | 0.01 ¹ | 6 (37.5) | 17 (48.6) | 0.54 ¹ | 8 (36.4) | 15 (51.7) | 1.19 ¹ |
| No Problems | 11 (61.1) | 17 (51.5) | | 7 (53.8) | 21 (55.3) | | 10 (62.5) | 18 (51.4) | | 14 (63.6) | 14 (48.3) | |
| <i>Relationship Problems</i> | | | | | | | | | | | | |
| Yes | 12 (66.7) | 22 (66.7) | 0.00 ¹ | 9 (69.2) | 25 (65.8) | 0.05 ¹ | 10 (62.5) | 24 (70.6) | 0.18 ¹ | 17 (77.3) | 17 (58.6) | 1.96 ¹ |
| No | 6 (30.0) | 11 (33.3) | | 4 (30.8) | 13 (34.2) | | 6 (37.5) | 11 (31.4) | | 5 (22.7) | 12 (41.4) | |
| <i>History of Violence</i> | | | | | | | | | | | | |
| Yes | 4 (22.2) | 13 (39.4) | 0.57 ¹ | 6 (46.2) | 17 (44.7) | 0.01 ¹ | 8 (50.0) | 15 (42.9) | 0.23 ¹ | 11 (50.0) | 12 (41.4) | 0.38 ¹ |
| No | 14 (77.8) | 20 (60.6) | | 7 (53.8) | 21 (55.3) | | 8 (50.0) | 20 (57.1) | | 11 (50.0) | 17 (58.6) | |
| <i>Smoking</i> | | | | | | | | | | | | |
| Smoker | 14 (77.8) | 21 (72.4) | 0.17 ¹ | 10 (76.9) | 25 (73.5) | 0.57 ¹ | 13 (81.2) | 22 (71.0) | 0.59 ¹ | 17 (77.3) | 18 (72.0) | 0.17 ¹ |
| Non-Smoker | 4 (20.2) | 8 (27.6) | | 3 (23.1) | 9 (26.5) | | 3 (18.8) | 9 (29.0) | | 5 (22.7) | 7 (28.0) | |
| <i>History of Other Substance Use</i> | | | | | | | | | | | | |
| Yes | 6 (35.3) | 11 (44.0) | 0.32 ¹ | 4 (30.8) | 13 (44.8) | 0.74 ¹ | 5 (33.3) | 12 (44.4) | 0.49 ¹ | 6 (33.3) | 11 (45.8) | 0.67 ¹ |
| No | 11 (64.7) | 14 (56.0) | | 9 (69.2) | 16 (55.2) | | 10 (66.7) | 15 (55.6) | | 12 (66.7) | 13 (54.2) | |

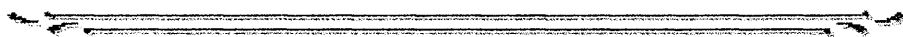
***p<0.001 **p<0.01 *p<0.05; All other results failed to reach significance. ¹df=1,50; ²df=2,49

Health Problems: A Comparison of Binge vs. Non-Binge Drinkers

| | <i>New Definition</i> | | | <i>Definition I</i> | | | <i>Definition II</i> | | | <i>Definition III</i> | | |
|----------------------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|------------------------|----------------------------|-------------------|
| | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 | <i>Binge n (%)</i> | <i>Non-Binge n (%)</i> | χ^2 |
| <i>Physical Health Problems</i> | 14 (77.8) | 20 (60.6) | 1.55 ¹ | 10 (76.9) | 24 (63.2) | 0.83 ¹ | 13 (81.2) | 21 (60.0) | 2.23 ¹ | 14 (63.6) | 20 (69.0) | 0.16 ¹ |
| <i>No Problems</i> | 4 (22.2) | 13 (39.4) | | 3 (23.1) | 14 (36.8) | | 3 (18.8) | 14 (40.0) | | 8 (36.4) | 9 (31.0) | |
| <i>Mental Health Problems</i> | 13 (72.2) | 25 (75.8) | 0.08 ¹ | 11 (84.6) | 27 (71.1) | 0.94 ¹ | 12 (75.0) | 26 (74.3) | 0.01 ¹ | 15 (68.2) | 23 (79.3) | 0.82 ¹ |
| <i>No Problems</i> | 5 (27.8) | 8 (24.2) | | 2 (15.4) | 11 (28.9) | | 4 (25.0) | 9 (25.7) | | 7 (31.8) | 6 (20.7) | |
| <i>Withdrawals Symptoms</i> | 8 (44.4) | 22 (66.7) | 2.38 ¹ | 6 (46.2) | 24 (63.2) | 1.16 ¹ | 7 (43.8) | 23 (65.7) | 2.19 ¹ | 10 (45.5) | 20 (69.0) | 2.86 ¹ |
| <i>No Symptoms</i> | 10 (55.6) | 11 (33.3) | | 7 (53.8) | 14 (36.8) | | 9 (56.2) | 12 (34.3) | | 12 (54.5) | 9 (31.0) | |
| <i>History of Fits</i> | | | | | | | | | | | | |
| <i>Yes</i> | 2 (11.1) | 3 (9.1) | 0.05 ¹ | 2 (15.4) | 3 (7.9) | 0.61 ¹ | 2 (12.5) | 3 (8.6) | 0.19 ¹ | 2 (9.1) | 3 (10.3) | 0.02 ¹ |
| <i>No</i> | 16 (88.9) | 30 (90.9) | | 11 (84.6) | 35 (92.1) | | 14 (87.5) | 32 (91.4) | | 20 (90.9) | 26 (89.7) | |
| <i>History of Hallucinations</i> | | | | | | | | | | | | |
| <i>Yes</i> | 5 (27.8) | 9 (27.3) | 0.00 ¹ | 4 (30.8) | 10 (26.3) | 0.20 ¹ | 4 (25.0) | 10 (28.6) | 0.07 ¹ | 6 (27.3) | 8 (27.6) | 0.00 ¹ |
| <i>No</i> | 13 (72.2) | 24 (72.7) | | 9 (69.2) | 24 (73.7) | | 12 (75.0) | 25 (71.4) | | 16 (72.7) | 21 (72.4) | |
| <i>Sleep Problems</i> | | | | | | | | | | | | |
| <i>Yes</i> | 11 (61.1) | 22 (66.7) | 0.16 ¹ | 7 (53.8) | 26 (68.4) | 0.90 ¹ | 10 (62.5) | 23 (65.7) | 0.05 ¹ | 13 (59.1) | 20 (69.0) | 0.53 ¹ |
| <i>No</i> | 7 (38.9) | 10 (33.3) | | 6 (46.2) | 12 (31.6) | | 6 (37.5) | 12 (34.3) | | 9 (40.9) | 9 (31.0) | |
| <i>Eating Problems</i> | | | | | | | | | | | | |
| <i>Yes</i> | 9 (50.0) | 18 (54.5) | 0.10 ¹ | 7 (53.8) | 20 (52.6) | 0.01 ¹ | 8 (50.0) | 19 (54.3) | 0.08 ¹ | 10 (45.5) | 17 (58.6) | 0.87 ¹ |
| <i>No</i> | 9 (50.0) | 15 (45.5) | | 6 (46.2) | 18 (47.4) | | 8 (50.0) | 16 (45.7) | | 12 (54.5) | 12 (41.4) | |
| <i>Current Mood</i> | | | | | | | | | | | | |
| <i>Low/Irritable</i> | 14 (77.8) | 26 (78.8) | 0.01 ¹ | 11 (84.6) | 29 (76.3) | 0.39 ¹ | 12 (75.0) | 28 (80.0) | 0.16 ¹ | 17 (77.3) | 23 (79.3) | 0.03 ¹ |
| <i>Fine</i> | 4 (22.2) | 7 (21.2) | | 2 (15.4) | 9 (23.7) | | 4 (25.0) | 7 (20.0) | | 5 (22.7) | 6 (20.7) | |

***p<0.001 **p<0.01 *p<0.05; All other results failed to reach significance. ¹df=1,50; ²df=2,49

Appendix E



Community Alcohol Team
Drury House
50 Leicester Road
Narborough
Leicester LE9 5DF

Telephone: 0116 225 6350
Fax: 0116 225 6370

PATIENT INFORMATION LEAFLET

A Comparison of Binge Drinkers, Problem Drinkers and Non-Problem Drinkers : Psychological Factors and Alcohol-Related Beliefs

Principle Investigator : Sarah Heke

Please contact Sarah Heke at Drury House, Tel : 0116 2256350 for more information,
or if you have any queries in the future.

What is the purpose of the study?

You are invited to participate in the above study, which aims to identify how binge drinkers differ from other drinkers in terms of psychological factors and alcohol-related beliefs.

Binge drinking has been recognised as a specific pattern of drinking for over 30 years. However, little is known about the underlying causes and effects of this drinking pattern. We want to know more about why people drink in the way that they do, so that we can better meet their needs for treatment.

What is involved if I take part in the study?

The study will be part of the routine initial assessment interview. The only additional requirement will be 3 paper and pencil questionnaires, which will take approximately 15 minutes of your time. Should you decline to participate in the study your initial assessment will continue according to normal practice. You will not be required to provide any further information for the study following this initial assessment. If you would like to know the outcome of the research, a summary report will be available from the above address in September 2000.

Will information obtained in the study be confidential?

You will not be personally identified in any documents relating to the study. All information obtained will be treated with a high degree of confidentiality under the data protection act. The study forms part of a Doctorate of Clinical Psychology qualification undertaken by Sarah Heke, Principal Investigator, at the University of Leicester.

What if I am harmed by the study?

The study in no way sets out to cause any deliberate harm, however, medical research is covered for mishaps in the same way as for patients undergoing treatment in the NHS i.e. compensation is only available if negligence occurs. Because this is a questionnaire study this is highly unlikely to occur.

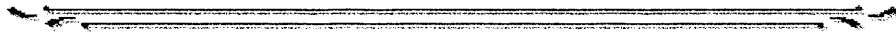
What happens if I do not wish to participate in this study or wish to withdraw from the study?

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

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

Sarah Heke, Principal Investigator and
Dr. Marilyn Christie, Supervising Investigator.

Appendix F



Community Alcohol Team
Drury House
50 Leicester Road
Narborough
Leicester LE9 5DF

Telephone: 0116 225 6350
Fax: 0116 225 6370

PATIENT CONSENT FORM

A Comparison of Binge Drinkers, Problem Drinkers and Non-Problem Drinkers : Psychological Factors and Alcohol-Related Beliefs

Principle Investigator : Sarah Heke

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

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

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

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

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

I have read the Patient Information Leaflet on the above study and have had the opportunity to discuss the details with Sarah Heke and ask any questions. The nature and the purpose of the tests to be undertaken have been explained to me and I understand what will be required if I take part in the study.

Signature of Patient

Date

(Name in BLOCK LETTERS)

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

Signature of Investigator

Date

(Name in BLOCK LETTERS)