

# The Social and Psychological Antecedents of Binge Drinking in a Student Population

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## **Abstract**

Binge drinking has been identified as common place among student populations and due to its association with a number of negative consequences is generally considered to be problematic. This thesis adopts a mixed methods approach to the study of the binge drinking behaviour of undergraduate students at an English university, employing focus groups (N=6 groups), cross-sectional and prospective questionnaires (N= 117 and N= 300 respectively) to explore the antecedents of students' alcohol use and binge drinking. The findings of the qualitative work demonstrate that students consider binge drinking to be drinking to get drunk and identify student drinking behaviour as highly social. A number of key alcohol related expectancies that may be perpetuating high alcohol use in this population also emerge from the data. These are interpreted as indicating that the application of social cognitive models to the study of these behaviours is appropriate. The quantitative studies support the application of the TPB to the prediction of student binge drinking behaviour showing that it accounts for between 51 and 63.3% of the variance in students' intentions to binge drink and 34.7% of the variance in students' self-reported binge drinking behaviour. However a number of expansions the TPB are shown to be effective with expanded models accounting for 69.6% of the variance in intentions to binge drink and 51.5% of the variance in self-reported binge drinking behaviour. Implications for further research, including replications of the suggested expanded model are discussed and potential applications to future intervention and prevention works are presented.

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## **Abbreviations**

U.S. – United States of America

U.K. – United Kingdom

TPB – Theory of Planned Behaviour

TRA – Theory of Reasoned Action

HBM – Health Belief Model

SCT – Social Cognitive Theory

TTM – Transtheoretical Model

TIB – Theory of Interpersonal Behaviour

IIT – Information Integration Theory

PBC – Perceived Behavioural Control

PBCSE – Perceived Behavioural Control and Self-efficacy

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# **1 Introduction**

## **1.1 Student Drinking**

Large numbers of students fall into the sixteen to twenty four year age group which has been shown to be a period of both high alcohol consumption and binge drinking (Office for National Statistics 2013). Several large scale U.S. studies have specifically investigated the consumption of large volumes of alcohol by college students, with some dating back as far as 1953 to the work of Straus and Bacon. What this student-focused research has shown is that college and university drinking appears to be characterised by the consumption of large amounts of alcohol in a short period of time. Additionally it has emerged that students drink more than their non-student peers and young people binge drink more frequently than do older adults (Fuller, Jotangia & Farrell, 2009; Newburn & Shiner, 2001; Substance Abuse Mental Health Services Administration (SAMHSA) 2006)

Data from the U.K. has shown students are likely to engage in binge drinking (Norman, Bennett & Lewis, 1998; Webb, Ashton, Kelly & Kamali, 1996) Marks Woolfson and Maguire (2010) report that in their sample of 62 undergraduate students 82.3% reported binge drinking during the four week study period and past binge drinking behaviour equated to approximately one binge drinking session a week.

## **1.2 Negative Consequences**

Alcohol use and binge drinking both have positive consequences that motivate these behaviours (Kuntsche, Knibbe, Gmel, & Engels, 2005; Lee et al., 2010; Park, 2004). However, it has been estimated that

alcohol use costs the National Health Service (NHS) in England approximately £3.5 billion a year with 8% of all hospital admissions being alcohol related. Further to this almost 15,500 deaths in England were alcohol related in 2010 making excessive alcohol use a leading cause of preventable premature mortality (Lifestyle Statistics, Health and Social Care Information Centre, 2013; Office for National Statistics, 2013). Zimmerman and Sieverding (2010) state that binge drinking is one of the most problematic methods of alcohol consumption. Multiple governments have set targets to reduce the number of people engaging in binge drinking behaviour (Scottish Government 2008; Prime Minister's Strategy Unit, 2004; US Department of Health and Human Services, 2010) and the importance of tackling binge drinking and its outcomes has also been recognised on an international level with the World Health Organisation (WHO) devoting a conference to the topic (WHO, 2001).

Populations of young people and students have been shown to be at high risk of experiencing the negative consequences associated with binge drinking (Jernigan, 2001). Specifically, students who binge drink have been found to be at even higher risk being more likely to experience alcohol related harm than their non-binge drinking counterparts (Wechsler, Dowdall, Maenner, Gledhill-Hoyt, & Lee, 1998; Wechsler, Lee, Kuo & Lee, 2000). With a linear relationship between the frequency of binge drinking and the experience of negative outcomes it is also true that more frequent binge drinkers are at higher risk (Wechsler, et al., 2000). Some findings even suggest that a large number of students would meet the criteria for alcohol abuse (Knight, et al., 2002). Indeed Wechsler and Nelson (2001) state that the 5/4 drink measure of binge drinking was designed to measure "the high-risk

aspect of college drinking, namely heavy consumption in a short several hours vs. week time frame” (Wechsler & Nelson, 2001, p. 288).

### **1.3 Understanding and Changing Behaviour**

Research into health behaviours has frequently considered the factors that underlie health behaviours, from tracking socio demographic risk factors (Office for National Statistics 2013) to measuring attitudes and beliefs of individuals who perform or don't perform health behaviours (Conner & Norman, 2005; Godin & Kok, 1996). The aim of such works is that by understanding how and why a behaviour occurs steps can be taken to reduce the numbers of people engaging in these behaviours.

To achieve a fuller understanding of these issues, theoretical models detailing the antecedents of behaviour can be applied to explore how these risk factors interact and contribute to the production of health behaviours. The findings of such research can be used to further guide intervention and prevention efforts.

The fields of psychology, sociology and health have devoted much time and resources to the consideration of factors which underlie binge drinking behaviour and multiple intervention and prevention efforts have been designed, trialled and tested. Further to this a large portion of this literature has specifically considered the drinking behaviour of adolescents and young people (Marks Woolfson & Maguire, 2010) with a substantial amount focusing on the drinking behaviour of student populations (Webb, et al., 1996; Norman, Bennett & Lewis, 1998, Wechsler et al. 2000). However many of the intervention and prevention efforts have had limited if any effectiveness (Jernigan, 2001).

In the UK in addition to legal and licensing restrictions a number of intervention and prevention efforts have targeted binge drinking. Changes to punishment for selling alcohol to individuals under the age of 18 and policies such as “Challenge 25” appear to have been effective with proportions of school pupils who report drinking in bars having fallen (from 13% in 1996 to 7% in 2008) (Fuller, et al., 2009) however higher numbers of underage individuals now report drinking in other environments. Interventions such as the ‘Unit 14 21’ promotion in Leeds and the national ‘Know Your Limits’ campaign appear to have had similarly mixed effectiveness. Although adult populations now have a relatively good knowledge of risks associated with alcohol consumption (e.g. 96% of respondents to the 2008 Omnibus survey were aware of the influence of alcohol on liver disease and accident risk), awareness and understanding of recommended sensible drinking limits remained a weak point. However, only 20% of those sampled by Health Survey for England (2007) (Craig & Shelton, 2008) knew the recommendations for safe alcohol intake. These findings suggest that government employed interventions have had some success in educating drinkers but that this has not led to a change in their behaviour. This is supported by statistics which have tracked drinking behaviours over time; while these have shown some variation among sub- groups of drinkers overall levels of binge drinking have remained relatively stable since the late 1990s (Office for National Statistics, 2013) (see Figure 1). Further to this a review of the literature concerning alcohol consumption in the UK (Smith & Foxcroft, 2009) found that levels of binge drinking (defined as consuming twice the recommended safe daily drinking limit) in Great Britain showed little change between 1998 and 2006.

The limited effectiveness of interventions to reduce binge drinking is perhaps at its clearest in university and college populations in the US. Despite increased attention on college drinking and the fact that most colleges in the US now have alcohol education or prevention programmes data indicate that rates of binge drinking have remained stable with little or no change in the rates of high risk and binge drinking behaviours (Hingon, Zha & Weitzman, 2009; Johnston, O'Malley & Bachman, 1999; Office for National Statistics, 2013; Perkins, 2002; Wechsler & Isaac, 1992; Wechsler, et al., 2002).

The continued prevalence of binge drinking indicates the need for further research and new approaches. This work will overcome some of the key issues in the existing research into student binge drinking by:

- Adopting a more holistic approach through the conduction of both qualitative and quantitative research
- Balancing the U.S. centric literature base by conducting research with students in England.

This approach will produce research which can provide new insight into the area, and generate knowledge which can be used to inform the design and targeting of future intervention and prevention works.

## **1.4 Binge Drinking**

Health behaviour is a broad category of behaviour which includes any behaviour that has an immediate or long term effect on an individual's health. Health behaviours are typically partially or wholly under individual control, and can be sub divided into health enhancing, health protective, health harming and sick role behaviours. The study of health

behaviours is justified by the fact that many of the leading causes of death in developed countries are brought on by behaviours which are modifiable. Identifying the social psychological and other factors that underlie these health behaviours can help inform the development of effective interventions directed at changing behaviours in order to contribute to reductions in associated morbidity and mortality. 'Binge drinking', often referred to as 'single occasion high alcohol consumption', falls into the subcategory of health harming behaviours. General population surveys demonstrate that binge drinking is prevalent in England, and Great Britain (GB) more widely. Figures 1 and 2 display amalgamated data from the General Lifestyle Survey (GLS) (formerly the General Household Survey), the Health Survey for England (HSE) and The Opinions and Lifestyle Survey (OPN). Figure 1.1 which shows that in 2012 over 19% of men and 11% of women in GB reported binge drinking at least once in the week preceding data collection (Office for National Statistics 2013). This represents a slight decrease from previous years with rates of binge drinking peaking in 2007 (24% of men, 15% of women).

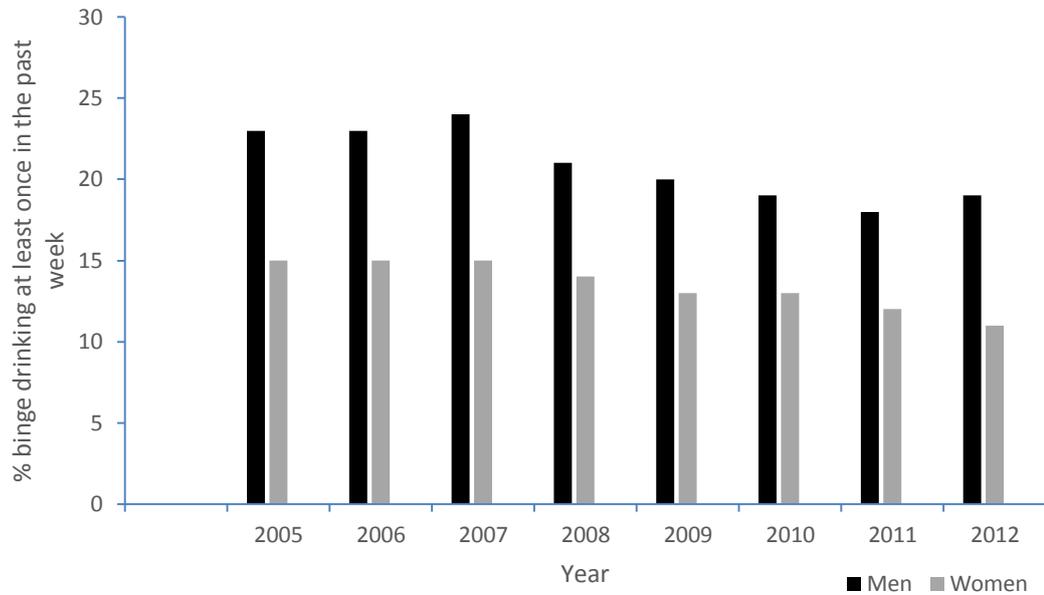


Figure 1.1 Percentage of OPN, GLF and GHS respondents binge drinking in the past week 2005-2012

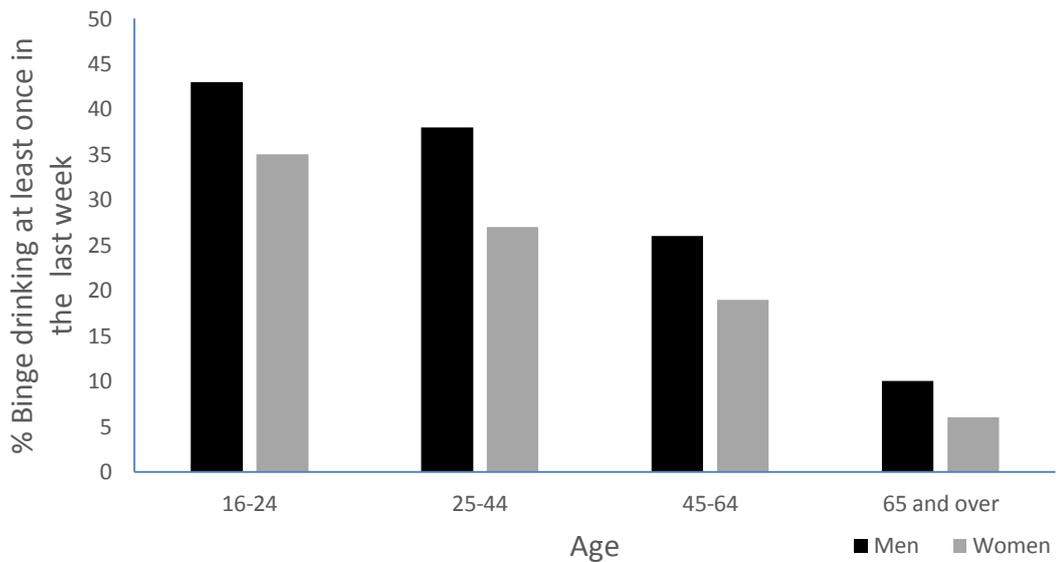


Figure 1.2. Percentage of OPN, GLF and GHS respondents binge drinking in the past week in 2012

Figure 1.2 demonstrates that the rates of binge drinking displayed in Figure 1 are not evenly distributed across age groups with binge drinking peaks between the ages of 16-24 years. In addition to age differences in binge drinking findings from the United States of America (U.S.) have shown that the rates of high risk drinking are greater among

college students than their non-college attending peers (Hingson, Zha & Weitzman, 2009; O'Malley, & Johnston, 2002). This is supported by European data showing that first year students consume an average of almost 19 units of alcohol a week (Bewick et al., 2008). United Kingdom (U.K.) based work has shown that 56% of students from one UK university reported binge drinking at least once in the week preceding data collection (Dodd, Al-Nakeeb, Nevill & Forshaw, 2010). The fact that binge drinking is more prevalent among students than among the general population of young adults suggests that there are factors about students and the student lifestyle which influence their drinking behaviour therefore this research focuses on binge drinking among university students.

### **1.5 Research Questions**

This thesis will test multiple hypotheses through three separate empirical studies in order to address five key research questions:

How do undergraduate students drink?

How do students understand binge drinking?

What are the antecedents of undergraduate student drinking and specifically undergraduate student binge drinking behaviour?

Can the TPB be used to effectively predict binge drinking behaviour in a population of undergraduate students?

Can an expanded TPB improve the prediction of student binge drinking behaviour?

## **1.6 Guide to the Thesis**

The thesis begins with a literature review (Chapter 2) which introduces alcohol research (2.1), considers definitions of binge drinking (2.2) and sets out consequences (2.3) and correlates (2.4) of alcohol use with a focus on student drinking and binge drinking specifically where possible. It continues by presenting an argument for the utilisation of theoretical models concerning alcohol use and the prediction of behaviour, discussing a number of existing models (2.5) and explaining why the TPB was adopted as the theoretical basis for the quantitative research conducted.

The literature review concludes with an in depth discussion of TPB research (2.6). Chapter 3 presents an explanation for the adoption of a mixed methods approach to the study of student binge drinking behaviour (3.2) before providing details of the methods utilised in the qualitative (3.3) and quantitative research (3.4) conducted. This is followed by three chapters which present the empirical work conducted. Chapter 4 details the qualitative work conducted which employed a focus group methodology to collect data from students and utilised a combination of thematic and content analysis to analyse the focus group transcripts. Chapter 5 presents the cross-sectional research used to assess the validity of the TPB for the prediction of students' intentions to binge drink and takes initial steps towards expanding the TPB. Chapter 6 presents the findings of the prospective research conducted to explore the validity of the TPB for the prediction of both students' intentions to binge drink and their self-reported binge drinking behaviour and goes on to test the expanded TPB models. The thesis concludes with a summary of the key findings from the three

studies (7.1) and a discussion of the key limitations of this work (7.2), the implications for future research (7.3) and potential applications to intervention and prevention efforts (7.4) being presented in chapter 7.

## **2 Literature Review**

### **2.1 Introduction to Alcohol Research**

#### **2.1.1 What is Alcohol?**

In chemistry alcohol refers to any organic compound in which a carbon atom has one or more hydroxyl groups bonded to it; in popular language alcohol refers to drinks which contain ethanol (also known as ethyl-alcohol). Alcoholic drinks are produced through the fermentation of sugars from fruits, vegetables or cereals and have been produced and consumed for centuries (Holt, 2006). Today a wide variety of alcoholic drinks including wines, lagers, ales and spirits are produced and retailed across the world (Smith, Solgaard, & Beckmann, 1999).

#### **2.1.2 How Alcohol Effects the Body**

Alcohol is a psycho-active substance. When consumed it travels through the oesophagus into the rest of the digestive system; a small amount is then lost through breath, sweat and urine, a further portion is broken down by the enzyme alcohol dehydrogenase in the stomach, and the remainder is absorbed into the blood stream. From the blood stream alcohol spreads quickly throughout the body until it is metabolised by enzymes in the liver and other cells throughout the body. This process breaks down and removes alcohol from the body at a rate of approximately one unit per hour. Nothing can speed up this process so if alcohol is consumed at a faster rate than one unit per hour blood alcohol concentration (BAC) will rise. The higher the BAC the greater the effects of alcohol and the more of the body is affected.

Alcohol exerts most of its effects in the brain. Here alcohol predominantly acts as an inhibitor, increasing the effects of gamma-aminobutyric acid (GABA) an inhibitory neurotransmitter while also inhibiting the excitatory neurotransmitter glutamate. The higher the BAC the more brain areas are influenced. Initial effects tend to be in the cerebral cortex where alcohol causes a reduction in behavioural inhibitions and reduces responses to pain and touch. When alcohol reaches the limbic system it serves to reduce the ability to regulate emotions which can serve to magnify existing emotions and emotional responses. In the cerebellum alcohol reduces motor control. At high BACs alcohol will also reach the hypothalamus and pituitary glands stopping the production of anti-diuretic hormone which regulates kidney function. This means that the kidneys will no longer act to conserve water and leads to dehydration. Finally alcohol can affect the medulla which controls non-voluntary actions such as heart rate and breathing. Inhibition in this area leads to sleepiness and can eventually cause loss of consciousness and even death (Rogers, 2014; Vonghia, Leggio, Ferrulli, Bertini, Gasbarrini, & Addolorato, 2008). In addition to all of these inhibitory effects alcohol also indirectly acts as a stimulant. By stimulating the GABA and endorphin systems both of which release dopamine, this increases the levels of dopamine in the reward pathway of the brain (Boileau et al, 2003) creating feelings of pleasure.

### **2.1.3 Factors influencing the effects of alcohol**

Overall the effect of alcohol on the body is determined by an individual's BAC however there are a number of factors which contribute to determining the BAC of an individual consuming alcohol and thus influence the effects of alcohol on the body.

BAC is directly influenced by the amount of alcohol consumed and the period of time over which it is consumed. The higher the volume of alcohol consumed and the more quickly it is consumed the higher the BAC will be and the greater the effects of alcohol on the body. However consuming alcohol with or shortly after food or consuming drinks mixed with fruit juice or water can slow the rate at which the alcohol is absorbed into the blood and thus decreases the effects on the body.

The size of the consumer is also important as the more body tissue available to absorb alcohol the lesser the effects will be, therefore larger individuals are less affected by alcohol than smaller individuals meaning that in general young people and women are more sensitive to the effects of alcohol (Thomasson, 1995). Additional gender differences in sensitivity to alcohol also occur as a result of a number of biological differences between male and female bodies. Females' bodies tend to have a higher percentage of fatty tissue in comparison to males' and these fatty tissues contain less water than muscle tissues meaning that females bodies contained less water through which alcohol can be dispersed and thus they reach higher BACs more quickly than do males (Marshall, Kingstone, Boss & Morgan, 1983; Goist & Sutker, 1985). Females also produce less alcohol-dehydrogenase, one of the enzymes which breaks down alcohol in the stomach, this results in a higher percentage of the alcohol consumed reaching the blood stream (Frezza, di Padova, Pozzato, Terpin, Baraona, & Lieber, 1990; Pozzato *et al.*, 1995).

Genetic factors associated with specific ethnic backgrounds mean that some individuals are more susceptible to the effects of alcohol (Fenna, Mix, Schaefer, & Gilbert, 1971). Some people of East Asian and American Indian descent produce a form of acetyl dehydrogenase which is less

effective at metabolising acetaldehyde. Many people in these ethnic groups also produce a form of alcohol dehydrogenase that is more effective at converting alcohol into acetaldehyde. In combination these genetic differences result in much higher levels of the poisonous acetaldehyde in the body. This causes symptoms such as flushed face, headache, nausea, vomiting and heart palpitations (Goedde, Harada, & Agarwal, 1979) which can make the consumption of even a small amount of alcohol an unpleasant experience.

#### **2.1.4 Section Summary; Introduction to Alcohol Research**

This section has introduced alcohol as a substance and detailed how it exerts its effects on the body. While this is not the primary focus of this thesis many of the consequences of alcohol use which can contribute to the initiation and perpetuation of alcohol use stem either directly or indirectly from the chemical and biological effects of alcohol. Further to this they can explain why some populations and sub groups may be more likely to use alcohol or to drink to extremes than others (Goedde, Harada, & Agarwal, 1979; Pozzato *et al.*, 1995). Having considered what alcohol is and how it works the literature review will now consider patterns of alcohol use (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001), focusing on binge drinking before moving on to consider consequences and correlates of binge drinking (e.g. Wechsler & McFadden, 1979) and theoretical models (e.g. Ajzen, 1985; Ajzen, 1987; Bandura, 1986; Triandis, 1970) which can aid our understanding of how social-psychological factors combine to result in binge drinking behaviour.

#### **2.2 Patterns of Alcohol Use**

Alcohol use can be viewed as a continuum (Saha, Chou, & Grant, 2006). While any one individual may drink differently in different social setting or

on different occasions it is useful to have an understanding of patterns of alcohol use because different patterns tend to be associated with chances of experiencing negative consequences of alcohol use (Park, 2004; World Health Organization, 2004). At one end of the alcohol use continuum is abstinence, the complete avoidance of alcohol use beyond this alcohol fall: 'safe' drinking, where an individual consumes only a small amount of alcohol on any given drinking occasion; Hazardous drinking, where drinking increases the risk of harmful consequences for the user or others; Harmful drinking, where alcohol use results in consequences to physical and mental health; and Alcohol dependence, where an individual becomes physically dependent on alcohol and continues to drink despite experiencing negative consequences (Babor et al., 2001).

Somewhere in the range of hazardous and harmful drinking falls a pattern of alcohol use known as binge drinking. Binge Drinking can be broadly thought of as the consumption of a high volume of alcohol over a short period of time with drinking occasions separated by periods of abstinence from alcohol. Although binge drinking is often portrayed as a recent phenomenon, historical perspectives on alcohol consumption show that heavy drinking to the point of intoxication and beyond has been common in the England and across the world for hundreds of years (Barr, 1995). Despite the long standing history of alcohol use and drinking to extremes there is little consensus as to the definition of different patterns of alcohol use. This is especially so in the area of binge drinking where the definition varies dependent on how, why and by whom the term is being used (Kolvin, 2005) with medical definitions considering binge drinking to occur over a period of two days or more, research and policy definitions focusing on number of drinks consumed on a single occasion and lay

definitions being more concerned with the intentions (i.e. to get drunk) underlying the drinking behaviour. Indeed the use of the term binge can appear to be quite ambivalent even just within the research literature (International Centre for Alcohol Policies (ICAP), 1997).

A number of issues have occurred because of the presence of multiple definitions. Firstly as alcohol use is an area of multidisciplinary interest cross-disciplinary communication is also important and as Kolvin (2005) points out the range of definitions that are utilised both between and within different disciplines means that when discussing 'binge drinking' different stakeholders may be talking at cross purposes, about qualitatively different behaviours which is likely to reduce rather than increase understanding, hinder the development of intervention and prevention efforts and limit their effectiveness or applicability. Similar miscommunications can occur between professionals or stakeholders and the general public. Binge drinking is not the first drinking behaviour to be surrounded by contradictory research findings and debate, the conflict in this area continues an historical pattern of drinkers and the general public being exposed to mixed messages and discordant communications from health professionals, philosophers, government and religious powers. This may have contributed to limiting the effectiveness of efforts to control or influence drinking behaviour through further promotion and information. In order to overcome these issues, consensus must be reached with regards to what characterises 'safe' drinking and what defines the different forms of problematic drinking so that messages to the drinking population are no longer confused. Further to this the availability of multiple definitions of binge drinking means that both researchers and drinkers can select the definition that they utilise. In research this makes

cross study and cross national comparisons difficult (see Kuntshe, Rehm & Gmel, 2004) particularly as multiple definitions have been employed even within individual organizations. For example despite the fact that the WHO lexicon refers to binge drinking as an extended period of alcohol consumption, the Global Status Report on Alcohol (2004) referred to risky single occasion drinking as being binge drinking. For the drinking population this means that drinkers will be able to select and apply definitions which do not classify their own behaviour as binge drinking thus giving the impression that their drinking behaviour is safe when this may not be the case.

These issues highlight the fact that the existence of multiple definitions of binge drinking behaviour is not just an inconvenience but has a genuine negative impact on binge drinking research. Therefore consideration will now be given to the debate surrounding the term binge drinking and how it should be defined.

### **2.2.1 Defining Binge Drinking Behaviour**

From 1990 onwards papers began to emerge which argued for or against particular definitions (e.g. Wechsler, Dowdall, Davenport, & Rimm, 1995; Wechsler, & Kuo, 2000; Wechsler, & Nelson, 2001) with the aim of moving towards a shared understanding and more universal definition of binge drinking. A small number of studies have also begun to consider lay definitions of binge drinking and compare and contrast them with 'official' and academic definitions. This should aid the development of a shared understanding of the term binge drinking and so lead to the design of effective health communications (Kolvin 2005; Coleman & Cater, 2007; McMahon, McAlaney & Edgar, 2007). However of the few research projects which have considered the lay or popular definitions of binge

drinking most have had methodological flaws which have restricted the possible findings meaning that further work in this area is required.

The following sections will present a number of the commonly used definitions and measures of binge drinking before moving on to provide a more in depth evaluation of the 5/4 measure which will be utilised in the empirical work conducted.

#### ***2.2.1.1 'Classic' definitions***

The existing definitions of binge drinking can be seen to fall into two strands both of which consider binge drinking to be the consumption of a high volume of alcohol over a short period of time but they differ on what constitutes a short period of time. What are often referred to as 'classic' definitions refer to a drinking binge as being an extended period, often two days or more, of alcohol consumption (Tomsovic, 1974) while the 'contemporary' definitions refer to single occasions of high alcohol consumption (Gmel, Rehm, & Kuntsche, 2003).

The use of the term binge drinking with the classic meaning draws on clinical and medical definitions of alcohol abuse and dependence (Jellinek, 1960) and derives from clinical descriptions of alcoholics where binge alcoholism is epitomized by periods of heavy drinking followed by abstinence (Tomsovic, 1974). The use of this style of definition is supported by the fact that two large and influential organisations employ definitions which fall within this first strand of meaning. The World Health Organisation (WHO) lexicon (WHO, 1994) defines a drinking binge as a pattern of heavy drinking that occurs over an extended period set aside for that purpose. The Journal of Studies on Alcohol (now The Journal of Studies on Alcohol and Drugs) the longest standing U.S. based alcohol journal employs a similar definition, defining a drinking binge as an

extended period of time (typically at least two days) during which a person repeatedly becomes intoxicated. Authors writing about shorter term and single occasion high alcohol consumption have to use alternative terms such as heavy episodic drinking in order for their works to be published in the journal.

However Wechsler and Nelson (2001) who criticised the 'classic' definition; point out that other examples of 'binge' behaviour such as binge eating do not by definition have to cover an extended period. Indeed an eating binge refers to a high intake of calories in a short period of time therefore it would be inconsistent if when used to refer to the consumption of alcohol a binge must occur over an extended period of time. This thesis accepts Wechsler and Nelson's (2001) argument and follows precedent in the research and policy literature (e.g. Cooke, Sniehotta & Schuz, 2007; Gmel, Rehm & Kuntsche 2003; Health Education Authority, 1996) and therefore employs the term binge drinking, rather than alternative terms such as 'risky drinking' or 'heavy episodic drinking', to describe the consumption of high volumes of alcohol on a single occasion.

#### ***2.2.1.2 'Contemporary' definitions***

'Contemporary' definitions of binge drinking refer to a short term period of high alcohol consumption, usually a single night or single occasion of drinking, which leads to intoxication (Gmel, Rehm & Kuntsche 2003). Although a number of alternative terms such as heavy episodic drinking, risky single occasion drinking and heavy sessional drinking are also used to portray this same behaviour (Herring, Berridge, & Thom, 2008), it is the term binge drinking with this meaning that is now common in popular language, political work and the research literature. Within this strand the

exact definitions employed show further variation. This section will focus on the range of definitions available within this strand of meaning.

### ***2.2.1.3 Official Definitions***

A number of definitions used by government and policy makers fall within this category and take a 'cut off' approach to the definition of binge drinking, defining and measuring it as the consumption of X number of drinks, or X number of units, or more in a specified time period. These definitions are important and influential because they are the definitions used in the collection of statistics and figures which in turn form the basis for policy and targets. For example the UK government defines binge drinking as the consumption of 8 or more alcoholic units in one session for males and 6 or more alcoholic units for females (Health Education Authority, 1996) and this is the definition used by the Office for National Statistics and the Health Survey for England (see The Health and Social Care Information Centre, 2013; Office for National Statistics, 2013).

Although influential these definitions face a number of criticisms. Firstly it is unclear how these limits and definitions were selected and one member of the committee who produced the report on which the safe drinking guidelines were based told The Times newspaper that there was no evidence base for the guidelines (The Times, 2007). Secondly research has more commonly used a definition derived from the recommended weekly limits to alcohol consumption which equates to the consumption of 10 or more units of alcohol on each occasion for men and 7 or more units of alcohol on each occasion for women which equates to half the recommended weekly limits of alcoholic units (e.g. Cooke, Sniehotta & Schuz, 2007; Jefferis Power & Manor, 2005; Moore, Smith, Catford, 1994).

More generally, utilising unit bound definitions can be problematic because few people know how many units of alcohol are contained in the beverages they consume (Office for National Statistics 2009). In order to overcome this difficulty but still utilise a cut off definition binge drinking could be defined in terms of number of drinks. Such definitions have already been used in research for example Webb, Ashton, Kelly and Kamali (1996) defined binge drinking as the consumption of 11 or more drinks for men and 7 or more drinks for women. While such a definition should be simple for individuals to apply to their own drinking, making it particularly useful for research employing self-report measures, it relies on one drink reflecting one unit of alcohol and for many beverage types and servings this is not the case (Gill, 2002).

While this style of 'cut off' definition is popular with both policy makers and researchers, multiple cut off points have been, and are still being, employed which makes it difficult if not impossible to compare findings and to track changes in drinking behaviour across time and distance problematic. Specifically the definition of binge drinking as the consumption of 11 or more drinks for men and 7 or more drinks for women has been criticised as employing too high a boundary for binge drinking because it is well above the recommended safe daily drinking limits and the consumption of just 5 or more drinks in a single session is enough to put the drinker at increased risk of experiencing negative alcohol consequences (e.g. Weschler, Davenport, Dowdall et al., 1994; Wechsler, Dowdall, Davenport, & Rimm, 1995)

#### ***2.2.1.4 The 5/4 Measure***

The popularity of the contemporary meaning of binge drinking can be seen to have been established by Wechsler and colleagues in the 1990s

through the reporting of results of the College Alcohol Study, a national survey which defined binge drinking as the consumption of enough alcohol for the drinker to be at increased risk of experiencing alcohol related problems and quantified this as being the consumption of at least 5 alcoholic drinks in one session for men and 4 alcoholic drinks in a single session for women (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994).

Wechsler has cited evidence in support of this definition, demonstrating that those consuming 5/4 drinks or more are at greater risk of experiencing alcohol related problems including involvement in vandalism, crime, violence and drunk driving, suffering injury during or after drinking and negative health, social or economic effects (Wechsler, 2000) and that it accounts for gender differences in the processing of alcohol and therefore should equate to similar BAC irrespective of gender (Wechsler, Dowdall, Davenport, & Rimm, 1995). Finally while the contemporary meaning of binge drinking has been criticized for not being strongly rooted in the medical understanding of alcohol misuse a number of Wechsler's papers appeared in the Journal of the American Medical Association indicating some level of acceptance for the use of this definition (e.g. Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994).

It has been suggested that because the cut off point for this measure is low enough that it included 44% of students on college campuses (Wechsler, Davenport, Dowdall, Moeykens, Castillo, 1994; Wechsler, Lee, Kuo, Lee, 2000) it 'problematizes' the drinking behaviour of a high proportion of students which could validate the heavy drinking of certain students by making problematic drinking appear normative. However, employing a definition of binge drinking which classifies only a small

percentage of drinkers as having problematic alcohol consumption patterns will not eradicate binge drinking or the problems associated with it. Additionally, it may serve to divert research and policy attention away from the area of binge-drinking by way of undermining its prevalence and perceived importance. Furthermore the 5/4 measure has been shown to be significantly associated with increased risk of alcohol related social consequences (Calahan et al., 1969; Johnston et al., 1996; Midank et al., 1996; Wechsler & Austin, 1998; Wechsler, Lee, Kuo, Lee, 2000; Wright, 1999) therefore the behaviour it is capturing can objectively be viewed as being problematic. Finally if this pattern of drinking is common place on university campuses then it is likely that it is already to be perceived as normative by students regardless of what research findings show.

Despite Wechsler's strong defense of this definition it can be further criticised. Where a large amount of drinking occurs outside of licensed premises and servings of alcohol are not controlled it can lead to underestimates of alcohol consumption (Gill, 2002) and although the move from a five drink measure to a 5/4 drink measure has gone some way towards accounting for gender differences in alcohol metabolism this definition is not able to account for individual and situational variation in susceptibility to the effects of alcohol (Perkins, DeJong, & Linkenbach, 2001) that are the leading argument for the adoption of a more accurate measure of binge drinking based on BAC (e.g. Lange & Voas, 2001) . These are discussed in more depth in the section on 'other alternatives' Finally while the 5/4 measure has received support from a number of researchers and has become popular, particularly in the literature from the U.S. it has been shown that one occasion of drinking more than 5/4 drinks does not greatly increase the risk of experiencing negative consequences of alcohol use but a pattern of regular bingeing will (Presely & Pimentel, 2006)

therefore an effective definition of binge drinking should consider not just the quantity of alcohol consumed but also the frequency with which an individual binge drinks (Duncan, 1977; Presley & Pimentel, 2006).

Therefore by utilizing a measure which requires only a single occasion of bingeing in the past two weeks in order for an individual to be classified as a binge drinker researchers risk over estimating the prevalence of binge drinking. This leads to the consideration of definitions which include a temporal component.

### ***2.2.1.5 Temporal Components of Definitions***

If the premise of the National Institute on Alcohol Abuse and Alcoholism (NIAAA) that binge drinking is a pattern of drinking (NIAAA, 2004) is accepted then the time frame for the measurement of binge drinking behaviour becomes important. The time frame over which binge drinking is measured has varied greatly in the research literature from 1 week (Kokarec & Crowe, 1999) to 1 year (Cranford, McCabe & Boyd, 2006), with many focusing around 2 weeks (Wechsler et al 1994) or a month (Okoro et al. 2004; SAMHSA, 2007). Among university students the temporal component becomes even more important because their drinking has been shown to have a large amount of temporal variability (Schuttenberg, O'Malley, Bachman, Wadsworth & Johnston, 1996; Weingardt et al. 1998; Vik, Tate & Carrello, 2000). La Brie, Pedersen and Tawalbeh (2007) demonstrated that of those classified as non-binge drinkers when drinking was reported for two weeks in the middle of the month almost a third were classified as binge or frequent binge drinkers when measurement assessed the two weeks at the beginning of the month.

Courtney and Polich (2009) suggest that a 6 month period of assessment would cover both teaching and vacation time and give a more accurate

indication of binge drinking prevalence among students. However collecting data at multiple time points over a 6 month period increases demands on participants and opens up research to attrition, while cross-sectional measures covering a 6 month period are likely to result in inaccurate reports due to participants being unable to recall multiple individual instances of a frequently repeated behaviour (Schwarz, 1990; Schwarz, 1999) and therefore relying upon recall of the behaviour over a short time period (e.g. the last week) and multiplying up to estimate its occurrence over a longer period (e.g. the last 6 months) (Conner, & Waterman, 1996). An alternative which would allow data to reflect temporal fluctuations in student drinking is to collect data from individual students detailing their drinking over a short period (e.g. 2 weeks) where they should be able to employ a recall and count method but to extend recruitment and the data collection period so that it spans an entire term. This method may not provide an accurate representation of each individual's drinking across the term but given a large enough sample the collated results should provide an accurate picture of the prevalence of binge drinking in the student population.

#### ***2.2.1.6 Other Alternatives***

So far the definitions and measures of binge drinking considered have all revolved around self-report measures, however biological measures of intoxication including breathalyser tests are one alternative to self-report measures. Supporters of this type of measurement of binge drinking claim that if binge drinking is seen as drinking which leads to drunkenness or intoxication then a measure of intoxication would be most appropriate (e.g. Lange, & Voas, 2001). One of the great strengths of such a measure is that it will not only take account of the quantity of alcohol consumed but

a range of other factors such as speed of drinking, length of drinking session, as well as individual differences in body fluid level and speed of alcohol absorption. All 50 of the U.S. states and the U.K. now have a legal intoxication level of 0.08% (Alcohol Policy Information Systems, 2007; Podda, 2012) and this has been used by researchers as a cut off so that a drinker achieving a BAC of 0.08% or above would be classed as having binged. While breathalyser tests can establish (if used correctly) whether or not this level has been achieved these are not readily available to drinkers and utilizing biological measures in large scale data collection can greatly increase the time and monetary demands of data collection so in many cases may not be a legitimate option for researchers. Therefore research relating to definitions and the use of biological measures has tended to focus on cut off measures which best equate to BACs of 0.08%. While proponents of the 5/4 drink measure of binge drinking have suggested that the consumption of this number of drinks will result in a high blood alcohol level, the NIAAA (2004) state that a level of 0.08% BAC would only be reached if these drinks were consumed in a 2 hour period. This addition may appear simple but it would require drinkers not only to recollect how many drinks they had but the time over which they were consumed. Further research has found that a cut off of 6 drinks for males and 5 drinks for females on a single occasion is more effective in capturing drinking which equates to BACs of 0.08% (Lange & Voas, 2001).

Other methods of quantifying drinking behaviour without the restriction of weekly, fortnightly or monthly consumption and which do not rely on costly biological measures have also been proposed (Townshend & Duka, 2005). One example is to develop a 'score' to identify drinking patterns. Mehrabian and Russell (1978) and Townshend and Duka (2002) selected three questions from the Alcohol Use Questionnaire to assess drinks per

hour, times drunk within the last 6 months and percentage of time being intoxicated when drinking and used this to categorise drinking patterns. This could serve as a valid alternative to either cut off or biological measures however it still relies on participant recall and estimations over extended periods which has been shown to be inaccurate (Schwarz, 1999; Schwarz, 1990). Further to this such scores have not been used frequently in the existing literature which means that studies employing this measure are difficult to compare directly with other literature. Therefore it may be more practical to utilise a measure such as the 5/4 measure which has previously been used more widely.

Some definitions go further than just specifying the frequency and quantity of alcohol consumption for behaviour to be classed as a binge and include specifics about the populations involved in and possible outcomes of binge drinking behaviour. Ormerod and Wiltshire (2009) state that binge drinking is the rapid consumption of large amounts of alcohol, especially by young people, leading to anti-social behaviour in urban centres. Although such definitions can provide information about the populations and locations in which binge drinking most commonly occurs they face strong criticism for being reductionist and overlooking the fact that any individual can participate in binge drinking behaviour.

A further alternative is to focus on intentions behind the behaviour. Qualitative works have identified that students and young people conceive of binge drinking as drinking to get drunk (e.g. Workman, 2001). A similar definition of binge drinking is employed by the National Health Service (NHS) which defines binge drinking as drinking enough alcohol to get drunk or feel intoxicated (NHS Choices). Because this definition does not specify the amount of alcohol which must be consumed in order for

drinking to be classified as a binge it is able to cover individual differences in the metabolism of alcohol. At first glance such definitions appear to be simple and easily applicable however the term “drunk” is open to interpretation and so this definition is of limited use in terms of quantifying behaviour and building an evidence base from which policy can be developed, targets set and achievements measured.

### **2.2.2 Section Summary**

This section has discussed some of the most popularly applied definitions and measures of binge drinking behaviour and considered the arguments for and against each. No definition or measure is without its criticisms therefore a simple conclusion cannot be drawn as to which definition should be employed. However definitions relating to the classic meaning of the term binge drinking can be ruled out as these do not reflect the behaviour of interest for this work. Methodological constraints rule out the use of a biological measure based on BAC as these would present too high an expense, and likely time-delay given sample size requirements. While definitions focused around drinking to get drunk can account for individual differences in the metabolic processing of alcohol such definitions are open to interpretation so may not accurately quantify behaviour and they are not widely used in research therefore employing this style of definition here would restrict the potential for cross study comparisons. Therefore this research will employ a cut off definition of binge drinking.

Which cut off definition to employ must also be considered. While the 5/4 measure has been most widely used it stems from research based in the U.S. where standard drinks measures differ to those in England. However a variant on this definition can be utilised where a standard drink equates

to approximately one unit of alcohol. This will result in a slight underestimation of the 5/4 measure employed in the U.S. but this will go some way towards balancing the underestimations that occur as a result of the fact that many drinks reflect more than one unit per serving and drinking outside licensed premises often results in larger servings (Gill, 2002). Further to this the use of a 5/4 drink measure would also include drinkers who are exceeding the daily recommended limits to safe alcohol consumption.

A further issue remains regarding definitions of binge drinking, considering the most appropriate definition of binge drinking for use in research does not guarantee shared understanding between researcher and drinkers and drinkers may not relate to the definition selected. It is therefore necessary that research continues to consider drinkers' knowledge, understanding and beliefs regarding alcohol use and binge drinking so that researchers and professionals can better understand how their communications and interventions will be perceived by drinkers. While quantitative research can go some way towards assessing these factors the restrictions of such research are likely to guide participants' responses and not allow a full exploration of these issues consequently it is recommended that qualitative research be utilised to address these issues.

Having established the effects of alcohol, explored the outcomes that occur as a result of these effects and specified a definition of binge drinking to be employed in this research work attention is now turned to the prediction of alcohol use with a focus on binge drinking behaviour. Firstly the consequences and correlates of binge drinking behaviour will be discussed before an argument for the utilisation of social cognitive

theories and specifically the Theory of Planned Behaviour (TPB) is put forward.

### **2.3 Consequences of Alcohol Use**

Alcohol use is associated with a number of both positive and negative consequences. It is the negative outcomes of alcohol use and specifically binge drinking, in combination with the prevalence of these behaviours that has drawn so much media, political and research attention to the area and make it worthy of research. Meanwhile research has demonstrated that consequences of behaviour can act as determinants of behavioural intentions and thus influence behaviour (Parsons, Seigel & Cousins, 1997) and experiencing consequences of alcohol consumption can influence motivations to drink (Blume, Senmaling & Marlatt, 2006) thus they are also important factors in developing our understanding of drinking behaviour. While identifying the consequences of behaviour may be important it is not straightforward. The vast majority of research in this area is correlational and as such shows associations or relationships but cannot demonstrate causation or causal pathways. Further to this these studies are not conducted in controlled environments therefore the influence of extraneous variables cannot be ruled out. Specifically relating to the consequences of alcohol use, some factors which are considered consequences (e.g. alcohol related crime) may co-occur with alcohol use and/or be caused by it and many, such as long term health consequences, are influenced by a variety of factors including but not exclusively alcohol use. Issues resulting from correlational research are discussed in more depth in section 2.4.6. The consequences of alcohol use and binge drinking presented here are those which occur following alcohol use (e.g. alcohol related injury can only occur following alcohol consumption) and

those where a strong argument for at least some causal influence of alcohol has been established (e.g. alcohol related crime). However this does not mean that alcohol is the only factor underlying these consequences.

### **2.3.1 Negative Consequences**

Not all drinking episodes will result in negative consequences but the fact that these negative consequences are numerous and are considered to be preventable has made them a focus for many researchers, health professionals and government officials. This section will begin by considering the health consequences of alcohol, moving on to assess alcohol's association to risk behaviours including crime and antisocial behaviour before discussing some of the academic outcomes of alcohol use which students experience. At the close of this chapter attention is given to the secondary outcomes of alcohol use, or outcomes experienced by others including the economic costs associate with alcohol use. However it should be noted that each effect does not simply fall into one of these subcategories. For example alcohol use and binge drinking have been related to engaging in criminal behaviour (Light, Grube, Madden, & Grover, 2003), alcohol related crime has economic costs for the criminal justice system ('The Government's Alcohol Strategy', 2012) and victims of these crimes experience them as secondary effects (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994). Therefore while the structure applied to this section is useful in organising the discussion it does not reflect this complex relationship between the consequences of alcohol use.

### ***2.3.1.1 Health Effects***

In addition to the short term experience of a hangover following drinking (Swift, & Davidson, 1998), alcohol has a number of more severe long and short term consequences for health. In the digestive system alcohol irritates the lining of the stomach and small intestine which can result in nausea, vomiting and in more extreme cases ulcers (Lieber, 1995). In the brain, binge drinking, particularly early onset binge drinking, can be associated with changes in brain structure and reduced cognitive ability both in adolescents and adults. (Hartley & Elsabargh, 2004; Kokavec & Crowe, 1999; Townshend & Duka, 2005). In the short term the reduced behavioural inhibition, motor control and delayed reaction times brought about by the consumption of alcohol increase the chances of drinkers suffering accidental injury (such as road traffic accidents, falls, drowning and burns), (Savola, Niemi & Hillbom, 2005) and even accidental death (Hingson & Howland, 2002). Hingson and Howland (2002) found that nearly 600,000 students in the U.S. suffer alcohol related accidental injuries each a year (Hingson & Howland, 2002). Extreme alcohol intoxication can also lead to alcohol poisoning, the suppression of breathing and heavy sleeping all of which can be dangerous and even fatal. Hingson and Howland (2002) report that 1,825 US college students (aged between 18-24 years) die each year following alcohol consumption making alcohol use the greatest single contributor to college student morbidity and mortality in 2001. Further to this long term high alcohol consumption can cause hypertension (Fuchs, Chambless, Whelton, Nieto, & Heiss, 2001), which puts strain on the cardio-vascular system (Marques-Vidal, Arveiter, Evans, Amouyel, Ferrieres & Ducimetieue, 2001), and is associated with a number of potentially terminal illnesses including liver disease (Maddrey, 2000) and cancer (Pincock, 2003; Xin, He & Frontini, et

al., 2001; Marmot, 2001). Although it is hard to quantify the exact number of deaths that occur as a direct result of drinking behaviour because many have additional genetic and environmental causes alcohol is ranked as be the third leading preventable cause of death in the U.S. killing around 100,000 Americans each year (McGinnis & Foege, 1993) with binge drinking being the cause of a substantial number of these deaths (Centres for Disease Control and Prevention, 1990). Similar results have been identified in Europe with alcohol use is being the 3rd biggest cause of early death and illness, causing approximately 195,000 deaths a year. Further to this alcohol use is the cause of 1 in 4 deaths among young men and 1 in 10 deaths among young women aged 15-29 years (Rehm, Room, Van den Brink & Jacobi, 2005, Rehm et al., 2006). Data regarding the U.K. showed that in 2012 8,367 alcohol related deaths were registered (Office for National Statistics, 2014).

### ***2.3.1.2 Risk Behaviours***

At the individual level alcohol use and binge drinking have been shown to be related to engagement in other risk behaviours specifically further substance abuse (Scheier & Botvin, 1998), engagement in risky sexual behaviour (Corbin & Fromme, 2002; Eaton et al., 2006) and dangerous driving (Substance Abuse Mental Health Services Administration, 2006). These can occur as a result of reduced behavioural inhibition but also through other factors such as association with a deviant peer group (Fergusson, Swain-Campbell, & Horwood, 2002).

For many young people, alcohol is the first substance that they choose to use and alcohol use has been shown to be associated with experimentation with other illicit drugs (Scheier & Botvin, 1998); binge drinking has been shown to contribute to pathways into heavy drinking

(Grant & Dawson, 1997; Jernigan, 2001) and alcohol addiction (Viner & Taylor, 2007). In some, this heavy drinking has been shown to manifest relatively early in life on with an estimated 31% of the 8 million college students in the U.S. meeting the diagnostic criteria for alcohol abuse (Knight et al., 2002). In the U.K. 15% of student drinkers have been identified as meeting the criteria for hazardous drinking (Webb, Ashton, Kelly, & Kamali, 1996). Binge drinking is also associated with other substance use including smoking in adolescence (Johnson, Boles, Vaughan and Kleber, 2000) past month illicit drug use in students (Anderson, Plant & Plant, 1998; Substance Abuse Mental Health Services Administration, 2006) and binge drinking during adolescence has been found to predict illicit drug use in later life (Viner & Taylor, 2007).

Research has established links between alcohol use and other risk behaviours specifically engagement in risky sexual behaviour and driving under the influence of alcohol. With regards to risky sexual behaviour associations have been found between alcohol use and failure to use contraception, unplanned pregnancy, contracting sexually transmitted infections and risk of HIV infection (Corbin & Fromme, 2002; Eaton et al., 2006; Robertson and Plant, 1988; Wechsler, Lee, Kuo, Seibring, Nelson & Lee, 2002). Further to this Delk and Meilman (1996) found that in their sample of Scottish undergraduate students 15.8% reported that they had been taken advantage of sexually as a consequence of alcohol use and 7.8% reported taking sexual advantage of someone else. Data regarding drink driving has estimated that 13% of the U.S. population aged 12 years and over (SAMHSA, 2006) have driven while under the influence of alcohol in the previous year. In student populations 27.4% of U.S. college students reported driving a vehicle after drinking and a further 35.1 % stated that

they had been a passenger with a driver who had been drinking alcohol (Centers for Disease Control and Prevention, 1997).

### ***2.3.1.3 Crime and Antisocial Behaviour***

Positive associations have been found between engaging in binge drinking and engagement in criminal or antisocial behaviour and also being a victim of crime (Light, Grube, Madden & Grover, 2003). Wechsler and colleagues (2002) found that approximately 11% of students reported being involved in property damage while under the influence of alcohol and many U.S. college students also report either driving after drinking or being a passenger in a vehicle with someone who has been drinking (Centers for Disease Control and Prevention, 1997; SAMHSA, 2006). Alcohol consumption has also been linked to acquaintance rape in both male and female populations (Warshaw, 1994) with more than 95,000 U.S. students being victims of alcohol related sexual assault or date rape each year (Hingston and Howland, 2002). With regards to violent crime in the U.S. each year almost 700,000 students are assaulted by another student who has been drinking (Hingson & Howland, 2002) while 14.5% of Scottish undergraduate students report taking part in violent acts, and 27.9% reporting involvement in arguments or fights, after drinking alcohol (Delk and Meilman, 1996). Studies considering partner violence (often referred to as domestic violence) have found a strong association with problematic alcohol consumption behaviours (Kantor and Straus, 1990; Fals-Stewart, 2003; Silverman, Raj, Mucci & Hathaway, 2001; Wekerle and Wall, 2002). However this relationship has only been established in men (Archer 2000). In students specifically, binge drinking was significantly associated with partner violence but this relationship was fully mediated by the presence of anti-social behaviour traits (Hines and Straus, 2007). As would be

expected from these findings alcohol intoxication is also linked to an increased risk of receiving a criminal conviction (Viner & Taylor, 2007).

#### ***2.3.1.4 Academic Outcomes***

Because alcohol consumption and the pattern of binge drinking is particularly prevalent among students and young adults a further area which has received research interest is that of academic success (Perkins, 2002b; Perkins, 1992; Singleton & Wolfson, 2009; Wechsler et al., 1998). Findings show that 25% of students in Wechsler et al.'s (2002) study reported negative academic consequences of alcohol consumption including missing classes and poor exam or assessment scores. These effects may seem unimportant compared to consequences such as long term health problems and involvement in crime but the effects of alcohol and binge drinking on academic success is of high importance to universities and colleges where both academic success and student wellbeing are of great importance.

#### ***2.3.1.5 Socio-economic Outcomes***

Binge drinking has also been found to be predictive of lower socio-economic status and increased risk of homelessness in later life (Viner & Taylor, 2007) adolescent alcohol consumption has been linked to more changes in employment and increased chances of unemployment in adults aged 24-25 (Kandel, Davies, Karus & Yamaguchi, 1986). However when other substance use is controlled for these relationships become non-significant indicating that this is not a direct result of alcohol use.

#### ***2.3.1.6 Secondary Consequences***

The secondary consequences of alcohol use and binge drinking, those experienced by others, include exposure to drink driving, being victim to

insults or humiliation and having sleep interrupted (Windle, 2003; Wechsler et al., 2000). However when secondary consequences are considered it tends to be the economic costs that are most salient. Treating alcohol related harm was estimated to cost the NHS £3.5 billion in 2010 (HM Government, 2012). Similarly, crime and antisocial behaviour associated with alcohol consumption produce further economic costs. It was estimated that in 2011 alcohol related crime and antisocial behaviour in the UK cost £11 billion (HM Government, 2012). A final cost which should not be overlooked is that of lost productivity due to alcohol misuse which is estimated to come to £7.3 billion a year (HM Government, 2012). In combination, these three factors give a total cost of £21 billion a year.

#### ***2.3.1.7 Interim Summary: Negative Consequences of Binge Drinking***

The negative consequences of binge drinking are many and varied, spanning individual, local and national levels and ranging from short term minor health consequences to high economic costs at national level and in severe cases the death of drinkers. Though some of the research does not distinguish between consequences of binge drinking and alcohol use in general what is apparent is that these outcomes generally result from high levels of alcohol consumption in one form or another, therefore if drinkers can restrict their consumption to 'safe' levels these negative outcomes should diminish if not disappear.

#### **2.3.2 Positive Consequences**

Although it is the negative consequences of alcohol use and binge drinking which have drawn attention to the area, alcohol use also has positive consequences. These have been less well documented in the literature, perhaps because they are not as easy to identify and quantify as are the

negative consequences and have less political significance, however they are of importance to the alcohol literature because expected consequences have been shown to predict drinking behaviour (e.g. Rohsenow, 1983; Wall, Hingson, & McKee, 1998).

Positive consequences of alcohol use including stress reduction, mood enhancement and protection against coronary artery disease (Baum-Baicker, 1985) have been identified but tend to relate to moderate alcohol consumption. Research has also considered the positive consequences of higher levels of alcohol consumption and binge drinking. Work by Wechsler and colleagues (1994) found that one of the key reasons that students give for drinking alcohol is to get drunk, intoxicated or inebriated therefore achieving this state may be considered a positive consequence. Further to this research focused on drinking motives has indicated that students may binge drink for enjoyment, for social or image enhancement, or to cope with stressful or difficult times (Kuntsche, Knibbe, Gmel et al., 2005; Lee, et al., 2010; Park, 2004). This is supported by the findings of Baer's (2002) review of student factors for drinking which outlines three categories of reasons for drinking: Social camaraderie, mood enhancement, and tension reduction. The social consequences of alcohol use and binge drinking have been considered in some depth, this has resulted in gender differences being identified in the social enhancement effects of alcohol with Goldstein, Wall, McKee and Hinson (2004) finding that in their sample of 302 undergraduate students, men more often reported social-situational enhancements of alcohol, while females were more likely to report experiencing the physical effects.

While these positive consequences are associated with alcohol use and binge drinking they may not be a direct result of drinking itself, Fromme,

Marlatt, Baer and Kivlahan (1994) demonstrated that when students were provided with a placebo and induced to think that they were consuming alcohol they experienced enhanced mood and conviviality. Further to this the effect of alcohol on mood and sociability may also be influenced by the context of the drinking. Pliner and Cappell (1974) indicated that when drinking in a group students reported a greater level of euphoria than when the same volume of alcohol was consumed alone. However it is drinkers perceptions of the relationship between alcohol and positive outcomes which are important in understanding drinking, not the relationship itself. Capron and Schmidt's (2012) definition of positive consequences of alcohol use, as being events which occur as a result of drinking alcohol which are perceived by the drinker as being favourable, highlights a further consideration for the study of the outcomes of alcohol use in that it is drinkers' perceptions of outcomes as being positive or negative, rather than researchers' perceptions that are important.

### **2.3.3 Section Summary; Consequences of Alcohol Use**

This section has discussed the consequences of alcohol use with a particular focus on those related to binge drinking and those experienced by young people or students. While the negative consequences are more well documented it is clear that there are also positive consequences associated with alcohol consumption and to a lesser extent binge drinking. In addition to investigating what the positive and negative consequences of alcohol consumption are research has also looked at the influence of positive and negative consequences on drinking behaviour. From the literature presented the indication is that there are more severe negative consequences of alcohol use however research considering the frequency of experience of alcohol consequences has found that although some

individuals who drink most heavily do so despite experiencing negative outcomes (Mallet, Lee, Neighbors, Larimer & Turrisi, 2006), positive consequences of alcohol use are generally experienced more frequently than negative ones (Park & Grant, 2005) with self-reports identifying experienced positive consequences as more extreme than experienced negative consequences (Park, 2004). The relationship between volume of alcohol consumed and consequences experienced has also been considered with Park (2004) finding that although students experience more consequences in total as volume of alcohol consumed increases, only positive not negative consequences became more extreme with increased alcohol consumption. The results of these works demonstrate that regardless of how well documented and how problematic the negative consequences of alcohol use are, experiences of alcohol use will tend to be associated with positive consequences rather than negative ones.

## **2.4 Correlates of Binge Drinking**

In addition to identifying the consequences of alcohol use, research has also investigated correlates of alcohol consumption and binge drinking behaviour (e.g. O'Malley & Johnston, 2002; Wechsler, Dowdall, Davenport, & Rimm, 1995) that can indicate risk and protective factors. Such risk and protective factors can then be used to target interventions to the most at risk populations and to time interventions so that they occur before or alongside risk periods. This section will set out the factors most commonly associated with alcohol use, beginning by discussing demographic and personality characteristics before moving on to consider past drinking behaviour, social factors and finally factors related specifically to education and university attendance, focusing where

possible on those factors specifically associated with binge drinking in student populations. However it should be noted that while some of these correlates clearly precede binge drinking behaviour (e.g. initiation of alcohol use) some may be co-occurring with binge drinking behaviour (e.g. student status, peer drinking behaviour) due to the influence of shared underlying factors. Further to this these studies rely on correlations or associations between variables, they do not show causation. Correlations with alcohol use and binge drinking may be identified due to a causal relationship but they may also be a result of a factor moderating or mediating a relationship between alcohol use and another variable. Therefore even where a factor precedes binge drinking behaviour it cannot be concluded that it causes binge drinking. Additionally risk and protective factors, and the consequences discussed in the previous section are not experienced in isolation. Factors may interlink with one another, some factors may act as risk factors in one context and protective factors in another (Rutter, 1999) and some individuals may be more resilient to risk factors than others (Smith, Lizotte, Thornberry, & Krohn, 1995). Issues resulting from correlational research are discussed in more depth in section 2.4.6.

Where possible findings will be drawn from national statistics from general population surveys such as the Health Survey for England (The Health and Social Care Council Information Centre, 2013) and to reflect student populations more specifically will employ results from the College Alcohol Survey (e.g. Wechsler et al., 1994; Wechsler et al., 1995) a national survey of college students across 140 colleges in the U.S.. As no similar, student focused, U.K. or English data is available smaller scale studies will also be utilised to support the generalisation of these findings to English undergraduate students. Such studies will also be utilised to

consider in more depth the relationship between college or university attendance and drinking behaviour.

#### **2.4.1 Demographic Characteristics of People Who Engage In Binge Drinking**

A number of studies have demonstrated that socio-demographic factors can account for a significant amount of the variance in drinking behaviour (Crawford & Novak, 2006; Wechsler, Dowdall, Davenport & Castillo, 1995). While these factors are difficult if not impossible to change, an understanding of socio-demographic characteristics that can act as risk or protective factors allows the identification of individuals who may be prone to developing problematic drinking behaviours and would benefit most from intervention or prevention efforts and can aid the targeting of information or intervention types which are most appropriate to specific groups.

Drinking behaviour has been shown to vary by age. Data from the 2012 HSE (The Health and Social Care Council Information Centre, 2013) (displayed in Figures 2.1 and 2.2) shows that while the percentage of respondents drinking in the previous week peaks for both men and women between the ages of 55-64, the average number of units consumed on the highest drinking day in the previous week peaks at age 16-24 for both men and women indicating that this latter age group are most at risk of binge drinking.

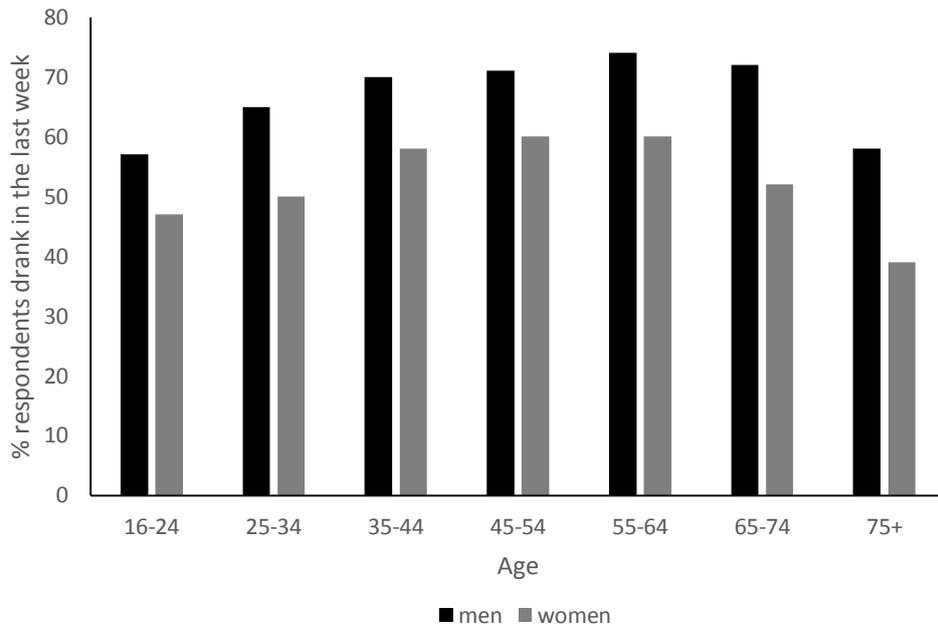


Figure 2.1. Percentage of Health Survey for England Respondents Reporting Drinking Alcohol in the Previous Week

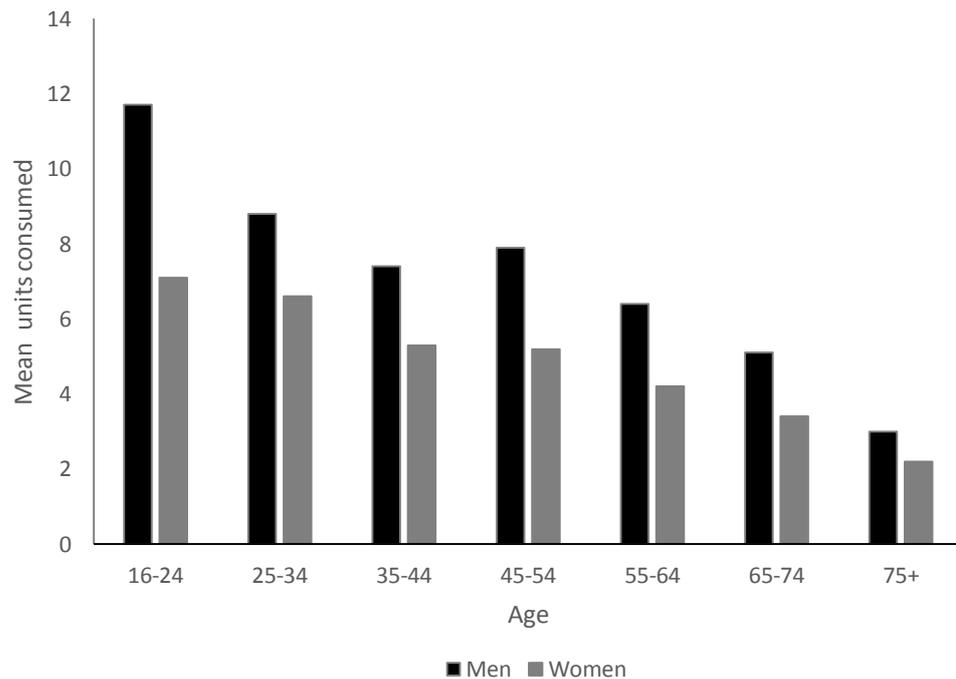


Figure 2.2. Mean Units of Alcohol Consumed on Highest Drinking Day in the Past Week by Health Survey for England Respondents

The results of a random telephone survey of adults age 18 years and over in the U.S. demonstrated that in the U.S. binge drinking generally decreased with age, peaking among 21-25 year olds (Naimi et al., 2003). Taking into account differences in legal restrictions on the purchase and

consumption of alcohol between the U.K. and the U.S. these results reflect a similar relationship between binge drinking and age and demonstrate that this relationship is relatively stable across nations. Further research has identified that younger individuals (i.e. those aged 18-29) are at greater risk of developing alcohol abuse and dependence than older individuals (Grant, 1997; Grekin & Sher, 2006). From the data presented in Figures 1.1, 1.2, 2.1 and 2.2 it is also clear that there are gender differences in both alcohol consumption and binge drinking. Such differences have been found consistently throughout history and across many different populations (Jackson, William, & Gomberg, 1998; Kuntsche et al., 2005; Makela & Mustonen, 2000; Naimi et al., 2003; Wechsler et al., 1994) and are thought to be due to a combination of differences in the biological processing of alcohol (York & Welte, 1994) as well as gender roles related to alcohol use (Blume, 1991). However in recent years research has indicated that this gender gap is closing (Johnston, O'Malley, Bachman & Schulenberg, 2010). Binge drinking and alcohol use has risen in females while males aged 16-24 years are reporting lower rates of binge drinking than they have previously (Johnston et al., 2010). Gender differences in alcohol use and the factors underlying them are discussed in more depth in the introduction to Study 2.

Further research has considered differences in alcohol use and binge drinking across ethnic and religious groups with caucasians generally being identified as having the highest incidences of binge drinking (Cranford et al., 2006; Naimi et al., 2003). Such differences have been found historically throughout research and continue to persist (O'Malley & Johnston, 2002). Further to this these differences have been found across different age groups suggesting that they are also consistent across lifetimes (Johnston et al., 2010; Naimi et al., 2003; O'Malley and Johnston, 2002). Religion has

been identified as a protective factor against alcohol use (Cherry, 1991; Durkin et al., 1999; Engs and Hanson, 1985; Miller and Garrison, 1982; Patock-Peckham, Hutchinson, Cheong & Nagoshi, 1993; Slicker 1997). Among students those reporting no religious affiliation have been shown to report significantly higher drinking frequency and quantity, and more occasions of getting drunk, than their religious counterparts. Among those reporting religious affiliation Jews have been found to have the highest drinking rates followed by Catholics and Protestants (Carlucci et al., 1993, Mullen, Blaxter & Dyer, 1986).

#### **2.4.2 Personality Characteristics**

Specific personality characteristics have also been shown to correlate to drinking behaviour (Arnett, 1996; Clapper, Martin & Clifford, 1994; Cammatta & Nagoshi, 1995; Ichiyana & Kruse, 1998; Martsh & Miller, 1997). Impulsivity (Cammatta & Nagoshi, 1995; Ichiyana & Kruse, 1998) disinhibition (Clapper, Martin & Clifford, 1994; Ichiyana & Kruse, 1998) and sensation seeking (Arnett, 1996) have all been identified as risk factors for heavy drinking. The relationship between these personality characteristics and binge drinking are discussed in more depth in the introduction to study two. Further research in this area has looked at the relationship between extraversion-introversion and drinking behaviour. Individuals identified as extraverts have been found to drink more alcohol per occasion than those identified as introverts (March & Miller, 1997). In addition Gotham and colleagues (1997) found that extraverted individuals and those scoring highly on openness to experience showed a consistent pattern of frequent intoxication in early adulthood.

The identification of personality characteristics which act as risk factors has been considered to be particularly important because personality

characteristics have long been considered to be temporally stable. More recent evidence indicates that they can undergo changes over time (Roberts, Walton & Viechtbauer, 2006) which could contribute to the explanation of alcohol use and binge drinking peaking in early adulthood if personality characteristics associated with alcohol use are also found to peak during this period (Littlefield, Sher & Wood, 2009). Personality-targeted interventions have been shown to have some effectiveness particularly for binge drinking among young people with sensation seeking personalities (Conrod, Castellanos & Mackie, 2008). These recent developments highlight the continued need for exploration of the relationship between personality and binge drinking.

#### **2.4.3 Past Drinking Behaviour**

Early onset of alcohol use has been shown to predict alcohol abuse and dependence later in life (Muthen & Muthen, 2000) and the earlier an individual begins drinking alcohol, the more likely they are to display risky drinking behaviours later in life (Wechsler & Wuethrich, 2002). Studies from the U.S. have shown that binge drinking during the school years predicts both college binge drinking (Wechsler, Dowdall, Davenport, & Castillo, 1995) and binge drinking in later life (Weitzman, Nelson, & Wechsler, 2003) with high-school drinking patterns having been identified as important in determining alcohol use in college (Wechsler & McFadden, 1979).

Past behaviour can influence future behaviour via multiple processes (Eagly & Chaiken, 1993). Experiencing positive consequences or relief of negative affect from alcohol in the past can serve to promote alcohol use in future (Blume, Senmaling & Marlatt, 2006; Parsons, Seigel & Cousins, 1997). Further to this the influence of alcohol on brain development may

also serve to reduce the executive functioning of the brain and so impact effective decision making later in life thus increasing the chances of hazardous alcohol use (Giedd, 2004; Wechsler & Wuethrich, 2002). Habit may also have a role in the perpetuation of binge drinking (Norman, 2011), this will be discussed in more depth in the introduction to study 2.

#### **2.4.4 Social Factors**

A number of social and normative factors have been identified as relating to alcohol use and binge drinking behaviour. A more in-depth consideration of how normative influences relate to behaviour will be provided in the discussion of social cognitive models and the TPB and the relative influences of different groups will be considered in the introduction to study 2 but an outline of the key influences is given here.

Children develop an awareness of alcohol at a very early age, often as young as 3 years (Donovan, 2004). From this point on parents can influence an individual's attitudes towards alcohol and their alcohol consumption behaviours. Evidence shows that parental alcohol consumption is linked to both adolescent alcohol initiation and current alcohol use (McDermott, 1984) and a number of studies have demonstrated a positive correlation between parental alcohol consumption and adolescent alcohol consumption (Ennette & Bauman, 1991; Webb & Baer, 1995). However from adolescence onwards peer influences have been established as the strongest normative factors in explaining adolescent involvement in substance use (Petraitis, Flay, & Miller, 1995) and high levels of similarity have been found between the drinking behaviours of an individual and their friends (eg. Andrews, Tildsley, Hops & Li, 2002; Beal, Ausiello & Perrin, 2001). Sibling normative influences have also been considered with Epstein, Botvin, Baker & Diaz

(1999) showing that in adolescents, sibling alcohol use is related to a number of factors including intentions to drink and the quantity of alcohol consumed per occasion. Van Der Vorst, Engels, Meeus, Dekovic and van Leeuwe (2007) support this with findings showing that the alcohol use of older siblings influenced the alcohol use of younger siblings. Considering social networks as a whole Ormerod and Wiltshire's (2009) findings show that binge drinkers were more likely to report that all or almost all of their family members and work colleagues binge drank than were non-binge drinkers. With regards to friends 54% of binge drinkers but only 15% of non-binge drinkers stated that all or almost all of their friends were binge drinkers. At the other end of the scale 19% of non-binge drinkers reported having no or hardly any friends that binge drink with just 3% of binge drinkers reporting the same thing.

#### **2.4.5 Educational Factors**

##### ***2.4.5.1 Education and Academic Achievement***

Results regarding the relationship between education and alcohol use are complex. Naimi et al. (2003) found that in the general population of the U.S. binge drinkers were less likely to report a college education than non-binge drinkers. This is supported by findings from the Netherlands, where those in lower educational groups were more likely to engage in excessive alcohol consumption than those in higher educational groups (Droomers, Schrijvers, Stronks, van de Mheen, & Mackenbach, 1999). Work focused on young adults and adolescents show that poor school achievement and dropping out of school is consistently related to higher levels of binge drinking behaviour (Wechsler, Davenport, Dowdall, Moeykens & Castio, 1994). However other works have found the opposite effect (for example Slutske, 2005) and statistics show that binge drinking is

common among college and university students. These complexities could be explained by the fact that alcohol and excessive drinking can have a negative impact on academic achievement (Wechsler et al., 2002) but college and university attendance can act as a risk factor for alcohol use and binge drinking.

#### ***2.4.5.2 Student Status***

As discussed in the introduction students have shown high rates of binge drinking behaviour (Norman, Bennett & Lewis, 1998; Webb, Ashton, Kelly & Kamali 1996; Marks Woolfson & Maguire, 2010). With findings relating to age showing that young adults are more likely than other groups to engage in binge drinking (Fuller, Jotangia & Farrell, 2009; Newburn & Shiner, 2001; Substance Abuse Mental Health Services Administration, 2006) one could hypothesise that the popularity of binge drinking among students is a symptom of age related differences in drinking behaviour, however research has shown that students are more likely than their non-student peers to engage in binge drinking (White et al., 2006; Goldman et al., 2002). Specifically a comparison of college attendees and their non-college bound peers conducted in the late 1990s in the U.S. demonstrated that college bound individuals reported drinking heavily less frequently than their non-college bound peers at high school but then increased their heavy drinking with entry to college so much that they over took their non-college peers (Bachman et al., 1997).

Studies have highlighted the importance of the transition to university as an influence on drinking behaviour. In general late adolescence and early adulthood has been recognised as an important developmental period (Arnett, 2000), one which is associated with increases in substance use and increases in alcohol use have been identified in early adulthood

regardless of college or university attendance (White, Labouvie & Papadaratsakis, 2005). However leaving home and going to university has been found to be significantly related to increased frequency of alcohol use and heavy episodic drinking from high-school to early adulthood (White et al., 2006; Goldman et al., 2002). One explanation offered to explain these mixed findings is that rather than the move to university itself it is the change from living with parents or guardians to living alone, with roommates, or peers that is responsible for this increase in alcohol use (Bachman et al., 1997; Harford & Muthén, 2001). This could account for similar increases being seen among non-students in this same age group if they too are moving out of their family homes. Support for this explanation comes from work by Borsari and Carey (2001) which showed that reduced parental monitoring and a growing importance of peer relationships can lead to increased substance use. Similarly Wechsler, Dowdal, Davenport and Castillo (1995) found that having a room-mate, being a member of a fraternity or sorority and having five or more close friends who are students all increase student risk of alcohol consumption. A comparison of student and non-student drinking across those with different living arrangements found that of all the groups studied heavy drinking was highest among college students living away from their parents and lowest among college students living with their parents (Gfroerer, Greenblatt & Wright, 1997). The implication here is that both the transition to university and changes in living arrangements, which results in increased freedom and a reduction in social control (Arnett, 2005), are influencing rates of heavy drinking with the combination of moving away from parents and attending university representing the highest risk for heavy drinking.

Additional explanations for the increases in alcohol use and heavy drinking seen in students is offered by Sherrod, Haggerty and Featherman (1993) who state that university attendance can be seen to slow the passage to adulthood with students tending to commence fulltime employment and start families later than their non-university attending peers. Thus the university years offer a chance to experiment with adult behaviours while postponing full adult responsibility and it may be this extended period of emergent adulthood that allows students to drink in the way that they do. Further to this it is possible that students' expectations regarding university and alcohol use are also having an effect with Prentice and Miller (1993) stating that university offers not just the opportunity for these behaviours to occur but also comes with an expectation that these behaviours will be engaged in.

#### ***2.4.5.3 Athletics and Sports***

An additional factor that has been related to student alcohol use is, involvement in sports or athletics during university. While the term athletics is used quite broadly in the U.S. and any individual involved in sporting activities may be considered an athlete it has more specific connotations in England where it refers to competitive track and field events. In this work the term 'athletics and sports' will be used to refer to not only athletics but also team sports such as rugby and football and individual sporting activities such as swimming.

Students participating in athletics at university have been found to drink alcohol more frequently than their non-athlete peers, and have reported experiencing more negative consequences (Leichliter, Meilman, Presley, & Cashin, 1998; Wechsler, Dowdall, Davenport, and Castillo, 1995). This relationship increases over time with the length of involvement in athletics

showing positive correlations to risky drinking (Ham & Hope, 2003; Hildebrand et al., 2001). This could be explained by the development of normative influences as an individual develops stronger bonds with their team mates or an increase in tolerance to alcohol due to past use resulting in a need to drink more in order to achieve the same effects.

Whether or not increases in alcohol use and heavy drinking are a direct effect of moving to university or are indirectly brought about by changes in parental monitoring and levels of freedom it is important that we understand the transitions that new students go through and how university life may be contributing to drinking behaviour especially as so many young people now choose to attend university.

#### **2.4.6 Issues with Correlational Research**

While the findings presented in this section are informative there are a number of methodological issues with large scale surveys and correlational research which should be discussed.

Large scale surveys often fail to reach or under-represent specific sub-groups (Catto, 2008; Corey & Freeman, 1990) including young people, substance users and those that exhibit deviant behaviours (Freimuth & Mettger 1990), three factors which have been shown to correlate with alcohol use and so make these groups important to include in studies of alcohol use and binge drinking. Broad statistics can also mask more subtle changes in behaviour, between group and individual level differences. Specifically the data from the HSE presented in this section does not portray the increase in binge drinking among women, particularly those of more than 25 years of age and a decrease in binge drinking among young men aged 16 to 24 years (Smith & Foxcroft, 2009). Further to this many measures of binge drinking behaviour focus either on the past week (e.g.

the HSE), the past two weeks (e.g. CAS) or the heaviest drinking day in the past week (e.g. GLS), none of these measures takes into account the longer term pattern of alcohol consumption thus they do not provide fair representation of the number of binge drinking episodes.

A number of issues result from the fact that the majority of research identifying both consequences and risk factors associated with alcohol use and binge drinking is correlational. Firstly correlational works do not demonstrate causality or directional relationships. Statistically significant correlations or associations can be identified when the factor considered is acting to moderate or mediate the relationship between alcohol use and an extraneous variable or when an extraneous variable acts to moderate or mediate the relationship between alcohol use and the factor of interest. Even where a correlation is the result of a direct causal relationship it does not show the direction of the relationship so cannot be used to state which factor causes the other. Therefore while identifying individual correlates is useful, the effect of a single correlate cannot be fully understood unless in the context of all other factors relating to the behaviour (Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001).

Some large scale studies have considered multiple correlates of binge drinking and have been able to identify which are most closely related to student binge drinking behaviour. For example Wechsler et al.'s (1995) study identified that being male, being white, having pre-college experience with binge drinking, viewing parties as an important aspect of college life, engaging in risky behaviours and being involved in college athletics and fraternities among the most important predictors of student binge drinking behaviour. However simply accumulating correlates or risk factors still does not explain how these factors relate to one another.

Specifically these works cannot identify whether the correlate is: a proximal predictor which directly influences a behaviour; a distal predictor, the effects of which are mediated by other factors; a consequence of the behaviour; a co-occurrence due to a shared underlying factor which influence both the behaviour and the identified correlate; or a moderator of the relationship between a behaviour and another correlate. Therefore in order to fully understand the factors associated with a behaviour an understanding of how risk factors relate to one another is vital (Kraemer, et al., 2001). Longitudinal works can be used to identify which factors act as antecedents or risk factors and those which co-occur with or follow a behaviour (Donovan, 2004) which provide important guidance on how to time interventions and which factors to target in order to influence behaviour. Further to this a small number of large scale studies and review papers have considered how risk and protective factors relate to one another, relate to behaviour and interact with social and situational factors (e.g. Compas, Hinden, & Gerhardt, 1995; Hawkins, Catalano, & Miller, 1992) and some have proposed models detailing the pathways to behaviour (e.g. Compas, Hinden, & Gerhardt, 1995). However these have not considered student drinking specifically, tending to focus on substance use or deviant behaviours in general and often consider the period of adolescence when such behaviours often emerge. Findings from these works have identified that individuals at risk of substance use are also at risk of deviant behaviours including violence and involvement in crime therefore some of the crime and antisocial behaviours associated with alcohol use may be co-occurring with, rather than causing or being caused by, alcohol use (Hart, Ray and Ksir, 2009). Works focused on alcohol initiation have identified that peer and parental approval and the presence of drinking models as well as prior involvement

with delinquent behaviours act as antecedents of alcohol initiation (Donovan, 2004). The lack of such large scale and longitudinal studies in the field of student alcohol use means that the most effective way of understanding student binge drinking behaviour is by employing models of behaviour that have been developed in the psychological literature. A number of these models will be considered in more depth in the following section of the literature review.

In addition to these issues, many risk factors do not exist as dichotomies but as continuums. For example individuals are not simply educated or uneducated but can be educated to different levels, achieve different grades and have different levels of attendance at and engagement with educational facilities therefore more depth of consideration may be required to fully understand the effect of a particular risk factor. Further to this statistically based studies do not explain how risk and protective factors or consequences are experienced and perceived by individuals. This issue can be overcome through research employing qualitative methods which can provide a greater depth of explanation of individual pathways to behaviour, past experience and current intentions or actions. Qualitative research considering student drinking behaviour will be considered in study 1 of this thesis which itself employs a qualitative method.

#### **2.4.7 Section Summary**

This section has set out many of the factors which have been shown to correlate with alcohol use and binge drinking including those which have been identified as consequences of the behaviour and those identified as risk factors. While correlational research has gone a long way towards identifying the factors associated with alcohol consumption it does not go

far enough in terms of explaining how these factors relate to each other and drinking behaviour. As such when taken as a whole the literature regarding correlates of drinking behaviour can create as much confusion as clarity. These issues can be overcome by employing theoretical models which set out the antecedents of behaviour and how these combine. Such theoretical models identify the factors that predict behaviour but go beyond this explaining the mechanisms through which these factors exert their influence and relate to each other and the factors that influence these mechanisms. They can be used to predict the points at which interventions can best be targeted to change existing behaviour or to prevent behaviour occurring (Hawkins, Catalano, & Miller, 1992). Because these theories set out the antecedents of behaviour, regression analysis, which makes a priori assumptions that one variable is dependent on another, can then be used to test if the behaviour is dependent on the antecedents indicated by a particular theory and how much variance in the behaviour can be explained by individual antecedents or a number of antecedents in combination. This in turn provides clear indication of which antecedents to target in order to have the greatest influence on behaviour. The remainder of this literature review will focus on theoretical models of alcohol use and health behaviour.

## **2.5 Models of Alcohol Use**

A psychosocial approach can provide a useful framework for understanding alcohol use by exploring the interplay between the physiological effects of alcohol and psychological, social and situational factors relating to alcohol use (Banaji & Steele, 1989). This section will begin by considering psychosocial models of alcohol use, focusing on the tension-reduction hypothesis, the conflict model of alcohol and social

behaviour and the motivational model of alcohol use. However these models have tended to focus on single constructs or concepts and in light of the fact that the wider alcohol use literature has identified an array of factors associated with alcohol use (see correlates of binge drinking section) these models can be considered too simplistic to provide a full understanding of alcohol use. Therefore this section then moves on to consider broader social cognitive models describing and evaluating those which have been commonly applied, specifically Health Belief Model, Social Cognitive Theory, Social Norms Theory, Protection Motivation Theory, Self-Regulatory Model, Theory of Interpersonal Behaviour, Transtheoretical Model, The Theory of Reasoned Action and the Theory of Planned Behaviour, which can be utilised to further understanding of student alcohol use.

### **2.5.1 Psychosocial Models of Alcohol Use**

#### ***2.5.1.1 Tension-Reduction Hypothesis***

The tension-reduction hypothesis (Conger, 1956), draws on principles of reinforcement, proposing that drinking behaviour is reinforced when drinking relieves stress or tension, this serves to perpetuate drinking in response to stress which can in turn increase tolerance and thus the amount of alcohol needed to reduce stress. If the tension-reduction hypothesis is accurate then the raised stress levels and psychological disturbance associated with leaving home to attend university (Fisher, & Hood, 1987) could account for why rates of binge drinking are higher among students than their non-student peers. However the evidence regarding alcohol's influence on stress is mixed with findings showing stress reduction in some cases (Sher & Levenson, 1982), no effect in others (Wilson & Abrams, 1977) and the converse relationship, with an

increase in stress following alcohol consumption, for some (Abrams & Wilson, 1979). Further investigation showed that the relationship between alcohol and stress relief is more complex than the tension reduction hypothesis suggests. Steele and Josephs (1988) found that stress relief was greatest when alcohol is consumed and a distraction task performed but that alcohol consumption in the absence of distraction resulted in increased stress levels. Based on this, while some individuals may perceive that alcohol can reduce stress and some may actually experience this effect, many will not experience stress relief and so will not have their drinking reinforced via this method. Further to this while there is evidence that drinkers may use alcohol as a tool to relieve stress (Brown, 1985; Kassel, Jackson & Unrod, 2000) qualitative research from the U.S. has revealed that students consider drinking for 'the wrong reasons', for example to deal with problems, as being more likely to result in negative consequences (Howard, Griffin, Boekeloo, Lake & Bellows, 2007) and many other reasons for drinking such as social enhancement (Stewart & Zeitlin, 1995) and negative affect (Kassel et al., 2000) have been identified. In combination these findings show that the tension-reduction hypothesis alone cannot account for the numbers of individuals engaging in frequent alcohol consumption and does not offer a full explanation of alcohol use.

#### ***2.5.1.2 Conflict Model of Alcohol and Social Behaviour***

Steele and Southwick (1985) identified that the alcohol-stress literature was not the only area of alcohol research which was resulting in similarly mixed findings. They state that while some studies considering alcohol-related effects on social behaviour have found that social responses become more extreme following alcohol consumption others have found no-effect of alcohol. Based on this Steele and Southwick (1985) put

forward the conflict model of alcohol and social behaviour. This proposes that alcohol will induce a particular outcome or behaviour where the response is under the influence of both inhibitory and instigatory cues (i.e. is conflicted), but no effect will be found where the response is not conflicted (e.g. An individual may engage in unprotected sex after drinking alcohol but only if they are already under the influence of inhibitory and instigatory cues regarding the use of contraceptives). This model was generally supported by a meta-analysis reviewing studies considering 12 different social or socially relevant behaviours (including aggression, self-disclosure, eating, drinking and risk taking) (Steele & Southwick, 1985) in which low conflict individuals were found to show little or no change after consuming alcohol while high conflict individuals showed significantly more tendencies towards extremes.

Both the stress-reduction hypothesis and the conflict model of alcohol and social behaviour focus on the role of alcohol related outcomes in the initiation and perpetuation of alcohol use. While the conflict model of alcohol and social behaviour goes further than the stress-reduction hypothesis in terms of explaining alcohol's influence on a broader scope of social behaviours, it does not offer further explanation of how alcohol related outcomes influence behaviour. Motivational models still focus on expected outcomes of alcohol use but provide a more detailed explanation of how motivations to use alcohol influence behaviour.

### ***2.5.1.3 Motivational Models of Alcohol Use***

Motivational models propose that an individual's reasons for engaging in a behaviour are important for both initiation and perpetuation of that behaviour. Motivational models of alcohol use have been successfully applied to both adult and adolescent populations (Abbey, Smith & Scott,

1993; Carpenter & Hasin, 1998; Carey & Carreia, 1997; Kassel, Jackson & Unrod, 2000). However the social context of college has been associated with heavy alcohol use in students (Carey, 1993, 1995) and drinking attitudes and behaviours among students have been found to differ from those of other populations (Muthen & Muthen, 2000; Perkins, 1999; Sher, Bartholow & Nanda, 2001) suggesting that such models may not fit as effectively to student populations. In 1988, Cox and Klinger proposed a theoretical model of drinking motives which was later operationalized and applied by Cooper, Frone, Russell and Mudar (1995) who found strong support for the model with adult and adolescent populations. Both enhancement and coping motives were found to be associated with alcohol use and each was linked to distinct antecedents and mediating the effects of more distal psychosocial factors. However when this model was later expanded, to incorporate social antecedents of and social motives for drinking, and applied to a student population (Read, Wood, Kahler, Maddock & Palfai, 2003) although positive reinforcement motives were found to predict drinking behaviour, no support was found for the influence of coping motivates or social reinforcement motives on alcohol use or problem drinking and motives were not found to have a central role in mediating the effects of additional psychosocial factors. Further to this the relationship between constructs was actually found to be much more complex than the model proposed: Alcohol offers and perceived peer drinking, proposed as distal predictors had direct effects on alcohol use and alcohol problems, rather than acting through motives; the distal predictors (negative affect, tension reduction expectancies, impulsivity and sensation seeking, social lubrication expectancies, perceived peer drinking and alcohol offers) contributed to multiple motives. Finally expansions in the form of social influence and past behaviour, in terms of

past alcohol use and alcohol problems, were found to act as direct predictors of future alcohol use and alcohol problems (Read et al., 2003).

#### ***2.5.1.4 Interim Summary***

The models presented in this section have all focused on drinkers' expectations of the outcomes of alcohol use as motivating behaviour and positive experiences of such outcomes as perpetuating drinking behaviour. The stress-reduction hypothesis was very simplistic considering only stress reduction as a motivation for behaviour. The conflict model of alcohol use and social behaviour (Steele & Southwick, 1985) expanded this to consider a variety of social behaviours but focused on offering further explanation of why outcomes are not consistent from one drinker, and one situation to another rather than exploring further factors underlying drinking itself. Motivational models provide a more detailed understanding of the types of motivations that can influence drinking and the antecedents of these motivations which can offer a more adequate explanation of drinking. However all of these models fail to account for factors such as normative influences (Andrews et al., 2002; Van Der Vorst et al., 2007; Webb & Baer, 1995), personality characteristics (Arnett, 1996; Clapper, Martin & Clifford, 1994; Ichiyana & Kruse, 1998) and demographic variables (Cherry, 1991; Cranford et al., 2006; Naimi et al., 2003) that have been found to be related to alcohol use and binge drinking. While applications of motivational models have supported the role of motivations in predicting alcohol use (Abbey, Smith & Scott, 1993; Carpenter & Hasin, 1998; Carrey & Carreira, 1997; Kassel, Jackson & Unrod, 2000) applications including expansions such as past behaviour and social norms have indicated that a purely motivational model is too simplistic and social influence and past behaviour need to be taken into account

(Read et al., 2003). More complex social cognitive models, which describe the important cognitions underlying behaviour and the inter-relationships between these cognitions, offer a more adequate account of the factors underlying drinking behaviour.

### **2.5.2 Social Cognitive Models**

The field of social cognition is concerned with social behaviours and the processes which mediate them. Fiske and Taylor (1991) explain that this approach focuses on cognitions and thoughts as processes which intervene between stimuli and responses to direct behaviour in specific real world situations. With the importance of cognitions and thoughts in these models it is considered that behaviours are best understood through the exploration of people's perceptions of reality rather than objective measures of environments, outcomes and norms.

There are a number of reasons for utilising social cognitive models to understand student binge drinking behaviour. Firstly the field of social cognition considers the cognitions which underlie behaviours to be modifiable which means that they not only provide understanding but also a means of producing behaviour change (Fiske & Taylor, 1991). Secondly, these models allow findings about the processes of alcohol-related biological and psychological effects, constructs such as attitudes, affect and normative influence from the social psychology literature and individual level factors such as experience with alcohol to be considered alongside one another. While this results in complex models of behaviour, the mixed findings regarding the effects of alcohol and the high number of potentially predictive factors that have been identified in correlational studies suggest that such a complex approach is required for an effective understanding of student alcohol use and binge drinking to be established.

Finally the fact that social cognitive models have been employed in research from diverse disciplines makes them appropriate for the investigation of multidisciplinary areas of which student alcohol use is one.

The following section will explain and evaluate a number of social cognitive models. The models discussed have been selected because of their prominence in the research literature and particularly that regarding alcohol use or related factors (such as alcohol related sexual risk taking or drink driving) and because they encompass concepts which have been shown to influence drinking behaviour (such as social norms). While this does not comprise a full list of social cognitive models it results in the identification of a number of 'key' concepts which appear in multiple theories and therefore should be considered in the empirical work. This list of concepts can then be utilised to identify the most appropriate theory for application to the field of student binge drinking. As consideration of the development of social cognitive models can reveal areas that have long been understood and highlights those which are debated or require further research therefore before specific models are presented how such theories have developed will be discussed.

#### ***2.5.2.1 Development of Social Cognitive Models***

The social cognition approach to the study of alcohol really emerged in the literature in the 1980's as interest in health psychology grew and the number of researchers investigating social factors relating to alcohol use increased (For example see Tabakoff, Sutker & Randall, 1983; Hull & Young, 1983, Steele & Southwick, 1985). However, the social cognition approach to understanding behaviour began well before this with research into attitudes and the attitude behaviour relationship. Early

works by behaviourists suggested that behaviours were produced via a stimulus response relationship with any given behaviour being brought about as a direct response to a physical, environmental or social cue. For example Stimulus Response Theory (Watson, 1925) states that learning occurs as a result of the outcomes of behaviour. Skinner (1930) hypothesised that behavioural frequency is determined by its reinforcement or outcomes and indicated that reinforcement need only be temporally close to the behaviour in order to become associated with and thus influence that behaviour in future. Although there is some support for this theory it fails to account for many human behaviours and can be criticised for including no aspect of reasoning or cognition on the part of the individual. This led to distinctions being drawn between types of behaviours based on how these behaviours are controlled. Autonomous behaviours are considered to be determined primarily by genetic information, non-volitional behaviours by chemical and nervous information and volitional behaviours by nervous information which is adjusted by cognitions and as such fall under conscious control. As research has shown that beliefs are important determinants of binge drinking behaviour (e.g. Johnston, & White, 2004) binge drinking can be considered to fall predominantly under volitional control therefore models of volitional behaviours will be the focus of this section. Regarding volitional behaviours research initially suggested that these behaviours are guided by attitudes (Allport, 1935).

While attitude only models of behaviour may now be somewhat out of date attitudes still form the basis of many of models of behaviour so an understanding of attitudes is useful. In Social Psychology attitudes are considered to be constructs that precede behaviour and guide an

individual's actions but are not directly observable. Allport defined an attitude as:

*a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individuals response to all objects and situations with which it is related*

Allport, 1935: p. 180

This makes attitudes a central factor in social psychological research and understanding of behaviour. However the attitude-behaviour relationship has been found to be complex, while attitudes have been found to predict behaviour (see Kraus, 1995 for a review) and attitude change can lead to behaviour change (Olson, & Zanna, 1993; Webb, & Sheeran, 2006) past experience with a behaviour also contributes to attitudes (Smith et al., 1956) and not all behaviours follow directly from attitudes. Kraus' (1995) review found a mean  $r$  of .38 across 88 studies of the attitude-behaviour relationship and earlier studies identified lower correlations with Wicker's (1969) review finding attitude-behaviour correlations rarely exceeded .30 and Corey (1937) finding a correlation of  $r=.02$ .

Multiple explanations have been put forward to explain inconsistencies in the attitude-behaviour relationship. Issues with the measurement of attitudes and behaviour have been pointed out. Specifically research has demonstrated that the attitude-behaviour relationship is strengthened when measures of attitude and behaviour show high levels of compatibility (Ajzen, 1988; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 2005; Weigel, & Newman, 1976). The principle of correspondence states that the predictive power of attitudes will be greatest when measures of

attitude and behaviour are at the same level of specificity, therefore they should match in terms of the action, target, time and context with which they are concerned. This is supported by Kraus' (1995) review which found an average correlation of  $r = .50$  for measures with high compatibility but only  $r = .14$  for those which did not follow the compatibility principle. Further to considering compatibility researchers also need to consider attitude salience. Fazio (1989) theorised that only attitudes which are salient and accessible will influence behaviour at a given time. Following this line research must seek to measure attitudes which are salient and accessible at the point of action in order to be effective in capturing the attitude-behaviour relationship.

Further explanations for the inconsistency of the relationship between attitudes and behaviour emerged from research into racism which has indicated the existence of implicit as well as explicit attitudes and suggested that implicit attitudes may also influence behaviour (Schwartz, 2000). While a full explanation and assessment of the role of implicit attitudes is beyond the scope of this thesis it should be given some consideration. It is now generally accepted that individuals hold both implicit and explicit attitudes. So far what has been discussed are explicit attitudes. Implicit attitudes, are not accessed through introspection and tend not to be consciously identified. They are preferences for or against social objects and are derived on the basis of past experience and can influence thoughts and actions (Greenwald and Banaji, 1995). How these two forms of attitudes interact to guide behaviour is not clear. Devine (1989) suggested that explicit attitudes are actually underpinned by implicit ones which lead to automatic judgements of which the individual is not aware. Others have suggested that implicit attitudes may be dominant over explicit ones (Bargh 1999) or that the relative influence of

implicit and explicit attitudes differs dependent on the executive resources available at the time, for example when an individual is stressed or tired they may rely more on implicit attitudes and so avoid having to assess explicit attitudes and decide how to act towards a social object.

While issues regarding measurement of attitudes and the need to account for both implicit and explicit attitudes go some way towards accounting for the relatively small correlations that have been found between attitudes and behaviour it has been proposed that attitudes act in conjunction with other beliefs and experiences to determine behaviour (Fishbein & Ajzen, 1974, 1975) and this is the approach of more recent cognitive models including the Health Belief Model (Becker, 1974; Rosenstock, 1966, 1974) Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and Theory of Planned Behaviour (Ajzen, 1988, 1991)

#### ***2.5.2.2 The Health Belief Model***

The Health Belief Model (HBM), displayed in Figure 2.5.1, is one of the oldest of the social cognitive models. It was originally specified by Rosenstock (1966) and later modified by Kirscht (1974), Becker and colleagues (Becker, 1974; Becker & Maiman, 1975) and Rosenstock and colleagues (1988). Conceived as a model for predicting the uptake of vaccinations and utilisation of screening tests (Becker, 1974; Rosenstock, 1960, 1974) the HBM has been widely used to explain both the performance and avoidance of health behaviour and to guide intervention works to change behaviours in these areas.

The HBM proposes that a person will display a health-related behaviour if: they feel that a negative health outcome or condition can be avoided;

they have a positive expectation that the behaviour will allow them to avoid the negative health outcome; and they believe that they can successfully enact the behaviour. The HBM sets out that a readiness to act is brought about by four factors; perceived susceptibility to and perceived severity of the health outcome; perceived benefits of and perceived barriers to action. Behavioural action itself would then occur when a readiness to act combines with a further factor of cues to action.

Rosenstock and colleagues (1988) development of the HBM model resulted in the inclusion of self-efficacy, an individual's level of confidence in his/her ability to perform the action successfully. Since its proposal the HBM has been widely applied (see reviews and meta-analyses by Carpenter, 2010; Harrison, Mullen & Green, 1992; Janz, & Becker, 1984) to a number of health behaviours and populations. However these applications have focused on three key areas of health behaviour: preventive health behaviours; sick role behaviours; and clinic use (Conner & Norman, 1996) meaning that the applicability of the HBM to health damaging behaviours such as binge drinking is less well established.

Research has also expanded the HBM with additional variables such as self-efficacy and intention in order to better explain health behaviour (e.g. Rosenstock, Strecher, & Becker, 1988; Wdowik, Kendall, Harris, & Auld, 2001).

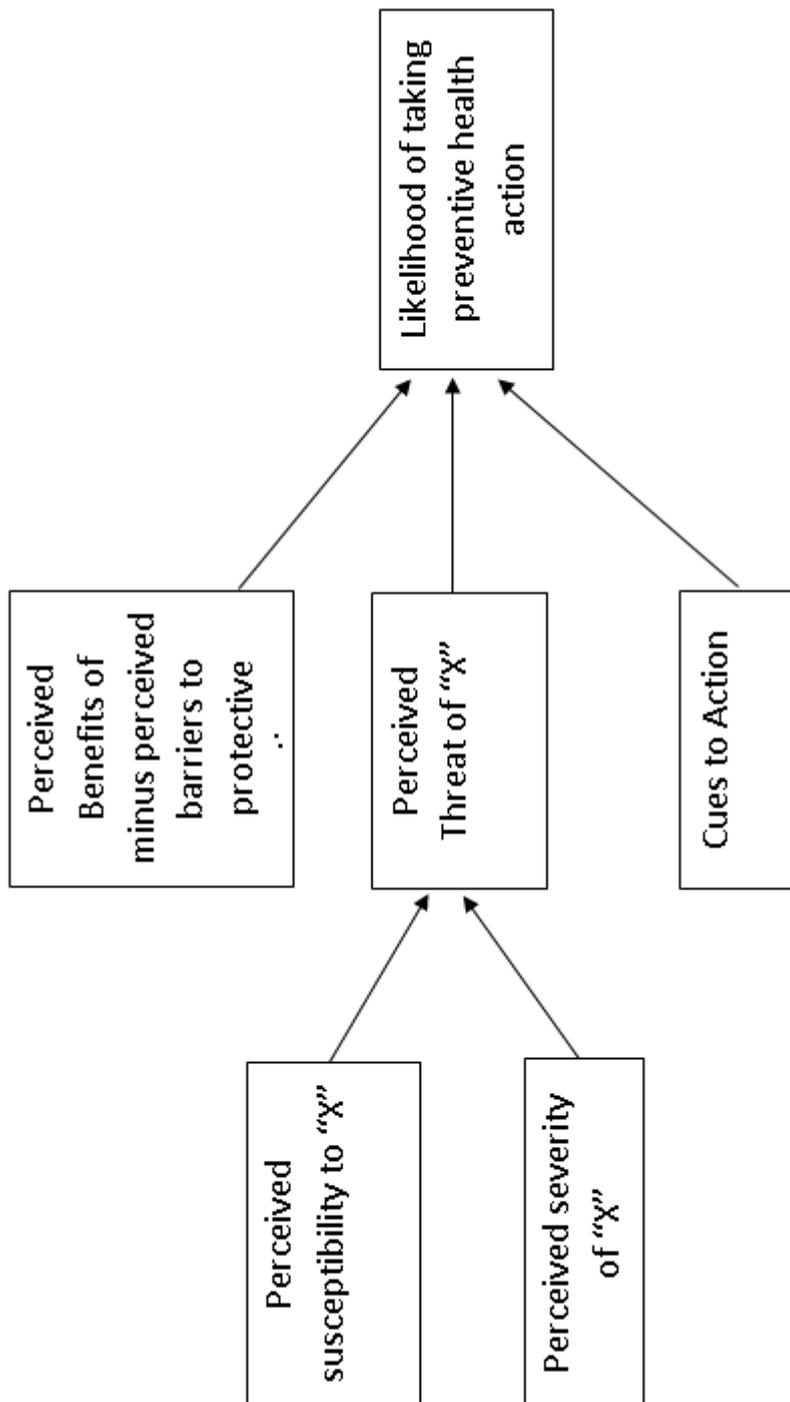


Figure 2.5.1 The Health Belief Model (Rosenstock, 1966)

Meta-analyses of the HBM have shown that while the majority of studies show a significant effect the amount of variance in behaviour accounted for is small varying between .001 and .09. While the effects of benefits and barriers to action have been shown to be effective predictors, particularly in retrospective studies the effect for severity have been less well established. Findings also show that the validity of the model differs dependent on the behaviour considered but this is to be expected as the weight of constructs is likely to differ dependent on the specific behaviour considered (Carpenter, 2010; Harrison, Mullen & Green, 1992).

Despite its wide application to health behaviours relatively few studies have applied the HBM to alcohol use. However those that have applied the HBM to student alcohol use and binge drinking have been able to provide some support for the HBM. For example the work of Von Ah, Ebert, Ngamvitoj, Park and Kang (2004) who applied the HBM to a range of health behaviours in students found that the higher number of barriers to healthy behaviours that students listed the more likely they were to engage in negative behaviours including drinking. Further to this their findings specifically regarding alcohol showed that perceived barriers to healthy lifestyles mediated the effects of self-efficacy on binge drinking and that among students who had high perceived threat the effects of self-efficacy were moderated by perceived threat for alcohol use. Other works have utilised the HBM in consideration of drink driving (Beck, 1981), and sexual risk taking and condom use after drinking alcohol (Hingson, Strunin, Berlin & Hearen, 1990). Further applications have focused on the utilisation of HBM concepts in intervention and prevention efforts (for example see Portnay, 1980). While this research is able to provide some support for the applicability and utility of the HBM to the area of student

drinking behaviour, studies which have considered health beliefs in conjunction with other predictive factors have found that social influences have a greater role to play in the prediction of drinking behaviour (for example see Gottlieb & Baker, 1986) and that expansions of the model to include intentions (Wdowik, Kendall, Harris, & Auld, 2001) and self-efficacy (Rosenstock, Strecher, & Becker, 1988;) improve the predictive validity of the model. Therefore it can be concluded that while useful the HBM does not provide a full account of the factors contributing to student drinking behaviour and as such interventions focused solely on the HBM concepts may be disregarding other more effective methods of behaviour change.

One of the major strengths of the HBM is that it is simple to understand and can be both understood and applied by non- psychologists. This may have contributed to its popularity and widespread use in the health field. Further to this while some more complex models contain a number of variables which are hard to define let alone change the HBM has been able to direct the attention towards modifiable predictors of behaviour. This does however leave the model open to criticism as being reductionist or over simplified. Some issues with early conceptualisations of the HBM (e.g. Rosenstock, 1966) such as the failure to include demographic characteristics which have been associated with alcohol use (Arnett, 1996; Cherry, 1991; Cranford et al., 2006; Ichiyana & Kruse, 1998; Naimi et al., 2003) and shown to influence decisional processes within the HBM (e.g. Carmel, Shani, & Rosenberg, 1994) and failure to include self-efficacy have been overcome in later developments of the model (e.g. Becker, 1974; Rosenstock et al. 1988). However the fact that the HBM does not include social factors is problematic. Although peer, family and other referent

groups are considered in cues to action and socio-psychological variables there is little to no consideration of factors such as role models, Social Learning Theory and social or societal norms. This is of particular importance for research considering student alcohol use and binge drinking which has been shown to be influenced by both parental and peer norms (Gottlieb & Baker, 1986). Further to this the model does not include intention which has been shown to be important (Wdowik, Kendall, Harris, & Auld, 2001) in the prediction of behaviour.

Two final weaknesses of the model have been identified. Firstly, the fact that the components of the model are only broadly defined means that the variables can be operationalised in different ways which causes problems relating to the comparability of studies. This is supported by the findings of Harrison, Mullen and Green's (1992) meta-analysis that revealed of the 22 studies considered 15 failed to meet their requirements for homogeneity indicating that different constructs were being measured. Secondly while the HBM offers certain testable predictions it does not provide an indication of the causal order to the constructs and has in fact been described as a loose collection of variables rather than a formal model for predicting health behaviour (Conner, 1993).

In summary while the constructs of the HBM have been shown to have some validity in both the prediction and change of health behaviour it does not offer a comprehensive explanation of the factors underlying behaviour. Regardless of other strengths and weaknesses the fact that the HBM does not account for normative influences is in itself enough to make this model inadequate for the prediction of student binge drinking behaviour.

### ***2.5.2.3 Social Cognitive Theory***

A theory which does account for social/normative influences is The Theory of Social Learning which was originally proposed by Miller and Dollard (1941) who applied behaviouristic principles to explain the occurrence of imitation. Research conducted by Bandura and colleagues in the 1960s broadened this view, considering not just imitation but also modelling and vicarious learning and resulted in Bandura's own Social Learning Theory (SLT). SLT stated that humans can learn through observation and modelling and that this is particularly effective when the individual is modelling someone that they identify with. In 1986 Bandura expanded SLT into Social Cognitive Theory (SCT) a fuller theory of human behaviour which was initially applied to the understanding of aggression and how aggression is learned.

In terms of explaining behaviour SCT (Bandura, 1986) states that a triad of constructs influence and determine each other through a continuous dynamic relationship (see Figure 2.5.2). The triad is composed of: the individual, the environment (which can be either physical or social and is represented by the 'situation' i.e. an individual's mental or cognitive representation of the environment) and the behaviour, this is known as reciprocal determinism. Thus a change in one construct can effect a change in another construct or in both of the other constructs of the model. For example in the U.K. a change in the individual from age seventeen years to eighteen years results in changes in the environment in terms of how accessible alcohol is and how socially acceptable drinking alcohol is (being that it is legal rather than illegal to purchase and consume in licensed premises) which in turn can result in a change in drinking behaviour.

This reciprocal relationship and its components are influenced by a number of additional constructs: Behavioural capability, a person's ability to perform a behaviour which is influenced by learning from previous experiences with the behaviour; Observational learning, learning through observing and modelling the behaviour of others which can increase behavioural capability; Reinforcements, internal or external responses, which can be either positive or negative, to a behaviour which affect the likelihood of enacting that behaviour in future; Expectations, expected consequences of a behaviour and the value placed on these consequences, these are derived largely from previous experience with the behaviour; Self-efficacy, a person's confidence in his/her ability to successfully perform a behaviour.

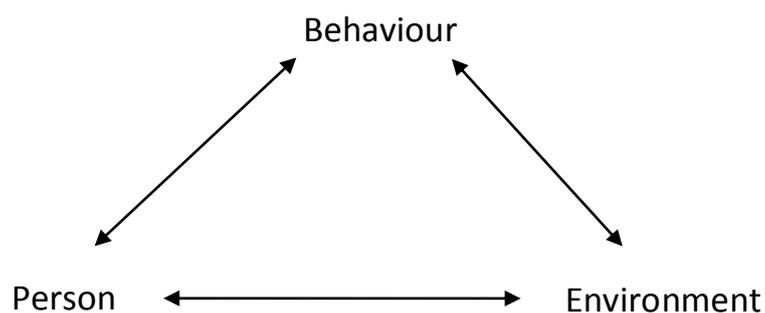


Figure 2.5.2 Reciprocal Relationship of Social Cognitive Theory

This final construct of self-efficacy will be explored in more depth because it has been frequently utilised as an expansion to other social cognitive models (Conner & Armitage, 1998; Rosenstock, Strecher, & Becker, 1988) and shown to be an effective predictor of behaviour and behavioural intentions (de Vries, Dijkstra, & Kuhlman, 1988). Bandura (1977, 1986) states that self-efficacy is influenced by four types of experience: Mastery experiences, an individual's experiences of successfully completing an action or behaviour; Vicarious experiences, an individual's experience of observing the actions and behaviours of others; Social persuasion,

statements made by others about the individual's capabilities;  
Physiological or emotional experiences, somatic and emotional reactions  
to actions.

The role of self-efficacy has been established for predicting several behaviours including sexual risk behaviours (Basen-Engquist, 1992; O'Leary, Goodhart, Jemmott & Boccher-Lattimore, 1992), exercise (McAuley, 1992, 1993) and smoking (Baer & Lichtenstein, 1988; Haaga & Stewart, 1992; Karanci, 1992) and has been shown to be an effective target for intervention works (Allison & Keller, 2004; Gilchrist & Schinke, 1983; Jemmott, Jemmott & Fong, 1992; Luszczynska, Tryburcy, & Schwarzer, 2007). Because of this strong evidence for both the importance of self-efficacy in explaining behaviour and its utility in interventions, self-efficacy or a closely related construct appears in many of the major theories of behaviour and behaviour change including the TPB (Ajzen, 1985), Theory of Interpersonal behaviour (Triandis, 1977) and Protection Motivation Theory (Rogers, 1975).

SCT as a whole has not been as widely applied or supported as the individual construct of self-efficacy. Although it is a useful tool in understanding learning and behaviour, in practice the full SCT is relatively complex to apply due to the subdivision of concepts and their influences. Despite this SCT makes a large contribution to the field of social cognitive models in the form of self-efficacy the role of which has become well established in the research literature.

#### ***2.5.2.4 Protection Motivation Theory***

In the 1970's, as contrasting evidence over the effectiveness of fear appeals emerged a theoretical basis for understanding them which was not offered by the HBM, was needed. This led to the development of

Protection Motivation Theory (PMT) (Rogers, 1975, 1983) which can be seen in Figure 2.5.3. As well as being a response to evidence regarding fear appeals PMT also builds on the earlier HBM. In fact the revised PMT can be seen as combining the HBM with Bandura's Theory of Self-Efficacy drawing on susceptibility, severity and response-efficacy from the HBM and self-efficacy from Bandura's Theory of Self-Efficacy and using them to predict 'protection motivation' or intention to perform a specified health behaviour (Milne, Sheeran & Orbell, 2000).

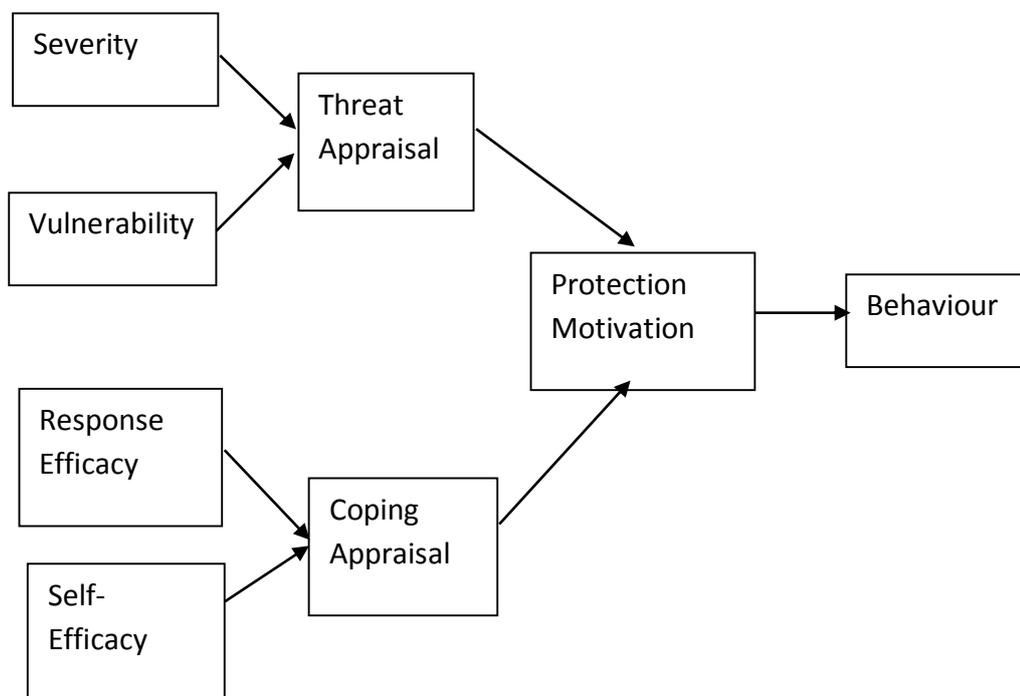


Figure 2.5.3. Protection Motivation Theory (Rogers, 1984)

Since its proposal PMT has undergone a number of revisions but in its most frequently applied form it considers four factors, the perceived severity of the threat (magnitude), the perceived probability of the threat occurring (likelihood), the perceived effectiveness of the preventative behaviour (response efficacy) and the perceived ability of the individual to perform the preventative behaviour (self-efficacy). Self-efficacy and the efficacy of the preventive behaviour are considered in the coping appraisal

while the perceived severity of the threat and the perceived probability of the threat occurring are considered in the health appraisal. Through this method PMT is able to consider both adaptive and maladaptive health behaviours. If the individual perceives themselves as being susceptible to a health threat and perceives that health threat to be severe and/or the individual perceives the preventative behaviour as effective and believes that s/he is able to perform the preventive behaviour, then an adaptive response is held to be more likely.

Despite the fact that PMT was developed to understand the role of fear appeals in behaviour change it has since been applied to a range of behaviours including cancer screening (Boer & Seydel, 1996), condom use (Aspinwall et al., 1991; Tanner et al., 1989; van der Velde & van der Pligt, 1991), smoking cessation (Maddux & Rogers, 1983) and moderate drinking (Ben-Ahron et al., 1995). Meta-analyses have found a moderate effect size of .52 (Floyd, Prentice-Dunn & Rogers, 2000) with threat and coping appraisals being most useful in the prediction of behavioural intentions for health behaviours (Milne, Sheeran & Orbell, 2000). However the model has a number of key weaknesses: it is more effective in the prediction of concurrent behaviour than future behaviour (Milne, Sheeran & Orbell, 2000); it fails to indicate the importance of each of the four factors in the prediction of behaviour and does not offer guidance regarding how to develop health campaigns or interventions that target each of the four elements (Schwarzer, 1992) and it does not account for habitual behaviours or include a role of habit which has been found to predict behaviour (Ouellette & Wood, 1998).

### ***2.5.2.5 Stage Theories of Health Behaviour***

Stage models of health behaviour are composed of discrete stages and state that an individual exhibiting a particular behaviour can either stay at the same stage or move forward through the model. Within these models causal factors influence transition from one stage to the next and different factors will be important dependent on which stages the individual is moving between. These models focus on the mechanisms of behaviour change and as such they provide insight into how behaviour change is brought about but do not give so much consideration to the factors underlying existing behaviours. Further to this data indicate that student drinking and binge drinking is normative (Norman, Bennett & Lewis, 1998; Webb et al., 1996; Marks Woolfson & Maguire, 2010) and that most young people do not feel that their drinking behaviours require change (Engineer, 2003). Therefore it appears that stage models are not necessarily the best tool for understanding student drinking behaviour. However evidence presented in the literature review has highlighted adolescence and the transition to university as periods during which drinking behaviour emerges and develops (White et al., 2006; Arnett, 2000) and stage theories form an important aspect of the theoretical background to the study of health behaviour. Therefore two stage models, the Self-Regulatory Model and the Transtheoretical Model (TTM) will be considered.

#### ***2.5.2.5.1 Self-Regulatory Model***

The Self-Regulatory Model (Leventhal & Cameron, 1987) was devised as a model of illness behaviour and cognitions; it proposes that the individual is an active agent who employs action to change his/her perceived current health status to match a goal or normal health state. As can be seen in Figure 2.5.4, in this model the performance of health behaviour(s) will

depend upon the individual's perception of his or her health status and their cognitive representations of their goal state. The Self-Regulatory Model (SRM) defines three stages involved in behaviour regulation:

*Interpretation of a health threat* – consideration of symptom perception, potential causes and/or possible consequences in the formation of a cognitive representation of the threat.

*Action plan or coping strategy* – usually takes the form of either an approach or avoidance strategy. An approach strategy includes behaviours such as seeking medical attention or self-prescribing some form of treatment or adaptive health behaviour. An avoidance strategy usually focuses around denying that there is a problem.

*Appraisal stage* – the individual gauges the success of the coping actions and adapts their coping action if progress is not considered to be efficient.

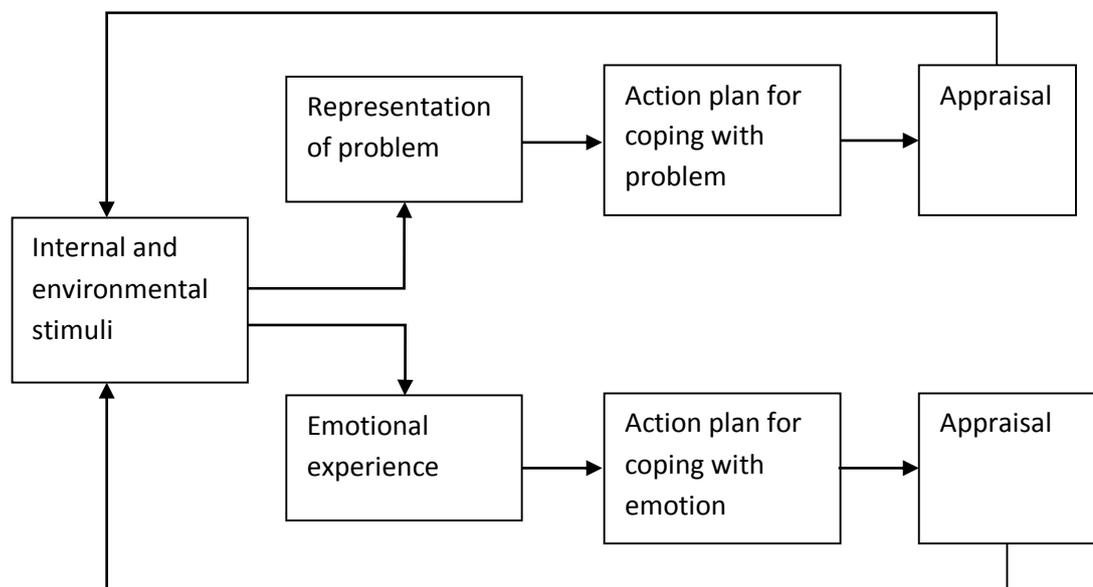


Figure 2.5.4. The Self-Regulatory Model (Leventhal & Cameron, 1987)

Meta-analysis results considering self-regulatory intervention studies (Febbraro, & Clum, 1998) support the model with an average effect size of

.25 being found. Further to this Febbraro and Clum's findings show multi component interventions are more effective than single component ones, therefore supporting the utilisation of multi- rather than single-component models (Febbraro, & Clum, 1998).

#### ***2.5.2.5.2 Transtheoretical Model***

The Transtheoretical Model (TTM), also known as the stages of change model, was proposed by Prochaska and Diclemente in 1983 and revised in 1992. The TTM is a more complex model than the self-regulatory model and integrates constructs from other existing theories of behaviour change and thus does not just include stages of change and causal factors but also: decisional balance, a pros and cons assessment of behaviour change; confidence and temptation; and processes of change.

The model specifies five discrete stages: The pre-contemplation stage, includes individuals who are not seriously considering changing their behaviour in the next six months; The contemplation stage, includes individuals seriously considering changing their behaviour in the next 6 months; the preparation stage, involves making plans and preparations to change behaviour, usually within the next thirty days; the action stage, involves beginning to perform the behaviour and includes all individuals who have changed their behaviour in the last six months; the final stage of maintenance involves the consistent, regular performance of the behaviour and includes all those who changed their behaviour six months ago or more. The TTM allows for forward movement from one stage to the next in order but also for backward movement in terms of a 'relapse' from action or maintenance to any of the earlier stages, so an individual may move through the stages in a linear progression but they may also

progress in a 'spiral' relapsing and moving back to stages they have already been through before progressing on once again.

In addition to the stages of change the TTM includes processes of change. These are activities, cognitive, emotional, behavioural and interpersonal techniques that can be used to progress from one stage to the next i.e. to change behaviour. The model includes 10 such processes which are equally split across two groups, experiential processes and behavioural processes. Experiential processes (Consciousness Raising, Dramatic Relief, Self-Re-evaluation, Environmental Re-evaluation, and Social Liberation) tend to be of greater importance in the early stages and increase intentions and motivation. Behavioural processes (Helping Relationships, Counterconditioning, Reinforcement Management, Stimulus Control, and Self Liberation) are of greater importance in the action and maintenance of behaviour. As stated earlier the TTM drew on existing theories and these processes of change are similar to the constructs of SCT. They are also supported by research which has demonstrated that change depends upon the use of specific processes at specific stages (Prochaska, DiClemente, Velicer & Rossi, 1993).

As stated earlier the TTM integrates constructs from other theories. Specifically decisional balance is derived from Janis and Mann's (1977) model of decision making, and similar to the benefits/barriers aspect of the HBM, involves a calculation around the pros and cons or advantages and disadvantages of behaviour change. The relationship between decisional balance and the stages of change has been found to be consistent across a number of problem behaviours (Prochaska, Velicer, Rossi et al. 1994). Similarly situational confidence, combines Bandura's concept of self-efficacy with Shiffman's coping models of relapse and

maintenance (Shiffman, 1986) and has also received support from empirical work (Diclemente, Prochaska, Fairhurst, Velicer, Velasquez and Rossi, 1991)

The TTM has most frequently been applied to smoking cessation (e.g. DiClemente and Prochaska, 1982; Prochaska and Diclemente, 1983) and physical exercise and there is strong evidence for its utility in behaviour change interventions (Prochaska & DiClemente, 1983; Prochaska, Prochaska, Cohen, Gomes, Laforge, & Eastwood, 2004; Prochaska & Velicer, 1997; Velasquez, von Sternberg, Dodrill, Kan, & Parsons, 2005).

While only a small number of studies have applied the TTM to the study of student (Vik, Culbertson & Sellers, 2000) and adolescent (Migneault, Pallonen, & Velicer, 1997) heavy alcohol use, the perceived pros and cons of drinking and the perceived temptation to drink, key constructs of the TTM, have been shown to predict binge drinking behaviour (Migneault, Velicer, Prochaska, & Stevenson, 1999; Maddock, Laforge & Rossi, 2000; Noar, Laforge, Maddock, & Wood, 2003). Further to this the work of Vik, Culbertson and Sellers (2000) and Migneault, Pallonen and Velicer (1997) found that individuals identified as being in the contemplation stage show the highest levels of alcohol use. However they also found that, despite experiencing negative consequences, the majority of participants were in the precontemplation stage showing that they do not recognize a need to change their drinking behaviour in the next six months. This highlights the need for research focused on ways to encourage students towards changing their drinking behaviour. While the TTM indicates that this should be done by increasing the pros of behaviour change and decreasing the barriers to change alternative theories such as the Theory of Planned Behaviour and the Theory of Interpersonal Behaviour which focus more on the factors

underlying behaviour than on the processes of change can provide further depth regarding the factors that can be targeted to encourage behaviour change.

Despite the research into attitudes and the attitude behaviour relationship discussed earlier in this section (Allport, 1935; Kraus, 1995; Olson, & Zanna, 1993; Webb, & Sheeran, 2006) none of the health behaviour models discussed so far have drawn on the idea of attitudes in the explanation of behaviour. Although some models (the HBM and TTM) have included cost benefit analyses attitude components have been shown to account for additional variance. For example Jordan, Nigg, Norman, Rossi, and Benisovich, (2002) found the addition of an attitude component to the transtheoretical model significantly increased the variance explained across the stages of change from 32% to 56%, and improved the predictive ability of pros and cons from 31.2% to 48.2%. However there are further models which do draw on attitudes and often combine them with constructs such as self-efficacy, intentions and expectancies about the outcomes of behaviour which the previously discussed models have identified as having utility for the prediction of health behaviour. These include Triandis' Theory of Interpersonal Behaviour (1977) The Theory of Reasoned Action (Fishbein & Ajzen, 1975) and The Theory of Planned Behaviour (Ajzen, 1985)

### ***Triandis' Theory of Interpersonal Behaviour***

Triandis' Theory of Interpersonal Behaviour (TIB) (1977) (see Figure 2.5.5) proposes that the performance of a behaviour is influenced by a combination of intention and habit with a number of factors weighting the relative influences of habit and intention on behaviour. New behaviours are considered to be guided predominantly by intention but as frequency

of performance of the behaviour increases so too does the role of habit with the importance of intention decreasing accordingly.

Within this model intention is defined as an indication of a person's readiness to perform a given behaviour and is determined by three factors: *consequences*, a subjective evaluation of the advantages and disadvantages of adopting the given behaviour weighted by the respective value attributed to these consequences (effectively an attitude component); *Affect*, the emotional response at the thought of adopting a given behaviour which can be influenced by past behaviour; *Social influences*, composed of normative influences, the appropriateness of behaviour performance in the reference group, and role beliefs, the appropriateness of behaviour adoption for a person of their social standing, and moral norm, the perceived obligation to adopt or avoid a given behaviour. Habit is the extent of experience with the behaviour or frequency of past performance of the behaviour. Facilitating factors, factors in the environment that facilitate the performance of the behaviour are also included. In contrast to the TPB which focuses on individuals' perceptions and includes the subjective measure of PBC this concept of facilitating factors is an objective measure. Similarly to the TPB more distal predictors are also included in the form of 'external variables', such as social context and personality characteristics, which influence habit and intention, via its determinants (Triandis, 1977).

The TIB can be seen to improve on previous models in three key ways, by specifying a role for affect in the prediction of intention, by including habit as well as intention as a predictor of behaviour and identifying a role for facilitating factors in the intention-behaviour and habit-behaviour relationships. The inclusion of these additional variables has been found

to increase the predictive power (Thompson, Higgins & Howell, 1991, 1994) and the individual roles of habit (Towler & Shepherd, 1991; Godin, Valois, & Lepage, 1993), affect (Parker, Manstead, & Stradling, 1995; Steg, Vlek & Slottergraf, 2001; van der Pligt & de Vries, 1998) and moral norm (Conner & Armitage, 1998; Harland, Staats & Wilke, 1999; Manstead, 2000) have been established in the research literature.

Despite the potential strengths of the TIB there are three key issues which mean it is not an ideal model to apply as a theoretical basis to researching student drinking behaviour. Firstly, the conceptualisation of 'habit' is problematic. Within the model habit is said to increase its effect with behavioural repetition allowing for both intention and habit to influence behaviour. Therefore a single previous repetition of a behaviour should increase the role of habit in the prediction of a behaviour but this can hardly be considered to represent a habit. Additionally as Conner and Armitage (1998) point out behavioural repetition in itself does not produce habit. Therefore the role of 'habit' in the TIB could be more accurately referred to as 'past behaviour' and the influence of habit itself could be assessed in addition to this.

Secondly Triandis aimed to account for the maximum amount of variance by including a greater number of variables than previous models, arguing that even a small amount of variance may be important if the behaviour in question is critical (Triandis, 1977) but the TIB goes only part way towards this, overlooking variables such as self-efficacy which are well established in the literature and may account for additional variance in behaviour. Further to this it also uses composite constructs of social influence and consequences of behaviour where multi-component approaches have

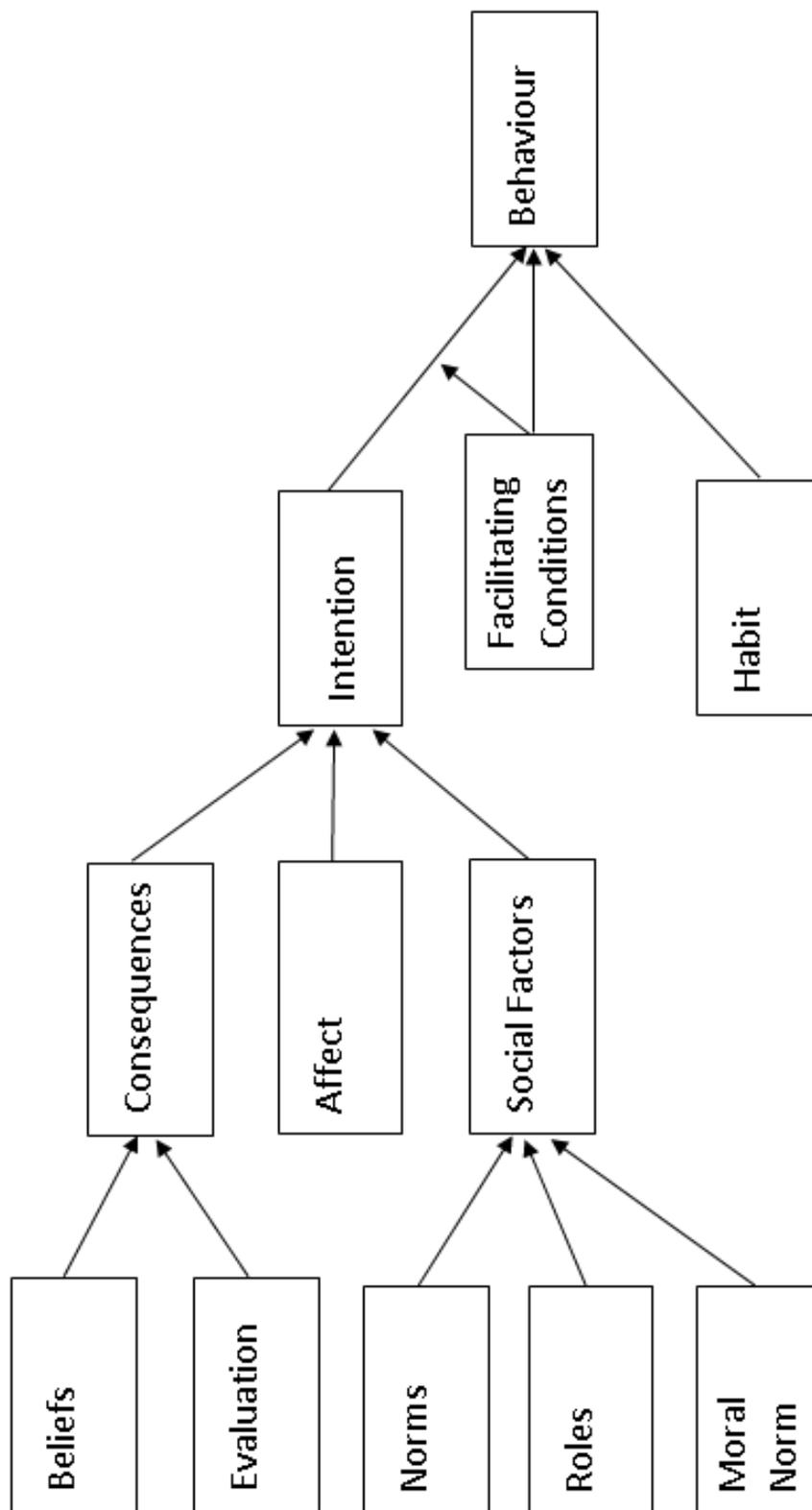


Figure 2.5.5. Theory of Interpersonal Behaviour (Triandis, 1977)

been shown to be more effective in predicting intentions (Elliot & Ainsworth, 2012) which appears to be in direct contrast to the aim of accounting for the maximum amount of the variance in behaviour. Finally the model is not well established in the research literature, the author was not able to identify any published works which have directly applied the TIB to the field of student alcohol use or binge drinking or any meta-analyses of the TIB itself.

### **2.5.3 Theory of Planned Behaviour**

The Theory of Planned Behaviour (TPB) stems from research on attitudes from the social psychology literature and is a development of the Theory of Reasoned Action (TRA) which was in turn developed from Information Integration and Expectancy Value theories.

#### ***2.5.3.1 Information Integration Theory of Attitudes***

Figure 2.5.6 shows Information Integration Theory (IIT) (Anderson, 1971, 1981a, 1981b) which considers the formation of attitudes. IIT indicates that attitudes are constructed in response to information received about an attitude object and that current attitudes are formed through combining new information with established cognitions about a target. For attitude formation and change the source of the information is not generally viewed as being important but the way that information is received and when the information is received can be. Within this, each piece of information and existing attitude has a weight and a value. A weight being an indication of how important the information or cognition is and the value being a measure of how positive or negative it is judged to be. Therefore an individual can hold an overall positive attitude composed of both positive and negative aspects of varying weight as long as there

are either more positive ideas than negative ones or the positive ideas outweigh the negative ones. This theoretical framework has been widely tested and supported (e.g. Anderson, 1971, 1973; Jaccard, & Becker, 1985). The idea of cognitive algebra is employed to explain how these new pieces of information are integrated to form a single attitude. Thus the separate information points can be added and/or subtracted from each other or can be averaged together to create the attitude. Although neither method is consistently supported by research the averaging model has received support and seems to have become more popular (Anderson, 1973; Anderson, & Graesser, 1976; Rogers, 1985).

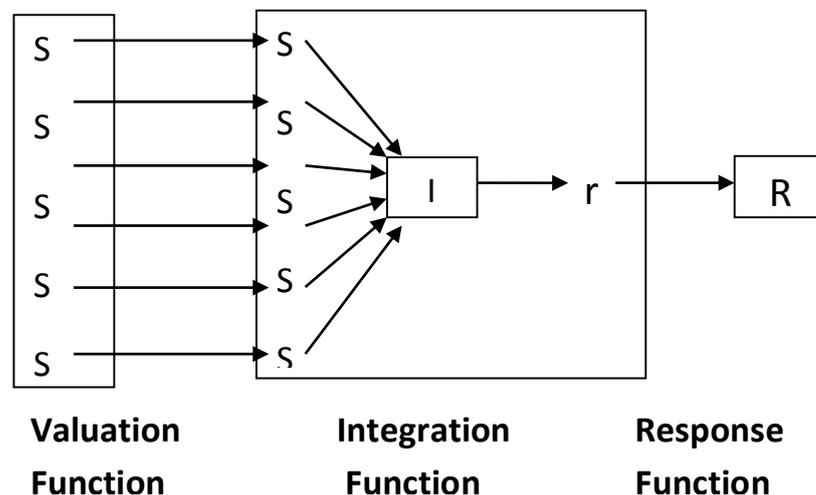


Figure 2.5.6. Information Integration Theory (Anderson, 1971, 1980)

Information Integration Theory would propose that in order to change an individual's attitude new information must be provided. Further to this the new information must have an opposite value to the existing attitude and be of a high enough weight to give rise to a change. Thus in order to change an existing attitude which is strongly positive an individual must receive new information that is not only negative but also has a high weight, alternatively several new pieces of negative information with lesser weights can be used to change an existing positive attitude. This explanation has been found to fit processes of attitude change (Anderson,

& Graesser, 1976). However the model has not always been able to predict exactly the amount of change in attitude following the supply of new information.

While IIT has generally been supported (Anderson, 1971, 1973; Anderson, & Graesser, 1976; Jaccard, & Becker, 1985; Rogers, 1985) as an explanation of attitude formation and change it does not consider how attitudes contribute to behaviour.

### ***2.5.3.2 Expectancy Value Theory Approach to the Attitude Behaviour Relationship***

Expectancy Value Theory (EVT) (Figure 2.5.7) proposed by Fishbein (1968) states that expectancies about the outcomes of a behaviour combine with values placed on these outcomes to produce an attitude towards the behaviour. Behaviour itself is determined by behavioural intention which is derived from the attitude towards the behaviour.

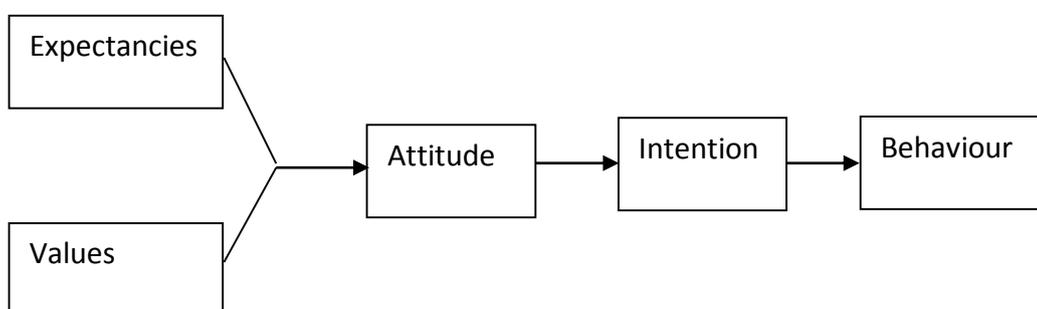


Figure 2.5.7. Expectancy Value Theory (Fishbein, 1968)

In EVT each action or item can have a number of related belief- value pairs. Beliefs refer to the perceived probability that an action will have a particular consequence. Beliefs combine with evaluations, the degree of positive or negative affect the individual attributes to a behavioural outcome (Fishbein & Ajzen 1980). As in IIT these beliefs result from new information about the item or action. New information can create a new belief or where beliefs already exist about the action it can change the

weight of a particular belief or its valence from positive to negative or vice versa (Littlejohn, 2002). People will usually expect behaviour to result in both positive and negative outcomes therefore belief-value pairs are equated to produce an overall attitude towards the behaviour based on how favourable the set of beliefs is (Fishbein & Ajzen, 1980). This overall attitude directs intention towards the behaviour and thus influences behaviour itself. Therefore EVT suggests that individuals select behaviours based on the expected outcomes and their evaluations of these outcomes and thus behaviour change can be brought about by changing the expected outcomes of a behaviour and/or the value placed on these outcomes.

Attitude formation in EVT is summarised by the following algebraic formula:

$$A_o = \sum_{i=1}^N B_i a_i$$

Where A= the attitude towards the object

B = the strength of belief I about o

A = the evaluation aspect of B

N = the number of beliefs about o

This formula is not proposed to be employed consciously but rather describes the process of attitude formation which occurs without conscious effort from the individual. This approach to attitude formation and the attitude behaviour relationship has been successfully applied to class room motivation (Fredericks & Dossett, 1983) and consumer research (Assael, 1981) and also formed the basis for the Theory of Reasoned Action and its later expansion, the Theory of planned behaviour.

### ***2.5.3.3 The Theory of Reasoned Action***

The Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), shown in Figure 2.5.8, expands on IIT (Anderson, 1971, 1981a, 1981b) and EVT (Fishbein, 1968) by distinguishing two types of beliefs that can influence behaviour, considering both attitude and normative influences. As in EVT (Fishbein, 1968) behavioural beliefs, beliefs about the potential positive or negative consequences of a behaviour combine with evaluation of the consequence to produce attitude towards the behaviour (the degree to which performance of the behaviour is positively or negatively valued by the individual). In addition to this TRA specifies that normative beliefs, beliefs held by an individual about the views of significant others with regard to whether or not they should perform a particular behaviour, combine with motivation to comply with the views of each significant other, to form subjective norm (beliefs about how significant others will view the behaviour in question). Subjective norm and attitude then combine to predict behavioural intention and so form more distal predictors of behaviour (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). The separation of attitudes from behaviour, via the inclusion of intention (also seen in EVT) and the inclusion of subjective norm in addition to attitude as a predictor of attitude allows the TRA to explain why attitudes do not always lead to behaviour (Kraus, 1995; Corey, 1937; Wicker, 1969).

The TRA has been used to predict a large range of behaviours including exercise uptake, alcohol use, seatbelt use and risky sexual behaviours (see review by Ajzen & Fishbein, 1973). Meta-analyses have found the TRA predicts between .53 and .62 % of the variance in behaviour and between .66 and .68% of the variance in intentions (Sheppard, Hartwick & Warshaw, 1988; van den Putte, 1991) and the importance of intention can

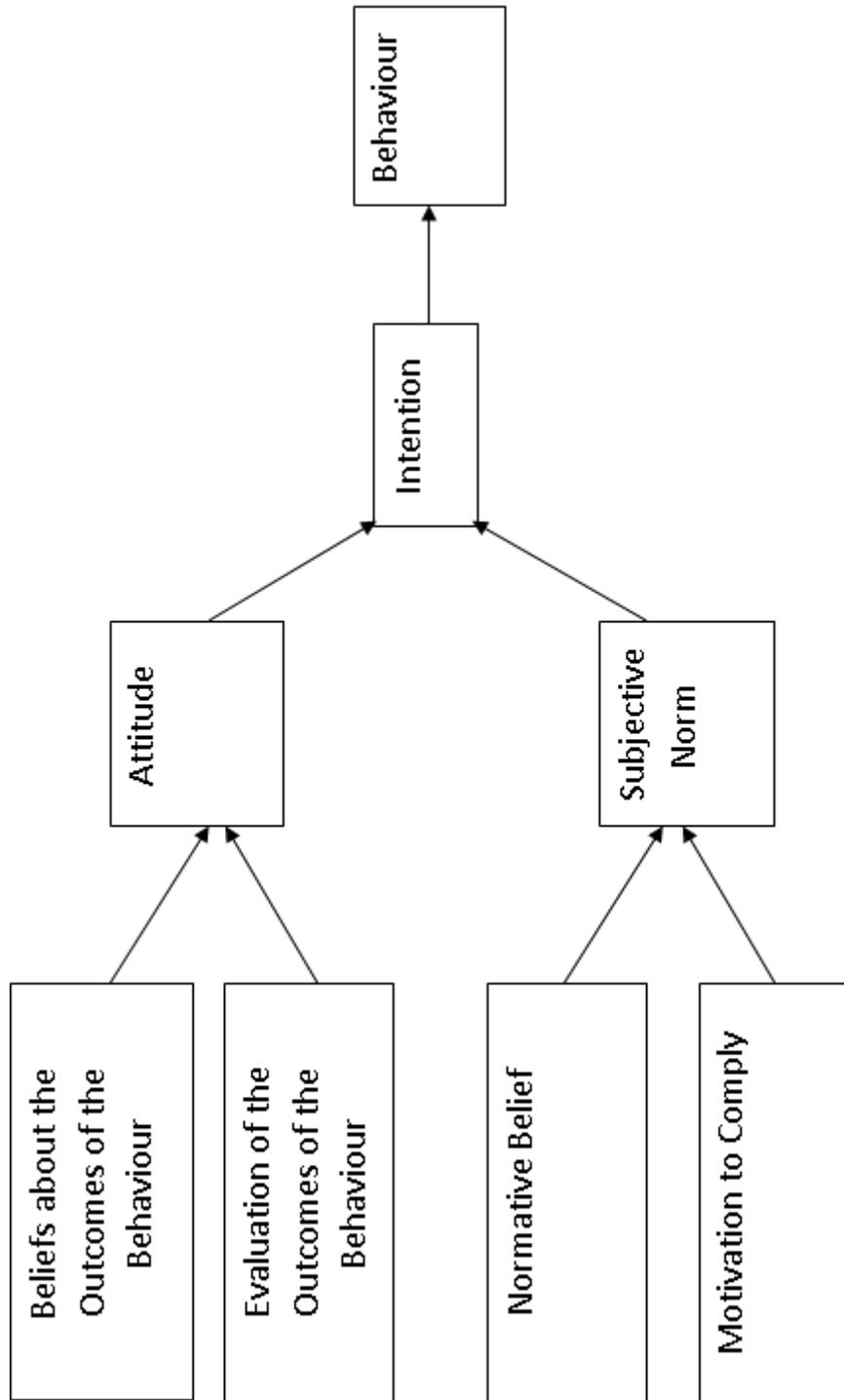


Figure 2.5.8. The Theory of Reasoned Action (Fishbein & Ajzen, 1975)

be seen in the accuracy of individuals in the prediction of their own behaviour. However it should be noted that attitudes usually make a greater contribution to the prediction of intentions than do subjective norms (Eagly & Chaiken, 1993; Armitage & Conner 1998). The importance of intention can be seen in the accuracy of individuals in the prediction of their own behaviour (Sheppard, Hartwick & Warshaw, 1988; Van den Putte, 1991). While empirical evidence supports the role of intention in the prediction of behaviour (see meta-analyses by Sheppard, Hartwick & Warshaw., 1988; van den Putte, 1991) they also demonstrate that intentions do not always lead to behaviour. Fishbein and Ajzen (1975) state that behavioural intention as it appears in the model will predict behaviour unless: intent changes before the behaviour can be performed; the individual is unable to perform the behaviour; or if the intention measure differs from the behaviour measure on factors such as context or timeframe. However further explanation as to why intentions do not always result in behaviour is offered by the expansion of the TRA into the Theory of Planned Behaviour (TPB) to include both personal and environmental factors that may be constraining or facilitating behaviour.

#### ***2.5.3.4 The Theory of Planned Behaviour***

The TPB (Ajzen, 1991), displayed in Figure 2.5.9, is an extension of the TRA (Ajzen & Fishbein, 1977) accounts for the disparity between intentions and actions by recognising the fact that many behaviours do not fall entirely under volitional control (Ajzen, 1985). As in the TRA, the TPB proposes that intentions are the strongest and most proximal predictor of behaviour, and intentions are a function of both attitude towards the behaviour and subjective norm regarding the behaviour. Further to this, the TPB includes perceived behavioural control (PBC), an individual's

perception of their ability to perform a given behaviour, as an additional determinant of both intention and, to the extent that it is an accurate reflection of actual behavioural control (ABC), behaviour (Ajzen, 1991; Ajzen, 2002a). The TPB also acknowledges the role of factors such as demographic variables and personality traits as 'back ground' factors which influence intentions and behaviour via behavioural, normative and control beliefs (Conner & Norman, 2005).

In the TPB attitudes, subjective norms and perceived behavioural control are formed automatically and without conscious effort as information is gained. Once formed these constructs are then available immediately in relevant situations and contexts. Similarly although intention is portrayed as the most proximal predictor of behaviour the suggestion is not that individuals will necessarily form a conscious intention before carrying out a behaviour. Instead once an individual has had a number of experiences of opportunities to perform (or not perform) the behaviour, behavioural intention will be automatically activated in relevant situations and contexts (Ajzen & Fishbein 2000). In this way many everyday behaviours can be completed with little or no conscious effort. However, self-reports of intention to perform or not perform a given behaviour have been shown to have a high level of accuracy (Sheppard, Hartwick & Warshaw, 1988; Van den Putte, 1991) indicating that they are still appropriate for the prediction of behaviour.

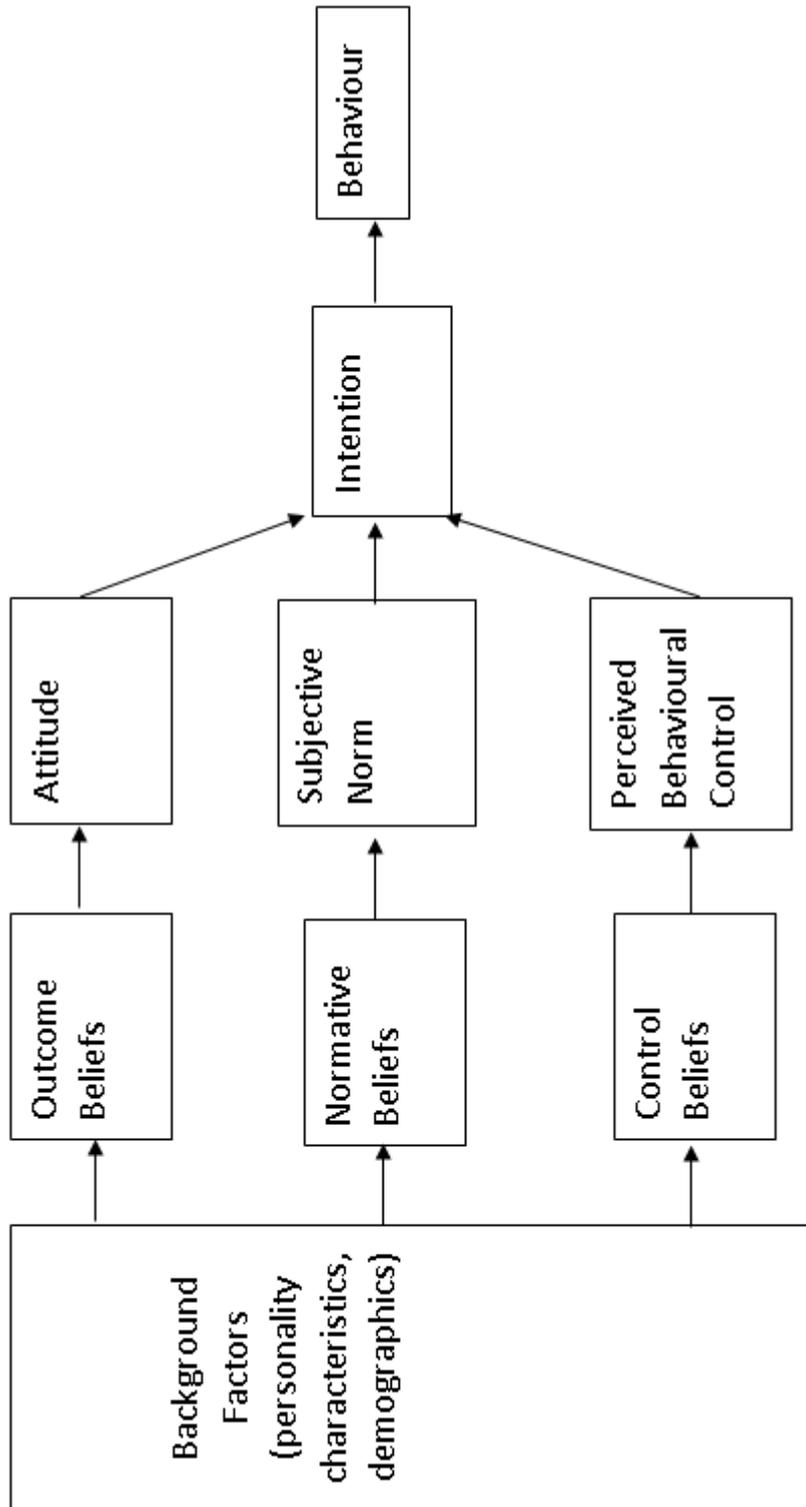


Figure 2.5.9. The Theory of Planned Behaviour (Ajzen, 1991)

Although the TPB may indicate a rational approach to behaviour and intentions, the behaviour observed and intentions measured may not always be rational themselves. This is because behaviour and intentions are indirectly determined by beliefs and the beliefs that any one individual holds may not be numerous and are not necessarily based on accurate or factual information; beliefs can be produced from invalid information and may be biased, selective or self-serving and not all beliefs have the same lifespan - some will be long lasting while others are short-lived.

The efficacy of the TPB as a model for the prediction of intentions and behaviour has been supported. A meta-analysis (Armitage & Conner, 2001) found that across 185 studies the TPB accounted for 27% of the variance in behaviour and 39% of the variance in intentions with both PBC and Intention acting as significant predictors of behaviour and attitude, subjective norm and PBC acting as significant predictors of intention. Further to this the model was found to have strong test-retest and internal reliability (Armitage & Conner, 1999). The TPB has been applied to the prediction of a number of health related behaviours (Johnston & White, 2003) and has been shown to have good predictive validity. With reference to alcohol consumption and binge drinking specifically the TPB has been shown to account for more than 65% of the variance in intentions to binge drink (Johnston & White, 2003; Norman & Conner, 2006) and 51 % of the variance in binge drinking behaviour (Johnston & White, 2003).

Despite its strengths a number of weaknesses of the TPB have been identified. Attention has been drawn to the discrepancy between intentions and behaviour. However before the development of the TRA and TPB many studies were accounting for no more than 10% of variance

in behaviour (Wicker, 1969). Further to this, in general the TPB has been well supported by empirical work with meta- analyses revealing correlations of between .44 and .56 (Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Godin & Kok, 1996; Sheeran & Orbell, 1998) which indicate a strong link between intentions and behaviour. Additionally work considering the prediction of intentions has shown that attitude, subjective norm and PBC are effective and accurate predictors of intention with correlations ranging from .63 to .71 (Albarracin et al 2001; Godin & Kok, 1996; Sheeran & Taylor 1999).

The specific role of PBC in the prediction of intentions and behaviour has been much debated because it often accounts for only a small amount of variance in comparison to attitude and subjective norm and has shown relatively weak correlations to actual behavioural control (ABC) (Reinecke, Schmidt, & Ajzen, 1996). Further to this some have questioned whether having control over a behaviour will actually predict behaviour (Eagly & Chaiken, 1993) suggesting PBC is only relevant when it is low. However the addition of PBC has been shown to improve the prediction of behaviour especially when performance of the behaviour is difficult (Armitage & Conner, 2001).

Despite these successes an objective viewer must consider the amount of variance that remains unaccounted for by the TPB. Some but not all of this unaccounted for variance can be put down to random measurement error and methodological issues of individual studies. Structural equation modelling work has demonstrated that once measurement unreliability is controlled for results show a high proportion of explained variance (Davis, Ajzen, Saunders & Williams, 2002). Inappropriate operationalization of the predictor and criterion variables and lack of variance in the behavioural

criterion may also make up some of this unaccounted for variance. In terms of offering further explanation for the as yet unaccounted for variance the TPB offers a further strength in that it is open to expansion through the inclusion of additional and modified variables (e.g. measures of affective variables, self and group identity, habit and moral beliefs) which can improve our understanding of the psychological antecedents of behaviours such as binge drinking and thus increase our abilities to predict it and to intervene in order to alter the behaviour. A full discussion of the variables that can and have been incorporated into the TPB is offered in the following chapter.

#### **2.5.4 Model Selection**

At the outset of this chapter it was mentioned that many of the concepts contained within the different models are actually relatively similar to each other. Although this can make comparisons between models more difficult it can also be used as an indication of some of the most important variables to consider in the prediction of behaviour. There are four concepts that stand out because they appear in a number of models, these are attitude or beliefs, personal agency or behavioural ability, normative influences and decisional balance including a decision point such as intention at which an individual makes a decision about whether or not to enact the behaviour. Ideally the model applied to the understanding of student binge drinking behaviour should include all four of these concepts therefore they can be used as criteria to select the most appropriate model to employ as the theoretical basis for the empirical research conducted in this thesis. The TIB and TPB are the only models that have been considered which include all of these components.

In addition to including these four concepts an effective theory for application to student binge drinking should also include a role for past behaviour (Naimi et al. 2003; Read et al., 2003; Wechsler et al., 1995; Weitzman, Nelson, & Wechsler, 2003), personality characteristics (Arnett, 1996; Cammatta & Nagoshi, 1995; Clapper, Martin & Clifford, 1994; Ichiyana & Kruse, 1998) and demographic variables (The Health and Social Care Council Information Centre, 2013) which have been consistently related to alcohol use and binge drinking. Both the TIB and TPB include distal variables which can include personality and demographic characteristics but only the TIB includes a role for past behaviour in the form of habit. While this would suggest that the TIB is the most appropriate model to utilise in this work, as previously discussed, the conceptualisation of habit and its relationship to behaviour and intention in the TIB is problematic particularly because the construct described by the TIB is more closely related to frequency of past behaviour than actual habit and repetition alone is not enough to bring a behaviour under habitual control (Conner & Armitage, 1998). As the TPB is open to expansion through the inclusion of additional variables, allowing for the inclusion of both habit and frequency of past behaviour, employing the TPB along with expansions to consider past behaviour and habit can meet this criteria at the same time as avoiding the problems with the conceptualisation of habit in the TIB. Therefore the TPB will be employed as the theoretical basis for the empirical work conducted for this thesis.

### **2.5.5 Conclusions**

This chapter has considered the history of social cognitive models and argued for the use of the TPB in the research work contained within this thesis. The fact that the TPB not only includes all of the key concepts

discussed but also indicates the importance of more distal predictors makes it a very strong contender among the social cognitive models. In addition its proven record for the prediction of intentions and behaviour both for alcohol use and other behaviours and its ability to incorporate additional variables to account for more variance in behaviour and intentions makes it the most appropriate model for the research undertaken in this thesis.

## **2.6 The Theory of Planned Behaviour**

The TPB (Ajzen, 1991) shown in Figure 2.6.1 was developed by social psychologists as an improvement to the TRA. It is a deliberative model which proposes that intentions and PBC are the most proximal predictors of behaviour and that an individual's behavioural intentions are formed by consideration of accessible information. The TPB has been widely applied to behaviours in both health and social psychology, including drug use, alcohol use, condom use, healthy eating, physical activity, screening behaviours and environmental behaviours (Armitage & Conner, 2000).

The TPB sets out the factors that determine an individual's behaviour and behavioural intentions. Within the model the most proximal predictors of behaviour are behavioural intention (an individual's decision to perform or not perform a particular behaviour) and perceived behavioural control (PBC) (a person's belief that performance of the behaviour is within their control) with behavioural intention itself being predicted by attitudes, subjective norm and PBC, each of which have their own determinants (Ajzen, 1988, 1991).

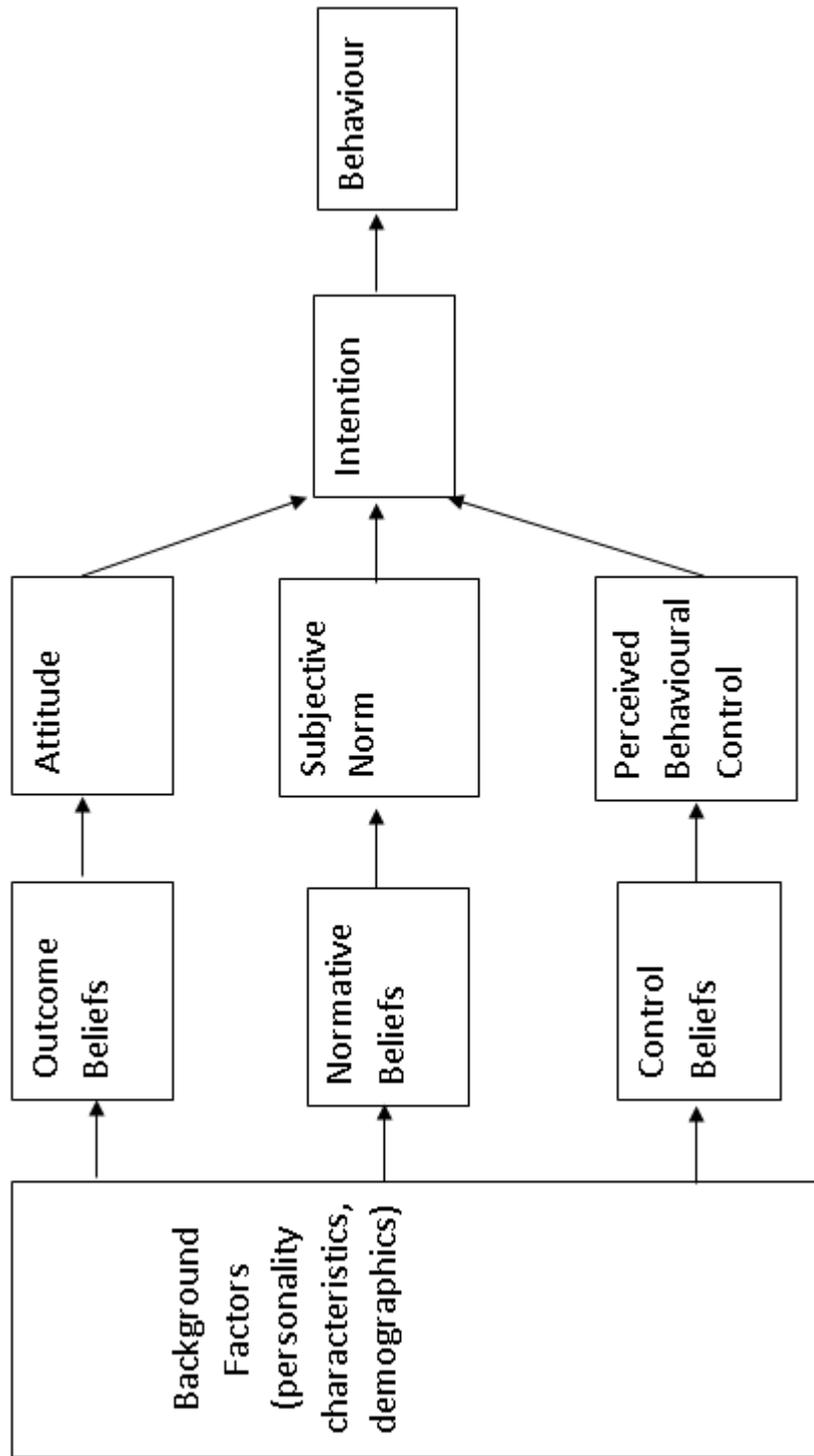


Figure 2.6.1. The Theory of Planned Behaviour (Ajzen, 1991)

### **2.6.1 Contribution of determinants**

Although the TPB sets out the determinants that should be considered in the prediction of behaviour and provides regression equations for the prediction of both behaviour and intention, the relative power of each determinant must be determined through empirical research. Where B = Behaviour; BI = Behavioural Intention; A = Attitude, SN = Subjective Norm; PBC = Perceived Behavioural Control and  $w_1, w_2, w_3, w_4, w_5$  = regression weights, the regression functions set out by the theory are as follows:

$$\text{Behaviour: } B = w_1BI + w_2PBC$$

$$\text{Intention: } BI = w_3A + w_4SN + w_5PBC$$

For the prediction of behaviour the relative importance of BI versus PBC can be expected to vary dependent on the behaviour and population considered and so the regression weights can also be expected to vary. When it comes to the prediction of BI the relative importance of A, SN and PBC will also vary dependent on the behaviour and population considered (Ajzen, 1991). Further to this variation has also been shown across population sub groups and individuals with some individuals tending to place more importance on their own attitudes while others derived intention predominantly from norms (Trafimow & Findlay, 1996). Additionally the influence of one model component can be influenced by the strength of another (Sparks & Shepherd, 1992).

### **2.6.2 Applications of the Model**

There are a considerable number of studies applying the TPB and it has been applied to a variety of behaviours. The vast majority of these studies can be considered successful applications on the basis that they explain

substantial amounts of variance in intention and behaviour even in the presence of time gaps between measurement of TPB variables and action. Armitage and Conner (2001) found that across 185 studies the TPB accounted for 27% of the variance in behaviour and 37% of the variance in intentions. Some of the key areas of TPB research are detailed in this section and findings from meta-analyses and review papers are considered.

In the area of health behaviours Godin and Kok (1996) identified 56 studies, 26 of which predicted behaviour. The scope of applications was broad covering addictive behaviours in relation to cigarette smoking, alcohol use, drug use and eating disorders as well as further health behaviours including healthy eating, exercising, sexual risk taking and oral hygiene. On average these applications were able to account for 41% of the variance in intentions and 34% of the variance in behaviour. More recent applications of TPB have shown similar effectiveness explaining between 16.7% and 46% of the variance in intentions and between 12% and 73.4% of the variance in behaviour (Conner, Warren, Close, & Sparks, 1999; Huchting, Lac, & LaBrie, 2008; McMillan & Conner, 2003).

The following sections will discuss intention, attitude, subjective norm and PBC in turn, considering the research findings regarding the role of each component in the TPB model, before moving on to consider applications of the model and proposed expansions variables from the research literature.

## **2.6.3 Model Component**

### ***2.6.3.1 Behavioural Intentions***

Behavioural intentions, a person's readiness to perform a given behaviour, are predicted by: attitudes, an individual's evaluations of the behaviour; subjective norm, an individual's perceptions as to whether those important to them think that they should engage in the behaviour; and PBC, a person's belief that performance of the behaviour is within their control. Within this attitudes are determined by behavioural beliefs in the form of evaluations of the perceived or expected consequences of the behaviour, weighted by the likelihood of the outcome in question occurring should the behaviour be performed; Subjective norms are determined by normative beliefs, perceptions about whether specific referent others think that they should engage in the behaviour, multiplied by the individual's motivation to comply with the views of the significant other; and PBC is determined by control beliefs, beliefs concerning whether the individual has access to the necessary resources and opportunities to perform the behaviour in question, weighted by the power of these factors with regards to facilitating or inhibiting the behaviour (Conner & Norman, 2005).

Researchers have given consideration to the measurement, operationalisation and components of behavioural intentions. Two key issues have been identified in this literature. Firstly, a distinction has been drawn between behavioural intentions and self-predictions with evidence being presented to suggest that self-predictions act as more effective predictors of behaviour than do intentions (Sheppard et al. 1988). Secondly, although the TPB offers explanation as to how attitudes influence behaviour it is less clear on the processes by which attitudes are

converted to intentions. Bagozzi (1992) suggested an additional step between attitude and intention in the form of desires. Stipulating that attitudes are first translated into desires and desires into intentions thus a desire based measure should indirectly tap intentions. However a meta-analysis conducted by Armitage and Conner (2001) failed to support Bagozzi (1992) finding that intentions and self-predictions were more effective predictors of behaviour than were desires ( $q_s = .07, .12$  respectively) when PBC was included, and a combination of intention and PBC explained most variance in behaviour ( $R^2=.27$ ) supporting the original TPB model (Armitage & Conner, 2001).

### **2.6.3.2 Attitudes**

Fishbein and Ajzen (1975) define an attitude as:

“a learned disposition to respond in a consistently favourable or unfavourable manner with respect to a given object”

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Attitudes have often been shown to be the best predictors of behavioural intentions showing a correlation of .19 in Armitage and Conner's (2001) meta-analysis compared to correlations of .11 and .09 respectively for PBC and subjective norm. In TPB studies measurement of attitudes is usually made through semantic differential scales (Ajzen, 2002b). Here the principle of compatibility also guides the measurement of relevant attitudes through the stipulation that attitudes to be measured should be those which are related to the behaviour of interest and have the same level of specificity for time and context as employed in the measurement of the behaviour (Ajzen, & Cote, 2008).

Further to this at any one time an individual may hold a large number of beliefs related to a behaviour but only a subset of these will be salient (Ajzen & Fishbein, 2000) therefore in order to allow for effective prediction of behaviour and behavioural intention measurement of attitudes must aim to tap only the beliefs which will be accessible and salient at the time of action. Attitude salience has been shown to improve the attitude-intention-behaviour relationship (Cooke and Sheeran, 2004 Crano, & Prislin, 1995). This raises two issues firstly the attitudes which are salient at the time of completing a TPB questionnaire may differ from those that are salient at the time of action (Ajzen & Sexton, 1999); secondly salient beliefs should differ from one individual to another but the procedure outlined by Ajzen and Fishbein (1980) suggest the use of modal salient beliefs not individually generated ones. Studies comparing the levels of prediction offered by individually generated versus modal beliefs suggest that the use of individually generated beliefs do not increase levels of prediction enough to compensate for the additional effort required at data collection, however individually generated beliefs have been shown to have greater utility for health behaviours which have implications for others as well as the self (Steadman, Rutter, & Field, 2002). To consider the influence of differences in salient beliefs between the time of measurement and action, researchers have investigated situations such as contraceptive use and engagement in risky sexual behaviours where the emotional state at measurement is likely to differ from that at time of action. Overall the attitude-intention-behaviour relationship remains consistent (Albarracin et al., 2001) especially when both cognitive and affective beliefs are measured (Ajzen & Sexton, 1999). A final point regarding the salience of beliefs is that pilot work with individuals from the population of interest may have a tendency to

generate attitudes which are easy to explain and voice (usually cognitive ones) rather than those which are more difficult to articulate (affective or experiential attitudes and beliefs) and this too may limit the predictive power of beliefs and attitudes within the TPB model. This final issue is more difficult to overcome in empirical work as even employing individual generation methods may not reduce the effects. However some steps can be taken by ensuring that measures do not focus solely on cognitive beliefs and attitudes (Ajzen & Sexton, 1999).

Although the original TPB does not distinguish between types of attitudes this is something which has been raised in research with many researchers distinguishing between measures of affective and cognitive attitudes and comparing the predictive validities of the two, this is discussed in more depth in the section on expansions to the TPB. In addition to considering the components of attitudes and their measurement research has also pursued the possibility of employing a measure of importance or relevance of each behavioural belief to attitude and behaviour (Boninger, Krosnick, & Berent, 1995; Costarelli, & Colloca, 2007). Findings in this specific area are mixed but theoretical suggestions are that this can be of importance where informing interventions is the primary aim as it can aid the identification of beliefs which are important for specific populations or sub populations and thus allow interventions to stratify populations by key beliefs. For example in the field of student drinking gender differences have been identified in the salience of expectancies regarding sexual functioning and assertiveness (Wall, Hinson, & McKee, 1998).

### ***2.6.3.3 Subjective Norm***

In addition to attitudes the TRA and TPB take into account the perceived social pressure that an individual experiences with regard to performing or

not performing a behaviour in the form of subjective norm. While attitudes are generally found to be the best predictor of intentions subjective norms tend to be the weakest (Armitage & Conner, 2001). There are two possible explanations for the weak relationship between subjective norms and intention, the first being that norms are less important than attitudes and PBC in the determination of intentions; the second being that further consideration to the operationalisation and measurement of normative influences is needed in order to tap them effectively.

If we accept that norms are more influential than research has indicated and it is methodological issues which lead to the poor predictive relationship between norms and intentions then there are a number of areas which could be the cause. Results of previous work could have been flawed by poor measurement of subjective norm. As part of their meta-analysis Armitage and Conner (2001) suggested that the employment of single item measures of subjective norm could be limiting the predictive effects and comparisons for single item measures to multi-item measures found that although multi-item measures of SN had significantly stronger predictive power SN remained a weak predictor of intention in comparison with attitude and PBC. The relationship of SN with intention could be being limited by the conceptualisation of normative influences as subjective norm. Subjective norm as it appears in the TPB refers to the perceived social approval of others and as such can be seen to exert its effects on intention and behaviour through expected social rewards and punishments. Following this conceptualisation they are injunctive norm and do not account for descriptive norms, perceptions of others' behaviour, which exert their influence through modelling and social learning. Research findings have demonstrated that including both

descriptive norm and subjective norm in the TPB model increases the prediction of intentions. A meta-analysis investigating the role of norms in the TPB (Rivis & Sheeran, 2003) showed that across 14 studies analysed there was a correlation of  $r_+ = 0.46$  for the descriptive norm – intention relationship and descriptive norms were able to account for an additional 5% of the variance in intention above that accounted for by attitudes, subjective norm and PBC.

Expanding the normative component of the TPB is considered in more depth in the section discussing expansions to the TPB model.

#### ***2.6.3.4 Perceived Behavioural Control***

The inclusion of PBC, the extent to which a person believes the behaviour is under his/her control, sets the TPB apart from the TRA. Ajzen (1988) states that the TRA isn't able to account for behaviours that do not fall entirely under volitional control. Specifically while a person may intend to perform a behaviour a lack of ability or external constraints can prevent this intention from being converted into action (Ajzen, 1988). However, measuring actual behavioural control (ABC) is difficult, therefore Ajzen suggested using a measure of PBC in its place. To the extent that PBC reflect ABC it will act as a predictor of behaviour (Ajzen, 1988).

Comparisons have shown that the inclusion of PBC increases the prediction of behaviour compared to the intention only predictions of the TRA (Ajzen, 1991; Conner & Armitage, 1998; Godin & Kok, 1996) and where PBC is accurate it not only predicts behaviour but also moderates the intention-behaviour relationship (Sheeran et al. 2003). Further to this PBC is also considered to act as an additional predictor of intentions because individuals will be disposed to perform desirable behaviours which they have control over rather than those which are deemed to be

outside of their control. This relationship has also been supported by research evidence with Armitage and Conner's (2001) meta-analysis identifying a strong PBC-Intention correlation ( $r = .43$ ) and finding that PBC accounted for an additional 6% of variance in intentions when attitude and subjective norm were controlled for.

Despite empirical support for the role of PBC in the prediction of intentions and behaviour there has been debate in the literature as to the operationalisation and measurement of PBC. Researchers have suggested that because the concept of PBC is similar to Self efficacy (Bandura, 1977), the "conviction that one can successfully execute the behaviour required to produce outcomes" (p. 192), replacing PBC in the TPB with self-efficacy would be appropriate. However results of meta-analyses reporting the relative predictive power of the two concepts show that although self-efficacy is a more effective predictor of intentions and behaviour than are measures of controllability but when compared to a uni-dimensional measure of PBC, self-efficacy does not show greater predictive validity (Armitage & Conner, 2001).

Others have drawn distinctions between multidimensional, uni-dimensional and single component measures of PBC (Ajzen, 2000a; Trafimow, Sheeran, Conner & Finlay, 2002). A meta-analysis conducted by Trafimow and colleagues (2002) demonstrated that perceived difficulty correlates more strongly with both intentions and behaviour than does perceived control (Trafimow et al. 2002). However perceptions of behavioural difficulty are necessarily important for perceived levels of control over performance of the behaviour has been questioned. Specifically just because an individual perceives a behaviour to be difficult to perform it does not necessarily follow that they will perceive

themselves as having less control over that behaviour than a behaviour which they view as being easy to perform (Fishbein, 1967) meaning that measures of difficulty alone may not account for differences in perceived capability of producing an action (Ajzen 2002a, Trafimow et al. 2002). Measures of PBC should therefore seek to assess both control and efficacy beliefs. This can be done either by a uni-dimensional approach, considering control and efficacy beliefs as separate aspects of a single construct of PBC or by utilising a multi-dimensional approach considering control and efficacy as separate constructs underlying a higher order factor of PBC. Measures of PBC have tended to follow the uni-dimensional approach which has been shown to be more effective than considering either perceived control or self-efficacy alone (Armitage & Conner, 2001) however such measures often report low internal reliabilities (e.g. Chan & Fishbein, 1993; Sparks, 1994) which could be resulting from employing a mixture of items which are actually tapping different variables rather than different aspects of the same construct. More recent works have tended to take a multidimensional approach to the study of PBC (Ajzen 2002a). There is little evidence to support the idea that controllability and self-efficacy are lower order components of a higher order PBC concept (Sparks, Guthrie & Shepherd, 1997; Terry & O'Leary, 1995), and while it should be noted that the findings from meta-analyses (Armitage & Conner 2001; Trafimow et al., 2002) have not taken this multi-dimensional approach into account, the findings of Trafimow et al. (2002) suggest that control and difficulty should be considered as separate constructs.

A further issue with the measurement of PBC is that the items used to tap PBC are not necessarily distinct from those used to tap other TPB components, specifically easy-difficult items (such as those used to assess the perceived difficulty of a behaviour) overlap with semantic differentials

used in attitude measurement. Such overlaps have been identified for a number of behaviours including condom use (Leach Hennessy & Fishbein, 2001) physical activity and recycling behaviours (Kraft, Rise, Sutton, & Røysamb, 2005). The existence of these overlaps are thought to be due to the relationship between ease of behaviour and affective attitude, in that where a behaviour is perceived to be easy to perform an individual is likely to hold a positive affective attitude towards it while a negative affective attitude will be held towards behaviours which are perceived to be difficult to perform.

In addition to considering the measurement of PBC consideration should also be given to the measurement of the control beliefs purported to underlie it. Control beliefs are said to be formed based on previous experience with the behaviour. They should assess whether or not the resources and skills required to perform the behaviour and if valid opportunities to perform the behaviour exist. This approach has been relatively consistent in the research literature but research differs in the way that it operationalises control beliefs. Some researchers such as Godin and Gionet (1991) have aimed to measure the extent to which barriers hinder the performance of behaviour while others have measured the frequency with which barriers and facilitators are encountered (Ajzen & Madden, 1986). A further and more holistic approach has been to assess the frequency of facilitators and barriers then weight this by the perceived power of these to either facilitate or inhibit behaviour (Ajzen, 2002b). In addition to these different approaches to the measurement of control beliefs this area is further confused by suggestions that control beliefs actually act as antecedents of self efficacy rather than perceived behavioural control (Armitage & Conner, 1999).

It is evident from the many inconsistencies in PBC research that careful consideration of the role of PBC and control beliefs, and how these antecedents should be operationalised and measured is required.

#### **2.6.4 Issues and Criticisms of the Model**

A number of issues and criticisms have emerged from the literature surrounding the TPB, these will be discussed in this section.

With regard to the measurement of the model components, in addition to the issues discussed with regards to individual components the fact that the measurement of the model components is predominantly conducted via self-report methodology is problematic. Although this is deemed the most accurate method of measurement for the unobservable predictors of intention and behaviour, self-reports are not the most accurate measure of behaviour as they are open to both self-presentation biases and demand characteristics. It is recommended that researchers should undertake multiple, accurate and objective measures of behaviour. However this tends to require increased time and monetary resources therefore is not often possible. In terms of measuring alcohol consumption self reports have been found to be reliable and valid for both addicted and non-addicted individuals (Maisto, Sobell, & Sobell, 1979; Midanik, 1988; Sobell, Maisto, Sobell, & Cooper, 1979).

A number of issues also arise from the principle of compatibility and in the related area of temporal stability. Compatibility between measures of behaviour, intention and its determinants allow for greater predictive power within the TPB model. Yet the prediction of a specific behaviour at a stated time towards a specified target can only be of so much use. Of more use and greater interest to psychologists are patterns of behaviour, responses and regularities that occur across times and contexts.

Additionally, although attitude measures which show compatibility to intention and behaviour measures will act as more effective predictors general attitudes towards the behaviour may also be of use. For example attitudes towards binge drinking in the next fortnight are likely to be influenced by more general attitudes towards alcohol and binge drinking. With regards to temporal distance, where measurement of TPB is temporally distant from the point of action behavioural representations held by the individual will be more abstract and thus less predictive of later behaviour (Ajzen, 1996). In support of this temporal stability has been found to moderate the intention-behaviour and PBC-behaviour relationships (Conner, Sheeran, Norman, & Armitage, 2000). Building on this the beliefs which are accessible and relevant when contemplating a behaviour as one would while completing a TPB questionnaire may not be the same as those active at the time of actioning the behaviour (Ajzen & Sexton, 1999) and thus the prediction of behaviour may be limited by the measurement of non-representative beliefs. However measurement at the time of behaviour can be difficult if not impossible and evidence has shown that the intention-behaviour relationship is consistent even where emotional state at test is likely to differ from that experienced at action for example in the context of condom use (Albarracin et al., 2001).

Further issues relate to the components included and excluded from the model. The TPB presumes that behaviour is the result of a subjectively rational process therefore it does not take into account other non-rational influences such as implicit attitudes or the role of emotion. A number of research papers have pointed to the role of implicit as well as explicit attitudes in determining behaviour (e.g. Wilson Lindsey & Schooler, 2000). Reich, Below and Goldman (2010) conducted a meta-analysis of studies which had employed measures of implicit as well as explicit measures of

alcohol related cognitions such as alcohol expectancies and found that although there was some shared variance, both implicit and explicit attitudes contributed accounted for unique variance in drinking behaviour. Empirical evidence also suggests that emotion may be relevant for a number of health and social behaviours and thus should be considered as having an influence on behaviour and behavioural intention at least as a background variable acting through beliefs and attitudes. Empirical work has also established that there can be direct, unmediated effects of background variables such as socio-demographic variables yet the TPB proposes that these factors should act through the existing model components (Ajzen & Fishbein, 2005). Although the TPB was put forward as a complete model of behaviour in that other factors are expected to exert their influence on intention or behaviour through the existing model components, it is perhaps better viewed as a theory of the most proximal determinants of behaviour. Additionally the model is theoretically open to the addition of other variables if there is empirical evidence to support their inclusion in the model. For this reason the final section of this chapter will consider potential additions to the theory.

#### **2.6.5 An Expanded Theory of Planned Behaviour**

Since its conceptualisation a number of expansions to the TPB have been suggested. Ajzen (1991) states that the TPB is, theoretically, open to development via the inclusion of additional predictors but due to the strong support that the model has received from applications to a variety of behaviours any new variable would also need to be well supported with literature demonstrating that it accounts for a significant proportion of variance over and above that which is explained by the existing TPB components. In addition to the inclusion of additional predictors the TPB

can also be expanded through the inclusion of moderator and mediator variables. As described by Baron and Kenny (1986) moderator variables influence the strength of an effect of one variable on another. In the TPB moderators would need to be shown to act on the intention-behaviour relationship, the PBC-behaviour relationship or the relationships of subjective norm, attitude and PBC with intention. Mediator variables specify how a relationship occurs (Baron & Kenny, 1986), for example in the TPB the relationship between attitude and behaviour is brought about through attitude's contribution to intentions, therefore the effect of attitude can be seen to be fully mediated by intention. The same can be said for subjective norm but the PBC behaviour relationship is partially mediated by intention with PBC also having a direct effect on behaviour. In the TPB mediator variables would need to account for how one predictor relates to the others included in the model or to an additional predictor (Conner & Norman, 2005).

This section will consider constructs which have been proposed as expansion variables, detailing each construct and evidence for its effects as an additional predictor a moderator or a mediator in the TPB. It will begin by addressing expansions closely related to the existing TPB variables (i.e. affective attitudes in addition to instrumental attitudes) before presenting more distinct additions. What is presented is not a list of all additional variables that have been considered but a selection that have potential relevance for the study of student binge drinking behaviour.

#### ***2.6.5.1 Attitudes, Affect and Anticipated Regret***

Several studies have shown that for the majority of behaviours affective attitudes are more closely related to intentions than are instrumental

attitudes (e.g. Ajzen & Driver, 1992; Elliott & Thomson, 2010; Eagly et al., 1994; Trafimow et al., 2004). Expanding the TPB model to include both affective and cognitive attitudes may therefore be effective.

While there is clear evidence for the role of affect in the TPB how this aspect should be conceptualised and measured is not as clear in the existing literature with previous research employing a variety of techniques. Triandis (1977) focused on affective responses experienced at the thought of enacting a behaviour; Norman and colleagues (Norman, 2011; Norman & Conner, 2006) have tended to include affective components focused on the expected affective consequences of a behaviour, alongside instrumental expectancies, measuring both with semantic differentials and combining them to form a single measure of attitudes; similarly Richard et al. (1996b) used semantic differentials regarding affective consequences of behaviour but considered these separately to instrumental attitudes; and Parker et al. (1995) measured affective beliefs regarding the outcomes of behaviour but considered these separately to behavioural beliefs noting that the two showed only a weak correlational relationship, and also considered affect, in the form of anticipated regret, as an aspect of personal norm.

Ajzen and Fishbein (2005) recommend that attitude measures be composed of instrumental and affective or experiential components and some TPB studies have employed both instrumental and affective evaluations in an overall measure of attitudes (Norman, 2011; Norman & Conner, 2006). These works have had some success in that attitudes measured in this way act as significant predictors of intention and this method is supported by findings which show that instrumental and affective attitudes show shared variance and that their effects on

intention were mediated when an 'attitude' construct is included (Bagozzi et al., 2001). However consideration of affect as a separate determinant could offer further improvement to the prediction of intentions and behaviour. With regards to considering affect separately to attitudes a number of researchers have proposed that anticipated regret could be important (Parker, Manstead, Stradling, Reason, & Baxter, 1992; Parker et al., 1995; Richard, van der Pligt, & de Vries, 1995, 1996a, 1996b). The incorporation of anticipated regret is supported by the fact that decisions to act often factor in emotional outcomes (van der Pligt & de Vries, 1998). Factor analysis has shown anticipated regret is distinct from established TPB components and empirical work has shown that it explains additional variance in intentions for a range of behaviours (Sheeran & Orbell, 1999) including alcohol use, soft drug use, and junk food consumption (Richard et al., 1996b) exercise behaviour (Abraham, & Sheeran, 2004), driving behaviours (Parker et al., 1995) and AIDS prevention (Richard et al., 1995, 1998) over and above the TPB variables. More recently, Cooke, Sniehotta and Schüz (2007) found that attitudes and anticipated regret predicted intentions to binge drink in a student sample. A meta-analysis conducted by Sandberg and Conner (2005) assessed the predictive capabilities of anticipated regret and found that it explained an additional 7.0% of the variance in intentions.

In addition to the past research demonstrating the predictive role of anticipated regret a strong argument for the consideration of affect and anticipated regret in TPB studies comes from the fact that interventions based on increasing the salience of anticipated affect have been shown to have greater effectiveness than those which focus on changing attitudes, subjective norms or PBC (Parker, Stradling, and Manstead, 1996).

With work on the role of attitudes in the TPB suggesting that the attitude components be expanded to consider both affective and instrumental attitudes towards the behaviour research must establish whether the contribution of anticipated regret to the prediction of intentions is over and above that offered by a combination of affective and instrumental attitudes by assessing both at the same time. Therefore study 2, presented in chapter 5 will assess whether anticipated regret correlates with measures of intention to binge drink and study 3, presented in chapter 6, will consider whether anticipated regret acts as a significant predictor of students' intentions to binge drink.

#### ***2.6.5.2 Normative Influences***

Research has identified the subjective norm–intention relationship as the ‘weak link’ in the TRA and TPB (Armitage and Conner, 2001; Terry & Hogg, 1996; White et al., 1994). The problematic role of subjective norms in the TRA led to Fishbein and Ajzen (1975) stating that the relative importance of attitude and subjective norm will vary as a function of the population and behaviour considered. However Ajzen (1991) later argued that attitudes are the primary influence on intentions. Terry and colleagues (e.g. Terry & Hogg, 1996; Terry, Hogg & White, 1999; White, Terry & Hogg, 1994) take an alternative view to Ajzen (1991) suggesting that it is the conceptualisation of normative influences and the norm-intention relationship which needs further consideration. Armitage and Conner’s (2001) meta-analysis found that subjective norm was the weakest predictor of intentions (compared to attitude and PBC). While they point out that the subjective norm-intention relationship was moderated by measurement type and conclude that multi item measures of subjective norm are more effective than single item measures they also suggest the

testing of additional normative components alongside these multi-item measures of subjective norm.

A number of avenues for are available for the expansion of the normative component of the TPB. In the area of normative influences research distinguishes injunctive, descriptive and moral norms from one another (Cialdini, Kallgren & Reno, 1991) with all having been considered in TPB studies, one can also move away from considering an overall normative influence and assess the role of different referent individuals or groups and social identity theory can be drawn on to offer expansions in the form of moderators of the norm-intention relationship.

#### *Descriptive norms*

Traditionally TPB studies have focused on injunctive norms, perceptions of others approval or disapproval of the performance of a behaviour, which have been shown to predict intentions to binge drink (Armitage et al., 2002, Johnston & White, 2003). However the influence of descriptive norms, perceptions of others performance or non-performance of a behaviour, on behaviour has been well established with many indicating that they are more dominant than injunctive norms. A meta-analysis (Rivis & Sheeran, 2003) found descriptive norms explained 5% of the variance in intentions after the TPB variables had been taken into account.

Despite evidence for the role of descriptive norms and the fact that binge drinking generally occurs in social situations (Norman, Bennett & Lewis, 1998; Van Wersch & Walker, 2009) only a small number of studies investigating binge drinking have assessed both injunctive and descriptive norms (Cooke et al, 2007, Elliot & Ainsworth, 2012). For example Cooke et al. (2007) measured descriptive norms using two items “How many

women do you know who drink more than 7 units in a single session?’ and ‘How many men do you know who drink more than 10 units in a single session?’. These studies have tended to find no significant contribution of either injunctive or descriptive norms to the prediction of intentions. However McMillan and Conner (2003) found that descriptive norms explained additional variance in intentions of students to use alcohol and tobacco while Jamison and Myers (2008) found that the drinking behaviour of friends, measured by responses to three items (e.g. ‘Please indicate approximately the number of times your friends at university drink alcohol in a typical week’ rated from 0(never) to 5 (more than four times)) significantly predicted intentions to drink and binge drinking, with binge drinkers being influenced by peers and social-situational factors with the size of the drinking group being important. Due to the mixed research findings regarding influence of descriptive norms on alcohol use, studies 2 and 3, presented in chapters 5 and 6 respectively, will assess the role of descriptive norms as an additional predictor in the TPB but they will do so in line with research regarding group norms which is discussed in the next section.

### Group Norms

Group norm is used to assess the ‘support’ of the referent group for engagement in a particular behaviour, drawing on social identity theory to suggest that individuals will be more likely to engage in a behaviour which is perceived to be supported by the referent group. Johnston and White (2003) utilised group norms in addition to subjective norms to measure the normative influence of peers on intentions to binge drink and found that this acted as an additional predictor of intentions to binge drink in the TPB. Similar measures were also utilised by Terry and Hogg (1996) and

found to predict regular exercise and female sun-protective behaviour but only for individuals who reported high levels of identification with the in-group. These measures include both descriptive (e.g. 'How many of your friends and peers at university would drink five or more standard alcoholic beverages in a single session in the next 2 weeks' from 1 (none) to 7 (all)) and injunctive norm components (e.g. 'How many of your friends and peers at university would think drinking five or more standard alcoholic beverages in a single session in the next two weeks is a good thing to do' from 1 (none) to 7 (all)). The role of group norm as a measure of normative influence in the TPB will be considered in studies 2 and 3, presented in chapters 5 and 6 respectively.

Social Identity: In group Identification and In group belonging

Research into the influence of norms has demonstrated that it is not just the strength of norms which are important but also the level of identification with the referent group. Wilks, Callan and Austin (1989) found that perceived norms were highly predictive of alcohol consumption and that this relationship was strengthened when association to the referent group is strong. Social identity theory proposes that the normative behaviour of a reference group will influence an individuals' behaviour only if they identify strongly with that group (Schofield, Pattison, Hill & Borland, 2001; Terry & Hogg, 1996; Terry et al., 1999). Proponents of this theory argue that it is this effect which is key in understanding the role between social norms, intention and behaviour suggesting that previous mixed findings are due to the fact that researchers have not accounted for the level of identification with referent groups. Terry and Hogg (1996) showed that combining group norms with a measure of group identification rather than just a measure

of motivation to comply improved the predictive power of group norms for intention. Results predominantly show that level of group identification exerts its influence acting as a moderator of the norm-intention relationship (Terry et al, 1999) however in some cases where the group of interest is strongly associated with the behaviour being considered group identification has been shown to act as an independent predictor (Fekadu & Kraft, 2001). In the field of binge drinking Johnston and White (2003) found that group norm (measured by 4 items e.g. "Think about your friends and peers at University. What percentage of them do you think would drink five or more standard alcoholic beverages in a single session in the next two weeks?" from 1 (0%) to 7 (100%)) predicted intentions to binge drink and that this relationship was strengthened when individuals reported identifying strongly with the reference group (measured by four items regarding identification, e.g. "With respect to your general attitudes and beliefs, how similar do you feel you are to your friends and peers at University?"; 1 (very dissimilar) to 7 (very similar); and 2 items regarding belonging, e.g. 'How much do you see yourself belonging to your group of friends and peers at University?'; from 1 (not very much) to 7 (very much)). This work will employ measures of both group norm (already discussed) and identification as expansions to the TPB considering the roles of group norm and identification for family and friends in study 2 (chapter 5) and for family, friends at university and friends outside university in study 3 (chapter 6).

#### Moral Norm

Moral norms, an individual's perception of whether a behaviour is morally right or wrong and an individual's feeling of personal responsibility to perform the behaviour (Ajzen, 1991) were included in Triandis's TIP (1977)

as a predictor of intention and Ajzen (1991) proposed that moral norm could be an effective additional predictor in the TPB.

Moral norms measured by items such as 'I have a moral obligation to exercise at least six times in the next 2 weeks' (rated from 1 (definitely no) to 7 (definitely yes)) (Godin, Conner, & Sheeran, 2005), are considered to influence behavioural intentions for behaviours which involve a moral or ethical component and have been shown to influence dishonest actions (Beck and Ajzen, 1991), ethical decision making (Randall & Gibson, 1991) and intentions to tell the truth about insurance deals (Kurland, 1995). Conner and Armitage (1998) report that of 11 studies identified, 9 found moral norm to be a significant additional predictor of intentions accounting for on average an additional 4% of the variance.

How to judge if a behaviour has such components can be difficult particularly in cases where the population of interest includes individuals of varying religious and cultural backgrounds. As such whether or not alcohol use and binge drinking contain moral or ethical components is unclear. While some cultures and religions do not endorse alcohol use such behaviours are common place in England and among students which may remove moral obligations to avoid them. This could explain why the role of moral norm in the prediction of student drinking has not been considered in depth. However McMillan and Conner (2003) found that moral norms did not explain additional variance in intentions to use alcohol and smoke tobacco over and above that explained by the TPB. Therefore it may be that moral norm is not an effective addition to the TPB in this area. For behaviours which do not contain strong moral or ethical dimensions a measure of personal norm has been suggested to be more applicable (Cialdini, Kallgren & Reno, 1991). Personal norm is

considered to relate more closely to personal values placed on certain behaviours rather than perceived moral obligations to perform or avoid a behaviour. This construct has also been found to be predictive of intentions (Boissoneault & Godin, 1990; Godin et al., 1996; Parker et al., 1995).

This work will consider moral norms as an additional predictor of intentions in studies 2 and 3 presented in chapters 5 and 6 respectively. The role of personal norm will not be considered but the related concept of self-identity will be, this is discussed in the next section.

### ***2.6.5.3 Self - Identity***

Self-identity, an individual's perception of their self in relation to a behaviour or their role in relation to a behaviour has been suggested as an addition to the TPB. Self-identity, can be seen to be linked to the concept personal norm since both relate to the importance of the behaviour as a part of one's own identity however because self-identity theory like the TPB views behaviour to be determined by decisional processes and intentions this concept may be more compatible with the TPB than personal norm.

The role of self-identity in the prediction of behaviour is considered to differ dependent on the behaviour. Self-identity has been shown to predict intentions for dietary behaviours (Sparks & Shepherd, 1992; Sparks, Shepherd, Wierings, and Zimmermanns, 1995) and recycling (Terry, Hogg & White, 1999) but to mediate the relationship between subjective norm and intention when applied to teaching individuals with disabilities (Theodorakis, Bagiatis, and Goudas, 1995) and to predict behaviour when applied to exercise (Theodorakis, 1994). However other studies have identified no effect of self-identity (Conner, Warren, Close &

Sparks, 1999). Further to this Ajzen and Fishbein (2005) suggested that self-identity could be utilised as an alternative measure of intention, however the role of self-identity has received only modest support, Conner and Armitage (1998) reviewed six studies considering social identity. Findings showed that self-identity explained on average a further 1% in intentions. They identified that self-identity showed a correlation of just  $r = 0.27$  with intention but highlighted the variability in correlations as supporting the fact that self-identity is important for specific behaviours only.

Hagger, Anderson, Kyriakaki and Darkings (2007) utilised items from the Aspects of Identity Questionnaire (Cheek, 1989) which requires participants to respond to items such as 'my personal values and moral standards' on a scale from 1 (not important to my sense of who I am) to 5 (extremely important to my sense of who I am). These were applied to investigate the role of personal identity in the prediction of binge drinking, exercising and dieting. Results showed that personal identity influenced PBC for all three behaviours and had a negative influence on attitude and subjective norm for binge drinking behaviour. As the research in this area is limited there is scope for further assessment of the role of self-identity in students' intentions to binge drink and their binge drinking behaviour. Therefore study 3, presented in chapter 6 will consider self-identity as an addition to the TPB.

#### ***2.6.5.4 Past Behaviour and Habit***

The role of past behaviour as an additional predictor in the TPB is perhaps the most debated area in the expansion literature. Many have argued that behaviours can be viewed as predominantly determined by the individual's past behaviour rather than by cognitions (e.g. Sutton, 1994),

correlations have been identified between past behaviour and intentions, attitude, PBC and later behaviour (Conner & Armitage, 1998) and past behaviour has often been demonstrated to be the most effective predictor of future behaviour in expanded models of the TPB (Bagozzi & Kimmel, 1995; Norman & Smith, 1995). However Ajzen (1991) postulates that the effects of past behaviour will be mediated by PBC with successful repetitions of behaviour improving perceptions of control. Following this line of argument, one would predict that past behaviour would correlate most strongly with PBC but a review conducted by Conner and Armitage (1998) found this was not the case. Ajzen (1991) goes on to state that across 3 studies reviewed a mean of only 2.1% of variance in behaviour is predicted by past behaviour once the TPB variables are accounted for offering the explanation that this small amount of variance can be explained by the common method variance brought about by the use of similar items and response formats used to measure behaviour and past behaviour. Once again this does not fit with the results of Conner and Armitage (1998) who found that past behaviour, on average across 12 studies, accounted for an additional 7.2% of variance in intentions and 13% of variance in behaviour once PBC and intentions were accounted for.

While past behaviour may be an effective predictor of future behaviour, it is not the case that past behaviour causes future behaviour and reliance on the past behaviour-future behaviour relationship for behaviour prediction offers no explanation as to how new behaviours are initiated, previous behaviours are reduced or discontinued and therefore no indication as to how to bring about behaviour change. An alternative view is that frequent and continued repetitions of a behaviour can result in that behaviour falling under the control of habitual rather than volitional processes and this is the argument behind the inclusion of both habit and

intention in the TIB (Triandis, 1977) with the role of intention in predicting behaviour being theorised to decrease and the role of habit to increase as the number of repetitions of the behaviour increase.

While past behaviour and habit are distinct from one another with past behaviour taking into account previous repetitions under either volitional or habitual control and habit focusing only on behaviours occurring without conscious deliberation such distinctions do not tend to be drawn in the research literature with the terms habit and past behaviour being used almost interchangeably (Conner & Armitage, 1998). Because of this it is difficult to separate findings regarding past behaviour and habit in order to reach conclusions about individual relationships of these constructs with the TPB. The work of Aarts, Verplanken and van Knippenberg (1998), goes some way towards overcoming this issue by drawing distinctions between the role of past behaviour for frequently and infrequently performed behaviours. They suggest that for infrequently performed behaviours past behaviour moderates the relationships between the TPB variables but for frequently performed behaviours the role of past behaviour will be increased with the TPB variables having little influence on the prediction of behaviour because these behaviours fall under habitual control and the individual will utilise simple decisional pathways rather than the more complex deliberative ones set out in the TPB (Aarts et al. 1998).

While alcohol use and binge drinking have been established as common place among students (Norman, 2011) these behaviours are unlikely to occur as frequently as behaviours such as seatbelt use, exercise and smoking where the role of habit and past behaviour have been strongly established. Following on from Aarts and colleagues (1998), it can be

suggested that past behaviour may have a mediating effect but binge drinking is unlikely to fall entirely under habitual control. This is supported by the work of Norman (2011) who employed the Self Report Habit Index (Verplanken, & Orbell, 2003) to measure habit strength, and found that in the presence of the TPB variables habit strength explained an additional 6% of the variance in binge drinking behaviour suggesting both intentions and habit are contributing to the binge drinking behaviour of undergraduates. Further support comes from the work of Gardner, de Bruijn and Lally, (2012) who found that habit predicted behaviour directly and acted to strengthen the intention-behaviour relationship for student binge drinking with those who showed strong intentions also holding strong habits.

The findings regarding habit and past behaviour present a strong argument for the inclusion of these factors in an expanded model of the TPB but indicate that drawing distinctions between frequency of past behaviour and habit as well as considering both independent effects and moderating effects of these concepts is necessary. Studies 2 and 3, presented in chapters 5 and 6 respectively, will consider both frequency of past behaviour and habit strength as additions to the TPB

#### ***2.6.5.5 Optimistic Bias***

Optimistic bias (also referred to as unrealistic optimism or over-optimism) is the tendency of individuals to perceive themselves as being less at risk of the negative consequences or health risks of a behaviour, and more likely to experience the positive consequences, than their peers or the 'average' person (Weinstein, 1980). Optimistic bias is assessed by asking individuals to rate their risk relative to the risk of others in the population or in a specific sub-group (e.g. students). Therefore two types of items

tend to be employed, those relating to own risk (e.g. 'I doubt that I would ever die from smoking even if I smoked for 30 or 40 years.') and those relating to others' risk ('Most people who smoke all their lives eventually die from an illness caused by smoking.') (Arnett, 2000).

The importance of researching optimistic bias stems from the idea that where an individual perceives themselves as immune to the risks of a behaviour they will be less open to health messages and less likely to change their behaviour to avoid risks (Shepherd, 1999). Optimistic bias has been demonstrated with regards to smoking and smoking related health problems (Windschitl, 2002), chances of becoming pregnant (Burger & Burns, 1988), negative consequences of music piracy (Nandedkar, & Midha, 2012), risks of skin cancer (Bränström, Kristjansson, & Ullén, 2006) and driving competency and accident risk (Svenson, 1981). In the field of student drinking, drinkers identified as 'at risk' have been found to hold optimistic biases about their chances of experiencing alcohol-related harm, while those classified as not-at-risk did not (Wild, Hinson, Cunningham, & Bacchiochi, 2001). Optimistic bias has also been found to predict the experience of more negative consequences of alcohol use (Dillard, Midboe, & Klein, 2009) and perceived vulnerability to negative consequences has been shown to be related to the adoption of health protective behaviours (Wild, Hinson, Cunningham, & Bacchiochi, 2001). Further to these findings, investigations of the factors contributing to optimistic bias in student drinkers, has identified that drinking motives can predict optimistic bias (Wild et al., 2001).

The role of optimistic bias in the TPB is not well established. A number of studies have considered optimistic bias as an expansion to the TPB with some finding that optimistic bias influences intention indirectly through

attitudes (Chan, Wu, & Hung, 2010) and others finding it acts as an additional direct predictor of intention (Hamilton, & Schmidt, 2014). How optimistic bias influences behaviour is therefore unclear and the fact that this construct has been shown to be related not just to engagement in risk behaviours but are also related to the experience of negative consequences means that it is an area requiring further investigation. The potential of optimistic bias to act as an expansion to the TPB is considered in study 2 (chapter 5).

#### ***2.6.5.6 Section Summary***

A number of potential expansion variables have been considered in this section. While this literature has contributed to our understanding of behaviour and more specifically of student binge drinking behaviour what is not clear is which of these predictors show significant effects when all are measured and analysed in the same study. The quantitative work conducted in this thesis will therefore seek to measure all these key expansion variables with the same sample and assess their relationships to the TPB variables.

#### **2.6.6 The Theory of Planned Behaviour and Student Binge Drinking**

Studies of students' alcohol and substance use (e.g. Conner, Warren, Close & Sparks, 1999; McMillan & Conner, 2003) have shown that the TPB is an effective predictor of both students' intentions to use substances and their substance use behaviour. Within this category of behaviours a number of studies have applied the TPB model to the prediction of student binge drinking specifically. Previous works have generally reported significant results, supporting the application of the TPB to the prediction of students' intentions to binge drink and their binge drinking behaviour. However the amount of variance accounted for, and therefore

the strength of support for the TPB varies greatly. The TPB variables have been shown to explain between 7% (Jamison & Myers, 2008) and 75% (Norman, 2011) of the variance in students' intentions to binge drink and between 21% (Collins & Carey, 2007) and 73.4% (Huchting, Lac & LaBrie, 2008) of the variance in students binge drinking behaviour.

Across applications of the TPB to the prediction of student binge drinking attitude emerges as a consistent predictor of intentions (e.g. Collins & Carey, 2007; Norman, 2011; Norman & Conner, 2006) and is often identified as the best predictor, accounting for the greatest amount of variance in intentions to binge drink (Cooke, Sniehotta & Schuz, 2007; Norman, 2011). However findings regarding subjective norm and PBC have been more mixed. For example Huching, Lac and LaBrie (2008) identified norms as the strongest predictor of intentions while French and Cooke (2012) found equal contributions of attitude and subjective norm but Norman and Conner (2006) failed to identify a significant influence of subjective norm on intentions to binge drink. Similarly regarding PBC, some studies (e.g. Norman, 2011; Collins & Carey, 2007; Huching, Lac & LaBrie, 2008) have found that PBC did not significantly predict students' intentions to binge drink while others (e.g. Conner, Warren, Close & Sparks, 1999; McMillan & Conner, 2003; Norman & Conner, 2006) identified it as a significant predictor. These mixed results may be due to differences in the measurement of these constructs. Regarding subjective norm the referent individuals or groups included and the number of items that make up these measures differ from study to study. Similarly measures of PBC may focus on control or efficacy beliefs, include a combination of the two or treat control and self-efficacy as separate constructs and researchers may choose to consider control of binge drinking or control over refraining from binge drinking.

Concerning the prediction of behaviour, the intention-behaviour relationship is consistently supported (e.g. Johnson & White, 2003; Norman, 2011; Huchting, Lac & LaBrie, 2008; Collins & Carey, 2007; French & Cooke, 2012; Cooke, Sniehotta & Schuz, 2007) but the amount of variance accounted for differs. Support for the PBC – behaviour relationship is more mixed with some studies identifying PBC as a significant predictor of behaviour (e.g. Huchting, Lac & LaBrie, 2008) and others finding no significant effect (e.g. Norman, 2011).

The majority of studies which utilise the TPB to investigate the antecedents of student binge drinking have focused on the prediction of intentions and behaviour, however a small number of research papers have considered the specific beliefs which underlie these intentions and behaviours. Johnson and White (2004) identified beliefs about cost likelihood, evaluations of the benefits of drinking, and normative beliefs as acting as significant predictors of binge drinking behaviour. French and Cooke (2012) took a similar approach focusing on salient beliefs and examining their ability to predict TPB constructs specifically in relation to binge drinking. They found that, among the 192 students who participated those with higher intentions to binge drink were more likely to believe that their friends approved of binge drinking and that financial constraints would make it difficult. Further to this those who actually reported drinking more were more likely to believe that: getting drunk would be an advantage; that members of their sports teams would approve; and that celebrating, drinking patterns and the environment would enable binge drinking. The benefit of identifying such beliefs is that these can then be targeted by interventions in order to alter behaviour.

### ***2.6.6.1 Expanding the Theory of Planned Behaviour for Student Binge Drinking***

Just as the wider TPB literature has considered expansions to the original TPB model so too have applications of the TPB to student binge drinking. The two most frequently considered expansions are those of past behaviour and self-efficacy. Past behaviour has been found to explain a significant amount of additional variance in both intentions (Norman & Conner, 2006) and behaviour (Collins & Carey, 2007; Cooke, Sniehatta & Schüz, 2007; Norman, Bennett & Lewis, 1998) and has been shown to moderate the attitude-intention and intention-behaviour relationships with increasing frequency of behaviour resulting in weaker relationships (Norman & Conner, 2006). While the results from studies including past behaviour are fairly consistent in finding a significant effect the amount of variance explained varies from one study to another. For example, in 1998, Norman, Bennett and Lewis found that past behaviour accounted for an additional 14% of variance in binge drinking behaviour with the resulting expanded TPB model accounting for 52% of the variance in frequency of binge drinking while Collins and Carey's 2007 work found past behaviour accounted for an additional 8% of the variance in heavy episodic drinking (Collins & Carey, 2007) and Cooke, Sniehatta and Schüz's 2007 model including both intentions and past behaviour accounted for a total of 33% of the variance in behaviour. The role of self-efficacy has also been considered in a number of TPB studies with self-efficacy being included either instead of or alongside PBC. The findings in this area are inconsistent with some applications such as that of Norman and Conner (2006) finding that self-efficacy acted as an additional significant predictor of binge drinking behaviour at one week follow up and others such as Johnson and White (2003) reporting no significant effect of self-efficacy.

The normative component of the TPB has also frequently been expanded including either descriptive norm or moral norm additions to account for further variance in student binge drinking. Jamison and Myers (2008) found that descriptive norm in the form of the drinking behaviour of friends acted as a significant predictor of binge drinking behaviour with the overall model accounting for 44% of the variance in student binge drinking. Neighbor, O'Connor, Lewis, Chawla, Lee and Fossos (2008) considered the impact of normative influences on student alcohol consumption in depth. In their initial model injunctive norms, measured for proximal referent groups, showed a positive association with drinking behaviour but when the normative component was expanded to include multiple referents and multiple norms, injunctive norms for distal groups showed a negative relationship to behaviour while descriptive norms showed a positive association to behaviour.

Further expansions to the TPB have included habit, which Norman (2011) found to act as an additional predictor of student binge drinking behaviour and anticipated regret which Cooke, Sniehotta and Schuz (2007) found to act as an additional predictor of students intentions to binge drink with a model including attitude and anticipated regret accounting for a total of 58% of the variance in intentions.

#### ***2.6.6.2 Section Summary***

The TPB has been shown to be an effective model for the prediction of students' intentions to binge drink, accounting for between 7% and 75% of the variance in intentions and for the prediction of students' binge drinking behaviour accounting for between 21% and 73.4% of the variance in behaviour. However a number of expansions to the model have been shown to improve its predictive validity including additional predictors in

the form of past behaviour, self-efficacy, descriptive norms, prototype willingness, anticipated regret and habit. As with the wider TPB literature there are few papers which consider multiple expansions in a single study therefore it remains unclear if and how these expansion variables interact with one another and therefore what the most effective model for the prediction of student binge drinking is.

Expansions of the TPB model applied to the prediction of student binge drinking have shown significant effects for group norms (Johnson & White, 2003); past behaviour (Conner, Warren, Close & Sparks, 1999) and self-identity (Conner, Warren, Close & Sparks, 1999) for the prediction of intentions to binge drink. With regards to the prediction of student binge drinking behaviour, additional significant effects, over and above those of intention and PBC, have been identified for past behaviour (Conner, Warren, Close & Sparks, 1999); self-efficacy (Norman & Conner, 2006) descriptive norms (Jamison & Myers, 2008) and habit (Norman, 2011). These additional variables should therefore be considered in research aiming to improve the prediction of student binge drinking and will be considered in the original research reported in this thesis. Further to this a number of variables which have been shown to be predictive of, or associated to student binge drinking, such as commitment to aspects of university life (Wechsler, Dowdall, Davenport, & Castillo, 1995), religion (Carlucci et al., 1993, Mullen, Blaxter & Dyer, 1986) and personality characteristics (Arnett, 1996; Clapper, Martin & Clifford, 1994; Cammatta & Nagoshi, 1995; Ichiyana & Kruse, 1998; March & Miler, 1997) have not been explored in the context of the TPB applied to student drinking and therefore will be considered in this thesis. Finally, peer reviewed articles assessing the effectiveness of TPB based interventions for student alcohol

use and binge drinking are scarce, while this is beyond the scope of this thesis it is a recommended avenue of future research.

## **2.7 Conclusions**

The literature review has established that alcohol use and binge drinking are not only common in student populations but also related to the experience of negative consequences. While correlational research has been able to identify a number of risk factors for drinking behaviour these works do not provide a useful framework for understanding drinking behaviour as they cannot address causality and do not demonstrate how these different risk factors relate to one another. Consideration was therefore given to social-cognitive models as a method for understanding student binge drinking behaviour and a review of popular models indicated that the TPB included all of the key constructs which should appear in a model of behaviour. The TPB was therefore adopted as the theoretical basis for the quantitative work to be conducted. The final sections have considered the TPB model in more depth and set out a number of potential expansions to the model which can act as moderators, mediators or independent predictors of intention or behaviour which should be given consideration if a full understanding of student drinking behaviour is to be achieved.

The thesis will now continue with a justification for adopting a mixed methods approach to research student binge drinking and details of the methods utilised in the empirical studies (Chapter 3). This is followed by the empirical work itself including: a qualitative study exploring student drinking behaviour (Chapter 4); a cross-sectional assessment of the TPB for the prediction of students intentions to binge drink and correlational analysis assessing the potential utility of expansion variables (chapter 5);

and a prospective assessment of the expanded TPB model for the prediction of intention to binge drink and binge drinking behaviour (chapter 6). The thesis concludes with the discussion (chapter 7) which presents a summary of the key findings from the empirical work and considers the implications for future research as well as applications for intervention works.

## **3 Methodology**

### **3.1 Research Questions**

This thesis will test multiple hypotheses through three separate empirical studies in order to address five key research questions:

How do undergraduate students drink?

How do students understand binge drinking?

What are the antecedents of undergraduate student drinking and specifically undergraduate student binge drinking behaviour?

Can the TPB be used to effectively predict binge drinking behaviour in a population of undergraduate students?

Can an expanded TPB improve the prediction of student binge drinking behaviour?

### **3.2 Methodology**

#### **3.2.1 The Mixed Methods Approach**

Mixed Methods research can be defined as a design for a single study or research project which involves the collection, analysis and mixing of both qualitative and quantitative data to address a research problem or problems (Creswell & Plano Clark, 2007). The combination of exploratory research questions with more specific questions regarding the assessment of the TPB to be addressed within this work means that a mixed method approach is appropriate. This chapter will explain in more depth why a mixed methods approach is appropriate before going on to explain which

research questions the qualitative and quantitative studies will address, the specific methods that will be utilised, why they were selected and how they will be combined to produce a mixed methods design.

The research questions to be addressed by this thesis require a mixed methods approach. Specifically a qualitative method can be employed to provide in-depth data and findings to improve understanding of student drinking behaviours, students' understanding of the term binge drinking and the antecedents of student drinking behaviour in the form of reasons why students choose to drink alcohol or engage in binge drinking and the outcomes that they experience from these behaviours. However such methods would not be able to assess which if any of the identified antecedents of drinking behaviour can predict student binge drinking and would not provide an effective test of the TPB. By contrast a quantitative method would allow the testing of specific hypotheses to answer the research questions regarding the predictive validity of the TPB and expansions to the TPB but would not be able to provide the depth needed to fully address the ways that students drink and students' understanding of the term binge drinking. However adopting a mixed methods approach including both qualitative and quantitative aspects will allow all of the research questions to be adequately. Further to this by employing qualitative methods in the first phase of research the findings of this work can be used both to provide context to the quantitative studies and to inform the design of the quantitative works while the later quantitative research can be used to corroborate specific findings from the qualitative research and to demonstrate their applicability, if any, to larger samples. Finally quantitative data can be used throughout the thesis to describe the samples employed including demographic and socio-economic characteristics, and drinking behaviours.

In addition to being the most appropriate way of answering the research questions posed a mixed methods approach has also been adopted because this thesis seeks to provide a more comprehensive account of student binge drinking behaviour than that offered by previous research something which is best achieved by utilising both qualitative and quantitative research. The mixed methods approach will be able to draw on the existing theory and research literature and can be influenced by both researcher and participant views and understanding. It is hoped that adopting this approach the research findings will be of more utility to professionals and practitioners interested in changing student drinking behaviour than findings of previous research which have employed more restricted or reductionist approaches. This research approach is represented visually in Figure 3.2.1.

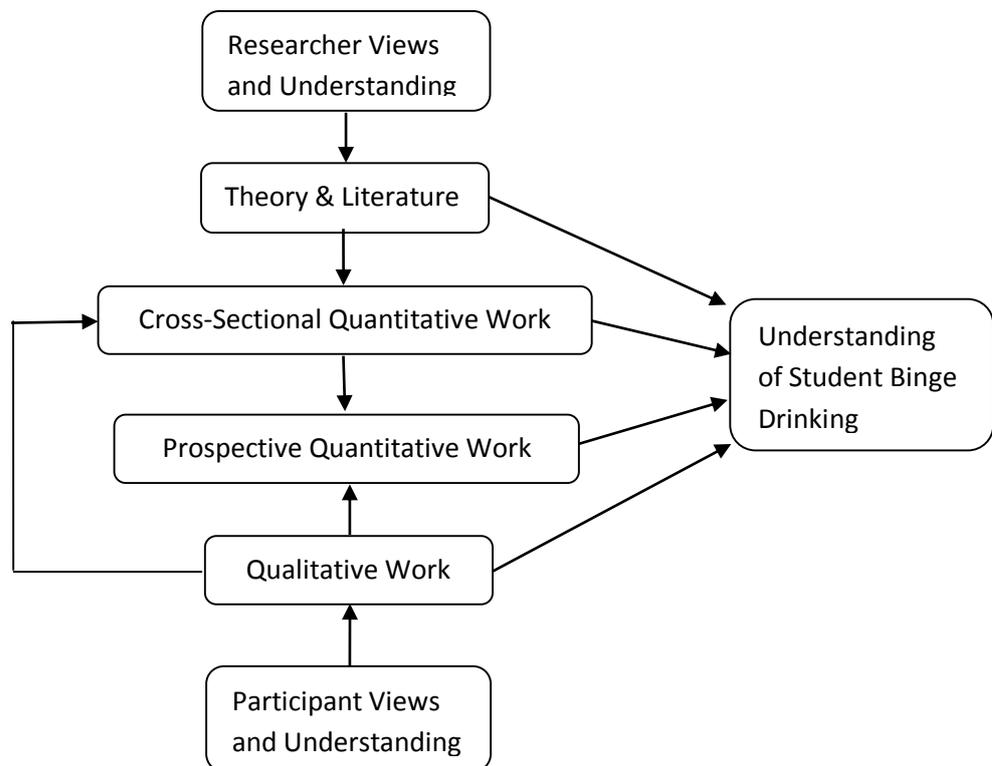


Figure 3.2.1. The mixed methods research approach adopted

Further strengths of the mixed methods approach will now be discussed. In addition to providing a more comprehensive understanding of the research area a mixed methods approach offers the opportunity for improved validity if the qualitative and quantitative findings corroborate with or support each other. This is of particular importance as validity of research and interventions has been shown to relate to intervention effectiveness (Kahan, Wilson, & Becker, 1995). Similarly the strengths and weaknesses of each approach are balanced by their counterparts, for example while the qualitative work provides depth and context not offered by the quantitative studies, its specificity, which means it is not generalizable, is offset by the ability to generalise the findings from quantitative follow up work. Further to this any novel or unexpected findings from the qualitative work or any which appear contrary to existing theory and literature can be tested and explored through the quantitative studies if qualitative findings are utilised to derive additional hypotheses for the quantitative work. Finally the utilisation of both methods together offers improved diversity, as the findings of the qualitative work will be predominantly driven by the views, understandings and experience of the participants while much of the hypotheses and measures used in the quantitative work will be driven by the researcher's knowledge.

In addition to conducting both qualitative and quantitative research the thesis will include two quantitative studies, one cross-sectional and one prospective. The inclusion of not one but two quantitative works, one preceding the other, will enable additional testing and perfecting of the questionnaire design, ensuring greater methodological rigour and will offer the opportunity for findings from the initial quantitative work to be replicated within the same research project. Further to this the literature

review has indicated a number of potential determinants of student alcohol use and testing all of these would place too great a demand on participants. However, correlational and regression analyses can be utilised in the cross-sectional work to narrow the selection of variables considered and therefore allow the second study to consider alternative factors. While conducting two prospective studies might be preferable this too places greater demand on participant time. Additionally utilising a cross-sectional methodology for the first quantitative study allows an initial focus on the prediction of intentions to binge drink before the prediction of behaviour is explored in more detail in the second prospective study.

### **3.2.1 Weaknesses of Mixed Methods Research**

The mixed methods approach adopted is considered to be the most appropriate method and as has been identified there are multiple strengths of this method, however it also has a number of weaknesses and complications particularly with regard to philosophical and epistemological underpinnings. The practicalities of a single researcher undertaking both qualitative and quantitative research should not be overlooked, the skills required to conduct the two types of data collection and analysis are very different. The researcher admits to not being an expert in qualitative methods. For this reason a simplistic approach will be taken to the qualitative research with the researcher seeking simply to collect data which can support and enhance the quantitative aspect of the thesis by adding a further dimension of depth and useful points to guide the design of the quantitative works.

On this theme many consider the mixed methods approach to be problematic because it requires not just a mixing of methods but also a

mixing of the paradigms which underlie research. This issue can be seen to stem from the fact that quantitative research draws on the positivist paradigm while qualitative research has its underpinnings in the constructivist paradigm (Sale, Lohfeld, & Brazil, 2002). Positivism, sometimes referred to as the scientific method, suggests that the social world can be studied just as the natural world is. It draws on a deterministic philosophy proposing that explanations of a causal nature can be provided and a value free method to research adopted. As such positivist researchers aim to test theory using observation and measurement to predict and control phenomena (Mertens, 2005). This approach is come to be viewed by many to be reductionist and outdated and this has led to the development from positivism into post-positivism which acknowledges that a single phenomenon or piece of research is influenced by a number of theories, not just the one being tested and that new theories can challenge existing ones, including those which underlie the paradigm itself, in other words theories are all provisional (Teddlie, & Tashakkori, 2009). The constructivist paradigm also known as the interpretivist paradigm takes an opposing view, considering the world and reality as being socially constructed. Therefore constructivist research seeks to investigate participants' views of a situation or phenomena. Researchers following this paradigm recognise that their own background and experience will influence their research. Unlike positivists who begin with a theory and seek to test it constructivists look to generate theory through the research process and tend to rely upon qualitative data. The presence of these two opposing paradigms led to a dual paradigm research environment in which research, and researchers themselves, aligned with one paradigm or another.

Within this dual paradigm environment, adopting a mixed methods approach would require not just a mixing of methods but also a relatively unobtainable mixing or merging of paradigms. Despite the ongoing debate and shifts in the dominance of positivism and constructivism, it has become acknowledged that researchers, particularly those in the social sciences, often have to deal with complex social phenomena that cannot be fully understood by a single approach and that enforcing a single approach would lead to a reductionist view or limited understanding (Creswell, & Plano Clark, 2011). Thus mixed methods research has emerged as an alternative approach for dealing with these complex issues (Greene, 2008). Issues regarding the mixing or merging of paradigms underlying qualitative and quantitative research have also been overcome through the emergence of a third paradigm that of pragmatism, with which mixed methods research can align. As Johnson, Onwuegbuzie and Turner (2007) put it, what now exists is a “three methodological or research paradigm world, with quantitative, qualitative, and mixed methods research all thriving and coexisting” (Johnson et al., 2007, p. 117). Pragmatism focuses on the research problem itself, considering what is required and how best it can be achieved, making the research question or questions central to the selection and design of data collection and analysis techniques, with methods being chosen because they are the most likely to provide insight to and resolution of the research problem (Creswell, 2003). It is this approach that the researcher has adopted for this research project.

A further issue in conducting mixed methods research is what to do if and when conflicting results arise from the two methodologies. Resolution to this issue can be found in the literature concerning mixed methods which has emerged alongside the methodology itself. Writers have set out the

core ideas and practices of mixed methods research that set it apart from either a qualitative or quantitative approach (see Creswell, 2003; Creswell and Plano Clark, 2007) and the mixed methods approach can be categorised as research: involving both quantitative and qualitative research methods in a single research study or project; involving a design which specifies both the sequence with which qualitative and quantitative elements will be conducted and the priority that will be given to each element; providing an explicit account of the relationship between the qualitative and quantitative elements with emphasis on how triangulation will be used; drawing on pragmatism for its underpinnings. By following the stipulations set out above, specifically if the researcher specifies which method will be given priority and how triangulation will be used, then issues regarding conflicting results can be overcome. Therefore for this work, should any conflicting findings emerge they will be presented in the findings of the individual study and conflicts discussed and if possible resolved in the discussion chapters at the end of the thesis with priority given to the quantitative findings on the basis that qualitative results are more likely to be influenced by individual differences and reflect specific understandings and constructions of alcohol use and binge drinking.

Having set out the methodological and epistemological approach that will be taken in this research, the remainder of this chapter will explain the specific qualitative and quantitative methods that will be used to collect and analyse data in this project.

### **3.3 Qualitative Method**

The qualitative aspect of the project sought to address the first two research questions “How do undergraduate students drink?” and “How do students understand binge drinking?” and to begin to address the third

question “What are the antecedents of undergraduate student drinking and specifically undergraduate student binge drinking behaviour?” by exploring three more specific research questions: ‘what is a typical student night out?’ ‘how do students understand and perceive problematic alcohol use?’ and ‘what knowledge do students have of the outcomes and effects of alcohol use?’ Consideration was given to which qualitative method would be most effective in addressing these research questions.

### **3.3.1 Method selection**

Within the field of qualitative research there are a number of data collection methods available including interviews, focus groups and observations (Silverman, 2010). Interviews are the most common method of qualitative data collection (King & Horrocks, 2010) and tend to be used to collect data regarding participants’ individual experiences, perceptions and understandings of a topic. They are frequently used in exploratory research, to establish or develop research understanding and as such interviews and the interviewer do not presume knowledge or understanding at the outset. A focus Group is a form of group discussion, guided to some extent by a moderator, to consider a particular topic or a small number of topics. During a focus group participants are asked about their perceptions, opinions, beliefs, experiences and attitudes about the topic but and emphasis is also placed on participants’ interaction with one another so that discussion is group rather than moderator led (Kitzinger, 1995). Observations involve the researcher observing and recording events in a particular situation and are particularly useful for starting the research process and developing hypotheses to be tested in later research (Silverman, 2010).

Although observations can be used to investigate student drinking and binge drinking behaviour in natural environments (e.g. Rosenbluth, Nathan, & Lawson, 1978) and thus provide qualitative data with high ecological validity it would be difficult if not impossible to use an observational method to collect data about students' understanding and construction of problematic drinking behaviour and their knowledge of the outcomes and effects of alcohol use. Additionally it is only ethical to observe individuals in environments and situations where they would expect to be observed by others (e.g. public places) (Berg & Lune, 2004). Given that a large amount of alcohol use, including that of students, occurs away from licensed premises (Foster, Read, Karunanithi, & Woodward, 2010) then observations would also not be able to provide an accurate view of students' drinking behaviours across contexts. Therefore this method was not considered to be appropriate for this project. Individual interviews would be a more appropriate method for the exploration of students' drinking behaviour, their understanding of problematic alcohol consumption and the outcomes of alcohol use. Interviews have been utilised to assess alcohol consumption (Strunin, 2001) and although they have been less widely used to consider the drinking behaviour of students they have been utilised to explore the relationship between alcohol and tobacco use (Nichter, Nichter, Carkoglu, & Lloyd-Richardson, 2010) and drinking behaviour among young people (Engineer, 2003). However the researcher was aware that although drinking and nights out may be common topics for discussion among students they are less likely to have given consideration to what problematic alcohol use such as alcoholism and binge drinking mean and may not, in the pressure of a one to one interview situation, be able to provide in depth data on these areas. A group rather than individual

method of data collection should be more appropriate for addressing these topics as group interaction and discussion can prompt thought and debate around topics which may not be considered in depth on a day to day basis (Morgan, 1993). Further to this student drinking behaviour is predominantly social (Norman, Bennett & Lewis, 1998; Van Wersch & Walker, 2009) and as such having a data collection method which is social in nature can lend some level of social validity to the research. For these reasons the focus group method, which emphasises interactions between the group of participants, is considered to be the most appropriate qualitative data collection technique to be employed in this research project. Consideration of existing qualitative work is presented in the introduction to chapter 4 and provides precedent for the use of focus groups to elicit data both from students and on the topic of alcohol use.

### **3.3.2 Weaknesses of Focus Group Method**

While focus groups may be the most appropriate method of data collection to employ for the qualitative aspect of this research, this method, like any other, has drawbacks and weaknesses which should be acknowledged. These will be discussed in this section.

Participating in a group discussion means that each individual shares information not just with the researcher or the moderator but also with other members of the group. As such participants may be less assured of the confidentiality of their data which in turn can lead to limited disclosure. Similarly anonymity during the groups is limited particularly where participants know each other already (Berg, & Lune, 2004; Kitzinger, 1995). Put another way the group dynamic can act to restrict as well as enhance the data produced. One could argue that this is only likely if the area of discussion is considered to be sensitive by one or more

participants. However focus groups have been used to research other sensitive topics including sexual functioning among cancer patients (Flynn, 2011) acquaintance rape (Demant, & Heinskou, 2011). There is also precedent for using focus groups to discuss alcohol use and binge drinking with young people (Broadbear, O'Toole & Angermeier-Howard, 2000; Dodd, Glassman, Arthur, Web & Miller, 2010; Emery, Ritter-Randolph & Strozier, 1993). Further to this Kitzinger states that group activities and discussion concerning taboo or sensitive topics can actually reduce inhibitions and thus enhance the data collected (Kitzinger, 1995). A number of methods can be utilised to reduce the potential for participants' concerns about confidentiality and anonymity to limit discussion. Specifically: informing participants ahead of time about the topics to be discussed so that they can make an informed decision about whether to attend a discussion group or not; requesting that the participants do not disclose any specifics discussed during the focus group at a later time; explicitly providing participants with the option to discuss topics in general or hypothetical terms rather than having to give specific examples of their own experiences and actions; and informing participants that they do not have to give their real name when they attend a focus group (Berg & Lune, 2004). Having a level of homogeneity among participants in each group can also help to reduce inhibitions, however if a group is too homogenous then discussion may have less depth and diverse opinions or experiences may not be discussed (Morgan, 1988) therefore it is ideal to select participants who have some but not all characteristics in common. When considering alcohol use specifically there is a further step that can be taken to reduce the sensitivity of the subject, by only recruiting individuals over the age of 18 and thus those who are legally allowed to purchase and consume alcohol in the United Kingdom, there

will be no pressure on participants to discuss involvement in illegal activities.

A number of weaknesses of focus groups relate to the effects and influences of the moderator. When running focus groups the researcher and moderator have less control than they would in a one to one interview which means that time can be wasted on discussion of topics irrelevant to the research. This problem can be reduced by effective moderation. Conversely the lower level of moderator control can also have benefits for data collection as it affords participants greater opportunity to direct the discussion and influence the research to a greater extent. Therefore the level of moderation can, and should, be selected based on the research aims (e.g. exploratory research often suits lower level moderation) (Morgan, 1988). As with any work the results are influenced by the researcher which can raise issues of validity. In focus groups the design of the focus group materials, and the presence and contributions of the moderator can influence the data collected. In qualitative research this is addressed through the researcher being reflective and honest throughout the data collection and analysis process (Tracey, 2010). Within this the presence of the moderator can serve to induce demand characteristics however this effect can be reduced by avoiding direct questions and making explicit statements regarding the researcher's interest in the individuals' thoughts, opinions or experiences (Massey, 2011). Issues of validity can also be reduced through the mixed methods approach via triangulation of qualitative and quantitative research findings (Creswell, & Clark, 2007).

A further issue which should be considered is the small sample sizes which tend to be obtained in focus group research which means that the data

obtained is unlikely to be generalizable when judged by the standards set in quantitative research (Tracy, 2010). However qualitative research can reflect diversity within a given population (Kuzel, 1992) and as such obtaining a sample including representatives from varied student sub-groups for this work should allow findings to inform the design of the later quantitative work without biasing towards or against specific individuals or sub-groups.

Further to acknowledging and seeking to limit the weaknesses of the focus group methodology there are options within the focus group method that also need to be considered, these are set out in the following section.

### **3.3.3. Further Considerations**

#### ***3.3.3.1 Method of Communication***

Multiple methods of communication with discussions being possible face-to-face, via telephone, chat room or instant messaging, or via video conference such as skype (Stewart, & Williams, 2005). The selection of communication method should be based on two key factors the practicalities of participants getting to and from the focus group session and the increased anonymity that can be offered if groups are not held face to face. As the researcher was interested in investigating students from a single university and data collection could occur during term time, when most students would be attending university at least one day a week, there would be relatively few travel requirements for participants to attend a face to face focus group if they were held on campus. Further to this although alcohol could be a potentially sensitive subject it was not considered highly sensitive and therefore it was expected that the discussions would not benefit particularly from the increased anonymity of conducting groups by telephone or internet. Therefore conducting face

to face focus groups was considered to be an appropriate and adequate method.

### ***3.3.3.2 Moderation***

The type and style of moderation is important in focus groups. For this project the resources available dictate that the groups be run by a single moderator. Utilising a single moderator can mean that some topics may not be covered fully or potential points of interest raised by participants may not be fully followed up. To try to minimise the restrictions of having a single moderator the researcher will review recordings after each session so that any topics or ideas raised in one group can be picked up on in later groups. There are three key options available in terms of moderator involvement in the group: focus groups can be structured involving a high level of moderator involvement with the moderator moving through planned topics and questions in order; semi-structured with the moderator using a small number of questions and activities to begin discussion and prompts to encourage further discussion but with more freedom for participants to guide the discussion and raise issues they wish to discuss; or unstructured with the moderator introducing the topic for discussion and then letting participants run their own discussion on this topic (Morgan, 1993). In this work a semi structured approach to the focus groups will be utilised as there are specific topics to be discussed but the research questions posed are generally exploratory which suits a less structured moderation (Morgan, 1988). Further to this a semi-structured approach allows for tasks and prompts to be used to promote discussion of more complex topics (Kitzinger, 1995) such as understanding of binge drinking and problematic alcohol use. Finally this approach also

meant that the influence of the researcher could be limited in comparison to a fully structured approach.

### ***3.3.3.3 Location of the group***

Neutral but easily accessible locations are ideal as they provide least barriers to attendance and discussion (Powell & Single, 1996). As such it was decided to conduct the focus groups on campus but in a meeting room which was not used for teaching and therefore was unlikely to be familiar to participants therefore should not hold any positive or negative associations for them.

### ***3.3.3.4 Group Size and Participant Selection***

Methodologists in this area recommend that groups consist of between 6-10 participants (MacIntosh, 1993) so that there are enough participants to engage in an in-depth group discussion but each participant is afforded time to air their views and the discussion is easy enough to control. For these reasons the researcher aimed to achieve groups of approximately 6-8 participants. However the decision was made that should recruitment for a particular group prove problematic or should a number of participants fail to turn up to a group, the data collection would proceed as long as there were at least 3 participants present. This was to ensure that all those interested in taking part were not prevented from doing so if it was avoidable.

The criteria for attending the focus groups reflected the population of interest with individuals needing to be aged 18-25 years and an undergraduate student currently enrolled at the university for a minimum of 1 term of study. Outside of these constraints the researcher considered that obtaining a diverse sample of undergraduate students was of

importance for this research in order for findings to be utilised to inform the later quantitative work. For this reason the researcher will review the demographic characteristics of the sample gained after each group and identify any sub groups that may need to be specifically targeted by recruitment. Specifically the researcher sought to obtain male and female participants, individuals from years 1, 2 and 3 of study, living in halls of residence and shared housing, individuals in receipt of maintenance loans and those without and students from a range of schools and faculties of study within the university.

### ***3.3.3.5 Number of Groups and Group Length***

To afford participants time to cover the topics of discussion and complete other formalities but avoid fatigue of either participants or the moderator and to keep the demands on participants time to a minimum, group sessions were allocated a 2 hour time slot. With regard to number of groups the researcher set out to conduct six groups but this was open to revision should the researcher deem that the point of saturation was not met with this number of groups.

## **3.4 Quantitative Method**

The quantitative aspect of the project sought to address the third and fourth research questions: 'Can the TPB be used to effectively predict binge drinking behaviour in a population of undergraduate students?' and 'Can an expanded TPB improve the prediction of student binge drinking behaviour?' As well as building on the findings of the qualitative work and literature review with regards to the third research question: 'What are the antecedents of undergraduate student drinking and specifically undergraduate student binge drinking behaviour?' Consideration was

given to which quantitative method would be most appropriate to addressing these questions.

### **3.4.1 Method Selection**

An argument for utilising the TPB as the theoretical basis for this aspect of the research was established in the literature review. As such the method of data collection to be utilised is relatively predetermined as TPB variables are traditionally assessed by self report questionnaire (Ajzen, 2002b). Within this either cross-sectional or prospective questionnaires can be employed. As already stated, it was decided to utilise a cross-sectional questionnaire design for the second study (with only pilot participants completing an additional questionnaire to provide a prospective design) as this would allow data to be collected which could inform the refinement of the questionnaire and with regards to which suggested antecedents had the potential to act as effective predictors of students' intentions to binge drink or binge drinking behaviour without unnecessary additional effort from participants. Further to this a cross-sectional method would allow a focus on the antecedents of intentions before the prediction of behaviour and further expansions to the TPB are considered in the third study which would employ a prospective method. Although a longitudinal questionnaire design would also have been appropriate for this work it would be more beneficial if the study sought to track behaviour change over time and the additional time and demand on participants that would result from a truly longitudinal design was deemed to be unnecessary for addressing the research questions for this project. Further to this it was hoped that a shorter term prospective design would reduce attrition rates and improve the accuracy of self-reported behaviour (Conner, & Waterman, 1996; Schwarz, 1990; Schwarz,

1999). Further to fitting the theoretical base for the quantitative works questionnaire methods are an effective way of collecting the amount of data and achieving the sample sizes necessary to address the remaining research questions and hypotheses.

### **3.4.2 Self Report Measures of Alcohol Use**

There are specific issues which relate to the use of self reports to measure alcohol use. Observation or behaviour measures are generally viewed to be more objective and accurate. However observing students drinking behaviour, over a period long enough to test the predictive validity of the antecedents considered and across a sample size large enough to allow a reliable statistical analysis to be conducted is simply not feasible therefore researchers must use a more practical measure of behaviour assessment. Reports of drinking behaviour in population surveys have been shown to be biased and overall indicate a level of under reporting (Midanik, 1982; Göransson and Hanson 1994). This can to a point be explained by the fact that very heavy drinkers have a high non participation rate in surveys and increased consumption of alcohol can reduce memory of consumption. The specific measures used can also lead to biases in data for example quantity-frequency measures tend to lead to greater underestimates but greater specificity about the period of interest enhances these measures' accuracy (see for example Kuhlhorn and Leifman 1993). The definition of binge drinking and measure of binge drinking to be employed was considered in depth in the literature review (section 2.2.1). However additional measures of past alcohol use including assessment of problematic alcohol use will also be employed. Because of issues raised regarding self-reported alcohol use, existing measures which have been shown to be reliable and valid will be employed, specifically the Alcohol

Use Disorders Identification Test (AUDIT) (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). In addition to this, because student alcohol use has been shown to have a large amount of temporal variability (Del Boca, Darkes, Greenbaum, & Goldman, 2004) therefore data collection periods will be allowed to run for as long as possible in order that data not be overly biased by seasonal term time fluctuations.

### **3.4.3 Measure Selection**

The construction of the questionnaire to tap the theory components followed the guidelines set out by the theory's author (Ajzen, 2002b) as well as drawing on previous research literature. This section will set out the broader factors regarding the selection of measures for the questionnaires, details on the specific measures employed can be found in the method sections of studies 2 and 3 (sections 5.2.4 and 6.2.4 respectively). As self report measures were to be utilised for the TPB variables, self-report measures were also sought for the expansion variables, and to tap the demographic and descriptive data required for the study. Where possible the research sought to employ established measures which have been shown to be reliable and valid. Because the questionnaires were required to test a large number of potential antecedents as well as collect demographic and descriptive data and self-report behaviour, the inclusion of short but valid measures were considered a priority so that demand on participant time was kept to a minimum.

### **3.4.4 Piloting**

By conducting the studies sequentially study 2 was effectively able to be utilised as a large scale pilot for study 3 with the validity of potential expansion variables being assessed in this work before being included in

the larger scale prospective study. However to ensure a high standard for study 2 an initial small scale pilot was also conducted targeting third year psychology students who would have a basic knowledge of the quantitative methodology and thus be in a position to understand the importance of effective piloting as well as providing useful and reliable feedback about the format of the questionnaire and highlight any undetected typographical errors.

#### **3.4.5 Sample Sizes and Encouraging Responses**

For a TPB study a sample size of 80 participants minimum is recommended (Francis, et al., 2004) however as these studies will include multiple expansion variables larger sample sizes will be sought. For multiple regression analyses a sample of 104 plus the number of predictors to be tested has been recommended (Tabachnick & Fidell, 2007) and this rule will be applied in these works.

Recruiting such large sample sizes may be problematic therefore multiple techniques will be employed in order to encourage response rates. Ease and speed of completion will be made a priority, specifically: direct measures of the TPB variables will be employed; short forms of existing scales will be utilised where they have been shown to be valid and reliable; variables will only be included where there is indication in the literature or the qualitative findings that they have potential importance to the area student alcohol use and binge drinking; and piloting was used to refine the design of the questionnaires, ensuring that they are straightforward to complete. Additional techniques to encourage participation will be utilised specifically multiple methods of completion and return of questionnaires will be offered including web based and pen

and paper completion which have both been shown to be effective methods of gaining large, diverse samples (Gosling, Vazire, Srivastava, & John, 2004) and incentives for participation in the form of entry into a prize draw (with prizes of shopping vouchers to the value of £100 for the cross-sectional study and £500 for the prospective study 2), similar incentives have been used in previous research (e.g. Wechsler, et al., 1998). Finally the studies will be widely advertised on campus using a combination of university e-news bulletins, posters, and flyers to ensure that high numbers of potential participants are made aware of the studies.

### **3.5 Mixing Methods**

As well as collecting and analysing both qualitative and quantitative data within the same research project, a truly mixed methods approach combines the two types of data (Creswell & Clark, 2007). Methods were mixed primarily through the utilisation of the findings from the first, qualitative, study to inform the design of studies 2 and 3 in terms of potential antecedents to be included or excluded from these works. Additionally the quantitative studies will be employed to further test findings arising from the qualitative research. Finally all three studies will collect quantitative data regarding students drinking behaviour.

### **3.6 Conclusions**

This chapter has set out the methods that will be employed in the empirical research conducted for this thesis along with their methodological underpinnings. Further details of the research methods employed for each study are provided in the method sections of chapters 4, 5 and 6. The remainder of the thesis will present the empirical research

work conducted and discuss the findings of that work with regard to the existing literature base which was reviewed in chapter 2.

## **4 Study 1: Qualitative Research**

### **4.1 Introduction**

The literature on student drinking is predominantly quantitative, and the majority of information and knowledge has been drawn from large scale quantitative surveys, smaller intervention studies and some experimental works. The area is lacking in-depth qualitative work which allows participants to provide open ended responses and can provide insight into student drinking which may in turn be used to inform the design and modification of questionnaires and survey works so that student drinking behaviour can be predicted more effectively and consequently future intervention and prevention works based on these findings should have greater effectiveness.

By linking the thinking and understanding of researchers to that of study participants, qualitative work can also provide a grounding for quantitative studies and theories helping to ensure that top down approaches do not lead to disconnections between research and reality. This is particularly beneficial as the research work presented in chapters 5 and 6 draws heavily on theories and definitions derived by researchers which student drinkers themselves will not necessarily relate to.

#### **4.1.1 Qualitative Studies on Alcohol Use**

The majority of the literature concerning student alcohol use is quantitative in nature. However with indications that interventions continue to have limited if any impact on drinking behaviour (Larimer, & Cronce, 2002; Wechsler, et al.,2003) there has been an acknowledgement that understanding of the antecedents of drinking behaviour needs to be

improved if interventions are to be more effective in future, and some have suggested that qualitative work could help (see Quintero, Young, Mier & Jenks, 2005). Some researchers have already employed qualitative methods to research the drinking behaviour of students and young people. A review of a number of these studies will be presented in this section. Assessment of the findings of these works will focus on similarities across studies, identifying common experiences, understandings and behaviours which are potentially more universal.

Perhaps because of the nature and specificity of qualitative research the literature in this area has tended to look at specific sub groups of drinkers including extreme drinking populations such as those who have been disciplined for drinking under age (Johnson, 2006), those who drink under age (Dodd, Glassman, Arthur, Webb & Miller, 2010; Sheehan & Ridge, 2001), those who belong to 'at risk' population sub groups such as fraternity or sorority members (Workman, 2001). Other qualitative studies have focused on specific drinking related behaviours such as risk reduction strategies (Howard, Griffin, Boekeloo, Lake & Bellows, 2007) or have utilised qualitative methods to assess the effectiveness of interventions (Beich, Gannik & Malterud, 2002). What is missing from the data is a study exploring similar aspects such as drinking behaviours and motivations which are experienced by the general undergraduate student population to ascertain if there is a level of consistency to the student experience with alcohol and binge drinking and the factors that influence drinking behaviour among undergraduates in general rather than in these specific sub groups. A further weakness in the qualitative literature is that as with the quantitative literature, much of what is currently available derives from the U.S. where differences, for example in alcohol law, policy and the

college system, are likely to have different impacts on the alcohol use of students .

Because a limited number of studies employing qualitative methods to the research of student alcohol use were identified, studies conducted with samples of young adults and with school students have also been included. The studies reviewed are presented in Table 4.1.1 which is followed by a discussion of the key findings from these works.

Table 4.1.1.  
Studies employing qualitative methods to research alcohol use

Authors	Year	Country	Sample	Method	Topic
Broadbear, O'Toole and Angermeier-Howard	2000	USA	Undergraduate College Students	Peer Run Focus Groups (N=6)	Student binge drinking
Dodd, Glassman, Arthur, Webb and Miller	2010	USA	Undergraduate College Students (N=59)	Focus Groups	High Risk Drinking in undergraduate college students. Cues behind alcohol use and their utility for prevention
Emery, Ritter-Randolph and Strozier	1993	USA	Undergraduate College Students	Focus Groups	Factors underlying student alcohol use, gender differences in drinking patterns and potential methods for preventing alcohol abuse.
Kubacki, Siemieniako and Rundle-Thiele	2011	Poland and Canada	Undergraduate Students (N=36)	Focus Groups (N=5)	Student Binge Drinking
Johnson	2006	USA	College students (N=100) attending a class after having received a 'ticket' for minor alcohol consumption	Open ended Questionnaires	Motives behind student drinking and the harm reduction strategies that students employed.

Table 4.4.1.  
Studies employing qualitative methods to research alcohol use

Authors	Year	Country	Sample	Method	Topic
Young, Morales, McCabe, Boyd and D'Arcy	2005	USA	Female Undergraduate Students who drank alcohol (N=42)	Focus Groups separated according to drinking level, trajectory and sorority affiliation	The increased rate of binge drinking in the female undergraduate population.
Workman	2001	USA	Fraternity Members	Focus Groups	Messages fraternities portray about alcohol or how these messages lead to the reproduction of drinking norms.
Bonar, Young, Hoffmann, Gumber, Cummings, Pavlick and Rosenberg	2012	USA	Undergraduate students (N=424)	Mixed Methods analysis of Questionnaire responses (Questionnaire included one open ended question)	Student definitions of a drinking binge.
Demant and Järvinen	2006 2010	Denmark	Young people (Ages 14-15, 15-16 and 18-19 years at waves 1, 2 and 3 respectively)	Three waves of focus groups over four years	The role that social capital played in the drinking behaviour of young people.
Engineer	2003	England and Wales	Young People aged 18-24 from eight different locations with experience of binge drinking	Focus Groups	The ways in which drinking patterns, attitudes to alcohol and the effects of binge drinking were related to experiences of crime, disorder and risk taking.
Russell-Bennett, Hogan and Perks	2010	Multi-national	Students from 50 countries across Europe, North America and Asia (N=216)	Interviews with a marketing systems approach	The socio-cultural factors which influence binge drinking behaviour among young people and students.

## **4.1.2 Key Findings of Qualitative Studies on Alcohol Use**

### ***4.1.2.1 Constructing positive attitudes towards alcohol use***

Students maintain positive views of alcohol and a case can be made that students and other young people positively frame alcohol use, excessive or risky drinking, and the associated outcomes while ignoring or dismissing information and knowledge regarding negative outcomes which they are unable to reframe positively.

Dodd et al. (2010) state that for underage students who drink to excess the positive expectancies they hold about alcohol use outweigh the negative consequences. Students employ a number of methods to reduce the importance of negative consequences of alcohol use and binge drinking. Negative consequences are played down (Johnson, 2006) or dismissed as being acceptable because they are common (Johnson, 2006). Alternatively negative consequences can be reframed to appear positive (Workman, 2001). Workman (2001) demonstrated that drinking stories are utilised by fraternity members to construct high risk drinking as being positive and serving a purpose, while stories which feature negative consequences of alcohol use are either avoided or told with the negative consequences are re-framed to be humorous. Other young people have been shown to utilise the negative consequences of alcohol consumption as an 'excuse' for engaging in antisocial or inappropriate behaviour (Engineer, 2003).

Research with young adults (Engineer, 2003) has found that although some drinkers engage in risk behaviours the majority do not perceive themselves to be at risk when drunk. This could be explained as a result of reframing with Workman's (2001) participants actively promoting risk taking, entertainment, physical exploration and poor decision making as

positive outcomes which can be obtained through alcohol use. The notion of thinking about drinking behaviour in terms of risk is rejected by young people as it can reduce their sense of freedom and independence (Engineer, 2003). Constructing positive attitudes towards alcohol, reframing or avoiding its negative outcomes and giving weight to its positive ones can offer some explanation as to the continuing prevalence of these behaviours among young people. Communications based on the negative consequences of alcohol use may therefore be ineffective if researchers do not have a full understanding of how drinkers construct these drinking consequences.

#### ***4.1.2.2 Socialising and Social Lubrication***

In general the expected positive consequences of alcohol use, binge drinking and high risk drinking are considered to outweigh the negatives (Dodd et al. 2010) but some positive consequences are more prominent in the qualitative research findings, with the positive social consequences of drinking behaviours being the most commonly discussed. Binge drinking or drinking to get drunk has been identified as being the main method of socialising for students (Broadbear, O'Toole & Angermeier-Howard, 2000) and non-student young adults (Joseph Rowntree Foundation, 2010; Engineer, 2003) though the venue of drinking may differ (Joseph Rowntree Foundation, 2010) alcohol was consistently present in social situations.

Drinking alcohol is viewed as a way to make friends and meet new people (Johnson, 2006) and findings show that students value the social-interactions that result from binge drinking (Emmery, Ritter-Randolph & Strozier, 1993). Alcohol is seen to remove barriers to socialising (Joseph Rowntree Foundation, 2010) with specific positive consequences of alcohol use including reduced inhibitions and anxieties (Emmery, Ritter-

Randolph & Strozier, 1993) and boosted confidence (Johnson, 2006) being used to aid socialising. Pre-drinking before going out enables students to achieve these positive consequences before the main night out (Johnson, 2006) and few young people are able to identify any realistic alternative method for socialising with other young people (Joseph Rowntree Foundation, 2010). Further to this drinking alcohol and abiding by the drinking norms of a social group can be a way to align one's self with and fit in to a particular peer group (Demant & Järvinen, 2006; Demant & Järvinen, 2010; Kubacki et al., 2011; Young et al., 2005; Workman, 2001).

While the importance of social consequences of alcohol use and binge drinking emerge in many studies it is not the case that they have the same level of influence on all individuals' drinking behaviour. The requirement of alcohol to socialise was not consistent across all countries with students from moderate binge countries associating 'losing control' through alcohol with embarrassment rather than effective socialising (Russell – Bennett, Hogan & Perks, 2010). Male students have been found to be more likely to drink to boost confidence or reduce inhibitions (Howard et al., 2007) while female students have been shown to utilise drinking behaviours to align themselves with, gain positive attention from, and make themselves more attractive to, their male peers. In the work of Young, Morales, McCabe, Boyd and D'Arcy (2005) female students who could drink 'guy drinks' were identified as being more attractive to male students and alcohol could be utilised by females to establish social positions with those who were able to drink alongside their male peers being able to maintain a specific position within that social group. Further to this Kubacki, Siesmieniako and Rundle-Thiele (2011) who identified three stages of binge drinking behaviour found that social factors were differentially important dependent on the stage of binge drinking. Specifically "initiation

binge drinking” was a shared, social experience with individuals learning from one another’s experiences but also utilising drinking initiation to demonstrate belonging to a particular peer group. During the following stage of “indulgence binge drinking”, drinking was associated with belonging to certain social groups and alcohol was used to boost confidence and thus aid socialising. In the final stage of “moderation binge drinking” social influences were less important with alcohol occasionally being consumed away from the company of others and being a background rather than central factor in socialising. This is supported by the work of Demant and Järvinen (2006, 2010) who found that drinking and drinking to excess could be used to position one’s self socially and establish social capital within a social group. This is a theme which also appears in the quantitative literature with research showing that among school students the most popular students demonstrated the highest levels of alcohol and drug use (Pearson et al., 2006), while self-rated popularity among high school seniors is positively related to alcohol use (Diego, Field & Sanders, 2003).

The importance placed on socialising as an outcome of drinking and the inability of students and young people to identify valid alternatives may be contributing to the continued prevalence of binge drinking among young people, for whom it is important to fit in with the peer group (Russell – Bennett, Hogan & Perks, 2010).

#### ***4.1.2.3 Social Norms***

Related to issues around socialising and social lubrication are the influence of social and cultural norms on alcohol use which were also discussed in a number of the qualitative studies. Quantitative works have shown that the more alcohol positive the norms of a peer group the more alcohol

individuals and the group will consume (Chawla, Logan, Lewis & Fossos, 2009). Although actual norms are important perceived norms are also highly predictive of alcohol consumption and this relationship is strongest when association to the referent group is strong (Wilks, Callan & Austin, 1989). The general perception among young people and students included in the qualitative works is that alcohol use and binge drinking are perceived as being the norm among students (Broadbear, O'Toole & Angermeier-Howard, 2000) with drinking and drinking to excess being viewed as acceptable and even expected (Engineer, 2003; Joseph Rowntree Foundation, 2010).

Findings show that students are open to the influence of social pressures to drink (Emery, Ritter-Randolph & Strozier, 1993) with the existence of and exposure to multiple drinking norms within an individual's social network resulting in young people being able to demonstrate multiple drinking styles (Joseph Rowntree Foundation, 2010). Within this male students having been identified as being more likely to encourage others to drink (Howard et al., 2007; Young et al., 2005) and being perceived to be more aware of and attentive to the drinking behaviours of others (Young et al., 2005). Work with fraternity members in the U.S. has identified that social norms for drinking behaviour may be perpetuated through the telling of drinking stories (Workman, 2001).

Outside of peer influences, Russell-Bennett, Hogan and Perks (2010) demonstrated that parental approval of alcohol use and level of parental involvement were both related to young people's rates of binge drinking and the findings of Broadbear, O'Toole and Angermeier-Howard (2000) indicated that involving parents could act as an effective deterrent to alcohol use.

Cross national work (Russell-Bennett, Hogan & Perks, 2010) has found that two dimensions, family influences and peer influences, were able to distinguish between countries with high versus moderate drinking behaviour. Three dimensions within each influence were identified, for family influence these were: level of contact with the family with lower contact and lower involvement being associated with higher rates of binge drinking; parental approval with stronger parental disapproval being associated with more moderate alcohol use; and upbringing and expectations, with observed parental drinking being related to high binge but introduction to moderate alcohol use at home being related to moderate alcohol use later. For peer influence the three dimensions were: group affiliation, with peer group membership being dependent on alcohol use in high binge countries; value judgement of peers, with young people being less likely to drink if their friends disapproved; and perceptions regarding control, in high binge countries, 'losing control' was associated with increased confidence and thus improved socialising and so was associated with greater rates of drinking whereas in moderate binge countries loss of control was associated with negative outcomes such as embarrassment.

The focus on risk reduction strategies in Howard, Griffin, Boekeloo, Lake and Bellows' (2007) led to students highlighting the importance of drink refusal strategies and techniques as being important skills, thus demonstrating the influence that peer pressure can have on drinking if students are not well prepared to deal with it.

#### ***4.1.2.4 Life cycle of drinking***

The findings from these qualitative studies show that the alcohol use and drinking behaviours of students and young people change over time and that they expect this to continue to be the case as they mature. Both the student and non-student samples considered identify young adulthood as a time to experiment with and use alcohol before they take on further responsibilities later in life (Dodd, et al., 2010; Joseph Rowntree Foundation, 2010) with drinking culture and the targeting of young people by bars and clubs as well as wide scale alcohol marketing being seen to promote this behaviour. Further to this, there are implications to and explicit statements about this time being used to learn to drink in the 'right way' with drinking large volumes of alcohol is viewed as a skill to be developed (Young et al., 2005; Workman, 2001) so that drinking and drunkenness can be enjoyed. Demant and Järvinen (2010) support this, identifying that although at the first and second waves of their work more active drinkers received more social capital by the third wave the focus was on high volume but controlled alcohol consumption with only infrequent experiences of vomiting, blacking out or generally drinking beyond one's limits.

Kubacki, Siesmieniako and Rundle-Thiele (2011) went beyond these previous works identifying three types of binge drinking which were termed initiation, indulgence and moderation and were distinguished based on the different attitudes and specific behaviours associated with drinking. Initiation binge drinking was characterised as being experimental and involving the development of knowledge about alcohol. Indulgence binge drinking involved more frequent consumption of alcohol and in greater volumes. Moderation binge drinking was characterised by the

consumption of smaller volumes of alcohol with a reduced frequency. The author proposes that the types of binge drinking set out by Kubacki, Siemieniako and Rundle-Thiele (2011) are not actually types at all but manifestations of the different phases in the alcohol life cycle focused on the period of adolescence and young adult hood with younger drinkers initiating their alcohol use at home, where access to alcohol is restricted by parental supervision and drinker's age, this is followed by a period of more excessive experimental drinker where individuals continue to develop their knowledge of alcohol and their individual tolerances but also make the most of the freedom to purchase and consume alcohol as and when they choose and utilise it as a tool to aid socialising and bonding. As students establish stronger relationships with their peers, feel less pressure to socialise, learn about their individual preferences regarding alcohol and take on more responsibilities, drinking then proceeds to the moderation stage where individuals drink less, and less frequently. These findings indicate that while constructions of a life-cycle of drinking can promote alcohol use among young adults and students, they also place a focus on learning through experience, identifying one's limits and learning to drink in a controlled and responsible way. Following this line of reasoning it is reasonable to suggest that while the methods of experimentation are not the safest, some benefit can stem from these experiences as individuals can develop more responsible drinking patterns which they can rely on in later life.

#### ***4.1.2.5 Safety in Numbers***

Although drinking is synonymous with socialising, drinking as a group was also raised as a method of risk reduction or harm prevention when drinking. Drinking with trusted friends was endorsed as a harm reduction

strategy (Johnson, 2006) as were staying with friends throughout the night, going out in groups with friends of both genders, having a minimum of one sober person with their group and having group members monitor each other's drinking (Howard et al., 2007). Participants suggested that a reciprocal relationship operates among circles of drinking friends with individuals helping out and looking after intoxicated friends and being helped out or looked after by friends when they are intoxicated (Demant & Järvinen, 2010; Howard et al., 2007). However it was less clear how and when one could intervene effectively to limit another's drinking (Demant & Järvinen, 2010; Howard et al., 2007).

A link can be drawn between this and the lifecycle of drinking with younger drinkers ultimately being able to rely on parental control to protect them from excessive consumption (Kubacki, Siemieniako & Rundle-Thiele, 2011) as drinkers mature and gain independence they must rely on drinking peers for assistance therefore a need to control drinking, at least the majority of the time, exists. This is because as Demant and Järvinen's (2010) and Howard, Griffin, Boekeloo, Lake and Bellows (2007) describe the assistance of intoxicated peers as being a reciprocal relationship with individuals being willing to help out others if they feel that this will be reciprocated in future if necessary. If the reciprocity of this relationship was not maintained then one individual may become a burden on the rest of the group or the group as a whole could become too out of control to look after one another.

#### ***4.1.2.6 Enabling Drinking***

College (and university) offers a level of anonymity with staff members as well as the larger student body which allows students to 'get away with' things that would have been noticed and potentially resulted in

punishment during their school days (Broadbear et al., 2000; Workman, 2001). It is also a period of time during which most individuals move away from their parents and so experience a freedom from parental influence and restrictions which have been shown to restrict drinking (Russell-Bennett, Hogan & Perks, 2010). The culture of drinking, social norms and targeting of young people by wide spread marketing as well as specific clubs and bars (Joseph Rowntree Foundation, 2010) also produce an overall view that drinking is acceptable and expected and that engaging in binge drinking is a part of the college experience (Broadbear et al., 2000) which serves to further enable drinking among populations of young adults. Finally on this theme, the qualitative findings reviewed here show that harm reduction strategies can have the effect of portraying high alcohol consumption as acceptable and low risk (Broadbear et al., 2000) with alcohol use and harm reduction strategies both being linked to reductions in the perceived levels of personal responsibility and accountability (Engineer, 2003).

#### ***4.1.2.7 Dismissing Health Messages***

The qualitative literature has been able to identify a number of reasons why health messages about drinking have been unsuccessful in changing student drinking behaviour beginning with the fact that young adults do not generally perceive a need to change their drinking behaviour (Engineer, 2003). Further to this Dodd and colleagues (2010) found that students would dismiss messages as being irrelevant or wrong if they did not fit with their own experience or understanding of drinking behaviour while young people participating in research have identified that they would ignore or disregard promotions of safe drinking or restrictions but harm reduction strategies would be welcomed.

Similar issues have been identified with regards to definitions of binge drinking. Workman (2001) found that fraternity members rejected the commonly used 5/4 drink measure of binge drinking because it failed to take account of different tolerances to alcohol and different drink strengths while also promoting a focus on the quantity of alcohol consumed which did not fit with students focus on the achievement of a state of intoxication. Bonar and colleagues (2012) identified that students felt the number of drinks which would constitute a binge varied by type of beverage consumed and that binge drinking was considered as the consumption of a large volume of alcohol the motivations behind the drinking behaviour were important. This is supported by work with young adults which has found that Health promotion messages focusing on alcohol intake in terms of units contrast to the ways in which young people drink and thus are unlikely to have any major influence in terms of behaviour change (Joseph Rowntree Foundation, 2010).

#### ***4.1.2.8 Conclusions***

From the studies considered which apply qualitative methods to research alcohol use it is clear that although specific drinking experiences may vary from one individual to another being affected by factors such as gender, social status, ethnicity and country of residence there are themes and factors which appear central to the alcohol use of students and young people. These include but are not limited to an alcohol 'rite of passage' or 'life-cycle', a central role of alcohol in socialising, that drinking behaviour is effectively enabled by the university environment and maybe further so by harm reduction strategies and a perception of alcohol as having positive outcomes which outweigh the risks involved in drinking even to

extremes. These are issues which are worthy of further consideration in the empirical work of this thesis.

These works have shown that a qualitative approach can improve understanding of student drinking behaviour, providing more depth than that offered by quantitative research and work driven by existing theory. Despite its strengths the fact that many of the studies presented here have chosen to focus on specific sub groups of drinkers means that further knowledge may be gained by exploring student drinking more broadly. For this reason this study sought to investigate the drinking behaviour of undergraduate students in general.

#### **4.1.3 Understanding of Binge Drinking**

Research presented in the literature review demonstrated that there is confusion in the literature and among professionals from different backgrounds as to what the term binge drinking means. It is likely then that there may also be confusion among drinkers as to what the term binge drinking means and possibly a disparity between student drinkers' understanding of binge drinking and psychological researcher understanding. It is therefore important to investigate students' understanding of binge drinking and problematic drinking in general to gauge if this may be restricting the effectiveness of health communications.

Some research has begun to consider knowledge of alcohol and the consequences of alcohol consumption as well as lay understandings of the term binge drinking and the behaviour to which it refers (Office for National Statistics 2009; Wechsler & Kuo, 2000; Workman, 1999). However at present there are only a small number of these studies, the majority have been part of quantitative works and usually allow only for

closed or restricted responses. Adopting a qualitative approach to this topic will allow students to provide open ended responses.

Related to this a potential contributor to the poor success of previous intervention schemes may be due the terminology being employed.

Researchers have begun to suggest that the use of the term binge drinking or alternative phrases such as heavy drinking and risky drinking may not be having the desired effect on binge drinking populations (Goodhart, Lederman, Stewart & Laitman, 2003). These arguments are posed for a number of reasons. Firstly these terms are often used interchangeably which can create confusion about what behaviours are being discussed and targeted. Secondly these terms as a group and individually carry a whole range of definitions and meanings dependant on when, where and to whom they are applied. This means that many who would be classified as binge drinkers by the majority of researchers are able to select and apply a definition which does not encompass their own drinking behaviour, making 'binge drinking' something that other people do.

Thirdly definitions often contain a set cut off point (e.g. consumption of 8 units or more for men, 6 units or more for women). Such definitions fail to take into account individual and situational factors and imply that drinking below this level is 'safe' which may not be the case. Finally research findings focused specifically on students indicate that they do not identify with the terms 'binge drinking' and heavy drinking' and some even find the term 'risky drinking' appealing as they like to view themselves as risk takers (Workman, 1999). This in turn makes engagement in such behaviours attractive which could be contributing to continuing high levels of binge drinking and alcohol consumption.

Therefore, possessing an awareness and appreciation of how undergraduate students in England define and understand binge drinking will not only be of great value in furthering our knowledge but will be of importance for informing further work, especially the design of intervention and prevention works with university undergraduate students where effective communication can be of vital importance for efforts to be successful. For this reason in addition to considering student drinking behaviour through discussion of a typical night out this study also explored students' perceptions and understanding of problematic alcohol use including alcoholism and binge drinking.

## **4.2 Method**

### **4.2.1 Aims**

To explore how students understand the term binge drinking.

To investigate students' perceptions of their own drinking behaviours and those of their peers.

To explore students' knowledge of the outcomes and effects of binge drinking.

To collect quantitative data about participants' alcohol consumption and drinking behaviours in the form of CAGE and AUDIT measures.

### **4.2.2 Research Questions**

What is a typical student night out?

How do students understand and perceive problematic alcohol use?

What knowledge do students have of the outcomes and effects of alcohol use?

### **4.2.3 Method**

The primary focus was to collect qualitative data to provide in-depth insight into how and why students drink and how they understand problematic alcohol use which could be used to support and inform the later quantitative work. This data was collected through semi structured focus group discussions.

In addition to this quantitative data regarding participants' drinking behaviour along with demographic information was collected via a short questionnaire. This data was used to describe the sample and was reviewed following each focus group to ensure that a diverse sample of participants from different backgrounds, schools and subjects of study, ages, year groups and with varying levels of alcohol consumption was being recruited. This was deemed particularly important as the following quantitative research informed by this study would not seek to target specific sub groups of the student population but the student population as a whole. Therefore if findings and conclusions reflected views of one or more sub groups over and above those of others it may lead to biases in the questionnaire measures employed.

This study received ethical approval from the School Ethics Committee, a copy of the ethics application can be found in Appendix A.

#### ***4.2.3.1 Materials***

##### Questionnaire

The questionnaire (Appendix F) comprised measures of demographic variables including age, gender, ethnicity, religion, socioeconomic status. Measures of ethnicity and religion were the same as those utilised in the census. Socio economic status was considered in terms of whether

participants were currently in receipt of any maintenance grants and the professions of their parents or guardians.

In addition to this the questionnaire included self-report measures of alcohol consumption behaviour in the form of the “Cut Down, Annoyed, Guilty, Eye-opener” or CAGE measure for alcohol dependence (Ewing, 1984) (questions 13-15) and the Alcohol Use Disorders Identification Test (AUDIT) (Saunders, Aasland, Babor, de la Fuente & Grant, 1993) (questions 17-26). CAGE and AUDIT measures were selected for a number of reasons. Firstly they are internationally recognised tests. Secondly together they collect a range of data with regards to alcohol use including volume and frequency of alcohol consumption, experience of negative consequences and outcomes and the time of day at which alcohol is consumed. Finally both measures can be used to identify potentially problematic alcohol use and have been shown to be accurate in identifying problematic patterns. This was considered to be important because much of the rationale behind devoting research to the consideration of student drinking behaviour focuses on the fact that it is problematic and thus it is useful to be able to identify the percentage of students who may be following problematic alcohol use patterns.

#### Discussion Guide

The discussion guide (Appendix H) was not shown to participants but used by the researcher acting as the focus group facilitator to guide the discussion to cover the key topics of interest specifically a typical night out, perceptions of problematic alcohol use and understanding of the term binge drinking and reasons for binge drinking. It included key questions to be asked, activities to prompt discussion and verbal prompts to be used to elicit further information if and when needed.

#### ***4.2.3.2 Procedure***

On arrival at the focus group session participants were greeted by the researcher, and provided with a copy of the information sheet (Appendix D) to read, a consent form to complete (Appendix E) and return if they were willing to take part and a copy of the questionnaire (Appendix F) to complete. No time limit was set for the completion of the questionnaire but the focus group discussion was not begun until all participants present had completed and returned both the consent form and questionnaire to the researcher.

Following this the researcher then introduced herself to the group and gave a verbal introduction (Appendix G) before turning on the MP3 recording device and beginning the focus group discussion. From this point on the researcher used the icebreaker, questions, probes and activities in the discussion guide (Appendix H) to guide the discussion. Before moving from one topic to another the researcher always offered participants the opportunity to add further comments or highlight anything important that they felt had been missed from the discussion so far.

Once discussion was finished or the 2 hour session limit had almost been reached the researcher ended the discussion, turned off the recording device and gave a verbal closing statement (Appendix I). Participants were given £10 cash as payment for attending the session along with a copy of the debrief (Appendix J) and had the opportunity to take away leaflets about alcohol and safe drinking from a selection.

#### ***4.2.3.3 Transcription and Analysis***

Following each focus group discussion questionnaire data was entered into SPSS and the researcher transcribed the focus group recordings, removing or changing any potentially identifying information. Following recommendations of Braun and Clarke (2006) each focus group discussion was transcribed in full and included all verbal utterances in the focus group discussions keeping 'true' to the original nature of the discussions. However initial introductions, the verbal provision of participant information and pre-discussion questions asked by participants were not recorded so do not appear in the transcripts. Similarly questions asked by participants after the discussion had ended were also not recorded. An example transcript can be found in Appendix K.

Following transcription focus group data was analysed thematically. Thematic analysis is a method for analysing qualitative data which organises and describes data in detail through the identification and analysis of patterns within the data in the form of themes and can also involve the interpretation of aspects of the research topic (Boyatzis, 1998). The thematic analysis employed an inductive approach drawing on the focus group transcripts rather than existing theory, with the findings emerging from frequent themes in the transcripts and therefore being strongly grounded in the data.

Because the topics discussed were relatively diverse, analysis was split into two parts with separate themes being identified for the topic of student drinking behaviour, predominantly drawing on discussion related to a typical night out and the topic of students' understanding of problematic drinking behaviour, drawing on discussion of typical

individuals with drink problems and understanding of the term binge drinking. Further to this specific areas of interest, including students' understanding of the term binge drinking, were considered independently of this in order to feed directly into questionnaire items for studies 2 and 3. These aspects of analysis are addressed at the end of this chapter.

The process of coding followed the six phases of thematic analysis set out by Braun and Clarke (2006). Familiarising, was achieved through the transcription of the focus group recordings (Riessman, 1993), listening to the recordings multiple times and repeated reading of the transcripts, with notes made about potential patterns and meanings in the data. Detailed initial codes were then applied to the data at the level of words and phrases. At this point the codes themselves maintained a high level of detail for example references to purchasing cheap alcohol from supermarkets were coded separately to discussions of drinks offers which were kept distinct from additional methods of saving money such as taking hip flasks of alcohol on the night out. For the main analyses codes were data driven, however in order to address the question 'how do students understand binge drinking' codes were driven by the question itself, this analysis was conducted separately after the main thematic analyses. Following initial coding these codes were organised and grouped together into overarching themes. Suggested overarching themes were themselves reviewed in two stages. Firstly themes that had little data to support them were dismissed and others collapsed into one another. For example the theme of letting go was formed from more specific themes regarding relaxation, stress relief and control. Secondly whether the resulting themes reflected the data was considered. In the final stages of analyses the themes were named, defined and written up into this report of the findings. Throughout the analysis process the supervisory team

acted as independent reviewers with codes and themes being discussed and final themes being checked and agreed upon by all three researchers.

#### **4.2.4 Participants**

##### ***4.2.4.1 Recruitment***

In order to reach a high number of students from different backgrounds a variety of recruitment methods were utilised.

Potential participants were approached by the researcher in public places on campus, the researcher gave a standardized introduction and offered them the opportunity to take a flier (Appendix C) with the details of the study and contact information for the researcher. Posters (Appendix B) advertising the study and providing the researcher's contact details were displayed across campus, on public notice boards, and in buildings primarily used for teaching or socialising.

Potential participants who contacted the researcher were provided with an electronic copy of the written participant information sheet (Appendix D) as well as times, dates and venues (seminar or teaching rooms on campus) of planned focus groups. They were asked to read the information sheet and if interested in taking part to respond by phone or email to indicate which focus group session they wished to attend. At this time individuals were also be asked to pass on information about the study to others who they felt may also be interested in attending one of the focus groups. With the exception of the final focus group discussion, as part of the debrief and closing statement given at the end of each focus group session participants were asked to pass on information about the study to others that they thought may be interested in taking part and

were given the option to take fliers advertising the study to pass on interested individuals.

#### ***4.2.4.2 Participants***

The sample were drawn from a campus university in the East of England with over 15,000 students studying across four academic faculties. The campus is two miles from the city centre and has three bars based within the student union along with a number of other amenities including shops, cafes and sports facilities. First year undergraduate students live predominantly on campus with the majority of second and third year students living in shared housing either in the purpose built 'university village' which is within walking distance of the campus or between the campus and the city centre.

Thirty students completed a questionnaire and took part in one of the six focus groups. The full sample represented a relatively diverse set of students ranging in age from 19-25 years ( $M= 21.17$ ,  $SD = 1.83$ ) with an almost equal gender split (14 male, 16 female). All participants were enrolled for full time study (1 did not report) and came from 16 different subjects of study. They were predominantly from first and third year groups but second year, fifth year and Masters students were also represented. The majority of the sample reported being single at the time of the study with 9 being in relationships, one living with a partner and one 'seeing someone'. Fifty percent of the sample were employed in either full time, part time or holiday only work and a third were in receipt of a maintenance grant. The sample was predominantly White British but also included Chinese, Asian, American, German, Irish, South African and mixed race individuals. The majority of participants reported following no

religion (n = 19) with 9 Christians and 2 Hindus making up the rest of the sample.

A group by group break down of participants demographic and alcohol consumption data can be seen in Appendix L.

### **4.3 Findings**

#### **4.3.1 Drinking Behaviour**

Twenty nine of thirty participants reported that they currently drink alcohol (Participant ID 27, group 6 did not drink).

Twenty three of the participants (76.7%) provided CAGE responses which met the cut off for significance, indicating possible problematic alcohol consumption behaviour. Similarly 23 participants were classed as displaying hazardous or harmful drinking behaviour by the AUDIT measure with 13 reaching the higher cut off indicating possible dependence.

Participants' responses on the CAGE and AUDIT questionnaires suggest that many students do display potentially problematic alcohol consumption behaviours. Although CAGE and AUDIT measures indicated that similar numbers of students were drinking in potentially harmful ways the two measures did not consistently classify students' drinking behaviour in the same way with some participants meeting the CAGE level of significance but not the AUDIT and vice versa, a total of 14 discrepancies in all. This could be an indication that two measures are not tapping the same styles of drinking behaviour or that commonly displayed student drinking behaviours are not accurately categorized by these measures Further to this the participant who reported being a non-drinker met the cut-off point of clinical significance based on their CAGE score

indicating that the CAGE measure may lack temporal accuracy. Although this individual was currently abstinent, they had previously drunk alcohol and because the CAGE items assess 'ever' experiencing certain outcomes as a result of alcohol use (e.g. Have you ever felt you should cut down on your drinking?) rather than assessing alcohol use over a specified time period, such as the past six months, the individual still met the cut-off point of clinical significance on the CAGE measure despite their current abstinence.

### **4.3.2 Thematic Analysis**

As data were split into two sections prior to the conduction of the thematic analysis, the findings from these two sections will be discussed separately. This section will begin by discussing the data regarding a typical night out and follow this with discussion of data regarding problematic drinking behaviour.

#### ***4.3.2.1 Student Drinking***

Taking the data regarding students' drinking behaviour thematic analysis identified six key themes, these were "night out rituals", "the student world", "letting go", "socialising", "having fun" and "saving money". A summary of the themes can be seen in Table 4.3.1 with Figure 4.3.1 showing how the themes relate to one another.

The theme of "night out rituals" captures the clear structure of a night out that emerged across the focus groups including preparations for nights out, pre-drinking and drinking games and sets out the social nature of both drinking behaviour and the night out as a whole. "The student world" theme explores the distinctions drawn between life as a student and the periods of childhood and adolescence that preceded it as well as

‘responsible’ adulthood which was expected to follow. This theme sets out the ways that students construct the student world as separate from the real world. The theme of “letting go” focuses on outcomes of alcohol use relating to relaxation, stress relief and reduced inhibitions and how these are reflected in the ways that students drink alcohol. Similarly the “socialising” theme also draws on outcomes of alcohol use but specifically regarding the use of alcohol to enhance social inclusion, allow friendship formation and improve social bonding. “Having fun” encompasses further outcomes of alcohol use, exploring the relationship between alcohol use and enjoyment. The final theme of “saving money” details the methods that students employ to reduce the monetary cost of their drinking behaviour and the influences this has on the ways that students drink. Each of these themes will now be explored in more detail.

Table 4.3.1:  
Summary of Student Drinking Themes

<b>Theme</b>	<b>Level 1 Sub theme</b>	<b>Links to</b>
Night out Rituals	preparations Pre-drinking Drinking games	Student World; Letting go; Socialising; Saving Money
Student World	Locals The real world Responsibilities Free time Need to socialise	Night out rituals; Socialising; Saving Money
Letting Go	Relaxing Stress relief Reduced inhibitions Relinquishing control	Having fun; Student world; Socialising; Night out Rituals
Socialising	Making friends Enhancing social bonds Common ground Breaking relationships	Night out rituals; Student world; Letting Go
Having Fun	Alcohol makes things fun Getting in the mood	Letting Go
Saving Money	Pre-drinks Not eating Transport Drinks prices Money saving techniques	Night out rituals; Student World

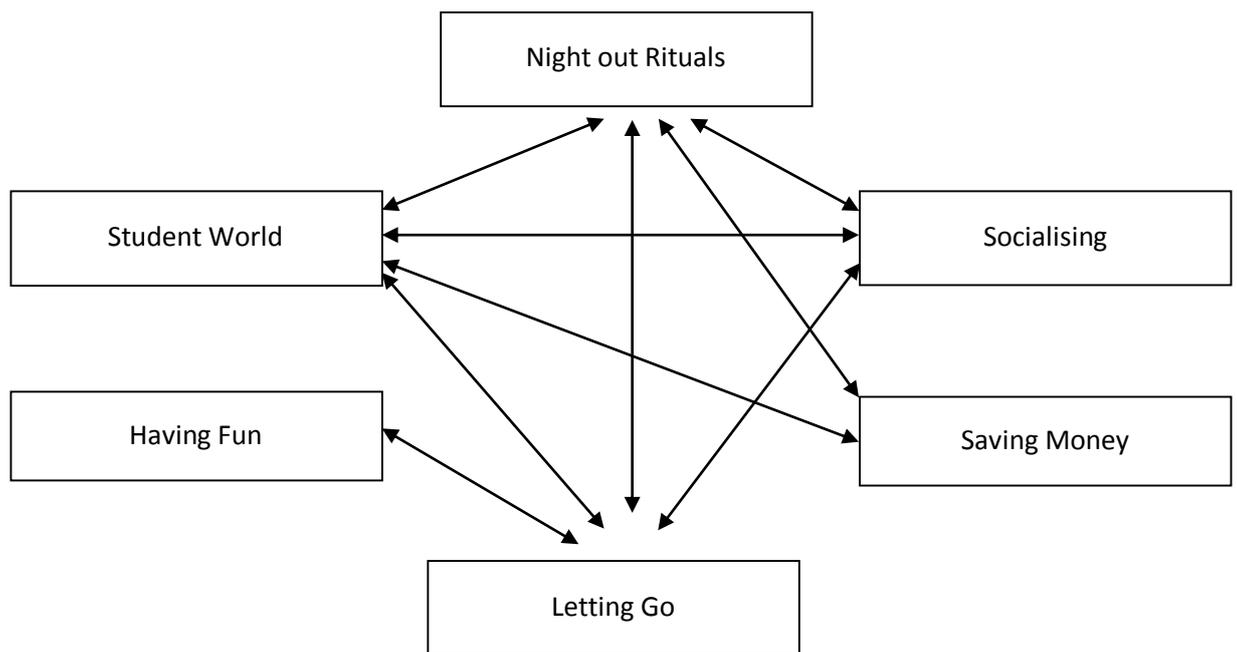


Figure 4.3.1: Relationship Between Student Drinking Themes

#### ***4.3.2.2 Night Out Rituals***

Throughout the data from the first part of the focus group discussions which centred around participants describing their typical night out, a large number of similarities at both group and individual level indicated that although specific experiences differ from one individual to another and one drinking occasion to another, there is a general structure to a night out which is consistent across individuals and groups. These aspects can therefore be considered normative and support previous qualitative research that has identified strong social norms towards alcohol use and binge drinking in student populations (e.g. Broadbear, O’Toole & Angermeier-Howard, 2000; Engineer, 2003; Joseph Rowntree Foundation, 2010) but goes beyond this identifying specific drinking behaviours as normative. This structure included preparations for the night out, pre-drinking, visiting bars and clubs, getting food and returning home. Within this structure there were many ritualised behaviours that can be seen as characteristic of student nights out. Thus the first theme identified was

'night out rituals'. Although diverse in nature these rituals predominantly focused around alcohol highlighting the importance of alcohol within the night out.

Although most of the groups began the discussion of a typical night out with talk of 'pre-drinking' a number of individuals drew attention to some of the preparations that precede a night out which had become customary either for themselves as individuals or for their own social groups. The fact that individuals brought up preparations in discussion of a night out indicate that they are perceived as being a part of the night out. Further to this discussion of preparations highlighted the fact that nights out are a part of their lives as students and influences as well as being influenced by their wider lives.

Preparations discussed included buying alcohol in preparation for the nights drinking.

*"Yeah so you normally go to like a supermarket and get the cheapest wine"*

*Female undergraduate, Focus Group 2*

*"You have to plan and purchase your booze"*

*Male undergraduate, Focus Group 2*

Where one might expect that alcohol would be regularly purchased as a part of a grocery shop it emerged that before a night out students would make a trip to a supermarket specifically to purchase alcohol for the night out thus separating it from something which might be considered mundane or a chore and making it a part of the build up to the night out or even a part of the night out itself.

As well as having become a ritual the purchasing of alcohol ahead of the night out means that students are deciding before the night out what they will be drinking and at least approximately how much they will drink before going out. This draws attention to the level of planning and thought that precedes a night out and demonstrates that student drinking as it occurs on a student night out is a deliberative behaviour and as such would make a strong candidate for prediction via deliberative models.

Another aspect of preparation that was discussed focused around the importance of eating before drinking. Unlike the purchasing of alcohol before the night out which was normative across the student population the approach to food as a part of the night out varied from one individual to another but many had developed their own rituals. In general there were two distinct approaches put forward: Eating before drinking or avoiding food before drinking.

*“yeah I understand the incentive to not have food before cause then you can get more drunk”*

*Female undergraduate, Focus Group 1*

*“you try and have like a sort of stodgy sort of meal don’t you?”*

*Male undergraduate, Focus Group 4*

*“Doing it on an empty stomach is not good*

*no you get drunk early*

*Nope*

*Then you throw up and it’s not good”*

*Undergraduate students, Focus Group 1*

Both of these approaches to food before a night out highlight the importance of alcohol and drinking on the night out as the decision about

whether to eat, or not, before drinking seemed to be based primarily on the students' intentions with regards to alcohol. Those who chose to avoid food before a night out did so with the intention of getting drunk more quickly and through the consumption of less alcohol. Those who chose to eat before the night out did so in order that they would be able to drink more alcohol without becoming 'too' drunk or to reduce the chances of experiencing negative consequences of alcohol consumption. These individual rituals with regards to food then can be seen as preparations aimed at increasing the chances that students will realise their intentions on the night out. Once again it is clear that students' behaviour preceding the night out is deliberative and goal directed.

Final preparations for the typical night out included showering, changing and generally getting themselves ready for the night out, alcohol had become a part of these preparations for some of the participants who would drink while getting ready. Drinking while preparing for a night out was not restricted by gender with both male and female participants indicating that they would drink while getting ready to go out.

*"we usually get together don't we and dress up and while dressing up we have a drink"*

*Female undergraduate, Focus Group 4*

*"So we'll like drink and get ourselves ready for the pre drinking"*

*Male undergraduate, Focus Group 6*

The fact that alcohol has a role in many of the preparations for the night out highlights its role in the typical night out and suggests that not only is drinking alcohol a key part of the night out but the intention to drink and

for many to get drunk is the motivation behind many of the other aspects of the night out, especially at this early preparatory stage.

Similarities across individuals and groups in the preparations discussed can be seen as being demonstrative of how even these aspects of the night out have become ritualised in individual's and group's lives as well as normative across much of the student drinking population.

With all preparations complete students then engage in 'pre-drinking'.

*"So, the obvious pre-drinks"*

Male undergraduate, Focus Group 1

*"I know definitely what our night out is, pre-drinking"*

Male undergraduate, Focus Group 5

Pre-drinking, the term given to drinking before going out, was discussed by all of the groups demonstrating that it is not just common practice among certain sub groups of the drinking population but something which all individuals are aware of and many engage with in one way or another. The importance of pre-drinking as a part of the night out is highlighted by the fact that it dominated many of the focus group discussions at this point. However it should be noted that as the activities occurring during pre-drinking occur before or alongside the majority of the evening's alcohol consumption they may be more prominent in drinkers' memories than the events occurring later on in nights out. An alternative interpretation is that pre-drinking in this form is most popular among young people and students and as such can be viewed as setting student drinking behaviour apart from that of non-students making it an important topic to raise in a focus group considering student drinking behaviour.

In its simplest form pre-drinking simply involves the consumption of alcohol before the main part of the night out begins, however students discussed a number of activities and forms of entertainment which were a part of their pre-drinking. Smoking, talking, listening to music and dancing were all mentioned but the most frequently discussed pre-drink activity was playing drinking games.

*“usually play some sort of game like beer pong “*

Female undergraduate, Focus Group 2

*“Drinking games definitely”*

Male undergraduate, Focus Group 5

The predominance of drinking games in discussion at this point can be interpreted as indicative of their importance in the typical student night out. However, as it was made clear to participants that this study was interested in the drinking behaviour of students the depth of discussion at this point may simply indicate that they consider drinking games, like pre-drinking, to be characteristic of student drinking behaviour and a way of distinguishing their drinking from that of others and therefore a key topic for discussion in a study interested in student drinking behaviour. Further to this the resourcefulness of the students and their ability to make a game out of something as simple as making eye contact with others is a testament to how important a part of the night out drinking games are. References to books detailing different drinking games and game sets that are available to buy demonstrates that drinking games are an established part of drinking culture.

*“you might just play like the red and black game or higher or lower “*

*“Or even if you’re desperately needing to drink and you don’t have a pack of cards you play the game where you’re looking down and*

*then everyone looks up at the same time and if you catch eyes with somebody you have to drink”*

Female undergraduate, Focus Group 5

*“There’s like various card games, I can’t remember the names of all of ‘em, but like I’ve got a book of ‘em”*

Male undergraduate, Group 1

As with pre-drinking itself, playing drinking games was clearly constructed by the participants as being normative with students making statements such as ‘everybody does it’. However it was not the case that all students took part in pre-drinking and drinking games or that every night out involved pre drinking and drinking games. Most notably students from Germany reflected that they did not always engage in drinking before going out and for these students the planned destination of the night out was important for whether or not they engaged in pre-drinking or not. Similarly not all students engaged in drinking games or did not do so on a regular basis.

*“Well it depends sometimes we just go out to the city without drinking a at home”*

*“I think we often start like just chatting and drinking and then somebody suggests to play a game it’s not like standard that we would play game”*

German female undergraduates, Focus Group 5

*“I’ve got friends who don’t actually play any drinking games. We just drink.”*

Male undergraduate, Focus Group 3

This is a reminder that although certain aspects of drinking, and of the typical night out, are considered to be normative this view does not necessarily reflect reality, with individual and sub-group differences existing in the drinking behaviours of students. These should not be overlooked in research and support the conduction of qualitative research with specific sub-groups (e.g. Young et al., 2005; Workman, 2001).

As with other ritualised aspects of the night out both pre-drinking and playing drinking games were motivated by students' intentions to get drunk.

*"everyone in my flat seems to think they can't have a good night if they don't start drunk so they just aim to get drunk before they get to town"*

Male undergraduate, Focus Group 4

*"if we're going to the union on a night out and we want to be there by a certain time like from previous experiences it's more fun to go there having drunk more"*

Male undergraduate, Focus Group 5

Although getting drunk is the main driver behind these carefully planned and ritualised behaviours getting too drunk can have negative consequences with some individuals getting too drunk during pre-drinking to carry on with the rest of the night out.

*"Yeah, sometimes I got too drunk in like the pre-drinks.*

*Yeah, then you end up not going into town"*

*"You just fall asleep with all your make-up on. It's horrible."*

Undergraduate students, Focus Group 3

This shows that in order to get the most out of each night out there is an 'optimum' level of intoxication to be reached. While the preparations, planning and pre drinking aim to allow students to realise their intentions and get drunk a knowledge or understanding of alcohol tolerance and 'knowing your limits' must be developed. Some students come to university with an awareness of these issue but others will be experimenting and exploring them, particularly in their first year. This supports evidence from previous qualitative research that learning to drink in the 'right way' is important (Young et al., 2005; Workman, 2001).

The night out proceeded beyond this point with students making the trip into the town or city centre or to the student union to visit bars and clubs. Discussion about the rest of the night out was generally less detailed and also showed a greater number of differences between groups and individuals. This could show that although aspects such as the preparations, pre-drinking and destinations for nights out had become quite ritualised among students the rest of the night out had not and was more open to individual choices and differences. Going beyond this it is possible that the high level of planning, the rigorous structure that can be seen earlier in the night and the numerous preparations that precede this part of the night and focus on achieving the aim of getting drunk so that the remainder of the night to be as spontaneous, free and fun as possible and memorable as possible. Alternatively, returning to an earlier point it could be that due to high levels of alcohol consumption memories of this part of nights out were less clear.

However many participants did agree that getting food at the end of the night was important. Some talked about purchasing food from a takeaways while others would return home to cook food.

*“Kebab shop*

*maybe get a burger first or kebab “*

Undergraduate students, Focus Group 1

*“Food*

*Yeah kebab shop*

*Yep*

*Burgers, Chips, Something gross*

*We’ll make pasta if we’re feeling poor”*

Undergraduate students, Focus Group 2

Within this structure of the typical night out, and through-out the discussion, it was clear that alcohol had a role to play. This could be a result of the phrase ‘night out’ being synonymous with a night out drinking. An alternative explanation is that the materials advertising the study and the information provided to participants indicated that the research was primarily concerned with student alcohol consumption. It should therefore be acknowledged that although this discussion refers to a typical night out it does not refer to a typical night.

Related to this the typical night out described is not the only night out that occurs in student populations nor is it the only occasion on which students’ consume alcohol. Additionally the frequency with which a student participates in such a night out varies from one individual to another and differs across time.

#### ***4.3.2.3 The Student World***

In the literature review it was argued that in order to fully understand student drinking researchers and academics must also understand the circumstances in which students drink including the wider context in which students are existing, acting and reacting. What emerged from the

data is that students set themselves apart from other individuals and populations constructing a student world which is separate from the real world with populations being broadly divided into students and non-students or students and 'locals'.

*"when you go out Friday and Saturday it's so noticeable that its locals rather than students"*

Male undergraduate, Focus Group 1

*"Don't necessarily go out on Friday and Saturday, like the traditional days because it's just gonna be full of white shirt brigade and stuff so usually drink like during like the week when normal people aren't"*

Male undergraduate, Focus Group 3

The time spent as a university student is viewed as being separate from what came before and what will follow, as such, time as a student offers a break from reality and real life, a time to have fun and to experiment with new behaviours including going out frequently. This supports previous research that has identified young adulthood and time as a student as being synonymous with high alcohol consumption (Dodd et al., 2001; The Joseph Rowntree Foundation, 2010).

*"you wouldn't do that in the real world as such you know cause you'd have a job the next day but university just messes everything up so you can go out any day of the week."*

Female undergraduate, Focus Group 1

A number of the factors that contribute to the separation of the student world from the 'real world' were brought up in discussion by participants. Many are also reflected in the research literature pertaining to the period

of emergent adulthood. Students have relatively few responsibilities when compared to other adults who have full time jobs, mortgages to pay, and families to support and care for. Further to this students consider it to be acceptable for them to turn up to teaching sessions intoxicated or hungover or to fail to attend teaching sessions due to alcohol use.

*“if you’re in like, got like a full time job thing, people would normally assume you’ve got like a partner or maybe kids to look after so would be deemed really irresponsible to be coming in hungover or drunk all the time”*

Male undergraduate, Focus Group 1

This demonstrates that aspects of university life act to enable drinking and drinking to excess, specifically by allowing students to ‘get away with’ things which would have been noticed and potentially resulted in punishment during childhood (Broadbear, O’Toole & Angermeier-Howard, 2000; Workman, 2001). Students also have a greater level of independence if they are living away from their parents, they have a large amount of free time, a less structured daily or weekly routine compared to that which they had during their time at school and many are in receipt of loans which provide them with a disposable income to spend as they choose. This too reflects previous qualitative research which has identified parental influence as restricting drinking behaviour of young people (Russell-Bennett, Hogan & Perks, 2010).

*“here like all the free time we have*

*Yeah*

*Like*

*It’s before you like you said before, before you go into the real world...*

*Mmm*

*...this is like the last...*

*Mmm*

*...this is like our big chance we cause yeah you've got the independence finally you're with a bunch of other people who are also independent, you have all this time..*

*Mmm*

*...you've got the student loans"*

Male undergraduate, Focus Group 2

Discussion showed that students are aware of these circumstances and do not expect that their drinking behaviour will be maintainable in the long term. This is seen above with the participants of focus group 2 talking of university as the "big chance" to have fun and enjoy themselves in this way, an idea that was echoed by others and also in the qualitative studies discussed in the introduction to this chapter (Dodd, et al.,2010; The Joseph Rowntree Foundation, 2010).

*"the last chance you've got to be irresponsible and do everything fun you wanna do before you have to kinda be responsible"*

Male undergraduate, Focus Group 2

*"loads of people tell you it's like sort of when you're young and stuff to just to do all the wild things and that coz like when you're older you can't really go out as much so"*

Male undergraduate, Focus Group 4

However it was not just the benefits of being in the student world that students discussed as contributing to their alcohol use. More difficult aspects of time as a student also influence drinking behaviour.

*“when you’re in a str... you know a strange place with a bunch of strangers and then you’re just more likely to rely on some sort of crutch...*

*Mmm*

*... in order to bond you closer together”*

Male undergraduate, Focus Group 6

While time as a student in the student world can be considered a transition between childhood and adulthood it actually appears to increase the separation between individual students and the wider world of ‘normal’ people or ‘locals’. Previous qualitative research has identified that drinking with other students is utilised as a method of risk reduction or harm prevention when drinking (Howard et al., 2007; Johnson, 2006). This would support the interpretation that remaining within the confines of the student world and mixing only with other students allowed individuals to feel safe and supported rather than vulnerable, as they take on new responsibilities and experiment with different aspects of their lives. When it came to discussion of clientele at bars and pubs the suggestion was that students preferred other patrons to be friendly and non – threatening with students being considered to be a ‘nicer’ group than non-students.

*“you know you’re gonna get people, the sort of people not everybody but the sort of people who are gonna be looking for a fight, like if you bump into them on the stairs like they’re gonna like stare you down and try an start a fight or something. It’s just the that’s just the sorta people that you get in there, especially at weekends.”*

Male undergraduate, Focus Group 1

*“It really puts me off if you go out on a weekend and there’s a load of old men in there. I really don’t like it”*

Female undergraduate, Focus Group 1

*“Nice crowds so, less local people”*

Female undergraduate, Focus Group 3

Taken together these factors are a strong indication that student drinking behaviour is likely to reflect not just individual motives for drinking but also more general student motivations and expectations. In addition the indication is that student drinking will not necessarily be explained as occurring because of the same decisional processes occurring in other drinking populations. Students look upon students as a distinct population and offer clear reasons why others should do the same.

A number of the other themes reflect different aspects of this student reality and many are interlinked with each other this idea will be explored in more detail at the end of this section where the relationship between themes is discussed.

#### ***4.3.2.4 Letting Go***

The theme of “letting go” covers two key sub themes, the first is the use of alcohol to let go which draws on three further sub themes, using alcohol to let go of stresses or troubles, using alcohol to let go of inhibitions and using alcohol as an excuse for behaviour. This is well established in the wider qualitative and quantitative research (e.g. Baum-Baicher, 1985; Emery, Ritter-Randolph & Strozier, 1993; Johnson, 2006). The second sub theme is that of relinquishing control over behaviour or decision making on a night out.

With regards to using alcohol to let go participants indicate that one of the benefits of drinking is that it can help reduce stress or allow an individual to relax.

*“‘cause kinda like going escaping isn’t it really like it’s a different kind of you cause it alters your state of mind so you kind of escaping whatever stresses you’ve had in the day”*

*“To kind of relax and loosen up a bit”*

Male undergraduate, Focus Group 6

*“Yeah and definitely to relax we talked about this earlier”*

Female undergraduate, Focus group 2

Alcohol could also be used as a way of letting go of insecurities or inhibitions in order to do things that one might not normally do. This is something which relates strongly to the theme of socialising and will be picked up on later.

*“Lose your inhibitions*

*Yeah it’s definitely useful for that”*

Female undergraduates, Focus group 6

*“take down those social boundaries and be able to make new friends and talk and interact with people the way you don’t normally do”*

Male undergraduate, Focus group 2

Although reducing or removing inhibitions are genuine results of alcohol use the data showed that these effects could also be employed as an excuse to do things which might otherwise be unacceptable.

*“Like to do things that you want to do but you’ve always felt a bit too either embarrassed to do or like you know you shouldn’t be doing so it just yeah it gives you that excuse and allows you to do things that you wouldn’t otherwise be able to”*

Female undergraduate, Focus Group 2

In these situations inhibitions genuinely are reduced but the added benefit of being able to dismiss behaviour as being a result of consuming too much alcohol allows an extra dimension of freedom in behaviour. This also eludes to the idea that in the student population using intoxication as an excuse could be acceptable and may mean that students do not feel that they have to be responsible for or face the consequences of their own actions when they have been drinking.

The second sub theme in this section relates not to the active use of alcohol in order to let go but to an overall lower level of individual control when it comes to making decisions on a night out. In the exploration of the theme ‘a student night out’ attention was drawn to the fact that many aspects of the student night out have become ritualised and are consistent across different individuals and groups from the student population and the overall image portrayed is of a night out with a structure driven not by perceived norms and expectations. In many cases the decisions that remain to be made are predominantly directed by external influences in the form of peers, environmental and temporal influences. For example although the choice of where to go on a night out was partly driven by things such as price of entry and the type of music played it was predominantly dictated by which clubs or bars were running student nights, or more importantly where other students were going.

This not only influenced their choice of destination but also the night of the week that they would choose to go out on.

*“I think it’s more on what other people are going to because particular places like everyone goes on a particular night”*

Male undergraduate, Focus Group 5

*“when you go out Friday and Saturday it’s so noticeable that it’s locals rather than students”*

Male undergraduate, Focus Group 1

*“Don’t necessarily go out on Friday and Saturday, like the traditional days because it’s just gonna be full of white shirt brigade and stuff so usually drink like during like the week when normal people aren’t”*

Male undergraduate, Focus Group 3

A closer look reveals that few decisions are undertaken by any one individual but rather are taken as majority or group decisions. In one case a female participant revealed that for her even the decision to eat before a night out is influenced by the preferences of the people she is with.

*“It also depends who you are with like we’ve got one friend who refuses to eat supper if she knows she’s gonna [be?] going on a night out”*

Female undergraduate, Focus Group 4

The few aspects of the night out which one would consider to be individual responsibilities, such as purchasing and bringing alcohol to pre-drinking, were discussed in a way that indicated they were group norms to be complied with or rules to be followed.

*“everyone will bring their own drink”*

Male undergraduate, Focus Group 5

Two reasons are proposed for the students’ apparent desire to relinquish control over relatively trivial decisions such as where to go on a night out and how to get there. This could be a response to the increased levels of responsibility that students take on as they leave home for university. When they become responsible for making decisions about how to spend their time and money it may be a relief to be able, not just to use alcohol to let go of stress and inhibitions, but also to have a pre-existing structure to a night out which leaves very few decisions to be made and allows responsibility for the quality of the night out to be diffused across the group or to external influences. On the other hand it may be that this is linked to peer pressure and fitting in. In focus group 3 participants talked about going skinny dipping

*“Yeah we went skinny dipping in there just before Easter, it was horrible, I don’t suggest it. I wasn’t even that drunk so I don’t know why I did it, maybe just ‘cause all my friends did thought why not? I didn’t want to be left out”*

Male undergraduate, Focus Group 3

The popularity of playing drinking games also relates to the theme of relinquishing control, but the relationship is somewhat complex. In general drinking games have rules which dictate how much and how quickly players drink (and in some cases what they drink) based on their progress in the game. Thus an individual’s alcohol consumption is not under their own control but rather dictated by chance, their skill in the game or simply the structure of the game. The idea that there is no control over how much and how quickly an individual drinks once they are

playing the game is clear from the language used by participants where 'having' to drink is a phrase that emerges frequently.

*"you have the intention not to drink but if you have to drink there's something so so worse because erm we often play games where you have to, you have certain rules and when you err break the rule yeah then you have to drink"*

Female undergraduate, Focus Group 5

*"someone will tell you to drink they'll be like it's your turn then they'll give you the certain amount of different fingers on a drink"*

Female undergraduate, Focus Group 5

However it is up to the individual to opt in or out of the drinking games so it was an individual's choice to relinquish control it was not the case that control was taken from them. Additionally from the data it appears that the majority of drinking games take place as a part of pre-drinking so individuals have purchased their own alcohol ahead of time and made a decision about how much they are going to drink during pre-drinking so often participation in drinking games actually only dictates how quickly they consume their drink

*"I guess everyone would bring with them their sta... amount of yeah what they think that they might...Might drink"*

Female undergraduate, Focus Group 5

There are some exceptions to this for games like ring of fire where a communal drinking cup is utilised and gradually filled by members of the group and then will be either partly or fully consumed by a player or players as a forfeit. In such games an individual may end up consuming

more or less alcohol than they purchased and potentially a mixture of different drinks.

Although there are some complex issues regarding whether participants are choosing to relinquish control or not it is clear that letting go in the form of not having to make decisions as well as by using alcohol as an escape or to reduce stress and inhibitions has a part to play in student drinking behaviour.

#### ***4.3.2.5 Socialising***

Socialising emerged as a dominant theme, especially in terms of motivations for drinking and for partaking in specific ritualised drinking behaviours. It is likely that at least some of the importance of socialising in student life derives from the fact that when young adults move away to attend university they leave behind their existing social networks and social support systems. At a time of their lives where they are experiencing changes, facing new demands and responsibilities, having a social support system can be of increased importance which leads to students being motivated to quickly and efficiently establish new social bonds and build new social support systems from which they are not geographically distanced. However drinking and getting drunk have been identified as the most common method of socialising for young people in general, not just students (Broadbear, O'Toole & Angermeier-Howard, 2000; The Joseph Rowntree Foundation, 2010; Engineer, 2003).

The role of alcohol and drinking in socialising is linked to the theme of "letting go" with many of the participants explaining that alcohol allowed them to let go of their inhibitions and as a result they were able to socialise more effectively than they would without alcohol. Similar findings have been identified in previous qualitative research (e.g. Emery,

Ritter-Randolph & Strozier, 1993; Johnson, 2006; The Joseph Rowntree Foundation, 2010).

*“take down those social boundaries and be able to make new friends and talk and interact with people the way you don’t normally do”*

Male undergraduate, Focus group 2

The desire to socialise and make friends could be one of the reasons why the decision of where to go on a night out is predominantly driven by where other students are going. Participation in nights out and familiarity with specific drinking establishments was seen as a common ground which could be used to start conversations.

*“if it’s like say a big student night say like on a Thursday you can talk to people on your course like, oh did you go out last night, this happened that happened,”*

Male undergraduate, Focus Group 1

*“I think cause em the clubs are a common ground you emm can sort of in a strange way bond over them because you can be like aw I went out to so and so this night and this happened and someone could have a similar experience in the same place and suddenly your two strangers and you’ve got someth... common ground”*

Female undergraduate, Focus Group 1

This was not the only way in which participating in a night out could help students to socialise and bond. Having experiences with friends or partners when they have been drinking was put forward as being a way to get to know them better while ‘surviving’ a night out with a friend could be a way of forming a strong social bond.

*"I know for example one of our friends in first year, they're now really good friends, was sick on the other and it's always brought up and that apparently they said it was quite a bonding thing"*

Female undergraduate, Focus Group 6

*"Like you get to know people like deeper side like the drunk side which is tend to be really funny*

*Ah ah I I do think people tend to open up a lot more when they are little drunk"*

Male undergraduates, Focus Group 3

However this was not always a positive experience.

*"Some people just get ridiculously like aggressive when they're drunk"*

Male undergraduate, Focus Group 3

*"it could make or break 'em (relationships) yeah it's true if you go out and someone like for example you've been going out with someone you haven't been drunk with them before and then they turn out to be like a violent drunk..... That could not be so good or alternatively like you could have a really good time with them when you're drunk and it could strengthen your relationship"*

Female undergraduate, Focus Group 1

Many components of the night out had a strong social aspect. At the beginning of the night pre-drinking was important for socialising, and particularly getting to know new people. One participant from focus group 6 revealed that his main reason for going to pre-drinking was to see people while others looked on pre drinking as a sort of ice breaker for the rest of the evening.

*“if there’s people there you don’t really know, it kinda breaks the ice a little bit. So then when you do all go out there’s no awkwardness, or people not really knowing each other.”*

Male undergraduate, Focus Group 3

*“I guess it’s just to warm up the group as well so you you already have something you can talk about when you go out so you don’t just meet in an awkward place when it’s unfamiliar”*

Male undergraduate, Focus Group 6

Despite participants stating that an individual did not have to join in with the drinking games, participation in the games was a way of being included within a group and meeting new people. This reflects the findings of previous research that has identified displaying specific drinking behaviours as aiding social inclusion (Demant & Järvinen, 2006, 2010).

*“even if you’re not drinking you know you’ll feel like that’s the way you’ll get in with the game”*

Male undergraduate, Focus Group 5

*“Just to get everyone like more comfortable with each other, especially people who don’t know each other”*

Male undergraduate, Focus Group 4

Even making the journey from home to the city centre or student union could be a group activity which would allow socialising to continue during the interim between pre-drinks and the rest of the night. Many of the students talked about travelling as a group either on the bus or in taxis. The terminology employed by participants also suggested a social nature with group terms such as herd and communal being used.

*“Yeah communal taxis”*

Male undergraduate, Focus Group 1

*“then we go into town, herd on to the bus”*

Male undergraduate, Focus Group 2

There was some suggestion in the data that when individuals are not easily able to travel together it can have a negative influence on the night out.

*“Some always like or orders a four seater when there’s like twelve of you ...Can be stressful”*

Male undergraduate, Focus Group 3

With so much focus being put on the role of alcohol and drinking in student socialising the question of how those who don’t drink manage to socialise is raised. When asked about the role of alcohol in a typical night out some participants discussed friends or peers who did not drink. In many cases not drinking led to these individuals either being left out of nights out or choosing to avoid these situations. However if a non-drinker was seen as being able to fully participate in the night out without consuming alcohol and was comfortable being around drinkers then they were included in nights out.

*“I know one girl, she’s from, I think shes from Lithuania she doesn’t drink at all and she you know tries to lead a very healthy lifestyle and I do have to say that makes her a bit of an outsider sometimes because she doesn’t want to be around people who drink when they drink and it’s just something we do a lot I have to admit.”*

Male undergraduate, Focus Group 2

*“one friend doesn’t drink at all that’s cause she doesn’t like the feeling of being out of control but I’ve never like it’s, it’s unnoticeable really, she’s just as hyper as everyone else and like*

*having she's probably crazier than everyone else there so yeah she's still like enjoys herself and doesn't feel the need to drink"*

Female undergraduate, Focus Group 2

Therefore socialising and making friends may be more difficult for individuals who do not drink.

#### **4.3.2.6 Having Fun**

Although attending university is synonymous with academic work and achievement it is also viewed as a time to have fun and engage in enjoyable activities. Participants discussed having fun as being a motivation for consuming alcohol and participating in nights out.

*"alcohol does make things fun"*

Male undergraduate, Focus Group 1

*"everyone's just having a good time together, most of the time like... Yeah*

*... everyone's just laughing together and emm everything's a lot funnier"*

Male undergraduate, Focus Group 2

*"alcohol often numbs the senses so it makes it seem a lot more fun than it is"*

Male undergraduate, Focus Group 4

A number of participants draw a link between being drunk and having a good night. This view was something which came across strongly when participants were asked to consider a night out which did not involve alcohol and is something which will be discussed in more depth later in the findings.

*"I don't seem to be able to have that good a night out in a club if I'm not drinking"*

Male undergraduate, Focus Group 1

*"if you're drinking a lot on a night out and you're out till like for you kinda forget and time just passes and you can be doing nothing and still be entertained where as if you're not drinking then, I've been out like to a club having not drunk and it's fine for like an hour or so but you kinda get bored after a while"*

Female undergraduate, Focus Group 1

Getting in the right mood for the night out in order to be able to enjoy it and have fun was discussed by a number of individuals. Often drinking was seen as a way of achieving this and this was given as an explanation for engaging in 'pre-pre-drinking':

*"Cause it gets you in the mood I think as you're getting ready"*

Female undergraduate, Focus Group 4

Having fun was something which was not specifically mentioned as a reason for general pre-drinking but was a key reason for the importance of drinking games in a typical night out.

*"It's more or a fun-factor I guess"*

Male undergraduate, Focus Group 3

*"I think drinking games I would think to connect the fun thing, ah having fun and getting drunk..."*

Male undergraduate, Focus Group 5

Alcohol was seen as having the power to make almost anything fun:

*"I think it just like unexplained fun like emm you, you're sitting around with your friends sober it's like what do we do? I don't know what to do, whereas if you're drinking like you can play a game and turn it into some kind of drinking game and it's fun like I think...*

*Mmm*

*...it's just some kind of unexplained fun between two people or more"*

Male undergraduate, Focus Group 2

However there is a disparity here as although alcohol was seen as having the effect of making more mundane or passive activities fun and enjoyable the students in their description of a typical night out also discussed a number activities and forms of entertainment from smoking through listening to music to playing games which could form a part of pre-drinking. This shows that alcohol alone may not always be enough to make something fun.

Two interpretations of the importance of making pre-drinking fun are suggested in the data. It could be a consequence of the fact that any typical student night out is taking place within the realm of the student reality. With students viewing the time at university as a period where they should enjoy being independent adults with few responsibilities and may seek to capitalise on this by making every moment and every night out as enjoyable as possible. Further to this the fact that many of their peers are also embarking on their own university experience could introduce a competitive nature to life as a student with no one wanting to miss out on the positive aspects of student life.

Alternatively the need to provide entertainment beyond the consumption of alcohol with others could be a symptom of the fact that in order to save

money students have elected to move the majority of their drinking away from pubs bars and clubs and into their own homes or accommodation. By doing this they forgo the explicit entertainment provided in such venues as well as the more implicit external stimulation that may be provided by other patrons and customers. If we take these two explanations in combination a link emerges between the themes of cost and having fun. While students want to limit the costs of their night out as much as possible they also want to maximise the amount of fun that they can have on each night out, thus they move their drinking behaviour to student housing to save money but then seek out means of entertainment and stimulation which can help ensure that they have fun and do not limit their enjoyment.

#### ***4.3.2.7 Saving Money***

The financial cost of drinking and specifically the importance of saving money emerged as a theme with students taking many opportunities to reduce the cost of their night out. Although students who are in receipt of loans or studentships have access to a large amount of disposable income those who have left school and left their childhood homes also face many more financial responsibilities than they have had before it is possible that this in combination with an ongoing perception of students as being poor means that financial concerns are often salient.

In many cases the cost reducing strategies employed by students had a large influence on the structure of the night out itself. The importance of pre-drinking as a component of a typical student night out has already been discussed but its role in cutting the financial costs of a night out have not. Purchasing alcohol ahead of time and consuming it during pre-drinks was seen as a way of saving money as it meant students did not have to

buy as many drinks in pubs, bars or clubs but were still able to enjoy the effects of alcohol.

*“Pre drinks to save money”*

Female undergraduate, Focus Group 1

*“Obviously it’s cheaper do pre drinking at home”*

Male undergraduate, Focus Group 1

*“with pre drinks you buy cheap alcohol”*

Male undergraduate, Focus Group 2

*“you normally go to like a supermarket and get the cheapest wine”*

Female undergraduate, Focus Group 2

For some individuals the role of food in the preparations for a night out was also driven by financial concerns. The idea of avoiding food before drinking was seen as being a way of maximising the effects of alcohol and achieving an intoxicated state more quickly, through the consumption of less alcohol and thus at a lower cost.

*“yeah I understand the incentive to not have food before cause then you can get more drunk”*

Female undergraduate, Focus Group 1

Cost was also an issue when it came to the choice of transport at the beginning and end of the night.

*“It’s very cheap to get them (taxis) isn’t it”*

Female undergraduate, Focus Group 1

*“It’s cheaper to get than getting bus”*

Male undergraduate, Focus Group 1

Once students had made the journey into town or to the student union some of them continued to use strategies to limit their spending including

not taking their cash cards with them and choosing cheaper venues or those with drinks offers on.

*"I purposefully don't take like my bank card out and I like have a certain amount"*

Male undergraduate, Focus Group 5

*"Either we'll go to a pub because it's generally cheaper than a club but if they're doing promotional offer at a club then go straight there"*

Male undergraduate, Focus Group 3

However others indicated that the price of drinks was not an important factor. This was for one or more of three reasons, either they had already drunk a large amount during pre-drinking so would not be purchasing many drinks while they were out, they would take their own alcohol with them or they would rather have drinks that they enjoyed than those which were cheapest.

*"I'm not spending that much money on drinking and so I'm not so interested in how ah a umm how are the prices"*

Female undergraduate, Focus Group 5

*"I take a hip flask out that erm i fill with some kind of spirit so that I can spend as little as I possibly can."*

Female undergraduate, Focus Group 5

*"I think may because I'm a little bit older than (NAME) I, I dunno I do like drinks that taste nice I wouldn't drink the cheapest bottle of wine or I'd rather have less and pay more, over all drinking less anyway you can afford nicer"*

Despite the frequent consideration of reducing monetary costs the groups did not discuss avoiding going out in order to save money and or going out but not drinking in order to keep costs low. Therefore it can be suggested that the strategies discussed so far aim to minimise the cost of a night out drinking in order that such nights out can occur more frequently and always include alcohol.

#### ***4.3.2.8 Relationship between themes***

All though distinct from each other the themes discussed all relate to one another. Some of the relationships have been discussed already but it should be noted that the themes of letting go, socialising, financial considerations and having fun all operate within the context of the student world. Further to this 'optimising' the experience of drinking and engaging in a night out involved balancing a ratio which exists between letting go, socialising, financial considerations and having fun. The aim over all was for students to spend as little money as possible but to have as much fun as they were able to while maximising opportunities for socialising and letting go.

#### ***4.3.2.9 Problematic Alcohol Consumption***

The second part of the discussion sought to explore students' constructions of problematic alcohol consumption including binge drinking and alcoholism. It should be noted that although students recognise and often admit to experiencing the negative consequences of binge drinking there was little if any indication that they consider either binge drinking or their own drinking behaviour as being problematic. Conversely it is viewed as normal, acceptable and even expected. The inclusion of binge drinking

in this section reflects the fact that binge drinking can and does put individuals at risk of experiencing negative outcomes and effects (Wechsler et al., 1994) not from participants' views.

From the data six key themes related to students' constructions and understandings of problematic alcohol consumption emerged. A summary of themes can be seen in Table 4.3.2 with Figure 4.3.2 displaying the relationship between the themes. "Visibility", explores how drinking behaviours themselves can be displayed in social situations or hidden as well as detailing students explanations that problematic drinking behaviour is not necessarily outwardly recognisable but the negative consequences associated with these behaviours often are. The theme of "acceptability" reflects the construction of alcohol use in general as acceptable but problematic alcohol use as socially unacceptable and the implications that this has for categorisations of drinking behaviours. "Motivations" underlying alcohol use were identified as a key method employed by students to distinguish between types of alcohol use with binge drinking being drinking with the motive to get drunk while alcoholism is driven by a 'need' for alcohol itself. Students explained that differing motivations behind types of alcohol use dictate the specifics of how people drink. These aspects are explored in the theme "speed, volume and frequency" of consumption'. Social aspects of student drinking were discussed in depth in the previous section of analysis but social aspects of alcohol use were identified in this section with problematic alcohol use being constructed as predominantly non-social, these are captured by the theme of "drinking socially". The final theme "consequences and outcomes", explores the idea that all alcohol use has consequences and outcomes but that problematic drinking involves more and more severe negative consequences. These themes can be used to

explore the ways in which students distinguish between forms of alcohol consumption and will now be discussed in more depth.

Table 4.3.2:  
Summary of Problematic Alcohol Consumption Themes

Theme	Sub theme	Links to
Visibility	Invisible Stereotypes Drinking Culture Hidden Problem	Consequences and outcomes; Acceptability
Acceptability	Socially Unacceptable Expected to Drink	Visibility; Drinking socially
Motivations for Drinking	Need to Drink Drinking to get Drunk	Drinking socially; Speed, volume and frequency of consumption
Speed, Volume and Frequency of Consumption	Consistent Drinking Speed of Drinking	Motivations for drinking
Drinking Socially	Drinking alone Socialising	Motivations for drinking; Acceptability
Consequences and Outcomes	Negative Consequences Longevity	Visibility

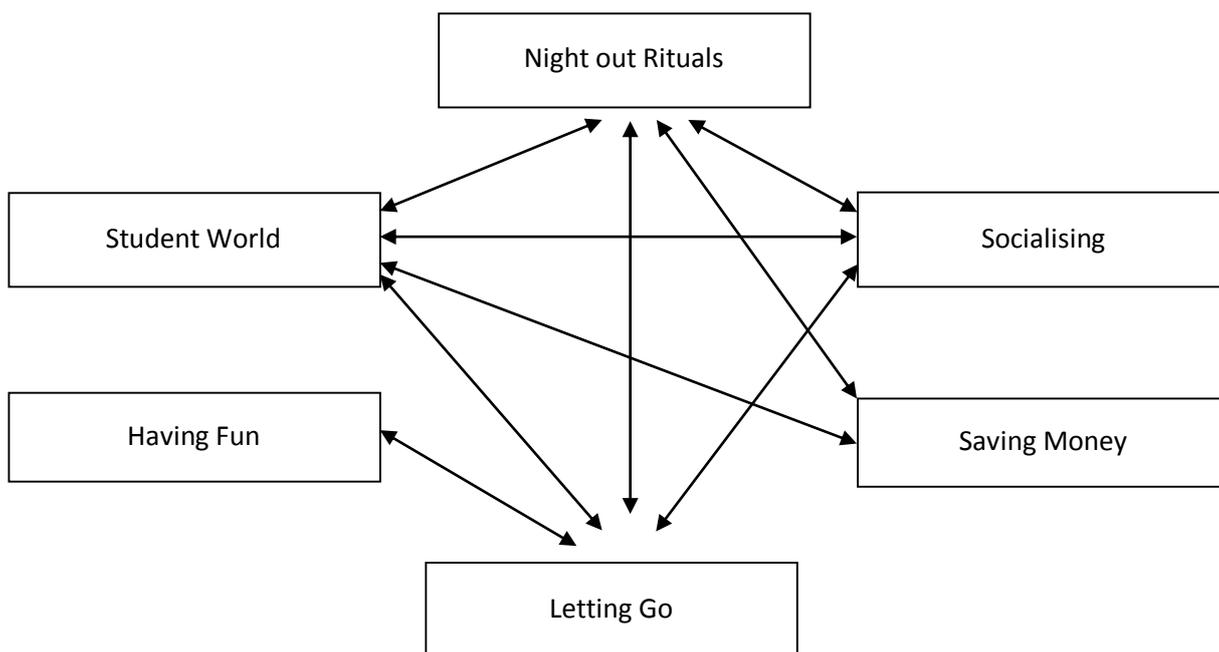


Figure 4.3.2: Relationship Between Problematic Alcohol Consumption Themes

#### 4.3.2.10 Visibility

Participants were quick to point out that alcoholism or problematic alcohol use is not necessarily something which is outwardly visible in that

it did not always manifest itself in the physical appearance of an individual.

*"I have a really clear definition of what an alcoholic is. It's nothing to do with like your physical person"*

Male undergraduate, Focus Group 2

*"I don't think you can definitely just look at somebody and be like oh they're an alcoholic"*

Male undergraduate, Focus Group 2

*"it could look like anything 'cause there are so many ways that it could manifest in your life"*

Male undergraduate, Focus Group 2

Asking the participants to create a drawing of a typical person with a drink problem such as a typical alcoholic sparked a number of participants to indicate that alcoholism and other alcohol use disorders were illnesses or mental and physical addictions and as such could not be characterised effectively in a drawing but rather were hidden issues. This led to discussion of stereotypes surrounding alcoholism and problematic alcohol use and an acknowledgement by participants that these stereotypes were not representative of all individuals with problematic alcohol use but where what was captured by their drawings and descriptions.

*"this is kind of like the obvious like you see them obviously where as there are a lot of alcoholics who yeah like you say just stay in their rooms or seem normal but ah it's kind of more of a hidden problem"*

Male undergraduate, Focus Group 2

Participants further explained that problematic alcohol consumption could be viewed as a spiral and was more outwardly visible when an individual

reached 'rock bottom' and was experiencing negative consequences of their drinking such as losing their job, home, family and friends or living with the physical and health effects of a long period of high alcohol consumption.

*"this is what they'd end up like at the end*

*Yeah like that's the absolute bottom of the barrel"*

Male undergraduates, Focus Group 2

Further to considerations regarding physical manifestations of alcoholism and problematic alcohol use a number of participants discussed the idea that drinking culture and norms could potentially disguise individuals' problematic drinking allowing it to appear normal and accepted.

*"a lot of drunks I know they seem very sociable 'cause like they're out like all the time but their life is just like behind doors is falling apart a bit, it's just a lot less noticeable"*

Male undergraduate, Focus Group 2

Additionally the idea that an individual may recognise their drinking as being problematic or not socially acceptable could lead to them trying to hide their drinking so that it wasn't visible to others.

*"women are just as prone to becoming alcoholics as men but maybe they just know to hide it better"*

Male undergraduate, Focus Group 2

*"maybe they're trying to hide their shame"*

Male undergraduate, Focus Group 2

Conversely then, where an individual drinks and discusses their drinking behaviour openly and it is not met by criticism or disapproval this may provide validation for that behaviour and a reassurance that it is

acceptable. Here we can draw on the fact that student drinking and binge drinking were generally discussed as being social activities. Because they are social and conducted both with and in view of others then it would follow that they are not likely to be problematic behaviours.

#### ***4.3.2.11 Acceptability***

The ideas of problematic alcohol use being hidden link directly to issues of acceptability. For students one of the characteristics of problematic alcohol use was drinking at times, in places or in ways which were seen as socially unacceptable.

*“It has to be like a week day*

*So they must not have like a real job*

*Or they’re a student and they don’t go to class”*

Male undergraduates, Focus Group 2

*“this is like a Tuesday at noon like they don’t they kinda lost interest in school”*

Male undergraduate, Focus Group 2

*“Because it’s not really a socially accepted time to be drinking, it’s not the right time of day or the right time of the week”*

Male undergraduate, Focus Group 2

Because participants perceived that they, as students, were expected to drink and that their drinking was acceptable then drinking during the day or in the street which may in others be perceived as indicative of an alcohol use problem, for a student could be dismissed as not being a concern.

*“I’ve I got very much a picture that there is this kind of understanding of university especially the first year where it doesn’t count towards your degree that you come there for drinking, that is what you’re supposed to do that’s what student life is about”*

Male undergraduate, Focus Group 6

However data indicated that students were not naive and did not consider that the acceptability of alcohol use during university meant that they were immune to developing problematic alcohol use. Rather they were aware that the acceptability of drinking could lead to problematic drinking behaviour and that because of the social norms extreme drinking behaviours may be accepted and therefore problematic drinking may go unrecognised which links back to the theme of visibility.

*“I think it could be anybody in the world however the students are more likely to have a drinking problem because they go out all the time”*

Male undergraduate, Focus Group 6

The idea of acceptability being a factor in problematic drinking is not unique to students, the CAGE measure includes questions related to receiving criticism and having feelings of guilt related to alcohol use, topics which both relate to the perceived acceptability of drinking behaviour.

#### ***4.3.2.12 Motivations for Drinking***

Motivations for drinking were important throughout focus group discussions. As covered in the analysis of data regarding a typical night out, students’ drinking behaviour was driven by desires to have fun, socialise and spend as little money as possible. Motivations for drinking were also discussed with regard to problematic alcohol use and were

employed by participants as a way to distinguish between different types of alcohol consumption. Those with alcohol use disorders or addictions, specifically alcoholics, were seen to drink because they needed to. These individuals were perceived to be motivated to drink either in order to avoid withdrawal effects or to gain effects of alcohol which are perceived to be positive.

*"I think someone who can't function properly without drinking"*

Female undergraduate, Focus Group 1

*"it is when you're dependant on it like it wouldn't...*

*yeah*

*...occur to you not to go to the pub like that's just your natural thing like you have to go and have to"*

Male undergraduate, Focus Group 1

*"I think a lot of alcoholics as like if they don't have their drink they don't feel comfortable...*

*mmm*

*...or like normal so but whereas other people just have it like on the side like oh yeah that'd be nice"*

Male undergraduate, Focus Group 1

Binge drinking on the other hand was considered to be driven not by a need to drink but by a desire to get drunk.

*"the distinction would be between like whether you're drinking just like casually as you normally would and drinking with the purpose of getting drunk so you're drinking more like when you've got that purpose to get like wasted I'd say that's more binge drinking when you're just sort of drinking and you might get drunk along the way that isn't binge drinking."*

Female undergraduate, Focus Group 1

Following this reasoning it was the need to drink that set alcoholism apart from binge drinking and the intention to get drunk that set binge drinking apart from other forms of social drinking.

*“binge drinking is where you’ve got the purpose...to get drunk nothing else”*

Male undergraduate, Focus Group 1

*“all the other things we talked about like the music and the people and stuff like that I would like, that wouldn’t be as important to the alcoholic, it would just be about the alcohol.”*

Female undergraduate, Focus Group 1

*“you’re going out to have fun to meet people, to do silly things and stuff like that  
yeah  
where as an alcoholic’s just there to drink the night away”*

Male undergraduates, Focus Group 1

However these issues were not always clear cut and the definition of binge drinking could be ambiguous. With regards to their typical night out students discussed the idea of drinking alcohol to have fun, when considering binge drinking the primary reason for drinking was to get drunk. Some participants felt that with binge drinking although the primary motivation was to get drunk there may also be a desire to have fun, socialise or relieve stress while others suggested that having fun was not necessarily a part of binge drinking therefore when there were other motivations the same drinking behaviour would not necessarily be classified in the same way.

*“you’re not doing it to have fun along the way, you’re not doing it by playing games or anything  
well I dunno, I think people find it fun because of the stupid things it makes them do so I think it is partly fun, it’s not like alcoholic”*

Undergraduate students, Focus Group 1

The fact that students base their definition of binge drinking around motivations, specifically the motivation to get drunk, allows them to categorise their drinking as not being a binge if the primary aim is having fun or socialising.

#### ***4.3.2.13 Speed, Volume and Frequency of Consumption***

Speed, volume and frequency of alcohol consumption, which can be seen as the particulars of drinking behaviour were discussed in relation to problematic drinking behaviour and were a way of distinguishing between types of drinking. Alcoholics were viewed to drink a high volume of alcohol but quite consistently over a long period.

*“drinking like regularly like every day or like I dunno, very regularly. If they don’t have a drink say in like a week they’re gonna feel like really rough and they wouldn’t be able to function normally. I would define that as an alcoholic”*

Male undergraduate, Focus Group 1

*“obviously if you’re binge drinking every day then that is alcoholism”*

Female undergraduate, Focus Group 1

*“if you consistently ah binge drink you might become reliant on it”*

Male undergraduate, Focus Group 1

Binge drinkers were considered to down drinks quickly in order to achieve a state of drunkenness. This may be done on a regular basis but drinking would not occur to the same frequency as in an alcohol dependant individual.

*“it’s just like downing them as soon as you can”*

Male undergraduate, Focus Group 1

*“I think binge drinking you can do you know once a month and that’ll still be called binge drinking cause you’re doing it all in the same one night in a month but alcoholism would be continuous wouldn’t it? everyday?”*

Female undergraduate, Focus Group 1

Non problem drinkers on the other hand would drink less alcohol per occasion than binge drinkers or would not do so with the same speed so that they did not reach the same level of intoxication.

#### ***4.3.2.14 Drinking Socially***

The company kept while drinking was another factor which was discussed in relation to problematic alcohol use. Students’ own drinking was often motivated by desires to socialise and was in most cases a social pastime undertaken with others.

*“yeah, does need to be a group activity I think binge drinking yeah otherwise it’s kind of heading towards alcoholism”*

Undergraduate students, Focus Group 1

In contrast alcoholism and problem drinking were in part characterised by drinking alone. Students offered a number of explanations for why this is the case, firstly for those who were dependant on alcohol the primary motivation behind drinking was drinking itself not socialising, secondly the

issue of acceptability arose once again with students postulating that those with problematic alcohol use may face judgement, criticism or other reprimands if others witnessed their drinking. Finally it was considered that those who were dependant on alcohol may have a different perspective on the world in general and a different outlook on life which could make social interactions difficult.

*“you would be just as happy to drink on your own if you were an alcoholic”*

Female undergraduate, Focus Group 1

*“I naturally think of an alcoholic like as being more reclusive like more wanting to be by themselves unless they’re like, just because, like if they drink that much you’d think they’d find them quite like not a warped view but quite like darker thoughts you’d think they wouldn’t want to be well around a lot of people”*

Male undergraduate, Focus Group 1

*“you’d be judged if you were drinking that much and like on your own there’s no problem I guess”*

Female undergraduate, Focus Group 1

*“yeah might be difficult to operate normally around other people because your definition of normal is different to theirs”*

Male undergraduate, Focus Group 1

#### **4.3.2.15 Consequences and Outcomes**

The final theme to emerge from this section of the discussions was drinking despite experiencing negative consequences of alcohol consumption. Participants were specifically asked about the outcomes of

drinking but the idea of negative consequences arose naturally from drawings and discussions of alcoholism and problematic alcohol use.

The drawings of individuals with problematic alcohol use featured many physical manifestations of the negative effects of alcohol consumption and alcoholism was seen, in part, as drinking despite experiencing negative effects.

*“the way that we were taught to define an addiction at school was when you’re using something and it begins to negatively affect other aspects of your life”*

Male undergraduate, Focus Group 2

*“like coming into work drunk and getting reprimanded or fired or umm spending all of your money on that instead of tuition and school books or spending”*

Male undergraduate, Focus Group 2

Students also discussed both positive and negative effects of their own drinking behaviour, with many stating that they themselves, and others that they knew, had experienced negative effects of alcohol.

*“phones, lost wallets, lost driving licence, lost passports, sometimes generally being more irresponsible  
it could make you friends and it could lose you friends  
you could forget to go to things in the morning”*

Undergraduate students, Focus Group 1

Binge drinking appeared to fall at a mid-point between alcoholism and drinking in general with students stating that binge drinking made you more likely to experience negative consequences but they were not a certainty.

*“you could [go?] binge drinking and nothing too bad would happen  
yeah but it’s just more likely that it would”*

Undergraduate students, Focus Group 1

*“if it’s binge drinking it’s more likely to be the negatives but if it’s  
just alcohol in general if you know you control it doesn’t have to be  
all those negatives it can be more on the positive side”*

Male undergraduate, Focus Group 1

Despite the fact that students were open about having experienced negative consequences of alcohol use they gave no indication that they saw their own alcohol use as being problematic. This suggests that the relationship between alcohol use and the experience of negative effects is not as clear cut as drinking despite negative effects being a sign of problematic drinking behaviour. Instead a cost benefit approach appears to be in action here. Specifically the costs in terms of negative outcomes and effects must be severe enough or long lasting enough to outweigh any benefits gained from alcohol use in order for them to be indicative of problematic alcohol use. In the case of students their drinking is viewed as having a number of benefits which go along side any negative outcomes and the negative outcomes discussed tended to be short lived and rectifiable.

*“Losing your phone or something like that*

*yeah*

*yeah*

*I ok i loose my keys*

*getting your nice clothes ripped up*

*soon as I have a beer*

*vulnerability*

*or falling over getting them dirty, mud, grass stains”*

Undergraduate Students, Focus Group 1

It is not however the case that students are naive about the potential consequences of alcohol use. There were references to placing themselves in situations where they were vulnerable, to the potential for longer lasting consequences such as getting a criminal record or becoming pregnant, though these did tend to be more distal consequences, and also to friends of friends who had experienced more severe outcomes.

*“I think like yeah safety is quite an issue yeah  
being very very vulnerable”*

Female undergraduate, Focus Group 1

*“thinking about it it could give you a criminal record  
yeah  
which of course could affect the rest of your life”*

Undergraduate students, Focus Group 1

*“a friend of a friend and erm he goes to another uni down south  
and well he was one of the last ones to talk to one of these guys  
when they were on a night out and this guy went missing and they  
found him a few days later in a ditch”*

Female undergraduate, Focus Group 1

Problem drinkers were seen to drink for the sake of drinking despite experiencing negative outcomes and few positives beyond the reduction of withdrawal effects.

#### **4.3.3 Content Analysis**

The thematic analysis conducted provided much insight into how students drink and the factors which are important in their understanding of

problematic drinking behaviour. However the findings from this analysis regarding the importance of the outcomes of alcohol use lack clarity and do not provide an accurate reflection of the relationship between outcomes of alcohol use and students' perceptions of alcohol use.

Specifically students, when asked, appear to be knowledgeable about the negative effects of alcohol use, being able to list off many with varying degrees of severity and students state that drinking despite experiencing negative consequences is an indication of problematic alcohol use.

However many of the outcomes discussed appear in discussion related to both their own alcohol use as well as alcoholism and problematic drinking making it difficult to distinguish between problem and non-problem drinking on the basis of the outcomes associate with each style of drinking. Further to this discussion of alcohol use, particularly discussion of the typical student night out, is predominantly positive. This is partially conveyed in the thematic analysis with themes relating to fun, socialising and bonding, all positive outcomes associated with alcohol use, emerging strongly from the data regarding a typical night out. However what is not conveyed is the reframing that is operating with students emphasising the positive outcomes of alcohol use, demonstrating their knowledge of the risks and potential negative outcomes but stating these quickly and rarely going into depth in discussion of these. Thus the picture regarding the outcomes of alcohol use and their importance in guiding behaviour is somewhat confused in the thematic analysis.

As part of the pragmatic approach undertaken in this research it was decided to utilise an alternative method of analysis to better capture and convey the way in which the outcomes of alcohol use are discussed in the focus groups. Transcripts were subjected to content analysis focused on

the outcomes of alcohol use to establish whether students discuss more positive outcomes of their drinking compared to alcoholism and problem drinking.

Content analysis is a technique used to observe and quantify the presence of words, phrases, images or concepts and utilise these to make inferences about the writer, audience and culture. In this instance content analysis was used to quantify the references to the positive and negative outcomes of alcohol use made during the focus groups, comparing these references across student alcohol use and problematic alcohol use. Rather than a writer, inferences are made about what this means for the focus group participants and how they portray problematic alcohol use and their own alcohol use to their peers in the focus group and to the researcher.

Further to this a re-evaluation of negative consequences of alcohol use may be operating among many students with some negative effects being seen to have benefits and thus not being viewed as costs at all. For example helping a friend who is drunk to the point of being incapacitated or being helped by a friend when they themselves were drunk was viewed as a bonding experience.

A further factor which emerged within this theme was the transient nature of drinking behaviour. As previously discussed the students perceive their time at university as being separate from what has come before and what will follow. Drinking behaviour fits into this with most drinking differently at university to the way they did before and they do not expect to continue drinking in the same way once they leave university and that if they did it would have more negative consequences and may become a problem.

Unlike many of the other themes this one was not easily used to distinguish between different types of alcohol use. Theoretically the relationship between the outcomes of alcohol use and drinking behaviour should be relatively straight forward with behaviours which result in more positive outcomes than negative being engaged in and repeated more frequently than those which result in negative outcomes. The TPB recognises expected outcomes as underlying attitudes which predict intentions and in turn behaviour with expectations of positive outcomes creating positive attitudes, increasing intentions and thus increasing the chances of a behaviour occurring. Although students identify drinking despite experiencing negative consequences as being indicative of problematic alcohol use many of the students admitted that their drinking had led to negative consequences effectively indicating that their own behaviour could be considered to be problematic yet they did not seem to perceive their alcohol use as problematic.

This may relate to the length of time during which students expect to drink in the way that they do. In addition to suggesting that extreme or different drinking behaviours are acceptable and even expected in student populations there are indications that students do not plan to drink in the same ways when they return to the 'real world'.

Further to this although a large number of outcomes of alcohol use were mentioned in the focus groups, some such as having a hangover or being sick did not appear to be considered particularly negative. Further analysis with regards to the outcomes of alcohol use was conducted to shed light on to how they may be influencing student drinking behaviour. References to outcomes of alcohol use were coded and the frequency of references used to provide an indication of student attitudes towards alcohol use.

## Process of Coding

Every mention of an outcome of alcohol was coded on the basis that where participants discussed the same outcome more than once or in more depth there was indication of its importance so each mention was coded. The researcher wanted to avoid confusion of outcomes of alcohol consumption with outcomes of going out or being sociable. In order to do this where an outcomes was specifically indicated as being due to aspects related to alcohol use but not directly to alcohol it was not coded. For example 'going to a club is deemed as fun' is not coded as in this instance 'fun' is related to going to a club however in this section: 'one's there for the alcohol the other one's there for the fun alcohol brings' fun is coded as it is seen to occur because of the alcohol. In cases where it was less clear whether the outcome was directly due to alcohol or not the researcher favoured interpretations of the outcomes being down to alcohol use as this was the topic of discussion therefore the majority of points discussed should in some way be related to drinking behaviour and alcohol consumption.

Outcomes were initially separated on the basis as whether participants were discussing them in relation to alcoholism and problematic alcohol use versus their own drinking, including binge drinking or drinking alcohol in general. Initial codes were subdivided into positives and negatives and grouped into categories and sub-categories coded so for example being stabbed, having a bleeding nose or breaking an ankle were all classed as injuries which were deemed to be a negative outcome and injuries which fell into the category of physical outcomes and the sub category of short term health. Finally each individual outcome mentioned was allowed to fall into only one code group, for example being stabbed could be coded

as an injury but also indicates that a crime has occurred. As initial codes were treated as sub codes and later grouped together coding a single outcome more than once would serve to magnify the occurrence of some groups of outcomes over and above the focus given to them in the discussions.

### Example of Coding

*ahh yes this is his lovely Fred Perry shirt that he's got on tonight, errr with of course the usual puke stains down the top which of course he's actually standing in at the bottom oo he's got rips in his top cause of course he got in a fight earlier, somebody's stabbed him in the arm, cut a bit of the t-shirt off. But of course he's recovering now so he's got ah err a burger in one hand oh and a bottle of a vodka in the other*

Table 4.3.3:  
Example coding for alcohol outcomes

Phrase	Vomiting	Violence	Code		
			Crime	Injury	Damaged Clothing
puke Stains	X				
rips in his top					X
a fight earlier		X			
Stabbed				X	
Cut a bit of the t-shirt					X

Table 4.3.4

Summary of content analysis

Category	Evaluation	Alcoholism/ problem drinking	Student (including Binge) or General Drinking	Total
<b>Crime and Antisocial Behaviour</b>	Positive	0	0	0
	Negative	20	57	77
<b>Physical</b>	Positive	0	11	11
	Negative	97	104	201
<b>Appearance</b>	Positive	0	0	0
	Negative	18	0	18
<b>Possessions</b>	Positive	0	0	0
	Negative	44	32	76
<b>Desirable Effects</b>	Positive	31	241	272
	Negative	0	0	0
<b>Consequences</b>	Positive	0	0	0
	Negative	19	13	32
<b>Social Perceptions</b>	Positive	0	8	8
	Negative	10	8	18
<b>Daily Life</b>	Positive	0	0	0
	Negative	24	2	26
<b>Cognition and Mood</b>	Positive	9	106	115
	Negative	13	9	22
<b>Social</b>	Positive	7	109	116
	Negative	17	10	27
<b>Inhibiting Function</b>	Positive	0	0	0
	Negative	7	40	47
<b>Risk Taking</b>	Positive	0	0	0
	Negative	6	27	33
<b>Regrets</b>	Positive	0	0	0
	Negative	0	18	18
<b>Societal or National</b>	Positive	2	2	4
	Negative	0	0	0
<b>Over All</b>	Positive	49	477	526
	Negative	275	320	595
	Total	324	797	1121

#### ***4.3.3.1 Relationship between Drinking Patterns and Outcomes***

Participants discussed both positive and negative outcomes from alcohol use and related both positive and negative outcomes to alcohol use in general as well as problematic alcohol use but the view of participants was that although negative outcomes may be experienced with general alcohol use they were less likely to occur than with problematic use and

there would be more positive outcomes from general alcohol use than from problematic alcohol use.

*“if it’s binge drinking its more likely to be the negatives but if it’s just alcohol in general, if you know you control it doesn’t have to be all those negatives it can be more on the positive side”*

Focus Group 1

In total 1121 references were made to the outcomes of alcohol use. The view expressed in the qualitative work is broadly supported by the quantitative coding of the data generally supported by the analysis presented here. Although participants made reference to slightly more negative outcomes than positive over all, discussion of their own alcohol use and alcohol use in general included more references to positive outcomes than negative ones. However this relationship was reversed for discussion of alcoholism and problematic drinking with more than five times the number of references to negative outcomes than positive ones.

#### **4.3.3.2 Reframing and Re-evaluation**

Although students discuss a high number of negative outcomes of alcohol use the level of negativity associated with each varied greatly. Many negative outcomes such as hangovers and vomiting were coded by the researcher as being negative but discussion indicated that they were viewed as normal or expected outcomes and were dismissed as acceptable. The codes above are an effective way of assessing students’ knowledge and understanding of the outcomes of alcohol use and provide an indication of how their attitudes may be formed. However based on the reframing and re-evaluations that students are operating, this analysis should be utilised cautiously as the overall attitude which one might

expect students to hold based on the codes and their evaluations presented above may not be accurate.

This method of analysis was able to demonstrate how the balance between positive and negative outcomes of alcohol use were discussed in relation to students' own drinking compared to alcoholic and problem drinking. Yet the reframing of alcohol use does not stop simply with how often positives and negatives are discussed. A number of the negative outcomes of alcohol use also appear to be reframed as important for bonding, common and therefore not concerning or humorous. This aspect was not fully captured by either the thematic or content analysis but is clear in the quotes presented below.

This type of reframing also caused some issues for the content analysis with certain outcomes which on face value appear negative (e.g. getting drunk, losing control) being perceived positively by students and being outcomes which were actually sought out by students through their drinking. By taking into account the context of discussion the researcher was able to account for this type of reframing in the analysis. However the influence of individual differences between drinkers is likely to be stronger here, what one individual or group reframes as being positive another may not. Taking the example of loss of control, many participants in the discussions put this forward as a positive thing with alcohol being used as a way to let go however one group discussed a friend who did not drink specifically because she did not like the loss of control that she experienced when under the influence of alcohol.

Thus it is important to remember that while the content analysis should capture the overall reframing that is occurring among many students it is not universal and does not necessarily occur for all students.

#### ***4.3.4 Definitions of Binge Drinking***

In addition to conducting the thematic and content analyses the researcher also used the qualitative data to consider how students understand the term “binge drinking”. As part of the focus group discussions participants were asked what the term binge drinking meant. A single definition of binge drinking as being drinking to get drunk emerged from the focus group discussions and was endorsed by almost all individual participants.

“excessive drinking to get drunk”

Male undergraduate, Focus Group 1

“I think binge drinking is to get drunk

yeah

It’s not like just for fun.”

Undergraduate students, Focus Group 1

Although there was a general consensus among participants that binge drinking was drinking to get drunk there was some debate as to how specific behaviours would be classified. For example in focus group 1 the male participants felt that drinking as a part of drinking games was not necessarily binge drinking because it occurred in a controlled environment and could be motivated by a desire to either have fun or socialise rather than just to get drunk. In contrast the female participants felt that binge drinking could occur in a game and also in any environment as long as a large volume of alcohol was consumed and the drinker intended to get drunk. However, because this definition emerged so strongly from the different groups the researcher deems that it is worthy of further consideration.

Many of the explanations and arguments put forward by students in support of this definition relate to the six themes (“visibility”, “acceptability”, “motivations for drinking”, “speed, volume and frequency of consumption”, “drinking socially” and “consequences and outcomes”) discussed above.

With regard to the definition of binge drinking as being drinking to get drunk this takes into account individuals’ different tolerances to alcohol consumption and that the same state of intoxication may be reached by different individuals drinking different amounts at varying speeds as such accounting for not only the amount of alcohol consumed but also for the speed with which it is consumed. While a binge drinker and an alcoholic drinker might drink a similar amount the binge drinker will do so with speed to achieve a state of drunkenness whereas the alcoholic will drink more consistently to maintain a stable level of intoxication. Meanwhile a social drinker would drink less but once again spread their drinking over a more prolonged period not reaching a state of drunkenness. On the other hand with the exception of gender differences, cut off definitions give no consideration to variation in sensitivity to alcohol’s effects. Further to this they tend to focus on the volume of alcohol consumed (i.e. 4 standard drinks) and frequency by reporting the frequency with which an individual or group display this type of drinking. However little consideration is given to speed except by the amended version of Wechsler’s definition which stipulates a time constraint of 2 hours in which the 5/4 standard drinks must be consumed (National Institute on Alcohol Abuse and Alcoholism, 2004).

### **4.3.5 Messages from Qualitative Research**

#### ***4.3.5.1 Reflections on Qualitative Work***

Reflections on the qualitative work raise a number of issues that should be discussed. The research sought to obtain a diverse sample of students from the university in order that findings used to inform the design of questionnaires for the later quantitative studies would not be biased towards a specific student sub-group. On the basis of the demographic and drinking related data collected by the questionnaires it can be concluded that this was predominantly successful with the sample ranging in age from 19-25 years being drawn from 16 different subjects and 4 different year groups of study and including a third reporting being in receipt of maintenance grants. However two key sub-groups are identified as having not been represented in the sample, students enrolled for part time study and non-drinkers, therefore the views of individuals in these groups are not represented in the data. Despite the diverse range of students who took part in the focus groups the data displayed a high level of homogeneity, especially regarding aspects such as understanding of binge drinking behaviour and components of a typical night out. It should therefore be acknowledged that the method of recruitment may have appealed to individuals with specific views, opinions and experiences regarding alcohol use. Alternatively it could be that diverse individuals are experiencing or in the case of non-drinkers or non-binge drinkers, observing a homogenous drinking behaviour which is common place among students. This latter explanation is supported by the data itself which demonstrated that students drank in a number of different ways with individual participants identifying individual preferences for types of drinks consumed or frequency of alcohol consumption yet all groups described a similar, ritualised structure to a typical night out. Further to

this the review of the existing qualitative literature gathered at different times across different countries and continents has also resulted in a high number of homogenous findings which support each other indicating that homogeneity in student drinking behaviours are not limited to the participants of this study. While these between individual and between group similarities make the findings of this work useful in informing the following quantitative studies which will target larger samples of students it does mean that individual differences and the views of specific student sub-groups may be overlooked.

The depth and quantity of the data collected across the six focus groups meant that the analysis was not able to consider all topics and factors raised in the discussions that may be of interest and use to researchers. Further to this adopting a discourse analysis (Schiffrin, Tannen, & Hamilton, 2008) approach would develop understanding of the language students use to discuss drinking behaviours which would be useful for health education, intervention and prevention works. Despite this, considering student drinking and problematic drinking separately and utilising both thematic and content analyses provides an effective summary of the key, commonly arising topics and captures the disparity between discussion of positive and negative consequences of alcohol use which were not clear in the thematic analysis and these analytical techniques were considered to be the most appropriate in order to allow the qualitative data to inform the later quantitative work.

The researcher acknowledges that the discussion guide employed and the guiding of the discussion by the focus group facilitator will have influenced the data collected. Two key areas where the researcher's influence may have been stronger than anticipated should be considered. Firstly the

discussion of problematic drinking behaviours. Here it is likely that students' discussion was directed towards alcoholism and specifically stereotypical views of alcoholism rather than a broader view of problematic alcohol use due to the researcher initially asking participants to create drawings of 'a person with a drink problem, such as a typical alcoholic'. Secondly the data portray students' drinking behaviours as being well thought, rational acts but this may have emerged at least in part due to the participants being explicitly asked about the reasons why people drink alcohol and engage in binge drinking behaviour. However discussion of preparations for nights out such as buying alcohol ahead of time and eating or avoiding food emerged without prompting from the researcher and clearly demonstrate a level of planning involved in drinking behaviours.

It was clear from the thematic analysis that participants did not consider their drinking behaviour to be problematic. However it was specified that students were not exempt from problematic drinking behaviours and most explained that their current drinking patterns were acceptable during student life but would need to change once the period of study ended. Further to this while students do not portray their own drinking as problematic this does not mean that the behaviour is not problematic or that health professionals would not identify them as being problematic. This raises an important issue for behaviour change as interventions which will not only need to identify effective methods by which students can change their behaviours but also instigate a desire or need to change.

Two reflections should be made regarding the content analysis conducted. Firstly the data was not collected with the intention to conduct a content analysis. The utilisation of content analysis was a pragmatic reaction to

the data collected whereas in a traditional design the method of data collection and thus the data itself is designed with the planned analysis technique in mind. However content analysis is flexible in its applicability. Indeed content analysis is frequently utilised for the analysis of existing texts such as media articles or promotion materials indicates that it is suitable for use on data over which the researcher has little control (Berg, & Lune, 2004). Secondly it is customary to employ more than one researcher to code and analyse the data independently (Elo, & Kyngäs, 2008) before discussing their codes and agreeing on the coding of the data. The content analysis in this thesis was conducted by a sole researcher therefore codes rely only upon the interpretation of the data by the one researcher which could limit the objectivity of this analysis.

#### ***4.3.5.2 Reflective Analysis***

#### ***4.3.5.3 Informing Further Work***

The findings of this work have general implications for future works but were also used to directly inform the design of the quantitative work included in this thesis. The findings of the thematic and content analyses support the application of social cognitive models, specifically the TPB, to the study of student alcohol use and binge drinking with many of the themes which emerged and topics discussed relating to the constructs of these models. The participants' foreground the anticipated outcomes of alcohol use and binge drinking as reasons for engaging in these behaviours. This closely relates to the concepts of behavioural beliefs and attitudes. Similarly, discussion of drinking during time as a student as being both acceptable and expected relates to the concept of injunctive norms while evidence for the commonality of alcohol use and binge drinking can be seen to represent descriptive norms. Factors relating to

behavioural control or facilitators and barriers to drinking also emerged with participants discussing methods to reduce the monetary cost of drinking and to either enhance or reduce the effects of alcohol.

In addition to supporting the adoption of the TPB as a theoretical basis for the quantitative research the findings of this qualitative research can also be applied to guide further concepts to be considered in the qualitative work. The social nature of student drinking emerged strongly from the data. While this supports the consideration of normative influences on drinking behaviour discussion of the social enhancement outcomes of alcohol use, such as meeting new people and forming stronger bonds with existing friends shows that further consideration of the relationship between alcohol and friendship would be worthwhile, particularly as social enhancement outcomes are cited by participants as a key reason for their alcohol use. The quantitative work conducted in study 3 will therefore seek to assess whether an individual's drinking behaviour relates to the number of friends they have and to the level of identification and belonging they feel with their friends. Despite not appearing in the discussion guide, drinking games were discussed in depth in the focus group discussions and were identified as a part of a typical student night out with students citing a number of reasons for participating in drinking games. Therefore studies 2 and 3 will consider the frequency with which individuals participate in drinking games and whether frequency of drinking game participation can be predicted by an individual's motivations for participating in drinking games. Although the importance of price has been raised in previous research into student drinking (Chaloupka, Grossman, & Saffer, 2002; Jamison, & Myers, 2008) and emerged from the focus groups as an important factor in influencing the way in which students drink there was no evidence that price

influenced how often or how much the participants drank. Instead students employed multiple methods of reducing the monetary cost of drinking. For this reason price will not be considered as a predictor of binge drinking in the following quantitative work.

Finally, the CAGE measure will not be employed in the quantitative research as it categorised one of the participants, who identified as not currently drinking alcohol, as showing problematic drinking behaviour, therefore demonstrating that it is not an appropriate tool for assessing current student drinking behaviour.

## **5 Study 2: Cross-sectional Quantitative Work**

### **5.1 Introduction**

#### **5.1.1 The Theory of Planned Behaviour**

The TPB (Ajzen, 1988) can be used to identify the determinants of behaviour and behavioural intention and thus can identify factors to be targeted in interventions directed at changing behaviour. The TPB has been widely and frequently applied to the prediction of behaviour and behavioural intentions (see Armitage and Conner, 2001 for a meta-analysis), including hundreds of applications within the health behaviour field (Conner & Sparks, 2005). Within this body of literature there have been numerous applications to the study of alcohol use, including that of young people and students (Conner, Warren, Close & Sparks, 1999; Armitage, Norman & Conner., 2002; Johnston & White, 2003; Cooke, Sniehotta & Schüz, 2007; Norman, Bennett & Lewis, 1998; Norman Armitage & Quigley, 2007). Findings of these works consistently show that attitudes and subjective norms predict intentions to drink and intentions in turn predict drinking behaviour. Findings regarding PBC are more mixed but there has been some support for the role of PBC in predicting binge drinking (Armitage, Conner, Loach & Willetts, 1999; Norman Bennett & Lewis, 1998; Norman & Conner, 2006). However evidence presented in the introduction and literature review demonstrates that interventions of any kind have, as yet had little success in the field of binge drinking with binge drinking rates remaining high both in the general population and particularly among young people and students (e.g. Office for National Statistics, 2013). It is therefore important that research continue to consider the validity of the TPB, considering in depth the existing model variables as well as potential expansion variables which could be

integrated into the model to improve the prediction of binge drinking behaviour. These findings can then be utilised to inform the design and targeting of future intervention and prevention works.

#### ***5.1.1.1 Intentions***

The TPB proposes that intentions, (a person's readiness to perform a given behaviour) and PBC are the most proximal determinants of behaviour (Ajzen, 1991). The role of intentions in the prediction of behaviour is well supported with intentions being found to explain an average of 22% of the variance in behaviour (Armitage & Conner, 2001). While some have proposed that self-predictions are a more effective predictor of behaviour (Sheppard et al. 1988), meta-analyses have found that the combination of intentions and PBC as appears in the TPB is most effective (Armitage & Conner, 2001). This work will therefore focus on intentions rather than self-predictions. This work will employ a measure of intention based on that employed by Norman and Conner (2006) and adapted to reflect the definition of binge drinking employed by, and time period of interest of, this study. This study uses a multi-item measure which have been shown to be more effective than single item measures (Bagozzi, Baumgartner, & Yi, 1989) and are advised by Ajzen (2002b). Additionally the principle of compatibility (Ajzen & Fishbein, 1977, 1980; Fishbein & Ajzen, 1975) will be followed as this has been shown to influence the predictive capabilities of intention and its antecedents. The measure used in this study has previously showed predictive relationships to self-reported binge drinking behaviour and was predicted by measures of attitude, PBC and self-efficacy (Norman & Conner, 2006).

The relationship between intention and behaviour cannot be effectively assessed in cross-sectional work so will be considered in more depth in

study 3. Cross-sectional research and regression analyses can however be used to assess the factors that contribute to intentions. Within the TPB model intentions are themselves determined by attitudes, subjective norms and PBC (Ajzen, 1991). The findings of such studies can then be employed in intervention and prevention works to alter behavioural intentions and thus influence behaviour. This study will assess whether students' self-reported attitudes, subjective norms and PBC can predict concurrently self-reported intentions to binge drink. Therefore the contribution of each of these variables will now be discussed in more depth.

#### ***5.1.1.2 Attitudes***

Attitudes have long been considered to be important in the production of behaviour (see Allport, 1935) and it is now widely accepted that they exert their influence indirectly through behavioural intention with multiple social cognitive models including this relationship (see the TIB (Triandis, 1977), TRA (Ajzen & Fishbein, 1975), TPB (Ajzen, 1988)). The TPB defines attitudes as, the degree to which performance of the behaviour is positively or negatively valued. The role of attitudes in the TPB is well supported (see Ajzen, 1991; Conner & Armitage, 1998, and Armitage & Conner, 2001) and attitudes have been shown to predict intentions to binge drink (for example see Cooke, Sniehotta, & Schüz, 2007; Norman, & Conner, 2006). However applications of the TPB have been criticised for focusing on the role of instrumental attitudes, failing to take into account the affective component of attitudes which has been shown to predict both attitudes and behaviour (Triandis, 1977; van der Pligt & de Vries, 1998). This is discussed in more depth in section 5.1.2 which considers expansions to the TPB.

The TPB indicates that attitudes are formed from a combination of accessible behavioural beliefs, beliefs about the expected outcomes of a behaviour weighted by the evaluation outcome or attribute. According to the TPB where an individual expects more positive consequences of a behaviour than negative ones or values the expected consequences more than the expected negative consequences they will hold positive attitudes towards a behaviour and thus be more likely to intend to engage in the behaviour and more likely to enact the behaviour (Ajzen, 1991; Norman & Conner, 2005). The findings of study 1 found that while students are knowledgeable about the negative consequences of binge drinking they discuss positive consequences more frequently and value the positive consequences regarding social inclusion and social lubrication as well as the role of alcohol in relaxation and having fun. Further to this the experience of negative consequences such as hangover, injury and loss or damage of personal belongings are common enough that they are not considered serious. This is supported by previous research which has shown that students experience positive consequences of alcohol use more frequently than negative consequences and perceive the positive consequences experienced as being more extreme than the negative consequences they experience (Park, 2004; Park & Grant, 2005). Therefore students can be expected to hold generally positive attitudes towards alcohol use and binge drinking resulting in intentions to binge drink and so increasing the frequency of binge drinking behaviour in student populations.

This study will consider the role of attitudes in the prediction of students' intentions to binge drink in the next two weeks in order to provide further support for the role of attitudes in the prediction of behavioural intentions. As recommended by Ajzen (2002b) semantic differential scales

(e.g. 'For me to drink alcohol in the next two weeks would be...' rated from 1 (good) to 7 (bad)') will be employed as a direct measure of attitude. This approach has been used in many previous applications of the TPB including applications to student alcohol use by Norman and Conner (2006) and Cooke, Sniehotta and Schüz, (2007).

### ***5.1.1.3 Subjective Norms***

In the TPB normative influences are considered in the form of subjective norms, individual's perceptions of how referent others perceive their engagement in a behaviour (Ajzen, 1991). This component has been shown to have a relatively weak relationship to intentions in comparison to attitudes and PBC (Armitage & Conner, 2001; Terry & Hogg, 1996; White et al., 1994). Two explanations have been offered for this, Ajzen (1991) states that these findings emerge because intentions are influenced predominantly by attitudes. However other researchers (e.g. Terry, Hogg & White, 1999) have suggested that the weak subjective norm-intention relationship is due to the ineffective measurement and conceptualisation of norms in the TPB.

Research focused on alcohol use and binge drinking has identified a number of normative influences. Peer relationships have been shown to have an association to alcohol consumption and binge drinking behaviour. As individuals reach adolescence they begin to spend less time with their parents and more time with their peers and research has demonstrated that peer influences appear to be the strongest factors in explaining adolescent involvement in substance use (Petraitis, Flay, & Miller, 1995). From this it follows that peer influence will predict an individual's alcohol use and binge drinking. A large body of evidence supports this with a number of studies finding high levels of similarity between the drinking

behaviours of an individual and their friends (e.g. Andrews, Tildsley, Hops & Li, 2002; Beal, Ausiello & Perrin, 2001). Similarly Wechsler, Dowdal, Davenport and Castillo (1995) found that having a room-mate, being a member of a fraternity or sorority and having five or more close friends who are students all increase student risk of alcohol consumption.

With regards to familial influences research has identified that children develop an awareness of alcohol at a very early age, often as young as 3 years (Donovan, 2004). From this point on parents are one of the most direct and immediate influences on an individual's attitudes towards alcohol and their alcohol consumption behaviours. Although evidence shows that the effects of parental alcohol consumption on that of their children is often small or indirect it has been linked to both adolescent alcohol initiation and current alcohol use (McDermott, 1984) and a number of studies have demonstrated a positive correlation between parental alcohol consumption and adolescent alcohol consumption (Ennett & Bauman, 1991; Webb & Baer, 1995). Despite the fact that sibling relationships are long lasting and, at least through childhood and adolescence, often involve daily contact, the influence of siblings on drinking behaviour was long overlooked. As with parents and peers, siblings' alcohol consumption can be observed and modelled. Epstein, Botvin, Baker and Diaz (1999) showed that in adolescents, sibling alcohol use is related to a number of factors including intentions to drink and the quantity of alcohol consumed per occasion. Van Der Vorst, Engels, Meeus, Dekovic and Van Leeuwe (2007) support this with findings showing an association between siblings for both frequency and intensity of drinking. However they also found that such associations were directional with the alcohol use of older siblings affecting that of younger siblings but no converse relationship.

Ormerod and Wiltshire (2009) assessed drinkers' social networks to consider how an individual's drinking behaviour was reflected in the drinking behaviour of those in their social networks. They found that binge drinkers were more likely to report that all or almost all of their family members and work colleagues binge drank than were non-binge drinkers. But the difference between binge drinkers and non-binge drinkers was most pronounced when participants were asked about their friends. Here 54% stated that all or almost all of their friends were binge drinkers compared to 15% of non-binge drinkers. At the other end of the scale 19% of non-binge drinkers reported having no or hardly any friends that binge drink compared to just 3% of binge drinkers.

In combination these findings suggest that the role of normative influences for the prediction of students' binge drinking behaviour is worthy of further consideration. Measures of subjective norm have traditionally utilised a general reference group of 'others who are important to me' (e.g. 'Most people who are important to me think that I Should (1)/Should not (7) drinking alcohol in the next two weeks') (e.g. Cooke, Sniehotta, & Schüz, 2007). While this can give an overall indication of the social pressures an individual feels towards engaging in or avoiding a particular behaviour it does not allow for distinctions to be drawn between different referent groups. As research has demonstrated that different social groups may have different levels of influence on behaviour it is therefore useful to employ distinct measures for each key reference group. This work will consider subjective norms separately for family and friends. Similar distinctions have been drawn in applications of the TPB to adolescent substance use (Elek, Miller-Day, & Hecht, 2006; Kam, Matsunaga, Hecht, & Ndiaye, 2009) and single item measures of subjective norm have been utilised to compare the influences of peer,

parental and sibling norms on alcohol use and misuse of adolescents (Marcoux & Shope, 1997). Further expansions to the normative components of the TPB are discussed in the section considering expansion variables.

#### ***5.1.1.4 Perceived Behavioural Control***

PBC, the extent to which a person believes the behaviour is under his/her control (Ajzen, 1991), did not appear as a predictor in the TRA but was added in order to improve the prediction of intention and to allow the model to account for behaviours which do not fall entirely under volitional control (Ajzen, 1991) and so reduce the intention-behaviour gap. This inclusion of PBC has been supported as explaining additional variance in intentions and behaviour when the TRA components are controlled for (Armitage & Conner, 2001; Sheeran et al. 2003).

However the influence of PBC on intentions and behaviour as well as how PBC should be conceptualised and measured has been debated. The influence of PBC is expected to differ from one behaviour to another due to differences in volitional control (Ajzen, 1991) but this does not explain mixed findings in research regarding a single behaviour. With regards to the role of PBC in the prediction of intentions to binge drink and binge drinking behaviour some have found PBC to be negatively associated with frequency of binge drinking (Armitage et al., 1999; Norman et al., 1998; Norman & Conner, 2006) while others have found a positive association (Johnston & White, 2003; McMillan & Conner, 2003). Therefore the conceptualisation and measurement of PBC requires further consideration. While a number of research papers have argued for and presented evidence to support the inclusion of self-efficacy in the TPB (e.g. Norman & Conner, 2006; Norman, 2011) the description of PBC in the

TPB encompasses both beliefs about the level of control over the behaviour (i.e. the locus of control) and beliefs about possessing the skills and ability to produce the behaviour (i.e. self-efficacy) (Ajzen, 1991). This allows three possible approaches to the measurement of PBC: a single component measure of PBC taking into account both control beliefs and those regarding skills and abilities can be made. A second order measurement of control and self-efficacy as distinct factors underlying a higher order concept can be made or a two component approach measuring self-efficacy and perceived control and employing them as independent predictors. In order to establish the role of PBC in the prediction of student binge drinking this study will remain true to the conceptualisation of the PBC in the TPB measuring PBC as a single component employing 3 items drawn from Cooke, Sniehotta and Schüz (2007): 'For me to drink less than 4(females)/ 5(males) drinks in a single session in the next fortnight would be...1 (very difficult) – 7 (very easy)'; 'If I wanted to I could drink less than 4 (females)/ 5 (males) drinks in a single session in the next fortnight. Rated from 1 (definitely false) – 7 (definitely true)'; 'How much control do you believe you have over drinking less than 4 (females)/ 5 (males) drinks in a single session in the next fortnight? 1 (no control) – 7 (complete control)'. Such an approach has been shown to be as effective for the prediction of intentions and behaviour as a measure of self-efficacy (Armitage & Conner, 2001). However employing a mixture of item types, tapping different aspects of PBC has been considered to be a potential cause for the low internal reliabilities which are often reported for PBC (Conner & Norman, 2005). Therefore, should this approach prove to be effective then we can accept that a single component measure of PBC is appropriate for the prediction of students' intentions to binge drink and proceed to test its applicability to the prediction of behaviour.

However if the approach shows low internal reliability or the measure of PBC does not act as an effective predictor then a two component approach considering both behavioural control and self-efficacy as employed by Conner, Warren, Close, and Sparks (1999) will be adopted for the prospective work which follows.

### **5.1.2 Expansions to the Theory of Planned Behaviour**

The sufficiency of the TPB in predicting intentions and behaviour has received much research attention (for reviews see Armitage & Conner, 2001; Eagly & Chaiken, 1993). Ajzen himself states that the model is open to expansion if additional variables are shown to “capture a significant proportion of the variance in intention or behaviour after the theory’s current variables have been taken into account” (Ajzen, 1991 p. 199) and a number of additional components have been suggested and tested including descriptive norms (McMillan, & Conner, 2003), past behaviour (Norman & Conner, 2006) and anticipated regret (Cooke, Sniehotta, & Schütz, 2007). Variables which have been shown to provide potential improvement as expansions to the TPB will now be discussed. This study will take the first steps towards expanding the TPB for the prediction of student binge drinking behaviour by assessing correlations between these expansion variables and the existing TPB variables, examining additional predictors of intentions and moderators of the norm-intention relationship.

#### **5.1.2.1 Normative Influences**

Research studies and meta-analyses have identified the subjective norm – intention relationship as the ‘weak link’ in the TRA and TPB (Armitage & Conner, 2001; Terry & Hogg, 1996; White et al., 1994). Terry and colleagues (e.g. Terry & Hogg, 1996; Terry, Hogg & White, 1999; White et

al., 1994) suggest that this is due to the conceptualisation of normative influences and the norm-intention relationship. There are a number of methods by which the normative components of the TPB can be expanded, for example meta-analyses have shown the descriptive norm-behaviour relationship to be stronger than the injunctive norm-behaviour relationship (Manning, 2009), and have identified that moral norms explain an additional 3% of the variance in intentions (Rivis, Sheeran, & Armitage, 2009). Expansions to the normative component of the TPB will be discussed in more depth in the following subsections.

#### Descriptive norms

Descriptive norms have been found to explain an additional 5% of the variance in intentions after the TPB variables have been taken into account (Rivis & Sheeran, 2003). Despite this evidence for the role of descriptive norms and the fact that binge drinking generally occurs in social situations (Norman, Bennett & Lewis, 1998; Van Wersch & Walker, 2009) only a small number of studies investigating binge drinking have assessed both injunctive and descriptive norms (Cooke et al., 2007, Elliot & Ainsworth, 2012). These works have tended to find no significant contribution of either injunctive or descriptive norms to the prediction of intentions. However McMillan and Conner (2003) found that descriptive norms explained additional variance in intentions of students to use alcohol and tobacco and Jamison and Myers (2008) found that the drinking behaviour of friends significantly predicted intentions to drink and binge drinking with binge drinkers being influenced by peers and social-situational factors such as the size of the drinking group being important. These mixed findings indicate that further research is required to establish what if any role descriptive norms have in determining

students' intentions to binge drink and their binge drinking behaviour. Therefore in this work both injunctive and descriptive norms will be considered. However considering both injunctive and descriptive norms as separate influences requires additional participant time in questionnaire completion and a larger sample size to increase the power of statistical calculations especially where more than one referent group is to be considered. For this reason it is useful to be able to consider injunctive and descriptive norms as components of a single normative influence. This can be done in the form of group norms.

### Group Norms

Group Norms, a group held belief about how members should behave in a given situation, have been found to account for additional variance in intentions, particularly when individuals report high levels of identification with the referent group (Johnston & White, 2003; Terry & Hogg, 1996). These works used elicitation studies to identify the most relevant and salient referent group and then assessed the influence of group norm for this group only however as discussed in the section on subjective norms peer and parental influences have been found to be important in influencing drinking behaviour therefore influences for both friends and family will be considered in this work.

While Johnston and White (2003) used this measure in addition to a measure of subjective norm which referred generally to 'others who are important to me' it was considered that in this work utilising a separate measure of subjective norm and group norm for three individual referent groups would increase the demand on participant time and could lead to issues of common method variance. Additionally, as this measure of group norm includes both injunctive ("Think about your friends and peers at

University. How much would they agree that drinking five or more standard alcoholic beverages in a single session in the next two weeks is a good thing to do?" ) and descriptive components ("How many of your friends and peers at University would drink five or more standard alcoholic beverages in a single session in the next two weeks?") employing separate measures were considered unnecessary. This study will therefore measure group norm for friends and family employing injunctive components of group norm in the place of subjective norms.

Social Identity: In group Identification and In group belonging

Research into the influence of norms has demonstrated that it is not just the strength of norms which are important but also the level of identification with the referent group. Wilks, Callan and Austin (1989) found that perceived norms were highly predictive of alcohol consumption and that this relationship was strengthened when association to the referent group is strong. Social identity theory proposes that the normative behaviour of a reference group will influence an individual's behaviour only if they identify strongly with that group (Schofield, Pattison, Hill & Borland, 2001; Terry & Hogg, 1996; Terry et al., 1999). Research utilising measures of group norm along with in-group identification and in-group belonging have supported this finding that group norm predicted intentions only for those categorised as high identifiers (Terry & Hogg, 1996). In the field of binge drinking results are similar with Johnston and White (2003) finding that group norm predicted intentions to binge drink and that this relationship was strengthened when individuals reported identifying strongly with the reference group. This work will employ measures of identification and belonging for both friends and family.

## Perceptions of Others' Awareness of Drinking Behaviour

The effect of normative influences may be mediated by other factors. In light of findings that parental involvement can act as a barrier to alcohol use and binge drinking behaviour (Broadbear, O'Toole & Angermeier-Howard, 2000; Russell-Bennett, Hogan & Perks, 2010) and the fact that these behaviours have been shown to be more common place among individuals living away from their parents (Gfroerer, Greenblatt & Wright, 1997; Martin & Hoffman, 1993; Montgomery & Haemmerlie, 1993; Valliant & Scanlan, 1996) it can be theorised that perceived or actual parental awareness of child's drinking behaviour is moderating parental normative influences. Specifically lower parental involvement could serve to make parents less aware of their child's drinking behaviour and thus reduce the influence of parental norms on the drinking behaviour of students. Conversely with student drinking and binge drinking being predominantly social behaviours the peer group is likely to have a higher level of awareness of an individual's drinking behaviour making peer norms more influential. Therefore this research will measure perceived awareness of others regarding the individuals alcohol use by a single item 'In general my (family/friends) are aware of how much alcohol I drink' rated from 1 (strongly disagree) to 7 (strongly agree), for the two referent groups of 'family' and 'friends' to assess for possible moderating effects on normative influences.

## Moral Norm

Moral norms, measured by responses to items such as 'I personally think that (behaviour) is wrong'. And '(Behaviour) goes against my principles' (Godin, Conner, & Sheeran, 2005), have been shown to predict intentions but only for behaviours with a moral or ethical component (Beck & Ajzen,

1991; Kurland, 1995; Randall & Gibon, 1991). Whether or not alcohol use and binge drinking contain moral or ethical components is not particularly clear which may explain why few studies have assessed the role of morale norm in binge drinking. McMillan and Conner (2003) found that moral norms did not explain additional variance in intentions to use alcohol and smoke tobacco over and above that explained by the TPB suggesting it may not be an appropriate addition. In light of the limited research considering the role of moral norm and drinking behaviour this study will consider moral norms as an additional predictor of students' intentions to binge drink.

#### ***5.1.2.2 Past Behaviour and Habit***

While past behaviour and habit are distinct from one another distinctions do not tend to be drawn in the research literature with the terms habit and past behaviour being used almost interchangeably (Conner & Armitage, 1998) therefore the potential influence of these concepts will be addressed simultaneously here.

Although Ajzen (1991) argues that influence of past behaviour on future behaviour should be mediated by the TPB variables, several studies have assessed the role of either past behaviour or habit in the TPB (Bagozzi & Kimmel, 1995; Godin, Valois, Jobin, & Ross, 1991; Godin, Valois, & Lepage, 1993; Norman & Smith, 1995). A review conducted by Conner and Armitage (1998) found past behaviour accounted for an additional 7.2% of the variance in intentions and 13% of the variance in behaviour, supporting the argument for the inclusion of past behaviour or habit in the TPB. Aarts, Verplanken and van Knippenberg (1998) built on previous findings suggesting that for infrequently performed behaviours past behaviour moderates the relationships between the TPB variables but for

frequently performed behaviours the role of past behaviour will be increased with the TPB variables having little influence on the prediction of behaviour because these behaviours fall under habitual control and the individual will utilise simple decisional pathways rather than the more complex deliberative ones set out in the TPB (Aarts et al. 1998). In the binge drinking literature this has been supported by the findings of Gardner, de Bruijn, and Lally, (2012) who found that habit predicted behaviour directly and also acted to strengthen the intention-behaviour relationship with those who showed strong intentions also holding strong habits.

The findings regarding habit and past behaviour present a strong argument for the inclusion of these factors in an expanded model of the TPB. However what has not been well established in the research is the distinction between habit and past behaviour with the two terms being used almost interchangeably. In line with Gardner (2012) the empirical work will distinguish between frequency of past behaviour and habit, which will be considered in terms of autonomy, in order to assess the potential that they have distinct roles in influencing behaviour and intention. Habit will be measured by the 12 item Self-Report Habit Index (Verplanken, & Orbell, 2003) (items include '(Behaviour) is something I do frequently'; (Behaviour) is something I do automatically) with past behaviour being measured by items referring to the frequency of binge drinking, drinking game participation and the AUDIT C (3 items e.g. 'How often do you have a drink containing alcohol?'). Analyses will assess both independent prediction of intentions and behaviour and the potential that these variables act as moderators of the intention - behaviour relationship.

### ***5.1.2.3 Affect and Anticipated Regret***

Previous research has shown that affect can act as a determinant of attitudes and intention (Triandis, 1977; van der Pligt & de Vries, 1998). While measurement of attitude in the TPB draws on the expected outcomes of behaviour it has tended to focus on instrumental attitudes and overlook affective evaluations. It has been suggested that the attitude component of the TPB should be expanded to consider both instrumental and affective attitudes (Ajzen & Fishbein, 2005) and some TPB studies have found that such measures are effective (Norman, 2011; Norman & Conner, 2006). However other studies have identified the role of anticipated regret in the prediction of intentions (Parker, Manstead, Stradling, Reason, & Baxter, 1992; Parker et al., 1995; Richard, van der Pligt, & de Vries, 1995, 1996a, 1996b) including studies considering alcohol use (Richard et al., 1996b) and binge drinking (Cooke, Sniehotta & Schüz, 2007).

In line with Richard et al. (1996b) this work will employ a measure of anticipated regret using items similar to those used to tap attitude and employing items based on those used by Cooke, Sniehotta and Schüz (2007) to tap both regret (e.g. 'In the next week, I would feel regret if I drank more than 5/4 standard drinks in a single session') and emotional upset (e.g. 'In the next week I would feel upset if I drank more than 5/4 standard drinks in a single session'). Further to this it will follow the example of Norman and colleagues (Norman, 2011; Norman & Conner, 2006) in utilising items to tap both affective (e.g. 'consuming 4 / 5 standard drinks or more in a session in the next fortnight would be...' rated from 1 (enjoyable) – 7 (unenjoyable)) and instrumental (e.g. 'consuming 4 / 5 standard drinks or more in a session in the next fortnight would be...' rated from 1 (Good) – 7 (Bad)) attitudes and combine these to

form the attitude measure utilised. As the findings of study 1 demonstrated that drinking and binge drinking were considered to be a part of the student experience and university life to be enjoyed while they had the chance, it can be proposed that students may also regret not binge drinking. Therefore this work will consider the influence of anticipated regret not just in terms of active binge drinking, but also in terms of not binge drinking.

#### ***5.1.2.4 Optimistic Bias***

Optimistic bias is the tendency of individuals to perceive themselves as being less at risk of the negative consequences or health risks associated with a behaviour, and more likely to experience the positive consequences, than their peers or the 'average' person (Weinstein, 1980). Weinstein (1984) proposed measures such as 'Compared to other students in the U.S., my chances of getting HIV/AIDS later in life are...' rated from -3 (much less) to +3 (much greater) (Chapin, 2000). The importance of researching optimistic bias stems from the idea that where an individual perceives themselves as immune to the risks of a behaviour they will be less open to health messages and less likely to change their behaviour to avoid risks (Shepherd, 1999). Optimism bias has been demonstrated with regards to a variety of behaviours (see for examples Windschitl, 2002; Burger and Burns, 1988; Nandedkar, & Midha, 2012) including student alcohol use (Wild, Hinson, Cunningham, & Bacchiochi, 2001; Dillard, Midboe, & Klein, 2009). Specifically student drinkers identified as 'at risk' have been found to hold optimistic biases about their chances of experiencing alcohol-related harm, while those classified as not-at-risk did not (Wild et al., 2001), optimistic bias has been found to predict the experience of more negative consequences of alcohol use

(Dillard, Midboe, & Klein, 2009) and perceived vulnerability to negative consequences has been shown to be related to the adoption of health protective behaviours (Wild, et al., 2001).

A number of studies have considered optimistic bias as an expansion to the TPB with some studies finding that optimistic bias influences intention indirectly through attitudes (Chan, Wu, & Hung, 2010) and others finding it acts as an additional direct predictor of intention (Hamilton, & Schmidt, 2014). How optimistic bias influences behaviour is therefore unclear, and the fact that this construct has been shown to be related not just to engagement in risk behaviours but also to the experience of negative consequences means that it is an area requiring further investigation. Further complications stem from the fact that pessimism as well as optimism have been related to risk behaviours with Chapin (2001) finding that individuals who are pessimistic about achieving life goals are more likely to engage in risk behaviours.

This work will focus on the role of optimism rather than pessimism. Measures employed will rely on negative consequences of alcohol use identified in the focus group discussions conducted in study 1 (specifically be a victim of crime or violence, to lose personal possessions (e.g. phone, money, coat), to suffer an injury, to be involved in crime after drinking to get drunk, to suffer from liver problems in your life time) with participants rating their chances of experiencing these outcomes in comparison to other students. In addition to this as Study 1 demonstrated that students felt their risk of experiencing long term negative consequences of alcohol use was reduced because they were only planning to maintain these behaviours while they were students this work will seek to address whether individuals perceive themselves as less at risk than other

students and whether they perceive students to be less at risk than the general population (e.g. How likely are students to be a victims of crime or violence when drunk?)

### **5.1.3 Distal Predictors**

Correlational works have identified a number of socio demographic and personality characteristics which relate to binge drinking behaviour. Such factors appear in the TPB as distal predictors either influencing attitude, subjective norm or PBC or the relative influence of the TPB components on behaviour. This latter effect is supported by empirical work which has shown individual differences to influence the relative weights of the predictors in the TPB (Trafimow & Finlay, 1996; Ravis, Sheeran, & Armitage, 2009) but these effects are small.

#### ***5.1.3.1 Socio-Demographic Characteristics***

##### University Year

Past research conducted in the U.S. and the U.K. has shown that alcohol consumption and binge drinking peak in the first year of university (Bewick, et al., 2008; Engs & Hanson, 1993) with studies from the U.S. showing that the same is true for participation in drinking games (Engs & Hanson, 1993). The qualitative work conducted in study 1 supports this with students in years two and three of study at university reporting that they played drinking games and went out more in their first year of university. Differences by year group in self-reported drinking behaviour will be assessed in order to offer further support for these findings.

##### Accommodation and Living Arrangements

As indicated in the literature review living arrangements during the university period has been shown to be related to alcohol use. Research

from the U.S. has found that students who live in on-campus residence halls or sorority or fraternity housing report drinking more than those who live either off-campus or with their parents (Gfroerer, Greenblatt & Wright, 1997; Martin & Hoffman, 1993; Montgomery & Haemmerlie, 1993; Valliant & Scanlan, 1996). However this relationship could be altered if halls of residence are 'dry' with residents of substance free residence halls being at lower risk of problematic alcohol use (Ham & Hope, 2003; Wechsler et al., 2002). This work will seek to assess if similar relationships between students' living arrangements and drinking behaviour are apparent in an English student population.

#### Gender

Gender differences in alcohol use and binge drinking have consistently been identified with males reporting drinking more and more regularly than women, showing more incidences of binge drinking (Naimi et al., 2003; Wechsler et al., 1994) and reporting more drunkenness days per year than women (Makela & Mustonen, 2000). In the U.S. gender differences have been found to be consistent across all age groups and across Black, Hispanic, and non-Hispanic White populations (Jackson, William, & Gomberg, 1998) and appear in student samples as well as those considering the wider population (Ham & Hope, 2003) with males consistently drinking more heavily and frequently than females and being more likely than women to report binge drinking and experiencing negative consequences of alcohol use. Further to this male students have been found to be more likely to meet criteria for alcohol use disorders and to maintain and persist in an alcohol diagnosis than women (Knight et al., 2002).

Differences in alcohol use between males and females can be seen to be related to differences in how they respond to and metabolise alcohol with women having smaller volumes of body water (Cole-Harding & Wilson, 1987) and lower levels of alcohol dehydrogenase in their stomachs (Parlesak, Billinger, Bode & Bode, 2002) which result in higher blood alcohol concentrations (BACs) and could influence them to drink less (York & Welte, 1994). However these small biological differences struggle to account for the large differences in drinking behaviour shown in statistics. Further explanation can be seen in norms and social roles relating to alcohol use. Specifically females perceive stronger sanctions against their drinking and getting drunk (Blume, 1991) and gender roles for men tend towards the externalisation of stress which can manifest as increased drinking while for women they encourage the internalisation of stress (Ham & Hope, 2003).

However in recent years there has been a rise in alcohol use and binge drinking among females, particularly in the 16-24 year age category which has led to a closing of this gender gap and a decrease in males of this age group reporting binge drinking (Johnston, O'Malley, Bachman & Schulenberg 2010). Changes in gender based drinking norms, specifically the fact that perceived social sanctions against female drinking have been diminishing since the 1970s (Greenfiel and Room, 1997) are generally credited with being responsible for the reduction in the gender gap in drinking behaviours as they have removed protective factors which had previously restricted female drinking behaviour.

This work will consider gender differences in drinking behaviour and intentions to binge drink in the next two weeks in order to identify whether a gender gap in alcohol use is still present.

## Ethnicity

Research has identified a number of differences in binge drinking behaviour across ethnic groups. In Naimi et al.'s (2003) work although white participants accounted for 78% of all binge drinking episodes, hispanics showed the highest rate of binge drinking episodes per person per year while blacks reported the lowest rates averaging less than five episodes per person per year. In general Asians tend to show low rates of alcohol consumption and binge drinking, for example Cranford et al. (2006) estimate the prevalence of binge drinking to be 60.7% among whites but only 33.2% in Asians. Cooke and colleagues (2005) explain that this may be due to the prevalence of the aldehyde dehydrogenase gene, which can produce severe negative reactions to even moderate doses of alcohol, in the Asian population. Similar results have been shown in student populations in the U.S. with O'Malley and Johnston (2002) finding that among college students Caucasians had the heaviest drinking rates and African-Americans the lowest with Hispanics falling between the two. While Johnston et al. (2010) showed that among 12<sup>th</sup> grade high school students African-American students were much less likely to report occasions of heavy drinking (13%) as their White (28%) or Hispanic (22%) peers. Ethnic differences have also been found with regards to the experience of negative alcohol consequences. For example, Ham and Hope (2003) found that Asian-American and African-American students had the lowest reports of negative consequences from drinking, while Native and Anglo Americans experienced the most negative consequences.

This work will consider differences by ethnicity in drinking behaviour and intentions to binge drink in the next two weeks.

## Religiosity

Many studies have identified religion as a protective factor against alcohol use (Cherry, 1991; Durkin et al., 1999; Engs and Hanson, 1985; Miller & Garrison, 1982; Patock-Peckham, Hutchinson, Cheong & Nagoshi, 1993; Slicker, 1997) with non-religious students reporting significantly higher drinking frequency and quantity and more occasions of getting drunk than their religious counterparts. Among those reporting religious affiliation Jews have been found to have the highest drinking rates followed by Catholics and Protestants (Carlucci et al., 1993, Mullen, Blaxter & Dyer, 1986). Religion is thought to bring about its protective effects by imposing social sanctions against alcohol use and particularly drinking to excess. Chawla, Neighbors, Lewis, Lee, and Larimer (2007) identified that religion may have an indirect effect on alcohol use acting through attitudes towards alcohol use while religious family background and having religious peers can act through subjective norms as it can drive the perceived approval of referent others.

While biological differences can offer some explanation for ethnic differences in alcohol use and binge drinking they do not explain all the between groups differences. Research has therefore sought to establish whether religious beliefs can offer further explanation for the established ethnic differences in alcohol use. Heath et al. (1999) found that among adolescent girls African-American individuals reported lower rates of teenage drinking, stronger religious values and greater religious involvement than those of European or other descent. However when religious values and involvement were controlled for the ethnic differences in rates of teenage drinking was removed confirming that some ethnic differences in alcohol use are due to differences in religious

involvement between groups. Further to this different factors of religion have been shown to act as predictors of alcohol use for different ethnic groups. Brown, Parks, Zimmerman and Philips (2001) found that in black adolescents attendance at religious services was the best predictor of alcohol use but for their white counterparts fundamentalism was more important. With regards to problem drinking frequency of prayer was the most effective predictor among black adolescents but perceived importance of religion was more effective for their white peers.

This study will consider differences by religion in self-reported drinking behaviour and intentions to binge drink in the next two weeks.

### ***5.1.3.2 Personality Characteristics***

#### **Impulsivity**

Impulsivity is a predisposition to rapid unplanned reactions or a tendency to act with less forethought than do most individuals (Mobini, Pearce, Grant, Mills, & Yeomans, 2006). Extensive literature has pointed to a link between impulsivity and alcohol use (for a review see Verdejo-Garcia, Lawrence & Clark, 2008) with impulsivity being identified as a risk factor for heavy drinking (Cammatta & Nagoshi, 1995; Ichiyana & Kruse, 1998). However the relationship between impulsivity and alcohol use is not straight forward. While impulsivity is a risk factor for heavy drinking, heavy drinking has also been shown to trigger impulsive behaviour (Jentsch & Taylor 1999; Goldstein & Volkow 2002). Studies focusing on dependence to alcohol have also identified more long term changes in impulsivity with increased levels of dependence resulting in lower levels of self-control (Koob & LeMoal 1997). A genetic contribution to the action of impulsivity as a risk factor for problem drinking behaviour has been identified (Slutske et al, 2002) with similar patterns being found for other risk behaviours.

This means that it is unclear whether impulsivity is a genuine risk factor for alcohol use and binge drinking or just a co-occurrence with a genetic predisposition towards these behaviours. This work will assess the potential of impulsivity as an expansion variable to the TPB considering correlational relationships between sensation seeking and the TPB variables and testing it as an additional predictor of intentions.

### Sensation Seeking

Impulsivity is related to the concept of sensation seeking, a personality trait associated with seeking out varied, novel, complex and intense experiences and being ready to take risks for the sake of these experiences, has also been found to be associated with alcohol use and binge drinking. Sensation seeking has been related to heavy episodic drinking and a range of alcohol related risk behaviours such as drink driving (Arnett, 1996; Zukerman, Buchsbaum & Murphy, 1980; Zukerman, 1994) as well as participation in drinking games (Johnson & Cropsey, 2000). Andrew and Cronin (1997) found that the relationship between alcohol use and sensation seeking is accounted for by the need for intensity of stimulation. The relationship with drinking games has also been shown to differ by gender with high sensation seeking males being more likely to experience negative alcohol-related consequences from playing drinking games while in women heavy-drinking players showed high sensation seeking but heavy-drinking non-players did not (Johnson & Cropsey, 2000). This study will assess the potential of sensation seeking as an expansion variable to the TPB considering correlational relationships between sensation seeking and the TPB variables and testing it as an additional predictor of intentions.

## BIS BAS

In the early 1980s Gray (1981) proposed a personality theory based around two systems, those of Behavioural inhibition (BIS) and Behavioural Activation (BAS). According to Gray the BAS is associated with sensitivity to reward and non-punishment while the BIS is linked to sensitivity to punishment and non-reward. Each system is also associated with particular feelings, BAS with hope, elation and happiness and BIS with fear, anxiety, frustration and sadness. Individuals with high BAS sensitivity tend to be impulsive, extrovert sensation seekers while those high on BIS sensitivity tend to score highly on neuroticism and introversion but low on extroversion and impulsivity (Gray, 1981; Hagopian & Ollendick, 1994; Torrubia, Avila, Molto & Caseras, 2011). Research has linked BIS/BAS scores to drinking behaviour. Individuals with high BAS sensitivity have stronger desires to consume alcohol and an over active BAS in combination with an underactive BIS is predictive of high frequency and quantity of alcohol use (Genovese & Wallace, 2007; O'Connor & Colder, 2005; Pardo, Aguilar, Molinuevo & Torrubia, 2007). Further findings explain how BIS/BAS sensitivity might contribute to different drinking motives. While BIS sensitivity alone has not been associated with alcohol use itself it does relate to drinking to relieve negative affect or physical withdrawal (Jimenez, Grana, Montes & Rubio, 2009) and drinking for conformity and coping reasons (O'Connor & Colder, 2005), BAS sensitivity on the other hand has been related to drinking for enhancement, social and coping reasons (O'Connor & Colder, 2005). Finally links have been drawn between BIS/BAS and alcohol consequences with Wardell, Read and Colder (2013) finding that BIS and BAS sensitivities interact to influence the relationship between mood and alcohol consequences and BIS sensitivity being related to alcohol-related consequences (Feil &

Haskings, 2008). This work will assess the potential of BIS/BAS scores to act as a potential expansion to the TPB by considering correlational relationships to the TPB variables and testing it as an additional predictor of intentions

#### **5.1. 4 Definitions of Binge Drinking**

As discussed in the literature review multiple definitions of binge drinking have been suggested and applied in the research and health literature with a definition of binge drinking as being the consumption of 4 standard drinks for a woman and 5 standard drinks for a man on a single occasion becoming popular and widely applied in research considering student drinking behaviour. Therefore this definition was selected as the most appropriate to employ in the original research conducted within this thesis. However the qualitative work conducted for study 1 of this thesis identified that students' consider binge drinking to be drinking to get drunk, and similar findings have been reported by other researchers (e.g. Bonar et al. 2012). Thus presenting a strong argument for the utilisation of 'drinking to get drunk' as the definition of binge drinking. While this definition would represent student's opinions and understanding regarding binge drinking it presents a number of difficulties for use in quantitative work predominantly because it is open to interpretation. Firstly the amount of alcohol consumed for an individual to get drunk would vary from one individual to another meaning that for some participants this definition would be representative of harmful or hazardous drinking but for others it would not. Therefore employing a definition of drinking to get drunk cannot be relied upon to identify the consumption of a high volume of alcohol in a short space of time, the behaviour which this thesis set out to explore. Further to this one

individual may consider drinking to get drunk as being drinking only to the point of being able to feel the effects of alcohol while others may interpret it to mean drinking to a higher level of intoxication, such as to the extent that they become incapacitated. This means that a definition of 'drinking to get drunk' is likely to capture a range of drinking behaviours with a range of outcomes in terms of intoxication level. Finally because a definition of drinking to get drunk focuses on the intention behind drinking alcohol there may be occasions where an individual sets out with the intention to get drunk but does not actually achieve a state of drunkenness. Whether or not such situations would be considered binge drinking is left open to the interpretation of the individual if a definition of binge drinking as 'drinking to get drunk' is employed. For these reasons the definition of binge drinking to get drunk was not adopted for this thesis.

While a definition of binge drinking as 'drinking to get drunk' is not appropriate for the following quantitative research previous qualitative research has found that drinkers are likely to reject definitions of binge drinking that do not fit with their own understanding and experience of the behaviour (Workman, 2001) and also to reject health messages based around such definitions (Workman, 2001). Therefore differences in understanding of the term binge drinking could be contributing to the limited effectiveness of intervention and prevention efforts if drinkers reject them because they do not reflect their own drinking behaviour. For this reason this study will assess whether definitions of binge drinking as drinking 5/4 standard drinks or more on a single occasion and drinking to get drunk are quantitatively different and capture different drinking behaviours.

### **5.1.5 Hypotheses**

#### Comparing Definitions

Students will self-report significantly more occasions of consuming 5/4 standard drinks or more in a single session than occasions of drinking to get drunk in the past two weeks.

Students will self-report significantly stronger intentions to consume 5/4 standard drinks or more in a single session in the next two weeks than to drink to get drunk in the next two weeks.

#### Year Differences

There will be significant year differences in drinking behaviour with first year students scoring more highly on AUDIT C and reporting more occasions of binge drinking and drinking to get drunk than will second and third year students

#### Gender Differences

There will be significant gender differences in drinking behaviour with male students scoring more highly on the AUDIT C, reporting more occasions of binge drinking defined as drinking 5/4 drinks or more on a single occasion and more occasions of drinking to get drunk in the past two weeks compared to female students.

#### Predicting Student Binge Drinking

The TPB variables, namely attitude, subjective norm for family, subjective norm for friends and perceived behavioural control, will predict students' self-reported intentions to binge drink, defined as drinking 5/4 standard drinks or more in the next two weeks.

## Expanding the Theory of Planned Behaviour

Expansion variables will correlate significantly with at least one of the TPB variables, namely intentions to binge drink, attitude, subjective norm for friends and family and perceived behavioural control specifically:

Personality characteristics in the form of impulsivity, sensation seeking and BIS/BAS, will show significant correlations to the antecedents of intentions: attitudes, subjective norms and PBC.

Past behaviour, habit, optimistic bias, anticipated regret for binge drinking, anticipated regret for avoiding binge drinking, group norm for family and group norm for friends will show significant correlations to intentions to binge drink in the next two weeks.

Expansion variables will act as additional predictors of intentions to binge drink in the next two weeks. Specifically:

Past behaviour, habit, optimistic bias, anticipated regret for binge drinking, anticipated regret for avoiding binge drinking, group norm for family and group norm for friends will act as significant additional predictors of intentions to binge drink in the next two weeks.

Personality characteristics in the form of impulsivity, sensation seeking and BIS/BAS, will not act as significant additional predictors of intentions to binge drink in the next two weeks.

Age will not act as an additional significant predictor of intentions to binge drink in the next two weeks.

## Moderating the Norm-Intention Relationship

Perceived referent others' awareness of individuals' drinking behaviour and identification with the referent group will moderate the relationship between group norms and intentions to binge drink.

## Predicting Drinking Game Participation

Self-reported frequency of participation in drinking games will be predicted by the self-reported importance of motives (to get drunk, to meet other people, to control others, or to get someone else drunk) to participate in drinking games.

## 5.2 Method

This study received ethics approval from the School Ethics Committee. A copy of the ethics application can be seen in Appendix N.

The study began with a small pilot aimed at refining the questionnaire and this was followed by the data collection proper. Therefore in this section the piloting procedure and post pilot revisions will be discussed before the main study.

### 5.2.1 Pilot

#### 5.2.1.1 Design

A prospective design was employed with participants completing two self-report questionnaires two weeks apart.

#### 5.2.1.2 Participants

Eight third year psychology undergraduate students (4 male, 4 female) aged between 20-35 years ( $M= 23.25$ ,  $SD= 5.258$ ) were recruited through

posters (Appendix O) displayed in the foyer of the psychology building with 7 going on to complete the time two questionnaire two weeks later.

### ***5.2.1.3 Procedure***

Students interested in participating in this part of the study contacted the researcher via email and were sent a copy of the time 1 information sheet (Appendix P) detailing the nature of the study. Those who were still interested in taking part then arranged times to complete the two questionnaires.

At time 1 pilot participants were provided with a copy of the time 1 questionnaire (Appendix Q) along with an information (Appendix P) and debrief sheets (Appendix R). Participants then completed the questionnaire with the researcher timing how long questionnaire completion took. Once completed participants had the opportunity to provide verbal feedback directly to the researcher, or written feedback, about the questionnaire, information and debrief sheets indicating any typographical errors, ambiguities or items which were difficult to complete. Once participants had completed the questionnaire and provided feedback they placed the complete questionnaire into a sealed deposit box and were provided with a further debrief to take away with them. At time 2 (two weeks after time 1) the same procedure was followed with participants completing and providing feedback on the time 2 information sheet (Appendix S) time 2 questionnaire (Appendix T) and time 2 debrief (Appendix U). At this time participants were also provided with a prize draw entry form (Appendix V) to complete and return if they chose to.

#### **5.2.1.4 Measures**

The time 1 questionnaire comprised a total of 148 items which are detailed below, a full copy of the questionnaire can be found in Appendix Q.

**Demographic information:** Items detailing age, gender, ethnicity, religion and living arrangements at university.

**Academic information:** Items detailing subject, year and time commitment of the course each participant was enrolled on at university was requested.

**AUDIT:** Past drinking behaviour and problematic alcohol consumption were assessed using the ten item Alcohol Use Disorders Identification Test (Saunders, Aasland, Babor, De La Fuente & Grant, 1993).

Theory of Planned Behaviour Variables

**Attitude:** Following Norman and Conner (2006) attitude towards binge drinking was measured by 5 semantic differentials. Participants responded to the statement 'consuming 5/4 standard drinks or more in the next fortnight would be... (Bad/Good, Foolish/Wise, Harmful/Beneficial, Pleasant/Unpleasant, Enjoyable/Unenjoyable) on a scale of 1 (bad, foolish, harmful, pleasant, enjoyable) to 7 (good, wise, beneficial, unpleasant, unenjoyable) with scales labelled at the end points only.

**Subjective Norm:** Following Johnston and White (2003) subjective norm was measured by 3 items ('If I drank 5/4 standard drinks or more in a single session in the next 2 weeks my ..... would: 1(approve)-7(disapprove)', 'My ..... think that my drinking 5/4 or more standard drinks in a single session in the next 2 weeks would be: 1 (undesirable)-7

(desirable)', 'My ..... think that I should/should not drink 5/4 or more standard drinks in a single session in the next 2 weeks: 1(should)-7(should not)') each for family and friends. Scales were labelled at the end points only.

**PBC:** In line with Cooke and Sheeran (2004) and Norman and Conner (2006) PBC was measured by 3 seven point Likert Scales ('For me to drink less than 4(females) / 5(males) drinks in a single session in the next fortnight would be (1, very difficult to 7, very easy), 'If I wanted to I could drink less than 4 (females)/ 5 (males) drinks in a single session in the next fortnight (1, definitely false to 7, definitely true)' and 'How much control do you believe you have over drinking less than 4 (females)/ 5 (males) drinks in a single session in the next fortnight? (1,no control to 7, complete control)' with all scales being labelled at the end points only.

**Intention:** Intentions were assessed for both drinking 5/4 standard drinks or more in the next two weeks and drinking to get drunk in the next two weeks. Measured by 4 seven point likert scales ('I intend/want/plan/expect to drink 4 / 5 standard drinks or more in one session in the next 2 weeks'; 'I intend/want/plan/expect to drink to get drunk in the next 2 weeks'. Scales were labelled at the end points only.

Expansion Variables

**Descriptive Norms:** As in Johnston and White (2003) descriptive norms were tapped by 2 items ('How many of (significant others) would drink 5/4 standard alcoholic beverages or more in a single session in the next 2 weeks?' (from 1(none) to 7 (all)) 'What percentage of (significant others) do you think would drink 5/4 standard alcoholic beverages or more in a

single session in the next two weeks' (from 1 (0%) to 7 (100%)) each for family, friends, and peers at university.

**Group Norm:** The items utilised to measure descriptive and subjective norms were drawn from Johnston and White's (2003) measure of group norms therefore could be combined to create a measure of group norm for family and friends.

**In group Identification:** In line with Johnston and White (2003) in group identification was measured by 4 items each for family, friends and peers at university ('How much do you feel you identify with .....? from 1 not very much to 7 very much' 'With respect to your general attitudes and beliefs, how similar do you feel you are to .....? From 1 very dissimilar to 7 very similar', 'Think about who you are. How important is being a member of your ....? from 1 very important to 7 very unimportant', 'How much do you feel strong ties with your .....? from 1 very much to 7 not very much').

**In group belonging:** In line with Johnston and White (2003) in group belonging to family, friends and peers at university were assessed by 2 items (In general, how well do you feel you fit into your .....?' and 'How much do you see yourself belonging to your.....?' rated from 1 not very well to 7 very well) for family group, group of friends and group of peers at university), scales were labelled at the end points only.

**Moral Norm:** Measured by 3 items, adapted from Godin, Conner, and Sheeran (2005), which required participants to rate (from 1 strongly disagree to 7 strongly agree) how strongly they agree or disagree with the statements 'I would feel guilty if I drank 5/4 standard drinks or more in a

single session', 'I personally think that drinking 5/4 standard drinks or more in a single session is wrong.', 'Drinking 5/4 standard drinks or more in a single session goes against my principles.' Scales were labelled at the end points only.

**Past Behaviour:** Two methods of assessing past behaviour were utilised, first 3 items tapped past drinking behaviour. Two items from the AUDIT ('How often do you have a drink containing alcohol? Rated from Never - 5 or more times a week', 'How many standard drinks do you have on a typical day when you are drinking? Rated from 1 - 7 or more' with the option to tick to indicate if they do not drink) and an additional item 'At what age did you first have an alcoholic drink, a whole alcoholic drink not just a sip?' (With the option to tick to indicate if they have never had a drink). Secondly a habit approach to the measurement of past behaviour was adopted utilising 4 items: 'How many days in the previous two weeks did you drink 4/ 5 standard drinks or more?', 'How many times have you been drunk in the last two weeks?', 'How long is it since you last drank 4(females) / 5 (males) standard drinks or more?', 'Which nights do you drink 4(females) / 5 (males) standard drinks or more every week?'.

**Past Drinking Game Participation:** 1 fixed response item assessed whether participants had ever played a drinking game (Have you ever played a drinking game in your life-time? (yes/no). A further item assessed how often participants played drinking games 'Please tick the statement that best describes how often you take part in drinking games?' (from 1, never to 7, a few times a week). Motivations for playing drinking games were assessed by 4 items participants were asked to 'please rate how important the following reasons for playing drinking games are to you.'

For 'to get drunk', 'to meet other people', 'to control others' and 'to get someone else drunk'. Responses were from 1 (not at all important) to 7 (very important) with scales labelled at the end points only.

**Habit Strength:** The 12 item Self Report Habit Index (Verplanken & Orbell, 2003) assessed habit strength. Participants were asked to how much they agreed with the statements: Drinking 5/4 standard drinks or more in one session is something (1) I do frequently (2) I do automatically (3) I do without having to consciously remember (4) that makes me feel weird if I do not do it (5) I do without thinking (6) that would require effort not to do it (7) that belongs to my weekly routine (8) I start doing before I realize I'm doing it (9) I would find hard not to do (10) I have no need to think about doing (11) that's typically "me." (12) I have been doing for a long time. Scored from 1 (strongly disagree) to 7 (Strongly Agree).

**Anticipated Regret:** Anticipated regret was assessed for both drinking more than 5/4 standard drinks and drinking less than 5/4 standard drinks in a single session in the next two weeks. Measured by responses to 2 items for each behaviour 'In the next week, I would feel regret if I drank more/less than 5/4 standard drinks in a single session' and 'In the next week, I would feel upset if I drank more/less than 5/4 standard drinks in a single session rated from 1 (definitely no) to 7 (definitely yes).

**Optimistic Bias:** Measured by responses to 10 items derived from the focus group data. 5 items focused on individuals' perceived likelihood of experiencing particular outcomes and 5 items focused on perceived likelihood of students experiencing the same outcomes. Outcomes assessed were 'to be a victim of crime or violence', 'to lose personal possession', 'to suffer an injury', 'to be involved in crime', 'to suffer from

liver problems in their life time'. Responses were on a 7 point scale from 1 (not at all likely) to 7 (extremely likely) with scales labelled at end points only.

**Commitment to Aspects of University:** Measures of the importance of different factors to life at university were drawn from Wechsler et al. (1995). Participants rated how important parties, nights out, athletics or sports, religion and academics were to their life at university. Importance was rated on a scale from 1(not important at all) to 7 (very important) with scales being labelled at end points only.

Personality Characteristics

**Impulsivity:** Assessed by the Barret Impulsivity Scale, BIS 11 version (Patton & Stanford, 1995). This scale comprises 30 items (e.g. I plan tasks carefully; I do things without thinking; I make-up my mind quickly), participants are asked to rate each statement according to how often it is true to them on the scale: 1 (rarely/never), 2 (Occasionally), 3 (Often) 4 (Always/Almost Always).

**Sensation Seeking:** Assessed by the BSSS-8, Brief Sensation Seeking Scale (Hoyle, Stephenson, Palmgreen, Lorch & Donohew, 2002). This scale comprises 8 Items (e.g. I would like to explore strange places; I get restless when I spend too much time at home; I like to do frightening things), participants are asked to rate how strongly they agree or disagree with each statement on a scale from 1(Strongly Disagree) to 5 (Strongly Agree).

**BIS/BAS:** Carver and White's (1994) BIS/BAS self report scales were used to assess behavioural approach and behavioural inhibition sensitivity. This measure includes 24 items (e.g. A person's family is the most important

thing in life; Even if something bad is about to happen to me, I rarely experience fear or nervousness; I go out of my way to get things I want.), participants are asked to rate how true each statement is to them on a scale of: 1 (very true for me), 2 (somewhat true for me), 3 (somewhat false for me), 4 (very false for me).

The time 2 (Appendix T) questionnaire comprised five items to measure intentions and behaviour.

**Intentions:** Intentions to binge drink in the next two weeks were assessed by 4 seven point likert scales ('I intend/want/plan/expect to drink 4 / 5 standard drinks or more in one session in the next 2 weeks')

**Behaviour:** was measured by a single item, 'How many days in the previous two weeks did you drink 4/ 5 standard drinks or more?'

### **5.2.2 Post Pilot Revisions**

The primary issue raised from piloting was that the questionnaire took approximately thirty minutes to complete. The researcher took into account that participants may become bored and not complete the questionnaire if it took too long or may not take part if the study was seen to take up too much of their time. This was thought to be even more important because students are requested to complete numerous questionnaires and surveys in their day to day university life. It was therefore decided to reduce the length of the questionnaire by:

The 10 item AUDIT measure was replaced by the three item AUDIT C.

Removing one of the items which related to past drinking behaviour (At what age did you first have an alcoholic drink, a whole alcoholic drink not just a sip (tick if have not)) which assessed past drinking behaviour was removed as it would prove difficult to combine with other measures of past behaviour and assessed a different aspect of past drinking behaviour namely introduction to alcohol. It was considered that this area was not able to be assessed in depth (i.e. when, where and how were you introduced to alcohol) and there for would be better placed to be considered in a more focused study perhaps utilising a qualitative methodology.

Reducing the items relating to habit based measure of past drinking behaviour, removing three items (“How many times have you been drunk in the last two weeks?”, “How long is it since you last drank 4(females) / 5 (males) standard drinks or more?”, “Which nights do you drink 4(females) / 5 (males) standard drinks or more every week?“. ) to one which would focus on past binge drinking behaviour (‘How many days in the previous two weeks did you drink 4/ 5 standard drinks or more?’). This was considered acceptable because the SRHI was already being utilised to assess habit.

Replacing the 30 item BIS 11 with the shorter 15 item version

Assessing optimistic bias specifically in terms of how the risk to the individual compared to their peers rather than the perceived level of risk to students in comparison to the general population.

To remove items relating to commitment to different aspects of university life with the potential for including these in Study 3 should some of the

potential predictors prove to be non-significantly related to intentions to binge drink.

Because changes were made to the components of the questionnaire (including the addition of 1 item and the removal of several) the pilot participants were not included in the data analysis for the cross-sectional study.

### **5.2.3 Main Study**

#### ***5.2.3.1 Design***

A cross-sectional design was employed with participants completing only the time 1 questionnaire.

#### ***5.2.3.2 Participants***

A total of 117 (38 male, 79 female) undergraduate students aged between 18 and 60 years ( $M= 20.97$ ,  $SD = 1.68$ ) were recruited from teaching sessions held in the schools of psychology, law and maths, including both lectures and seminars. The sample represented a relatively diverse student group with participants being drawn from several different areas and years of study and reporting a range of living situations, however part time students were under represented with only one participant reporting studying part time (4 did not report).

All participants had the opportunity to enter a prize draw to win £100 of shopping vouchers.

Subject and Year

Participants were studying one of 7 core subjects a breakdown of subject of study can be seen in Table 5.2.1

Table 5.2.1

Participants' core subject of study

Subject	Year (N)				Missing	Total
	1	2	3	4		
Psychology	7	32	4	0	1	44
Maths	0	22	15	1	0	38
Law	8	11	1	0	1	21
Natural Science	0	0	2	0	0	2
Economics	0	4	2	0	0	6
Environmental Sciences	0	3	0	0	0	3
Medicine	3	0	0	0	0	3
Total	18	72	24	1	2	117

### Housing

Students predominantly lived in shared houses but reported living in a range of different accommodation and living arrangements.

### Religion and Ethnicity

The majority of participants were White British and reported having no religious beliefs however the sample also included individuals of other European ethnic origin and individuals of African and Asian descent.

Quaker, Christian, Sikh and 'Jedi' religious groups were also represented in the sample.

A detailed breakdown of participants' demographic details can be seen in Table 5.2.2

Table 5.2.2:

## Participant demographics

Demographic		N
Housing	Halls	14
	Shared house	90
	with parents	7
	Rented house	1
	Own house	2
	With partner	3
Religion	No religion	76
	Christian	36
	Christian and Sikh	1
	Jedi	1
	Quaker	1
	DNR	2
Ethnicity	White British	101
	White Irish	2
	White Scottish	2
	White and black African	1
	White and Asian	1
	Chinese	2
	White German	1
	White Hungarian	1
	White European	1
	White Polish	1
DNR	4	

**5.2.3.3 Procedure**

The researcher introduced herself and the research to potential participants and distributed questionnaire packs, containing an information sheet, questionnaire, debrief sheet and prize draw entry form along with an envelope for the completed questionnaire and prize draw form, throughout the teaching room. Those students who were willing and able to participate were asked to take a questionnaire pack and were then able to complete the questionnaire at a time and place of their convenience. Completed questionnaires and prize draw forms were returned to a sealed deposit box placed in the foyer of the psychology

building or one made available in the same teaching sessions two weeks later.

#### **5.2.3.4 Measures**

The original questionnaire measures and post pilot revisions made to the questionnaire were set out in the previous section regarding the piloting for this study. The full revised questionnaire can be found in Appendix W.

#### **5.2.3.5 Scale reliability**

With the exception of PBC ( $\alpha = .463$ ) the reliability of all scales was acceptable with alpha values ranging between .603 and .981 Further assessment of the PBC items indicated that item 1 'Drinking less than 5/4 standard drinks would be very difficult/very easy' was reducing the reliability of the scale, this item was removed resulting in a scale composed of two Items ( $\alpha = .648$ ). Further to this the reliability for the four sub scales of the sensation seeking measure were found to have low to acceptable reliability( $\alpha = .678, .465, .612, .603$ ) therefore it was decided to consider sensation seeking as a whole using the total scale score which produced a more reliable measure ( $\alpha = .785$ ). All alpha values can be found in Appendix X.

### **5.3 Results**

#### **5.3.1 Assessment of normality**

As shown by the histograms presented in Figures 5.3.1 to 5.3.5, the quantitative data was not normally distributed. While measures of binge drinking behaviour, alcohol use, attitudes and norms showed high levels of homogeneity and positive skew the dependent variable of intentions to binge drink showed heterogeneity with three distinct peaks for those who did not intend to binge drink in the next two weeks, those with moderate

intentions to binge drink and those with strong intentions to binge drink. As a result the data display high levels of skew and kurtosis meaning that they do not meet the assumption of normality required for parametric testing.

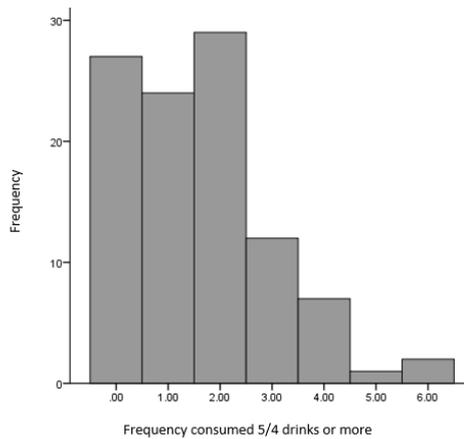


Figure 5.3.1: Distribution of self-reported binge drinking in the past 2 weeks

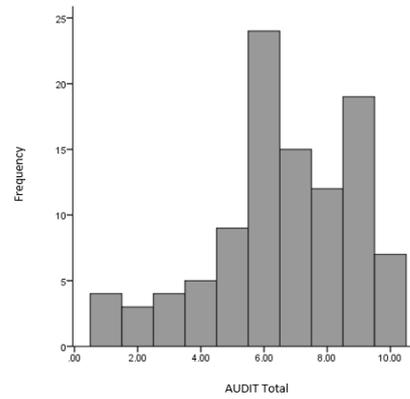


Figure 5.3.2: Distribution of AUDIT Total scores

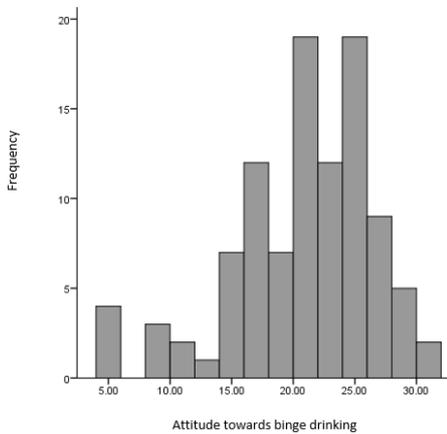


Figure 5.3.3: Distribution of attitude towards binge drinking

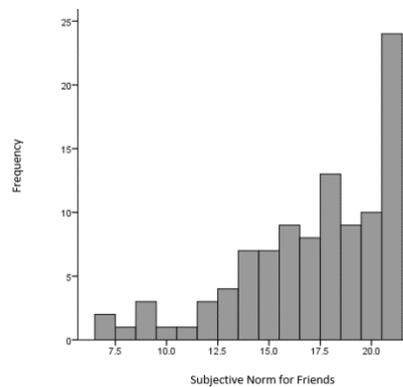


Figure 5.3.4: Distribution of subjective norm for friends

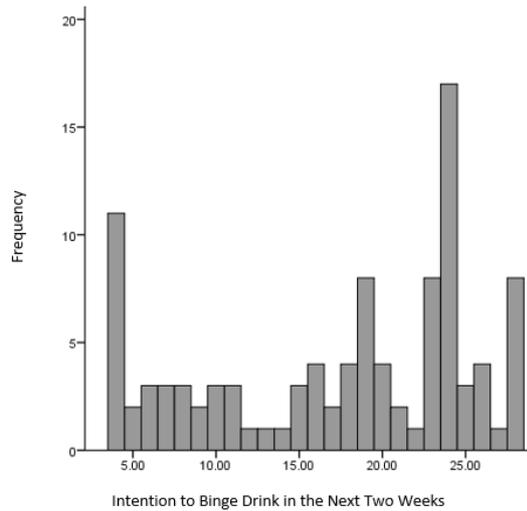


Figure 5.3.5: Distribution of Intentions to Binge Drink in the next Two Weeks

Full results of assessment of normality can be found in Appendix Z.

Because of this the decision was taken to conduct non-parametric tests where possible and maintain the data in its original form. Although these tests are less robust than their parametric equivalents the level of transformation and adjustment required to bring the data into the realms of normal distribution would have reduced the validity of results and thus their applicability and generalizability to the wider student population therefore conducting non-parametric analysis was considered to be more appropriate and beneficial.

With regards to descriptive statistics means, standard deviations and percentages, where appropriate, will be reported for participants' drinking behaviour. Values accompanying further tests will be medians for non-parametric tests and means for parametric tests. A more in depth summary of participants' drinking behaviour including both means and medians can be found in Appendix Y.

### **5.3.2 Drinking Behaviour**

Mean AUDIT C score was 6.71 (SD=2.29) AUDIT C indicated that 85.5% of participants (89.5% of males and 83.5% of females) meet the AUDIT C criteria for problematic drinking with 82.1% (86.8% of males and 79.7% of females) meeting the higher cut off proposed by Rumpf, Hapke, Meyer and John (2002).

On average participants reported 1.84(SD=1.79) occasions of binge drinking (defined as the consumption of 5/4 standard drinks or more on a single occasion) in the two weeks before data collection with 69.2% of participants binge drinking at least once in the past 2 weeks. Rates of drinking to get drunk were slightly lower with participants reporting an average of 1.38 (SD= 1.67) occasions of drinking to get drunk in the two weeks preceding data collection and 59.8% drinking to get drunk at least once in the past 2 weeks.

### **5.3.3 Comparing Definitions**

A Wilcoxon signed-ranks test showed that frequency with which students reported binge drinking defined as the consumption of 5/4 standard drinks or more was significantly different to the frequency with which they report binge drinking defined as drinking to get drunk ( $Z = -5.16, p < .001$ ) with median occasions of consumption of 5/4 drinks or more in a single session in the past two weeks (2.00, range = 9.00) being greater than median occasions of drinking to get drunk in the past two weeks (1.00, range = 9.00). A high number of tied cases occurred in the Wilcoxon test therefore despite the data showing high levels of skew and kurtosis a parametric equivalent was utilised to support the Wilcoxon results. A paired samples t-test supported the results of the Wilcoxon signed-ranks test showing a significant difference between the that frequency with

which students reported binge drinking defined as the consumption of 5/4 standard drinks or more and the frequency with which they report binge drinking defined as drinking to get drunk ( $t(108) = 5.91, p < .001$ ) with mean occasions of consumption of 5/4 drinks or more in a single session in the past two weeks (1.79, SD = 1.73) being greater than the mean occasions of drinking to get drunk in the past two weeks (1.36, SD= 1.64).

A paired samples t-test found that Intentions to drink to get drunk ( $m = 15.99, SD = 8.618$ ) were found to be significantly weaker than intentions to drink 5/4 standard drinks or more in the next two weeks ( $m = 16.889, SD = 8.389$ ) ( $t(116) = 3.117, p = .002$ ).

### 5.3.4 Year differences

Contrary to predictions alcohol consumption increased with university year. Table 5.3.1 displays a year by year break down of mean and median AUDIT C scores, self-reported occasions of binge drinking and self-reported occasions of drinking to get drunk in the last two week.

Table 5.3.1  
Participants drinking behaviour by year group

Year	AUDIT C		Binge		Drunk	
	Mean (SD)	Median (range)	Mean (SD)	Median (range)	Mean (SD)	Median (range)
1	5.22 (2.05)	6.00 (7.00)	1.44 (1.85)	1.00 (8.00)	0.89 (1.88)	0.00 (8.00)
2	6.94 (2.15)	7.00 (9.00)	1.82 (1.39)	2.00 (5.00)	1.33 (1.19)	1.00 (5.00)
3	7.24 (2.41)	8.00 (7.00)	2.14 (2.54)	1.00 (9.00)	1.90 (2.49)	1.00 (9.00)

Kruskal-Wallis tests revealed significant differences between year groups for AUDIT C scores ( $H(2) = 10.60, p = .005$ ) but not for frequency of binge drinking ( $H(2) = 2.34, p > .05$ ) or drinking to get drunk ( $H(2) = 5.35, p > .05$ )

in the past 2 weeks. Post Hoc comparisons showed that AUDIT C scores were significantly different between 1<sup>st</sup> year and 2<sup>nd</sup> year students ( $U(84) = 306.00, Z = -3.24, p = .001$ ) and 1<sup>st</sup> year and 3<sup>rd</sup> year students ( $U(38) = 106.50, Z = -2.35, p = .019$ ) but not 2<sup>nd</sup> year and 3<sup>rd</sup> year students ( $U(87) = 650.5, Z = -.527, p > .05$ ). Fourth years were excluded from analysis due to the small number of participants in this group.

### 5.3.5 Gender Differences

Table 5.3.2

Descriptive statistics for drinking behaviour by gender

Measure	Median (range)	
	Male	Female
AUDIT C	8.00 (7.00)	7.00 (9.00)
N. Days Binge Drank	2.00 (6.00)	1.50 (9.00)
N. Days Drank to get Drunk	1.00 (5.00)	1.00 (9.00)

Male students scored more highly on the AUDIT C, and reported more occasions of binge drinking, but not of drinking to get drunk, in the past two weeks than did female students (Table 6). However Kruskal-Wallis tests revealed no significant gender differences in either AUDIT total ( $H(1) = 2.78, p > .05$ ) frequency of binge drinking in the past two weeks ( $H(1) = 0.17, p > .05$ ) or drinking to get drunk in the past two weeks ( $H(1) = .501, p > .05$ )

### 5.3.6 Predicting Intentions: The Theory of Planned Behaviour

Bivariate correlations of intention with subjective norm for family, subjective norm for friends, PBC and attitude are presented in Table 7. All bivariate correlations can be found in Table 5.3.3.

Table 5.3.3

Scale Descriptive Statistics and Pearson parametric correlation analysis

	Mean (SD)	Subjective Norm Family	Subjective Norm Friends	PBC	Attitude
Intention to binge drink	17.08 (8.23)	.516**	.493**	-.305**	.763**
Subjective Norm Family	9.96 (3.85)		.258*	-.210*	.525**
Subjective Norm Friends	17.03 (3.67)			-.004	.523**
PBC	12.99 (1.40)				-.220*
Attitude	19.83 (6.34)				

\*Significant at .05 level

\*\*Significant at .001level

Bivariate correlations demonstrate significant positive correlations of attitude, subjective norm for family and subjective norm for friends with intentions to binge drink in the next two weeks with medium to large effect sizes. While PBC showed a significant negative correlation with a moderate effect size.

Multiple regression analysis assessed the predictive validity of the TPB with regards to students' intentions to drink 5/4 standard drinks or more on a single occasion in the next two weeks. Cooks distance indicated 3 outliers from the model with Cooks D values greater than .1 (ID 56, 13 and 122). These cases were removed from the data for this analysis.

Subsequently the data met the assumptions of regression, assessment of the normal p-Plot and the scatter plot (Appendix A1) showed data met the assumptions for normal distribution of residuals and homoscedasticity respectively. All tolerance values were above .5 and VIF vales were all less than 2 indicating the data did not show multi-colliniarity.

The model was significant ( $F(4,105) = 45.34, p < .001, R^2 = .633$ ) with the TPB variables accounting for 63.3% of the variance in intentions to binge drink, defined as drinking 5/4 standard drinks or more in a single session, in the next two weeks. Attitude ( $\beta = .57, t(109) = 7.17, p < .001$ ), subjective norm for friends ( $\beta = .16, t(109) = 2.22, p = .028$ ), subjective norm for family ( $\beta = .14, t(109) = 2.05, p = .043$ ) and PBC ( $\beta = -.15, t(109) = -2.41, p = .018$ ) all acted as significant predictors with attitude towards binge drinking contributing most strongly to the prediction of intentions to binge drink in the next two weeks.

### **5.3.7 Expanding the TPB**

Correlation analysis was used to assess the viability of potential expansion variables, Bivariate correlations are presented in Table 5.3.4. Correlations of potential expansion variables to intentions to drink 5/4 standard drinks or more in a single session, attitude, subjective norm for family, subjective norm to friends and PBC were considered. Significant correlations were identified for past binge drinking behaviour, past involvement in drinking games, habit score for binge drinking, descriptive norms for family and friends drinking, in group identification and belonging with the friendship group at university, moral norm towards binge drinking behaviour, anticipated regret of both drinking more and drinking less than 5/4 standard drinks in a single session, impulsivity and sensation seeking indicating that they have potential to contribute further to the prediction of binge drinking behaviour.

BIS BAS measures did not show significant correlations with intentions to binge drink, attitudes, subjective norm for family or friends, or past behaviour however BIS score did show a significant correlation to PBC.

Similarly optimistic bias measures showed no significant correlations to any of the TPB variables or to past behaviour.

Forward enter multiple regression was used to assess the hypothesis that:

Past behaviour, habit, optimistic bias, anticipated regret for binge drinking, anticipated regret for avoiding binge drinking, group norm for family and group norm for friends will act as significant additional predictors of intentions to binge drink in the next two weeks.

Personality characteristics in the form of impulsivity, sensation seeking and BIS/BAS, will not act as significant additional predictors of intentions to binge drink in the next two weeks.

Age will not act as an additional significant predictor of intentions to binge drink in the next two weeks.

Age and Impulsivity did not significantly correlate to intentions to binge drink in the next two weeks (Table 5.3.4) therefore they were excluded from the analysis. Cooks distance indicated 3 outliers to the regression model (ID=56, Cook's D = .113; ID=31, Cook's D =.088; ID=23, Cook's D = .079) (Appendix A1) these were removed from the analysis.

Table 5.3.4  
Spearman's Rho Bivariate Correlations

	Frequency 5/4	Frequency Drinking to get Drunk	Habit	Frequency Drinking games	Attitude	Subjective Norm Family	Family Awareness	Group Norm Family
AUDIT	.653*** N=108	.601*** N=108	.673 *** N=108	.649 *** N=107	.668*** N=108	.382*** N=108	.019 N=108	.401*** N=107
Frequency 5/4		.901*** N=111	.539*** N= 111	.532*** N=110	.457*** N=111	.296** N=111	.004 N=111	.317*** N=110
Frequency drinking to get Drunk			.472*** N=111	.443*** N=110	.341*** N=111	.210* N=111	.003 N=111	.213* N=110
Habit				.323*** N=115	.511*** N=117	.463*** N=116	-.023 N=116	.450*** N=115
Frequency Drinking games					.522*** N=115	.226* N=114	-.029 N=114	.221* N=113
Attitude						.483*** N=116	-.076 N=116	.449*** N=115
Subjective Norm Family							.312*** N=116	.959*** N=115
Family Awareness								.305*** N=115

\*\*\* Significant at .001 \*\*Significant at .005\*Significant at .05

	In-Group ID Family	In-Group Belonging Family	Subjective Norm Friends	Friends Awareness	Group Norm Friends	In-Group ID Friends	In-Group Belonging Friends	PBC	Moral Norm
AUDIT	-.007 N=108	-.030 N=108	.475*** N=107	.122 N=107	.515*** N=107	.435*** N=107	.362*** N=108	-.086 N=107	-.323*** N=108
Frequency 5/4	.138 N=111	.069 N=111	.343*** N=110	.020 N=111	.363*** N=110	.295** N=110	.239* N=111	-.360*** N=110	-.305*** N=111
Frequency Drinking to get Drunk	.160 N=111	.127 N=111	.222* N=110	-.073 N=110	.246* N=110	.290** N=116	.186* N=111	-.405*** N=110	-.217* N=111
Habit	.091 N=117	.039 N=117	.431*** N=114	.080 N=111	.444*** N=114	.290** N=116	.269** N=117	-.134 N=116	-.358*** N=116
Frequency Drinking games	.158 N=115	.158 N=115	.506*** N=112	.152 N=113	.515*** N=112	.464*** N=114	.489*** N=115	-.006 N=114	-.228* N=114
Attitude	.012 N=117	-.038 N=117	.520*** N=114	-.037 N=115	.547*** N=114	.465*** N=116	.276** N=117	-.014 N=116	-.495*** N=116
Subjective Norm Family	-.220* N=116	-.275** N=116	.236* N=114	-.066 N=115	.243** N=114	.035 N=115	.020 N=116	-.178 N=115	-.369*** N=116
Family Awareness	-.076 N=116	-.112 N=116	.148 N=114	.147 N=115	.171 N=114	-.175 N=115	-.126 N=116	.015 N=115	.006 N=116

\*\*\* Significant at .001 \*\*Significant at .005 \*Significant at .05

	In-Group ID Family	In-Group Belonging Family	Subjective Norm Friends	Friends Awareness	Group Norm Friends	In-Group ID Friends	In-Group Belonging Friends	PBC	Moral Norm
GN Family	-.229*** N= 115	-.279*** N=115	.273** N=113	-.001 N=114	.271** N=113	.048 N=114	.029 N=115	-.179 N=114	-.333*** N=115
IGID Family		.907*** N=117	.187* N=114	.060 N=115	.199* N=114	.119 N=116	.142 N=117	.226* N=116	.077 N=116
IGB Family			.159 N=114	.250 N=115	.153 N=114	.127 N=116	.160 N=117	.248* N=116	.058 N=116
SN Friends				.270** N=114	.983*** N=114	.386*** N= 113	.315*** N=114	.020 N=113	-.296*** N=114
Friends Awareness					.239* N=114	.339*** N=114	.399*** N=115	.017 N=114	.034 N=115
Group Norm Friends						.385*** N=113	.303*** N=114	.044 N=113	-.307*** N=114
IGID Friends							.825*** N=116	.026 N=115	-.290** N=115
IGB Friends								.087 N=116	-.195* N=116
PBC									-.076 N=115

\*\*\*

Significant at .001 \*\*Significant at .005\*Significant at .05

	Intention 5/4		Anticipated Regret (drinking more)		Anticipated Regret (drinking less)		Optimistic Bias		Sensation Seeking		Impulsivity		BIS	BAS
AUDIT	.791***	N=108	-.499***	N=108	.237*	N=108	-.102	N=107	.255*	N=108	.384***	N=102	-.036 N=108	.039 N=95
Frequency 5/4	.592***	N=111	-.402***	N=111	.035	N=111	.023	N=110	.160	N=111	.299**	N=105	-.057 N=111	.081 N=98
Frequency Drunk	.524***	N=111	-.261*	N=111	.044	N=111	.101	N=110	.098	N=111	.294**	N=105	-.074 N=111	.096 N=98
Habit	.555***	N=117	-.537***	N=116	.365***	N=116	-.046	N=114	.242*	N=117	.373***	N=109	.040 N=117	.152 N=104
Frequency Drinking games	.606***	N=115	-.371***	N=114	.086	N=114	-.122	N=112	.139 N=115		.283**	N=107	-.062 N=115	.130 N=102
Attitude	.756***	N=117	-.670***	N=116	.286**	N=116	-.164 N=114		.300*** N=117		.283**	N=109	.072 N=117	.049 N=104
Subjective Norm Family	.504***	N=116	-.322***	N=116	.277**	N=116	-.146	N=114	.258**	N=116	.130	N=109	-.090 N=116	.026 N=103
Family Awareness	-.003	N=116	.088	N=116	.177	N=116	.133	N=114	.067	N=116	-.038	N=109	.027 N=116	-.049 N=103
Group Norm Family	.499***	N=115	-.318***	N=115	.201*	N=115	.133	N=114	.277** N=115		.158	N=108	-.104 N=115	.071 N=102

\*\*\* Significant at .001 \*\*Significant at .005 \*Significant at .05

	Intention 5/4	Anticipated Regret (drinking more)	Anticipated Regret (drinking less)	Optimistic Bias	Sensation Seeking	Impulsivity	BIS	BAS
In-Group ID Family	.074 N=117	-.075 N=116	-.147 N=116	-.171 N=113	-.297*** N=117	-.098 N=109	.037 N=117	.189 N=104
In-Group Belonging Family	.032 N=117	-.089 N=116	-.231* N=116	.242* N=114	-.269** N=117	-.173 N=109	-.052 N=117	.143 N=104
Subjective Norm Friends	.483*** N=114	-.362*** N=114	.047 N=114	-.023 N=112	.114 N=114	.206* N=108	.074 N=114	.127 N=101
Friends Awareness	-.024 N=115	.134 N=115	.041 N=115	-.094 N=113	-.111 N=115	-.221* N=108	-.020 N=115	-.060 N=102
Group Norm Friends	.510*** N=114	-.374*** N=114	.078 N=114	-.008 N=112	.145 N=114	.234* N=108	.100 N=114	.133 N=101
In-Group ID Friends	.445*** N=116	-.339 N=114	1.85* N=115	-.150 N=113	.136 N=116	.065 N=109	-.101 N=116	.113 N=103
In-Group Belonging Friends	.359*** N=117	-.236* N=116	.157 N=116	-.261** N=114	.167 N=117	.025 N=109	-.122 N=117	.174 N=104
PBC	-.042 N=116	-.079 N=115	-.005 N=115	-.091 N=113	-.081 N=116	-.061 N=108	.259** N=116	.069 N=103

\*\*\* Significant at .001 \*\*Significant at .005\*Significant at .05

	Intention 5/4	Anticipated Regret (drinking more)	Anticipated Regret (drinking less)	Optimistic Bias	Sensation Seeking	Impulsivity	BIS	BAS
Moral Norm	-.458*** N=116	.483*** N=116	-.211* N=116	.247* N=114	-.276** N=116	-.156 N=109	.075 N=116	-.099 N=103
Intention 5/4		-.589*** N=116	.304*** N=116	-.103 N=114	.311*** N=117	.320*** N=109	-.055 N=117	.077 N=104
Anticipated Regret (drinking more)			-.181 N=116	.121 N=114	-.384*** N=116	-.214* N=109	.117 N=116	-.220* N=103
Anticipated Regret (drinking less)				-.165 N=114	.186* N=116	.140 N=109	.098 N=116	-.166 N=103
Optimistic Bias					-.038 N=114	.003 N=108	.177 N=144	-.028 N=101
Sensation Seeking						.451*** N=109	-.245* N=117	.306** N=104
Impulsivity							.026 N=109	-.017 N=96
BIS								-.006 N=104

\*\*\* Significant at .001 \*\*Significant at .005\*Significant at .05

Results showed the initial model to be significant with attitude, group norm for friends, and PBC initially acting as significant predictors ( $F(3,86) = 39.991, p < .001, R^2 = .582$ ). This model accounted for 58.2% of intentions to binge drink in the next two weeks. However the expanded model ( $F(5,84) = 39.793, p < .001, R^2 = .703$ ) was more effective accounting for 70.3% of the variance in intentions. Within the expanded model, past behaviour mediates the effects of both PBC and group norm for friends making their contributions non-significant and habit acted as an additional predictor of intentions (see Table 5.3.6).

Table 5.3.5

Correlations to time 1 intentions to binge drink in the next two weeks

Predictor	r	sig
Attitude	.731	.000
PBC	-.270	.005
Group Norm Family	.281	.004
Group Norm Friends	.490	.000
Habit	.727	.000
Moral Norm	-.689	.000
Anticipated Regret (drinking more than 5/4 drinks)	-.588	.000
Anticipated Regret (drinking less than 5/4 drinks)	-.238	.012
Sensation Seeking	.192	.035
Past Drinking Behaviour	.761	.000

Table 5.3.6

Contribution of predictors

Model	Predictor	R <sup>2</sup>	R <sup>2</sup> change	VIF	$\beta$	t	Sig
1	Attitude	.514	x		.731	10.057	.000
2	Attitude	.560	.046	1.330	.648	7.860	.000
	Group Norm Friends			1.330	.168	2.036	.045
3	Attitude	.582	.022	1.398	.605	7.345	.000
	Group Norm Friends			1.355	.193	2.383	.019
	PBC			1.052	-.167	-2.338	.022
4	Attitude	.609	.027	1.782	.403	4.992	.000
	Group Norm Friends			1.555	.048	.630	.531
	PBC			1.132	-.075	-1.166	.247
	Past Behaviour			1.996	.460	5.382	.000
5	Attitude	.703	.094	2.346	.313	3.434	.001
	Group Norm Friends			1.579	.066	.888	.377
	PBC			1.173	-.051	-.784	.435
	Past Behaviour			2.542	.371	3.915	.000
	Habit			2.776	.201	2.030	.046

### 5.3.8 Moderating the Norm – Intention Relationship

It was hypothesised that referent others' awareness of individuals' drinking behaviour and identification with the referent group would moderate the relationship between group norms and intentions to binge drink. Moderated regression was utilised to assess for these effects. To reduce the effects of multicollinearity variables were mean centred before

being utilised in these analyses. Table 5.3.7 displays correlations of predictors to intention.

Table 5.3.7  
Correlations with intentions to binge drink

Predictor	r	sig
Group Norm for Family	.265	.004
Group Norm for Friends	.530	.000
Family Awareness of Drinking	-.033	.373
Friends Awareness of Drinking	.001	.497
Identification with Family	.166	.049
Identification with Friends	.431	.000
Group Norm*Awareness Family	.257	.005
Group Norm*Awareness Friends	-.119	.119
Identification*Group Norm Family	.114	.129
Identification*Group Norm Friends	-.194	.026

The initial regression model ( $F(6,94) = 12.494, p < .001, R^2 = .444$ ) accounted for 44.4% of the variance in intentions to binge drink in the next two weeks with both normative components acting as significant predictors and perceived awareness of friends to drinking behaviour and identification with friends also acting as significant predictors. The moderated model ( $F(10,90) = 9.371, p < .001, R^2 = .510$ ) accounted for an additional 6.6% of the variance in intentions to binge drink in the next 2 weeks. However neither identification nor awareness acted to moderate

Table 5.3.8

## Contribution of predictors

Model	Predictor	R <sup>2</sup>	R <sup>2</sup> Change	VIF	β	t	Sig
1	Group Norm for Family	.444	X	1.041	.211	2.682	.009
	Group Norm for Friends			1.255	.418	4.850	.000
	Family Awareness of Drinking			1.156	-.015	-.180	.858
	Friends Awareness of Drinking			1.229	-.227	-2.664	.009
	Identification with Family			1.083	.026	.321	.749
	Identification with Friends			1.415	.375	4.097	.000
	2	Group Norm for Family	.510	.066	3.360	.480	3.546
Group Norm for Friends				1.710	.286	2.959	.004
Family Awareness of Drinking				1.248	.021	.258	.797
Friends Awareness of Drinking				1.286	-.239	-2.860	.005
Identification with Family				1.188	.098	1.221	.225
Identification with Friends				1.661	.435	4.570	.000
Group Norm*Awareness Family				1.416	.174	1.980	.051
Group Norm*Awareness Friends				1.422	-.078	-.892	.375
Identification*Group Norm Family				3.728	-.279	-1.959	.053
Identification*Group Norm Friends				1.711	-.034	-.352	.725

the influence of the normative components on intentions to binge drink in the next two weeks (Table 5.3.8)

### 5.3.9 Participation in Drinking Games

Correlational and regression analyses were utilised to test the hypothesis that participants' motives for taking part in drinking games would predict the frequency of participation in drinking games. Four motives were considered, playing drinking games to: get drunk; meet people; control others; get others drunk. Data was accepted as normally distributed (Zskewness = 0.487, Zkurtosis = 1.523). Cook's Distance indicated one potential outlier from the model, this participant's data were removed from this analysis (ID = 24, Cooks D = .114) (see Appendix A1).

Table 5.3.9

Pearson correlations to frequency of participation in drinking games

Predictor	R	Significance	Tolerance	VIF
To get drunk	.605	.000	.668	1.498
To meet people	.404	.000	.778	1.286
To control others	.183	.026	.899	1.112
To get others drunk	.417	.000	.842	1.188

Forward enter regression including only significant predictors showed the model to be significant ( $F(3,109) = 27.263, p < .001, R^2 = .429.$ ) predicting 42.9% of the variance in frequency of participation in drinking games. The motives 'to get drunk', 'to meet people' and 'to get others drunk' acted as significant predictors.

Table 5.3.10

Contributions of predictors of frequency of participation in drinking games

Predictor	$\beta$	t	Significance
To get drunk	.435	4.908	.000
To meet people	.177	2.130	.035
To get others drunk	.200	2.881	.005
To control others	-.013	-.176	.861

## 5.4 Discussion

### 5.4.1 Drinking Behaviour

The findings support previous evidence that binge drinking is normative among students (Norman, Bennett & Lewis, 1998; Webb et al., 1996; Marks Woolfson & Maguire, 2010) with almost 70% of the participants reporting binge drinking in the past 2 weeks. Further to this it supports previous evidence that student drinking is problematic (Jernigan, 2001; Knight et al. 2002) with over 80% of participants meeting the AUDIT C criteria for problematic drinking behaviour. In combination these findings show that student drinking remains problematic and that binge drinking remains common place among students, student drinking behaviour is therefore an area worthy of further research.

### 5.4.2 Comparing Definitions

The Qualitative work conducted in study 1 identified that students consider binge drinking to be drinking to get drunk. The data support the hypothesis that students will self-report significantly more occasions of consuming 5/4 standard drinks or more in a single session than occasions of drinking to get drunk in the past two weeks indicating that in general drinking to get drunk sets a higher threshold for a drinking occasion to be

classified as binge drinking than does the consumption of 5/4 standard drinks or more on a single occasion therefore individual students are likely to consider that they binge drink less frequently than will researchers employing the 5/4 drink measure.

#### **5.4. 3 Year Differences**

The findings regarding year differences in binge drinking fail to support the hypotheses that first year students will score more highly on AUDIT C and report more occasions of binge drinking and drinking to get drunk than will second and third year students. Contrary to previous research which has found alcohol consumption, binge drinking and drinking game participation to be more frequent among first year students (Bewick et al. 2008; Engs & Hanson, 1993) first year students were found to have significantly lower AUDIT C scores compared to second and third year students however no significant differences in the frequency of drinking 5/4 standard drinks or more in a single session or drinking to get drunk between the different year groups. The fact that AUDIT C scores but not self-reported frequency of drinking 5/4 standard drinks or more on a single occasion or drinking to get drunk show significant differences suggests that second and third year students are drinking more frequently or consuming more alcoholic units on each drinking occasion but are not binge drinking any more frequently than their first year peers.

These findings combined with the finding from study 1, that students perceive their drinking to peak in first year, suggest that students misperceive changes in their drinking behaviour over time. This could be symptomatic of students 'learning' how to drink large quantities while minimising the negative consequences of alcohol use (Demant & Järvinen 2010; Workman, 2001). Alternatively it could be that an increase in

drinking occasions but not in binge occasions leads to a misperception of binge drinking itself as less frequent. As a peak in alcohol use in first year students has been explained as a result of students' use of alcohol as a method to achieve social inclusion upon arrival at university (Bewick et al. 2008; Engs & Hanson, 1993), these findings suggest that either continued inclusion is dependent on continued alcohol use, or social inclusion alone is not an adequate explanation of high rates of alcohol use among students. As this finding contrasts with past research literature year differences will be reconsidered in study 3.

#### **5.4.3 Gender Differences**

The results showed no significant gender differences in AUDIT C scores, frequency of binge drinking in the past two weeks and frequency of drinking to get drunk in the past two weeks failing to support the hypothesis that when compared to female students, male students will score more highly on the AUDIT C, will report more occasions of binge drinking defined as drinking 5/4 drinks or more in the past two weeks and more occasions of drinking to get drunk in the past two weeks. This is in contrast to previous research which has documented consistent gender differences in drinking behaviour (Makela & Mustonen, 2000; Naimi et al. 2003; Wechsler et al. 1994) but supports evidence that this gender gap is closing, particularly among the 18-25 year age group (Johnston et al. 2010) demonstrating that in this sample the gender gap has closed beyond the point of statistical significance. However there were twice as many female participants in the sample and female drinking behaviour showed greater variance than that of males therefore results should be accepted with some caution. Gender differences will be given further

consideration in the prospective quantitative work conducted in study 3 of this thesis.

#### **5.4.3 Predicting Intentions: The Theory of Planned Behaviour**

The hypothesis that the TPB variables, namely attitude, subjective norm for family, subjective norm for friends and perceived behavioural control, will predict students' self-reported intentions to binge drink, defined as the consumption of 5/4 standard drinks or more, in the next two weeks was supported. All four constructs were found to act as significant predictors and explained a total of 63.3% of the variance in intentions. Attitude was the most effective predictor with subjective norm for friends, subjective norm for family and PBC showing much weaker relationships to intention.

Results regarding PBC support previous evidence that PBC relates negatively to binge drinking and alcohol use failing to support the findings of other studies that demonstrated a positive relationship (Johnston & White, 2003; McMillan & Conner, 2003). As this work assessed PBC regarding avoiding binge drinking a negative relationship to intentions to binge drink would be expected. However the measure of PBC utilised showed low internal reliability. This suggests that the items used to measure PBC were not measuring different aspects of a single construct but were in fact tapping two or more different constructs. Similar findings in other studies were noted by Conner and Norman (2005) and suggest that alternative methods such as considering control and self-efficacy separately (Norman & Conner, 2006; Norman, 2011) or considering controllability and self-efficacy as two components of one higher order construct (Ajzen, 1991) would be more appropriate.

Although the TPB model as a whole is supported the attitude component was found to make a much larger contribution to the prediction of intentions than any of the other constructs. There are two potential explanations for this, either as Ajzen (1991) suggested intention is predominantly determined by attitude, or the measurement and conceptualisation of normative influences and PBC need to be improved (Conner & Norman, 2005; Johnston & White, 2003; Terry & Hogg, 1996). The prospective work conducted in study 3 will consider alternative measures of PBC and normative influences in order to assess if this improves their predictive validity.

#### **5.4.4 Expanding the Theory of Planned Behaviour**

The results predominantly support the hypothesis that: Personality characteristics in the form of impulsivity, sensation seeking and BIS/BAS, will show significant correlations to the antecedents of intentions: attitudes, subjective norms and PBC; Also they support the hypothesis that past behaviour, habit, optimistic bias, anticipated regret for binge drinking, anticipated regret for avoiding binge drinking, group norm for family and group norm for friends will show significant correlations to intentions to binge drink in the next two weeks.

However optimistic bias scores were not found to correlate with any of the original TPB variables indicating that they would not operate as additional predictors or moderators of the TPB variables. Similarly BIS and BAS scores also failed to show significant correlations (with the exception of a single correlation between BIS and PBC). It was therefore decided to remove these measures from the questionnaire and not consider them further in this work. Impulsivity and sensation seeking both showed significant correlations to attitude, impulsivity also correlated to

subjective norm for friends while sensation seeking correlated to subjective norm for family. Measures of past behaviour, habit, anticipated regret for binge drinking, anticipated regret for avoiding binge drinking, group norm for family and group norm for friends all showed significant correlations to intentions to binge drink in the next two weeks indicating that they may act as additional predictors of intentions. These relationships were considered further in the regression analyses.

The regression results supported the hypotheses that: personality characteristics in the form of impulsivity, sensation seeking and BIS/BAS, will not act as significant additional predictors of intentions to binge drink in the next two weeks; age will not act as an additional significant predictor of intentions to binge drink in the next two weeks. Findings that age, impulsivity, sensation seeking and BIS/BAS do not act as additional predictors of intentions is in line with the TPB which states that demographic variables and personality characteristics should act as distal predictors of intention with their influences being mediated by attitudes, subjective norms and PBC (Ajzen 1991).

However the results only offered partial support for the further hypotheses that: past behaviour, habit, optimistic bias, anticipated regret for binge drinking, anticipated regret for avoiding binge drinking, group norm for family and group norm for friends will act as significant additional predictors of intentions to binge drink in the next two weeks. While the expanded model accounted for an additional 12.1% of the variance in intentions to binge drink in the next two weeks only past behaviour and habit were shown to act as additional predictors and the composite normative measures, including both descriptive and subjective norms, were found to be less effective predictors than the original

subjective norm measures. Further to this the inclusion of past behaviour in the expanded model was found to mediate the effect of both PBC and group norm for friends on intentions. The findings regarding the normative components support the conceptualisation of norms in the TPB model (Ajzen, 1991) and the findings of Cooke et al. (2007) and Elliot and Ainsworth (2012) who identified no significant contribution of descriptive norms to the prediction of intentions to binge drink. The findings regarding past behaviour and habit support previous findings (e.g. Ouellette, & Wood, 1998) that past behaviour will predict intentions. The fact that past behaviour mediates the PBC-intention relationship is considered to be due to the fact that past frequent repetitions of a behaviour will increase PBC with regards to that behaviour (Ajzen, 1991). The mediating effects on the relationship between group norm for friends and intention is more difficult to explain, however this could be a result of the fact that an individual's drinking behaviour is closely related to that of their peers (e.g. Jamison & Myers, 2008) which is supported by the strong positive correlation identified between the measures of group norm for friends and past drinking behaviour in this research.

#### **5.4.5 Moderating the Norm-Intention Relationship**

The hypothesis that: Perceived referent others' awareness of individuals' drinking behaviour and identification with the referent group will moderate the relationship between group norms and intentions to binge drink was not supported with neither identification nor awareness acting to moderate the influence of the normative components on intentions to binge drink in the next two weeks. The findings regarding identification fail to support the findings of previous research (e.g. Terry & Hogg, 1996; Johnston & White, 2003) which have shown identification to moderate the

norm-intention relationship for the most salient referent group. However perceived awareness of friends to drinking behaviour and identification with friends acted as significant predictors of intentions to drink 5/4 standard drinks or more in a single session in the next two week. Study 3 will seek to replicate these findings.

#### **5.4.6 Predicting Drinking Game Participation**

The hypothesis that: self-reported frequency of participation in drinking games will be predicted by the self-reported importance of motives (to get drunk, to meet other people, to control others, or to get someone else drunk) to participate in drinking games was supported. The self-reported importance of the motives 'to get drunk', 'to meet people' and 'to get others drunk' accounted for 42.9% of the variance in frequency of drinking game participation. All three predictors showed positive relationships with the motive 'to get drunk' showing the strongest relationship to the criterion variable. This supports the work of Borsari, Bergen- Cico and Carey (2003) as well as the findings of study 1 which revealed that drinking games were used by students as a method of getting drunk.

#### **5.4.6 Limitations**

The sample size achieved for this work was relatively small and the sample was not representative of the wider student population, including predominantly psychology undergraduate students, twice as many females as males and a majority of second year students. Therefore the findings should be treated with caution and need to be replicated with a larger more representative sample before they can be considered conclusive. Further to this homogeneity regarding religious affiliation and ethnicity meant that between groups analyses concerning religious and ethnic differences in drinking behaviour were not appropriate.

The findings regarding the TPB add weight to the argument that this model is effective for the prediction of student binge drinking. However as data was cross-sectional only the prediction of intentions could be tested. Therefore Study 3 will utilise a prospective method in order to assess the validity of the TPB model for the prediction of both intentions and behaviour.

Due to the cross-sectional nature of the research design it was not possible to test whether expansions to the TPB could contribute to the prediction of future binge drinking behaviour however this will be considered in the prospective work conducted in study 3.

### ***5.5 Conclusions***

While the results support previous evidence that alcohol use and binge drinking are common in student populations they fail to support previous findings regarding gender and year differences. This could be due to changes in drinking behaviour or potentially cross national differences which have not previously been identified due to the U.S. centric nature of the existing literature. However due to methodological issues these findings require replication.

The predictive validity of the TPB model is supported with regard to the prediction of students' intentions to binge drink in the next two weeks. However the expanded TPB model was shown to explain additional variance in intentions to binge drink in the next two weeks. Further to this the relationships of normative components and PBC with intentions were identified as being weaker than the attitude-intention relationship indicating that further consideration of the role of PBC and normative influences is required.

## 6 Study 3: Prospective Quantitative Work

### 6.1 Introduction

#### 6.1.1 The Theory of Planned Behaviour

As has already been discussed in the literature review and study 2 the TPB has been shown to have utility in the prediction of students' intentions to binge drink and students' binge drinking behaviour.

The findings of study 2 showed that attitudes, subjective norms and PBC all acted as significant predictors of intentions to binge drink. The findings supported previous research which has consistently shown attitudes to be effective predictors of intentions (Ajzen, 2011). Subjective norms have been found to be weaker predictor of intentions and the findings of study 2 reflect this with attitude ( $\beta = .57$ ) making a greater contribution to the prediction of intentions than either subjective norm for friends ( $\beta = .16$ ) subjective norm for family ( $\beta = .14$ ) or PBC ( $\beta = -.15$ ). This could be due to issues in the conceptualisation and measurement of these constructs (Ajzen, 2011). Expansions to the normative component of the TPB were considered in study 2, however the findings failed to support the role of descriptive norms and moral norms as predictors of intention to binge drink and in-group identification was not found to moderate the relationship between normative influences and intention. As these findings are contrary to a number of past research findings (e.g. Ravis & Sheeran, 2003 (descriptive norms), Beck & Ajzen, 1991; Kurland, 1995 (moral norms) Terry & Hogg, 1996 (in-group identification)) this study will consider these expansions to the normative component of the TPB further assessing their role in the prediction of intentions once again but also considering relationships of descriptive norms and moral norms to binge

drinking behaviour. Further to these findings, although PBC acted as a significant predictor of intentions the measure of PBC utilised showed low internal reliability suggesting that a single component approach is not appropriate. This issue will be addressed in this work and will be discussed now.

#### **6.1.1.1 PBC**

Although Ajzen (1991) argued that PBC should measure both control over behaviour and perceptions of possessing the skills and abilities necessary to complete a behaviour, single component measures have been shown to have limited validity in the prediction of intentions and behaviour (Armitage & Conner, 1999) and often show low internal reliability (Conner & Norman, 2005). Because of the limited success of PBC in past research this area has received a large amount of attention in the research literature.

The measure of PBC in study 2 employed measures of both control and ease/difficulty. Although PBC has been described both as an individual's perceptions about the level of control they have over a behaviour (Ajzen, 1991) and a person's beliefs regarding how easy or difficult a behaviour is (Ajzen & Madden, 1986) there is little support for these two factors being considered as components of a single construct. Control and difficulty have been shown to be unrelated to one another (e.g. Armitage & Conner, 1999) and to have independent associations to both intention and behaviour (e.g. Terry & O'Leary, 1995). Therefore the research evidence supports the consideration of control separately to difficulty.

Self-efficacy, the extent of one's belief in one's ability to complete a task, has been utilised as both an addition to the TPB (e.g. Norman, 2011) and as a replacement for PBC (e.g. de Vries et al., 1988). While self-efficacy is

distinct from locus of control (Bandura, 1992) it does include reflections on the ease or difficulty of enacting a behaviour, specifically in addition to measuring an individual's confidence in their ability to perform a behaviour (e.g. How confident are you that you could drink 5/4 standard drinks or more in a single session over the next 2 weeks (Norman, 2011)) they also include measures of perceived difficulty of performing a behaviour (e.g. If I wanted to, I could easily drink 5/4 standard drinks or more in a single session over the next 2 weeks (Norman, 2011)). If both self-efficacy and perceived control are to be measured there are two options for their conceptualisation in the TPB model: Perceived control and self-efficacy can be utilised as measures of second order constructs underlying a single higher order construct of PBC which reflects Ajzen's (1991) conceptualisation of PBC as considering both control over behaviour and perceptions of possessing the skills and abilities necessary to complete a behaviour; alternatively self-efficacy and perceived control can be measured separately and considered as separate constructs an approach which would be supported by Bandura (1992) who argued that locus of control and self-efficacy are disparate concepts. Drawing distinctions between control and self-efficacy has been more widely supported by empirical research (e.g. Armitage, 1997; Terry & O'Leary, 1995; White, Terry, & Hogg, 1994). Armitage and Conner (2001) report that generally self-efficacy shows a closer relationship to intentions and behaviour than do measures of controllability. However findings are mixed, regarding the prediction of behaviour studies demonstrating that self-efficacy but not PBC acts as a significant predictor (Norman & Conner 2006), that PBC but not self-efficacy acts as a significant predictor (Norman et al. 2007) and that neither PBC nor self-efficacy act as significant predictors (Norman, 2011) can all be found in the literature.

Similarly, for the prediction of intentions some researchers have identified effects of both PBC and self-efficacy (Norman & Conner, 2006; Marks Woolfson & Maguire, 2010) but others show a significant effect of self-efficacy only (Norman, 2011; Norman et al. 2007). Despite the fact that a combined measure of perceived control and self-efficacy would more accurately reflect Ajzen's (1991) description of PBC no studies combining these measures were identified by the researcher.

In light of findings suggesting that perceived control and self-efficacy are separate constructs this study will measure perceived control and self-efficacy separately, including only the influence of perceived control in the test of the original TPB model. However as Ajzen's description of PBC indicates that both control and efficacy beliefs should be included alpha values for scaling control and efficacy measures together will be considered and should they indicate internal reliability then a combined measure of control and self-efficacy will be utilised for tests of the expanded TPB. However should internal reliability be found to be low, perceived control and self-efficacy will be tested as individual variables.

### **6.1.2 Expanding the TPB**

The literature review and study two considered many additional predictors of intentions and behaviour. Study two showed that frequency of past behaviour (e.g. 'How often do you have a drink containing alcohol?') and habit (measured by the self-report habit index (Verplanken, & Orbell, 2003)) acted as additional predictors of intentions to binge drink. Further to this group norms for friends and family, moral norm, anticipated regret, sensation seeking and impulsivity correlated significantly with TPB variables and therefore could be effective expansion variables either as additional predictors or in the form of moderators or

mediators of the existing TPB variables thus indicating that they are worthy of further analysis. Discussion of these expansion variables and measures used can be found in the introduction to study 2, and the measures used in this study are detailed in the method section (6.2.4). This study also includes a number of further expansions to the TPB which will be discussed in more depth here.

#### ***6.1.2.1 Self-Identity***

The role of self-identity, the salient part of one's self which relates to a particular behaviour, can be used to predict behaviour but its effect is thought to differ dependent on the behaviour being considered. Self-identity has been shown to predict intentions (Sparks & Shepherd, 1992; Sparks, Shepherd, Wierings & Zimmermanns, 1995) for dietary behaviours, but to mediate the relationship between subjective norm and intention when applied to teaching individuals with disabilities (Theodorakis, Bagiatis & Goudas, 1995) and to predict behaviour when applied to exercise (Theodorakis, 1994). In addition self-identity theory proposed that the role of self-identity as a determinant of behaviour will increase (Charng et al., 1988) as repetitions of behaviour increase, this has been supported in the exercise literature (Theodorakis, 1994). Conner and Armitage (1998) reviewed six studies considering self-identity. Findings showed that self-identity explained on average a further 1% in intentions. The authors pointed to the variability in correlations with intention as supporting the fact that self-identity is important for specific behaviours only. Hagger, Anderson, Kyriakaki and Darkings (2007) investigated the role of personal identity for binge drinking, exercising and dieting and found it to influence PBC for all three behaviours and to have a negative

influence on attitude and subjective norm for binge drinking behaviour but not for exercising or dieting.

The evidence regarding self-identity is somewhat limited and therefore it is an area worthy of further consideration and will be included as a further expansion to the TPB in this study which will employ items (e.g. 'I see myself as a person who drink 5/4 standard drinks or more in a single session') adapted from Gardner, de Bruijn and Lally (2012) in order to refer to binge drinking behaviour.

#### ***6.1.2.2 Social Comparison***

Social Comparison Theory (Festinger, 1954) states that we learn about ourselves, or make judgements about our own worth and abilities by comparing ourselves to others. Two types of social comparison have been outlined, upwards comparisons, when an individual compares themselves to someone who is better off and downward comparisons when an individual compares themselves to someone worse off (Wills, 1981) while downward comparisons can enhance self-esteem upward comparisons can encourage individuals to act to improve their perceived standing. Tendency to use social comparison has been explored as a distal predictor in the TPB. Ravis and colleagues (2011) considered the role of prototypes and social comparison in the TPB and found that an increased tendency to use social comparison reduced the intention-behaviour relationship with high comparison individuals relying on prototypes to guide their behaviour more than their low comparison peers. The importance of understanding the role of social comparison was highlighted in a meta-analysis of interventions for reducing sexual risk in heterosexuals which found that interventions that offered opportunity for social comparison had larger effect sizes for behaviour change (Tyson, Covey, Rosenthal, 2014).

This work employs the social comparison scale (Allan & Gilbert, 1995) to measure students' tendency to use social comparison. This scale requires participants to respond to the stem 'In relation to others I feel...' on 11 10 point scales with end points labeled: Inferior/superior, incompetent/more competent, unlikeable/more likeable, left out/accepted, different/same, untalented/more talented, weaker/stronger, unconfident/more confident, undesirable/more desirable, unattractive/more attractive, an insider/an outsider.

### ***6.1.2.3 Normative influences***

The normative components included in this study will be further expanded from those in study 2 by accounting for both friends at, and friends outside, university. This was based on research in the field of alcohol use and binge drinking which has identified a number of different normative influences as being important. Specifically friends' drinking behaviour during adolescence has been identified as having a role in the initiation of alcohol and 'learning' of accepted drinking behaviours (Young et al., 2005; Workman, 2001). Student norms at university have been linked with an individual's drinking behaviour (Emery, Ritter-Randolph & Strozier, 1993; Howard et al., 2007; Young et al., 2005) with those engaged with multiple social groups being able to show multiple drinking styles (Emery, Ritter-Randolph & Strozier, 1993). Taken together these findings suggest that friends from childhood and adolescence may influence drinking behaviours in different ways to friends at university, and that students are not necessarily restricted to following one normative influence when it comes to drinking behaviour. Therefore assessment of these two peer groups may allow distinctions to be drawn between the influence of their respective norms.

#### ***6.1.2.4 University Lifestyle Choices***

In 1995 Wechsler, Dowdall, Davenport and Castillo conducted an in depth assessment of the correlates of college student binge drinking. The strongest effects in this study were found for measures assessing students' commitment to different lifestyle choices. Specifically measures asked students to rate on a scale from 1 (not important at all) to 7 (very important) how important parties, athletics, religion and academics are to their life at university.

Previous research has suggested that student drinking is distinct from that of other populations, with students drinking more than other populations (Fuller, Jotangia & Farrell, 2009; Newburn & Shiner, 2001; Substance Abuse Mental Health Services Administration, 2006) including their non-student peers (White et al., 2006; Goldman et al., 2002) and there are suggestions that college and university life may encourage alcohol use and binge drinking behaviour (Hingson, Heeren, Winter, & Wechsler, 2005; O'Malley & Johnston, 2002). The findings of study 1 support this with students identifying the time at university as a time to engage in binge drinking. This work therefore seeks to expand on the findings of Wechsler et al. (1995) and support findings from study 1 by identifying whether specific aspects of students' university lifestyle can predict intentions to binge drink or binge drinking behaviour.

Commitment to religion, academics, parties, and sports or athletics were selected for consideration based on the strong relationships with drinking identified by Wechsler et al. (1995) (in the case of religion and parties) or previous literature identifying these as correlates of alcohol use (in the case of sports and academics). A further factor included which did not appear in Wechsler et al.'s (1995) study was the importance of nights out.

This was included because Wechsler et al. (1995) found a strong relationship between the importance of parties and drinking behaviour but the term parties may be understood differently in England with students tending to drink on 'nights out' or during 'pre-drinking', which study 1 demonstrated to be considered as a part of a typical night out, rather than at 'parties' meaning that the term night out may be more appropriate for the English participants of this study.

Research relating to religion was discussed in more depth in the introduction to study 2, with religion generally acting as a protective factor against excessive alcohol use (Cherry, 1991; Durkin et al., 1999). The relationship of academia and sports or athletics with alcohol use and binge drinking will now be discussed in a little more depth.

#### Commitment to Academia

Grade point average (GPA) (Cherry, 1991) and commitment to higher education (Durkin et al. 1999) have been shown to be negatively correlated with alcohol consumption. Durkin et al. (1999) identified that when GPA and commitment to higher education were considered simultaneously only GPA acted as a significant predictor. However in the English University system accessing an average grade can be difficult therefore commitment to academics will be measured not average grade.

#### Sports and Athletics

Involvement in sports or athletics during university acts as a risk factor for problematic alcohol use. Students participating in athletics at university have been found to drink more frequently than their non-athlete peers and have reported experiencing more negative consequences of their alcohol use (Leichliter, Meilman, Presley, & Cashin, 1998; Wechsler,

Dowdall, Davenport & Castillo, 1995). This relationship increases over time with the length of involvement in athletics showing positive correlations to risky drinking (Ham & Hope, 2003; Hildebrand et al., 2001). This could be explained by the development of normative influences as an individual develops stronger bonds with their team mates or reduced sensitivity to the effects of alcohol due to past use.

#### ***6.1.2.5 Demographics***

Demographic variables, specifically religion will be considered in this work. The demographic information presented regarding the sample in study 2 showed that the sample was relatively homogenous regarding ethnicity and religion making between groups analyses based on these groupings problematic. The influence of religion will therefore be assessed via an alternative method, considering the importance of religion to university life (see above) as a potential additional predictor of intentions and behaviour. No such alternative for ethnicity is available therefore these influences will not be considered further unless a more heterogeneous sample is achieved.

#### **6.1.3 Predicting Behaviour; the intention-behaviour gap**

Study 2 focused on the prediction of intentions using the TPB and demonstrated that attitude, subjective norm and PBC predicted 63.3% of the variance in students' intentions to binge drink in the next two weeks. Prospective research and regression analyses can build on this by allowing the prediction of both intentions and behaviour. The TPB has been successfully applied to the prediction of behaviour, however it is not as adept at predicting behaviour as it is intention, (Conner & Armitage, 2001). The addition of PBC to the TRA, which created the TPB, allows the TPB to account for behaviours which do not fall entirely under volitional

control (Ajzen, 1991). While the inclusion of PBC has been supported, with data demonstrating that PBC accounts for additional variance, not just in intentions, but also behaviour (Conner & Armitage, 2001) an intention-behaviour gap remains. For example across the 185 studies included in Conner and Armitage's (2001) meta-analysis the TPB accounted for 39% of the variance in intentions but only 27% of the variance in behaviour (Conner & Armitage, 2001). It can therefore be concluded that measures of intention and PBC are not capturing all of the factors which underlie behaviour. The importance of developing further understanding of the intention behaviour gap is highlighted by intervention works which have shown that a medium - large change in intentions will create only a small - medium change in behaviour (Webb & Sheeran, 2006). Therefore developing a better understanding of the intention-behaviour relationship and the processes involved in this relationship should allow for the development of more effective interventions which will bring about a greater change in behaviour.

Research regarding the intention-behaviour and PBC-behaviour gap has pursued a number of avenues, assessing the role of expansions which may act as additional predictors of behaviour, assessing moderators of the intention-behaviour and PBC-behaviour relationship and considering individual differences in cognitions which can lead to stronger or weaker intention-behaviour relationships. The findings of studies assessing these relationships will now be discussed.

The role of past behaviour and habit in the prediction of intentions and behaviour was discussed in depth in the literature review and the introduction to study 2. Past behaviour and habit have been shown to be effective predictors of behaviour and have been suggested to moderate

the intention-behaviour relationship (Aarts, Verplanken & van Knippenberg, 1998; Gardner, de Bruijn & Lally, 2010) however distinctions have rarely been drawn between the two constructs, with the terms being used almost interchangeably to refer to both frequency of repetition of behaviour and habit strength or habitual control over behaviour (Armitage & Conner, 1999), meaning that strong conclusions as to the individual roles of past behaviour and habit are hard to draw. The construct of self-efficacy, has also been suggested as an additional predictor of behaviour (Norman & Conner, 2006). Although closely related to the construct of PBC which is already included in the TPB, self-efficacy has been identified by some as making an individual contribution to the prediction of intentions and behaviour (Norman & Conner, 2006). Norman and Conner (2006) considered the contribution of these three factors to students' intentions to binge drink and their binge drinking behaviour. Findings showed that attitude, self-efficacy, and perceived control predicted students' intentions to binge drink and intentions and self-efficacy predicted binge drinking behaviour. Further to this they identified that past behaviour acted as a moderator of the attitude-intention and intention-behaviour relationships with increased frequencies of behaviour leading to weaker relationships.

This work will assess for potential additional predictors of behaviour and the potential moderating effects of past behaviour, habit and self-efficacy on the intention-behaviour relationship. Past behaviour will be measured by responses to 2 of the AUDIT C items ('How often do you have a drink containing alcohol?' rated from 1 (never) to 5 (5 or more times a week); 'How many standard drinks do you have on a typical day when you are drinking?' rated from 1 – 7 or more) combined with frequency of binge drinking in the past two weeks ('How many days in the previous two

weeks did you drink 4/ 5 standard drinks or more?’). As in study 2 habit will be measured by the self-report habit index (Verplanken, & Orbell, 2003). Self-efficacy will be measured by 3 items taken from Norman (2011) (‘If I wanted to, I could easily drink 5/4 standard drinks or more in a single session over the next 2 weeks’ rated from 1 (strongly disagree) to 7 (strongly agree); ‘If I wanted to, drinking 5/4 standard drinks or more in a single session over the next 2 weeks would be...’ 1 (easy)-7(difficult); ‘How confident are you that you could drink 5/4 standard drinks or more in a single session over the next 2 weeks?’ rated from 1 (not at all confident) to 7 (very confident).

#### **6.1.4 Further Research**

##### ***6.1.4.1 Year Differences***

Past research has shown that alcohol consumption, binge drinking and participation in drinking games peaks in the first year of university (Bewick et al., 2008; Engs & Hanson, 1993). Qualitative work conducted in study 1 supports this with students in years two and three of study reporting that they played drinking games and went out more in their first year of university. However the findings of study 2 demonstrated that alcohol consumption and binge drinking actually increased with university year. Because of the contradiction in findings this area will be considered further in this prospective study with one-tailed hypotheses being derived from the findings of study 2.

##### ***6.1.4.2 Gender Differences***

Gender differences in alcohol consumption were discussed in the literature review. Previous research has demonstrated that historically there has always been a gender gap in alcohol consumption with males

drinking more, and more frequently than females (Makela & Mustonen, 2000; Naimi et al., 2003; Wechsler et al., 1994). However recent research has shown that this gender gap is closing with females drinking behaviour having increased, particularly in the 18-25 year age group (Johnston et al. 2010). The findings from study 2 failed to show any gender differences in alcohol consumption or binge drinking suggesting that the gender gap may have closed beyond statistical significance. However due to the small sample size and the gender imbalance of the sample this area will be given further consideration in this study.

#### ***6.1.4.3 Alcohol and Friendship***

Studies considering the relationship between alcohol and friendship have tended to focus on the similarities between the alcohol consumption of an individual and their friends (e.g. Andrews, Tildsley, Hops & Li, 2002; Beal, Ausiello & Perrin, 2001). However qualitative work has identified that drinking and drinking to get drunk are the primary methods of socialising employed by students and young adults (Broadbear, O'Toole & Angermeier-Howard, 2000; Joseph Rowntree Foundation, 2010; Engineer, 2003). The findings of study 1 support this, but also go further identifying that students' view participating in drinking games and nights out as ways to strengthen social bonds. It can therefore be suggested that individuals who drink more and more frequently will have more friends and report closer relationships with these friends. This work will utilise measures of in-group belonging and in-group identification, developed to assess the influence of group norms, in combination with self-reported numbers of friends and close friends both at an outside university to assess the influence of alcohol on friendship. Details of these measures can be found in the method section (6.2.4)

#### ***6.1.4.4 Drinking Games***

Drinking games are games in which players face forfeits or penalization through alcohol consumption. Such games are not a new phenomenon, with historical records describing drinking symposia in ancient Greece during which there was a 'master of drinking' and penalties were imposed if rules were broken (Garland, 1982). However drinking games have become popular in student drinking culture. Involvement in drinking games has been associated with a range of negative consequences including risky sexual behaviour, alcohol dependence and driving while intoxicated (Borsari et al., 2007; Farrow, 1987; Johnston, Wendel, & Hamilton, 1998; Nagoshi, Wood, Cote, & Abbit, 1994; Zamboanga, Bean, Pietras, & Paban, 2005). The importance of drinking games as a part of nights out, particularly in pre-drinking were highlighted in study 1, the findings of which showed that students considered participating in drinking games as a way to 'get involved' with a group of people, to bond and to 'break the ice'. This idea has received some support in the research literature with Adams and Nagoshi (1999) identifying that drinking games are a method by which students can be socialised into the existing drinking culture of their student peers and rates of participation in drinking games being found to be highest among first year students in the U.S. (Engs & Hanson, 1993). The research literature from the U.S. has also assessed college students' reasons for playing drinking games and found that social enhancement in terms of boosting confidence, reducing inhibitions and increased sociability are frequently reported (Borsari, 2004; Zamboanga, Calvert, O'Riordan, & McCollum 2007) with the expectation of these effects being positively related to drinking game participation (Nagoshi, Wood, Cote, Abbit, 1994; Zamboanga et al., 2005; Zamboanga, Schwartz, Ham, Borsari, & Van Tyne., 2010). The findings of

study 2 supported the work of Borsari, Bergen-Cico and Carey (2003) showing that the importance of different motivations for playing drinking games can predict frequency of participation in drinking games. However these measures failed to consider two motivations, having fun and fitting in, which were discussed in the focus groups conducted for study 1 of this thesis.

Based on these findings this work will consider two key factors relating to drinking games. Firstly past drinking game participation will be considered as a potential predictor of intentions to binge drink and binge drinking behaviour. Secondly students' self-reported motivations for playing drinking games will be assessed for predictive validity regarding self-reported participation in drinking games with the motivations identified by Borsari, Bergen-Cico and Carey (2003) (to get drunk, to meet other people, to control others, to get someone else drunk) and additional motivations identified in study 1 (to fit in, to have fun) being considered.

### **6.1.5 Hypotheses**

Study 3 broadly aims to replicate the results of study 2 in a prospective study. It will test the following hypotheses:

#### **6.1.5.1 Year Differences**

It is hypothesised that there will be significant year differences in students' overall drinking behaviour (measured as frequency of binge drinking in the past two weeks combined with AUDIT C total score) at time 1, time 1 intentions to binge drink in the next two weeks, time 2 intentions to binge drink and time 2 self-reported frequency of binge drinking in the past two weeks. With first years reporting lower levels of

alcohol consumption and weaker intentions to binge drink compared to second and third year students.

#### **6.1.5.2 Gender Differences**

It is hypothesised that there will be no significant gender differences in time 1 self-reported alcohol use (measured as the frequency of binge drinking behaviour in the past two weeks combined with AUDIT C score), time 1 intentions to binge drink in the next 2 weeks, time 2 intentions to binge drink in the next 2 weeks or time 2 self-reported frequency of binge drinking in the past two weeks.

#### **6.1.5.3 Predicting Student Binge Drinking**

The TPB variables will predict students' self-reported intentions to binge drink in the next two weeks.

Students' self reported intentions to binge drink in the next two weeks measured at time 1 would predict students' self-reported intentions to binge drink in the next two weeks at time 2.

The TPB variables will predict students' self-reported binge drinking behaviour in the next two weeks.

The expanded TPB model will account for more variance in students' self-reported intentions to binge drink in the next two weeks, compared to the original TPB model.

Within this:

An expanded TPB model including attitudes, PBC, self-efficacy and group norms for family, close friends at university and close friends outside university will account for more variance in intentions to binge drink in the next two weeks than a TPB model including

attitudes, PBC, and subjective norm for family, close friends at university and close friends outside university.

Past behaviour, habit, moral norm, anticipated regret and self-identity will act as additional significant predictors of intentions to binge drink in the next two weeks.

The expanded TPB model will account for more variance in students' self-reported binge drinking behaviour in the next two weeks, compared to the original TPB model.

Within this:

An expanded TPB model including attitudes, PBC, self-efficacy and group norms for family, close friends at university and close friends outside university will account for more variance in self-reported binge drinking behaviour than a TPB model including attitudes, PBC, and subjective norm for family, close friends at university and close friends outside university.

Past behaviour and habit will act as additional significant predictors of self-reported binge drinking behaviour.

#### **6.1.5.4 Moderating the Norm-Intention Relationship**

In-group identification and belonging will moderate the relationship between group norms and intentions for family, close friends at university and close friends outside university.

The perceived level of awareness of referent others regarding an individual's binge drinking behaviour will moderate the normative influences of this group on intentions.

Tendency to use social comparison will moderate normative influences on intentions to binge drink.

#### **6.1.5.5 Moderating the Intention-Behaviour Relationship**

Past behaviour will moderate the relationship between intentions and behaviour.

Habit will moderate the relationship between intentions and behaviour.

PBC will moderate the relationship between intentions and behaviour.

#### **6.1.5.6 Alcohol and Friendship**

It is hypothesised that binge drinking behaviour will relate to friendship. Specifically:

Self-reported drinking behaviour will show a significant positive correlation to self-reported number of friends and close friends at university.

Self-reported drinking behaviour will not correlate with number of friends and close friends outside of university.

Self-reported drinking behaviour will significantly correlate with self-reported belonging and identification to close friends at university but not to close friends outside university.

Significant differences will be found in self-reported number of friends and close friends at university but not outside university for frequent binge, binge and non-binge drinkers.

Significant difference will be found in self-reported in-group belonging and in-group identification for close friends at university but not for close

friends outside university for frequent binge, binge and non-binge drinkers.

#### **6.1.5.7 Participation in Drinking Games**

Frequency of participation in drinking games since starting university will be significantly higher than self-reported life-time participation in drinking games.

Participation in drinking games will be predicted by students' motives for playing drinking games.

## **6.2 Method**

### **6.2.1 Design**

A prospective design was employed with participants completing two questionnaires 2 weeks apart. Both prospective and cross-sectional analyses were conducted.

### **6.2.2 Participants**

A total of 300 participants were recruited through adverts placed on the university weekly electronic news bulletin which goes out to all students via their university email accounts, posters advertising the study displayed on notice boards around campus and fliers distributed to students on campus.

Two participants completed and submitted just the time 2 questionnaire; a further 19 submitted only partially complete time 1 questionnaires with large amounts of data missing. These individuals were excluded from the analysis. The remaining 279 participants fully completed or almost fully completed the time 1 questionnaire and 197 of these also completed the time 2 questionnaire.

Participants were aged between 18 and 54 years ( $M = 20.77$   $SD = 4.26$ , 2 DNR) and the sample was 67.7 % female (male 86: 189 female, 4 DNR). All except 1 participant were full time students. The sample came from a total of 51 different subjects of study with 30.1 % being students of psychology. They were distributed across 4 years of study (year 1  $N = 106$ , year 2  $N = 117$ , Year 3  $N = 49$ , Year 4  $N = 4$ , 3 Did not report) and lived predominantly in halls of residence ( $N = 86$ ) or shared housing ( $N = 151$ ) but some were living with their parents ( $N = 14$ ) in their own homes ( $N = 25$ ) or individual rented accommodation ( $N = 2$ ) (1 Did not report).

The majority of the sample were home students from the UK ( $N = 239$ ) with smaller numbers registered as European Union Students ( $N = 16$ ) and International students ( $N = 22$ ) (2 DNR). This was similarly reflected in participants' self-reported ethnicity with the majority being White British. A break down can be seen in Table 6.2.1.

Table 6.2.1.

Participant Ethnicity

Ethnicity	N
White British	227
White Irish	2
White Scottish	4
White Welsh	5
White Other	19
Pakistani	1
Asian Other	3
Chinese	6
Caribbean	1
African	3
White and Black Caribbean	2
White and Asian	1
DNR	1
Prefer Not to Say	4

### 6.2.3 Procedure

Participants had the option to complete the questionnaires either electronically or in hard copy.

**Electronic Questionnaire Completion:** The electronic questionnaires could be accessed either by using a mobile phone to scan QR codes, or by entering the URLs into a web browser with both URLs and QR codes being provided on fliers and posters advertising the study and in adverts on the electronic news bulletin. Either method of access initially directed participants to an electronic version of the time 1 participant information sheet (appendix) from which they could then access the electronic questionnaire. The time 1 questionnaire (Appendix E1) took approximately 15 minutes to complete and could be accessed at any time during the study period. Once they had reached the end of the questionnaire participants could elect to either submit or cancel their data. They were then presented with an electronic version of the time 1 debrief (Appendix F1) which provided participants with the opportunity to request either email or SMS reminders 24 hours before they were due to complete the time 2 questionnaire.

At time 2, two weeks after time 1 the participant once again followed the URLs or QR Codes, and were presented with the time 2 participant information sheet from which they could access the time 2 questionnaire (Appendix G1). The time 2 questionnaire took no more than 5 minutes to complete. Once they had reached the end of the questionnaire participants could elect to either submit or cancel their data. They were then presented with an electronic version of the time 2 debrief (Appendix H1) followed by an electronic version of the prize draw entry form (Appendix I1).

**Hard Copy Questionnaire Completion:** Participants wishing to receive a hard copy of the questionnaire could do so by emailing the researcher with their postal address (as indicated on the fliers and posters advertising the study).

Participants were then sent a questionnaire pack containing a participant information sheet (Appendix D1), copies of the time 1 (Appendix E1) and time 2 (Appendix G1) questionnaires, time 1 (Appendix F1), and time 2 (Appendix H1), debrief sheets, a prize draw entry form (Appendix I1) and three stamped addressed envelopes. This enabled participants to complete the questionnaires at a time and place of their choosing, but they were requested to complete the time 2 questionnaire 2 weeks after the time 1 questionnaire. Once complete, participants were able to return the questionnaires and prize draw form either by post or by placing them in a deposit box in the foyer of the psychology building.

#### **6.2.4 Measures**

The majority of measures remain the same as those utilised in study 2. The measures utilised for this study, changes to measures included in study 2 and additions are detailed below. The full questionnaires can be found in appendix E1 (time 1) and G1 (Time 2).

**Demographic information:** Items detailing age, gender, ethnicity, and living arrangements at university.

**Academic information:** Items detailing subject, year and time commitment of the course each participant was enrolled on at university was requested.

**AUDIT:** As in study 2 the three item AUDIT C was employed.

**Attitude:** Following Norman and Conner (2006) attitude towards binge drinking was measured by 5 semantic differentials. Participants responded to the statement 'consuming 5/4 standard drinks or more in the next fortnight would be... (Bad/Good, Foolish/Wise, Harmful/Beneficial, Pleasant/Unpleasant, Enjoyable/Unenjoyable) on a scale of 1 (bad, foolish, harmful, pleasant, enjoyable) to 7 (good, wise, beneficial, unpleasant, unenjoyable) with scales labelled at the end points only.

**Normative influences:** Measures of normative influences including subjective, descriptive and group norm, in-group identification, in-group belonging and awareness were expanded to consider family, close friends at university and close friends outside university.

**Self identity:** Self Identity was included as an additional expansion variable and was measured by 4 items ('Drinking 5/4 standard drinks or more in a single session is an important part of who I am'; 'It would be out of character for me not to drink 5/4 standard drinks or more in a single session'; 'I see myself as a person who drink 5/4 standard drinks or more in a single session'; 'I like to think of myself as someone who drinks 5/4 standard drinks or more on a single occasion') rated from 1 (strongly disagree) to 7 (strongly agree). These were adapted from Gardner, de Brujin and Lally (2012) in order to apply to binge drinking behaviour.

**PBC:** In line with Norman (2011) perceived control was measured by 3 items: "I feel in complete control over whether or not I drink 5/4 standard drinks or more in a single session over the next 2 weeks"; "How much control do you have over whether or not you drink 5/4 standard drinks or more in a single session over the next 2 weeks?" "It is up to me whether or not I drink 5/4 standard drinks or more in a single session over the next

2 weeks". Self-efficacy was measured by 3 further items: "If I wanted to, I could easily drink 5/4 standard drinks or more in a single session over the next 2 weeks"; "If I wanted to, drinking 5/4 standard drinks or more in a single session over the next 2 weeks would be..."; "How confident are you that you could drink 5/4 standard drinks or more in a single session over the next 2 weeks?"

**Intention:** with study 2 having shown clear differences between intentions to binge drink defined as the consumption of 5/4 standard drinks or more and intentions to drink to get drunk this study only assessed intentions to drink 5/4 standard drinks or more in a single session.

**In group Identification:** In line with Johnston and White (2003) in group identification was measured by 4 items each for family, friends and peers at university ('How much do you feel you identify with .....? from 1 not very much to 7 very much' 'With respect to your general attitudes and beliefs, how similar do you feel you are to .....? From 1 very dissimilar to 7 very similar', "Think about who you are. How important is being a member of your ....? from 1 very important to 7 very unimportant', 'How much do you feel strong ties with your .....? from 1 very much to 7 not very much').

**In group belonging:** In line with Johnston and White (2003) in group belonging to family, friends and peers at university were assessed by 2 items (In general, how well do you feel you fit into your .....?' and 'How much do you see yourself belonging to your.....?' rated from 1 not very well to 7 very well) for family group, group of friends and group of peers at university), scales were labelled at the end points only.

**Moral Norm:** Measured by 3 items, adapted from Godin, Conner, and Sheeran (2005), which required participants to rate (from 1 strongly disagree to 7 strongly agree) how strongly they agree or disagree with the statements 'I would feel guilty if I drank 5/4 standard drinks or more in a single session', 'I personally think that drinking 5/4 standard drinks or more in a single session is wrong.', 'Drinking 5/4 standard drinks or more in a single session goes against my principles.' Scales were labelled at the end points only.

**Anticipated regret:** Study 2 assessed anticipated regret of both engaging in and avoiding binge drinking behaviour. While both constructs showed significant correlations to the TPB variables, correlations were stronger and more highly significant for anticipated regret of binge drinking rather than avoiding binge drinking therefore this study will focus on the role of anticipated regret associated with engaging in binge drinking. Measured by responses to 2 items 'In the next week, I would feel regret if I drank 5/4 standard drinks or more in a single session' and 'In the next week, I would feel upset if I drank 5/4 standard drinks or more in a single session' rated from 1 (definitely no) to 7 (definitely yes).

**Past Behaviour:** Two items from the AUDIT C ('How often do you have a drink containing alcohol? Rated from Never - 5 or more times a week', 'How many standard drinks do you have on a typical day when you are drinking? Rated from 1 - 7 or more' with the option to tick to indicate if they do not drink) and an additional item: 'How many days in the previous two weeks did you drink 4/ 5 standard drinks or more?' were employed to measure past behaviour.

**Habit Strength:** The 12 item Self Report Habit Index (Verplanken & Orbell, 2003) assessed habit strength. Participants were asked to how much they agreed with the statements: Drinking 5/4 standard drinks or more in one session is something (1) I do frequently (2) I do automatically (3) I do without having to consciously remember (4) that makes me feel weird if I do not do it (5) I do without thinking (6) that would require effort not to do it (7) that belongs to my weekly routine (8) I start doing before I realize I'm doing it (9) I would find hard not to do (10) I have no need to think about doing (11) that's typically "me." (12) I have been doing for a long time. Scored from 1 (strongly disagree) to 7 (Strongly Agree).

**Optimistic Bias:** Measures of optimistic bias were removed due to no indication in study 2 that this construct would act as a predictor, moderator or mediator.

**Impulsivity:** Assessed by the brief version of the Barret Impulsivity Scale. This scale comprises 15 items (e.g. I plan tasks carefully; I do things without thinking; I make-up my mind quickly), participants are asked to rate each statement according to how often it is true to them on the scale: 1 (rarely/never), 2 (Occasionally), 3 (Often) 4 (Always/Almost Always).

**Sensation Seeking:** Assessed by the BSSS-8, Brief Sensation Seeking Scale (Hoyle, Stephenson, Palmgreen, Lorch & Donohew, 2002). This scale comprises 8 Items (e.g. I would like to explore strange places; I get restless when I spend too much time at home; I like to do frightening things), participants are asked to rate how strongly they agree or disagree with each statement on a scale from 1(Strongly Disagree) to 5 (Strongly Agree).

**BIS/BAS:** Measures were removed due to no indication in study 2 that this construct would act as a predictor, moderator or mediator

**Importance of Aspects of University Lifestyle:** These measures were removed from the study 2 post pilot in order to reduce the demands on participant time. However as measures of optimistic bias and BIS/BAS were removed this study was able to re-include the measures relating to the importance of different aspects of university life which were adapted from Wechsler et al. (1995) and ask students to rate the importance of academic work, sports or athletics, nights out, parties and religion to students' lives at university on a scale from 1(not important) to 7 (very important).

**Number of Friends and Close Friends:** Measured by 4 free response items "Approximately how many friends do you have outside university?"; "Of these how many would you class as being your close or best friends?"; "Approximately how many friends do you have at university?"; "Of these how many would you class as being your close or best friends?"

**Tendency to use social comparison:** measured by the Social Comparison Scale (Allan & Gilbert, 1995) which includes 10 semantic differentials which request participants to indicate responses on a scale from 1-10 for the following: In relationship to others I feel: Inferior/superior, incompetent/more competent, unlikeable/more likeable, left out/accepted, different/same, untalented/more talented, weaker/stronger, unconfident/more confident, undesirable/more desirable, unattractive/more attractive, an insider/an outsider.

**Past Drinking Game Participation:** 1 fixed response item assessed whether participants had ever played a drinking game (Have you ever played a drinking game in your life-time? (yes/no). A further item assessed how often participants played drinking games 'Please tick the statement that best describes how often you take part in drinking games?' (from 1,

never to 7, a few times a week). Motivations for playing drinking games were assessed by 4 items drawn from Borsari, Bergen-Cico and Carey (2003) participants were asked to 'please rate how important the following reasons for playing drinking games are to you.' For 'to get drunk', 'to meet other people', 'to control others' and 'to get someone else drunk'. Responses were from 1 (not at all important) to 7 (very important) with scales labelled at the end points only. Two additional motivations, 'to have fun' and 'to fit in', were derived from study 1.

The time 2 (Appendix G1) questionnaire comprised five items to measure intentions and behaviour.

**Time 2 Intentions:** Intentions to binge drink in the next two weeks were assessed by 4 seven point likert scales ('I intend/want/plan/expect to drink 4 / 5 standard drinks or more in one session in the next 2 weeks')

**Behaviour:** was measured by a single item, 'How many days in the previous two weeks did you drink 4/ 5 standard drinks or more?'

### **6.2.5 Scale Reliability**

Alpha values were calculated for scales for all multi-item variables with values above .7 being accepted. Alpha values for each scale can be seen in Appendix J1

## **6.3 Results**

The results section will begin with descriptive statistics regarding drinking behaviour. Following this results will be reported in the same order as hypotheses were stated. Section 6.3.2 and 6.3.3 will present findings regarding year and gender differences in drinking behaviour. Sections 6.3.4 will present the key analyses relating to the utilisation of the TPB for

the prediction of intentions and behaviour. This is followed by a section detailing the prediction of the determinants of intentions (6.3.5). The results of the moderated regressions for the norm-intention (6.3.6) and intention-behaviour, PBC-behaviour relationships (6.3.7). The final sections will present the further research regarding the relationship between alcohol and friendship (6.3.8) and participation in drinking games (6.3.9). Within each section predictions or differences in time 1 intentions will be addressed first, followed by prediction of and differences in behaviour and finally the prediction of or differences in time 2 intentions.

Unless otherwise stated the data met the assumptions of analysis. For regression analyses Cook's Distance was used to assess for outliers from the models, tolerance values were required to be above .1 and VIF values below 10. Normal – P plots were used to assess distribution of residuals and scatter plots also considered for indications of multi-collinearity. Tolerance and VIF values are presented in tables alongside regression results while graphs of Cook's distance, scatter plots and Normal P plots are presented in Appendices K1-C2.

### **6.3.1 Drinking Behaviour**

Binge drinking was normative, 201(71.5%) participants reported that they had binged at least once in the 2 weeks prior to completing the study compared to 78 (27.8%) who had not. The number of binge drinking occasions ranged from 0-12 over this period with a mean of 1.95 (SD = 2.01) occasions in the two weeks prior to commencing the study. Of those that completed the time 2 questionnaire 187 (94.9%) reported at least one occasion of binge drinking in the past two weeks compared to 10 (5.1%) who did not binge during this period. Of the 279 participants who completed the AUDIT C measures, 250 (89.6%) met the cut off (3 or more

for females, 4 or more for males) and 209 (74.9%) met the higher cut off (5 or more) which indicate problematic drinking.

### 6.3.2 Year Differences

Data was assessed for significant year differences in drinking behaviour and intentions to binge drink. Mean scores showed drinking behaviour peaked among second years with third year students reporting the lowest levels of alcohol use.

#### 6.3.2.1 Past Drinking Behaviour

Assessment of normality revealed that drinking behaviour was normally distributed across the three year groups (Table 6.3.1)

Table 6.3.1

Descriptive statistics for drinking behaviour by university year

Year	ZSkew	ZKurtosis	Mean	SD
1	.540	-1.460	8.255	5.067
2	.098	-1.273	8.803	3.560
3	.303	-1.609	7.531	3.792

Levene's test showed that the assumption of homogeneity of variance had been violated ( $F(2,269) = 9.206, p = .000$ ) however as ANOVA is a robust test the result was still consulted and showed no significant differences ( $F(2,269) = 1.603, p > .05$ ). Due to the violation of the assumption of homogeneity of variance a confirmatory Kruskal-Wallis test was conducted ( $\chi^2(2, N=271) = 3.220, p > .05$ ) and found to support the ANOVA result.

#### Drinking Game Participation

The mean scores (Table 6.3.2) show that first year students report the highest frequency of participation in drinking games and that frequency of participation decreases with university year.

Table 6.3.2

Past Drinking Game Participation

Year	ZSkew	ZKurtosis	Mean	SD
1	-2.100	-1.774	4.349	1.927
2	-0.100	-1.730	4.104	1.688
3	-1.764	-0.874	3.938	1.603

Frequency of past participation in drinking games was found to be normally distributed and the Levene's test was non-significant ( $F(2, 266) = 2.342, , p > .05$ ) however no significant differences were found in drinking game participation between year groups ( $F(2, 266) = 1.033, p > .05$ )

Time 1 Intentions to Binge Drink

Time 1 Intentions to binge drink in the next two weeks was shown to be non-normally distributed therefore a one way ANOVA with bootstrapping was conducted. Levene's test was significant ( $F(2,268) = 3.342, p = .037$ ) indicating that the assumption of homogeneity of variance had been violated but as ANOVA is a robust test ANOVA results were still consulted and showed no significant differences between year groups in terms of intentions to binge drink in the next two weeks ( $F(2,268) = 2.312, p = .101$ ).

Time 2 Binge Drinking Behaviour

Mean values displayed in table 6.3.4 show that binge drinking is most frequent among second year students who reported approximately 0.5 more occasions of binge drinking in the two week study period than first and third year students. Assessment of normality showed that self-reported occasions of binge drinking in the two week study period was non-normally distributed across university year groups.

Table 6.3.4

Descriptive statistics for occasions of binge drinking in the study period

Year	Skew	Kurtosis	Mean	SD
1	2.974	-0.189	2.727	1.984
2	5.462	5.247	3.244	2.386
3	0.972	1.172	2.743	1.930

A one-way ANOVA with bootstrapping to reduce the effects of non-normality was conducted. Levene's test was non-significant ( $F(2,191) = .268, p = .766$ ) indicating homogeneity of variance could be assumed. The ANOVA result showed no significant difference in self-reported occasions of binge drinking between year groups ( $F(2.191) = 1.335, p = 2.66$ ).

### 6.3.3 Gender Differences

Study 2 showed no significant gender differences in drinking behaviour or intentions to binge drink. This study tested the hypothesis that there would be no significant gender differences in student drinking behaviour or intentions to binge drink.

#### Drinking Behaviour at Time 1

As seen in Table 6.3.5 drinking behaviour at time 1 (AUDIT total and number of binge drinking occasions in the past 2 weeks) was found to be normally distributed and males reported higher overall scores for drinking.

Table 6.3.5

Descriptive statistics for drinking behaviour at time 1

Gender	N	Skewness	Kurtosis	Mean	SD
Male	86	-.365	.106	9.395	4.538
Female	189	1.416	.955	7.947	4.210

The Levene's test showed equal variances could be assumed ( $F(273) = .057, p = .812$ ). The T-test result failed to support the hypothesis showing

significant gender differences in drinking behaviour ( $t(273) = 2.581, p = .010$  (2 tailed)).

#### Time 1 Intentions to Binge Drink

Gender differences in time 1 intentions to binge drink in the next two weeks were also assessed. Mean values displayed in Table 6.3.6 show male student's report stronger intentions to binge drink compared to female students. Assessment of normality showed that data was non-normally distributed

Table 6.3.6

Descriptive statistics for intentions to binge drink in the next two weeks at time 1

Gender	N	Skewness	Kurtosis	Mean	SD
Male	83	-2.383	-1.388	18.639	7.827
Female	185	-.358	-3.555	15.681	7.969

An independent samples t-test with boot strapping to limit the effects of non-normal distribution was conducted. Levene's test was non-significant therefore equal variances could be assumed ( $F(266) = 1.284, p = .258$ ) the t-test showed males had significantly higher intentions to binge drink in the next two weeks than did females ( $t(266) = 2.825, p = .005$ ).

#### Time 2 Intentions to Binge Drink and Binge Drinking Behaviour

Gender differences in self-reported binge drinking at time 2 were assessed. Means (Table 6.3.7) showed that male students reported approximately 1.5 more occasions of binge drinking in the two week study period than did females. Data were found to be non-normally distributed (see Table 6.3.7) and outlier removal served to reduce skew but increased kurtosis therefore bootstrapping was employed to reduce the effects on analysis.

Table 6.3.7

Descriptive statistics for time 2 self reported binge drinking occasions

Gender	N	Skew	Kurtosis	Mean	SD
Male	67	2.833	0.938	3.910	2.695
Female	128	2.832	1.329	2.469	1.655

The Levene's test was significant ( $F(193)=11.733, p=.001$ ) therefore equal variances were not assumed. The t-test result showed significant gender differences in self-reported occasions of binge drinking ( $t(92.746)=4.001, p<.001$ ), with males reporting significantly more occasions of binge drinking in the two week study period than females. With bootstrapping applied the test result remains significant with p value adjusted to  $p =.001$ .

#### Drinking Game Participation

Gender differences in frequency of participation in drinking games were also assessed testing the hypothesis that there would be no significant gender differences in the frequency of participation in drinking games. Mean values (Table 6.3.8) were similar with male students reporting a slightly higher frequency of participation in drinking games. Data was normally distributed and males reported marginally higher frequency of participation in drinking games (see Table 6.3.8).

Table 6.3.8

Descriptive statistics for frequency of participation in drinking games

Gender	N	Skewness	Kurtosis	Mean	SD
Male	84	1.137	-1.590	7.774	3.137
Female	187	.427	-1.234	7.529	2.930

Levene's test was non-significant ( $F(269) = 1.311, p= .253$ ) so equal variances were assumed. The t-test supported the hypothesis showing no gender differences in frequency of participation in drinking games ( $t(269)=.621, p>.05(2\text{ tailed})$ )

### 6.3.4 Testing the Theory of Planned Behaviour Model

Multiple regression was used to test if the original TPB variables (intention, attitude, subjective norm and PBC) could predict student binge drinking. As displayed in Figures 6.3.1 to 6.3.3 and Table 6.3.9, time 1 intention to binge drink, time 2 self-reported binge drinking and time 2 intentions to binge drink were all found to be non-normally distributed to a level which could not be resolved by outlier removal or the application of transformations. From the histograms it can be seen that self-reported binge drinking behaviour is positively skewed, with the majority of participants reporting three or less occasions of binge drinking in the past two weeks. However the measures of intention do not follow this same pattern, instead they show heterogeneity with peaks of individuals reporting either very high or very low intentions to binge drink, falling either side of a more equal distribution across the mid-range. This is indicative of a polarisation in intentions towards binge drinking among the student population. On the basis of these assessments it is evident that the data do not meet the assumptions of normality required for parametric testing, however, in the absence of an alternative analysis technique multiple regression was still utilised and bootstrapping employed to reduce the impact of the non-normal distribution.

Table 6.3.9

Descriptive statistics for criterion variables

Predictor	Skew	Kurtosis	Mean	SD
Time 1 Intention to Binge Drink in the Next Two Weeks	-1.600	-3.365	16.560	7.944
Time 2 Self Reported Binge Drinking Behaviour	-1.737	-3.523	2.953	2.163
Time 2 Intentions to Binge Drink in the Next Two Weeks	6.657	5.497	17.207	8.184

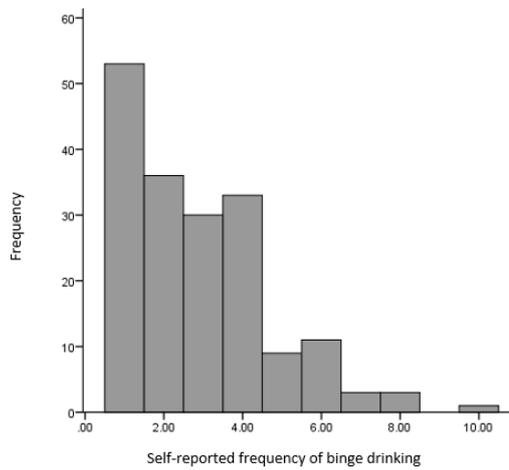


Figure 6.3.1: Distribution of self reported binge drinking behaviour

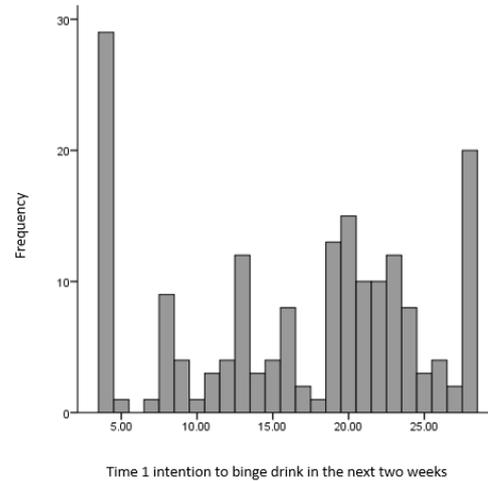


Figure 6.3.2: Distribution of time 1 Intentions to binge drink in the next two weeks

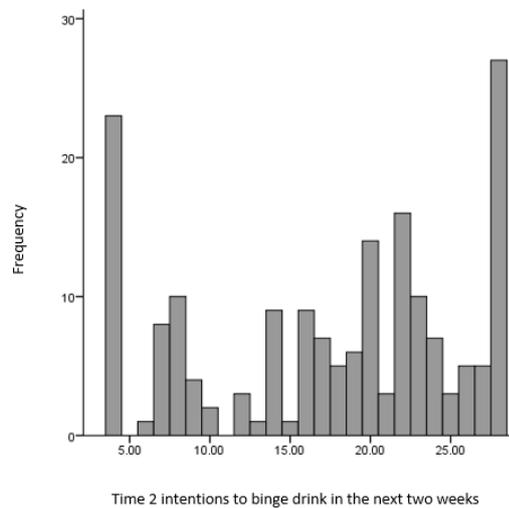


Figure 6.3.3: Distribution of time 2 intentions to binge drink in the next two weeks

#### 6.3.4.1 Predicting Time 1 Intentions to binge drink

Cross-sectional analysis was utilised to test the hypothesis that attitude, PBC and subjective norm would predict time 1 intentions to binge drink in the next two weeks. PBC failed to show a significant correlations to intentions (Table 6.3.10) therefore was excluded from the analysis.

Table 6.3.10

Correlations to time 1 intentions to binge drink in the next two weeks

Predictor	R	Sig	VIF	$\beta$	T	Sig
Subjective Norm for Family	.342	.000	1.212	.055	1.124	.262
Subjective Norm for close friends outside University	.476	.000	1.829	.072	1.199	.232
Subjective Norm for close friends at university	.462	.000	1.576	.214	3.824	.000
PBC	.009	.442	X	X	X	X
Attitude	.666	.000	1.478	.533	9.846	.000

Regression showed that the model was significant ( $F(4,247) = 64.396, p < .001, R^2 = .510$ ) with attitude and subjective norm for friends at university making significant contributions to the prediction of intentions to binge drink. The non-significant predictor variables were removed leaving a final regression model of:

$$F(2,257) = 131.350, p < .001, R^2 = .505$$

Therefore the hypothesis is partially supported as subjective norm for university friends and attitude but not PBC, subjective norm for family or subjective norm for friends outside university predict intentions to binge drink in the next two weeks.

#### **6.3.4.2 Predicting Binge Drinking Behaviour**

Prospective analysis was used to test the hypothesis that the TPB variables (Intention, PBC, attitude and subjective norms for family, close friends at university and close friends outside university) would predict students' self-reported binge drinking behaviour during the two week study period. PBC failed to show significant correlations to binge drinking behaviour (Table 6.3.10) or time 1 intentions to binge drink in the next two weeks (Table 6.3.11). It was therefore excluded from the analysis.

Table 6.3.11

Correlations to time 2 self-reported binge drinking behaviour

Model	Predictor	R	Sig	R <sup>2</sup>	R <sup>2</sup> Change	VIF	β	T	Sig
1	Intention	X	X	.347	X	X	.589	9.699	.000
2	Intention	.592	.000	.373	.026	1.910	.461	5.540	.000
	PBC	-.064	.197			X	X	X	X
	Subjective Norm for Family	.234	.001			1.208	.023	.351	.726
	Subjective Norm for close friends at university	.351	.000			1.360	.078	1.116	.266
	Subjective Norm for close friends outside University	.383	.000			1.480	.114	1.561	.120
	Attitude	.431	.000			1.886	.060	.726	.469

Stepwise regression showed that intentions at time 1 significantly predicted binge drinking behaviour ( $F(1,177) = 94.079, p > .001, R^2 = .347$ ) but was improved by the inclusion of attitude and subjective norm components ( $F(5,173) = 20.616, p > .001, R^2 = .373$ ). As the TPB would predict, only intention acted as a significant predictor of behaviour at time 2 (Table 6.3.11).

#### **6.3.4.3 Predicting Time 2 Intentions to binge drink**

Prospective analysis was used to test the hypothesis that students' self reported intentions to binge drink in the next two weeks measured at time 1 would predict students' self-reported intentions to binge drink in the next two weeks at time 2. The model showed that time 1 intentions to binge drink in the next 2 weeks predicted time 2 intentions to binge drink in the next two weeks ( $F(1,177) = 326.970, p < .001, R^2 = .649$ ) accounting for 64.9% of the variance.

### **6.3.5 Testing the Expanded TPB Model**

The predictive validity of an expanded TPB model for the prediction of intentions to binge drink in the next two weeks at both time 1 and time 2 and self-reported binge drinking behaviour at time 2 was also tested. Forward enter hierarchical regression favouring the original TPB variables was utilised so that only significant predictors were included in each model. The viability of past behaviour, self-identity, habit, moral norm, anticipated regret, sensation seeking, impulsivity, university year and tendency to use social comparison as additional variables was tested. Further to this subjective norm components were replaced with group norms, combinations of subjective norm and descriptive norm measures for the three referent groups, and PBC was replaced with a combined measure of PBC and self-efficacy.

#### ***6.3.5.1 Predicting Time 1 Intentions to binge drink***

Multiple regression analyses were employed to test the hypotheses that: The expanded TPB model will account for more variance in students' self-reported intentions to binge drink in the next two weeks, compared to the original TPB model; An expanded TPB model including attitudes, PBC, self-efficacy and group norms for family, close friends at university and close friends outside university will account for more variance in intentions to binge drink in the next two weeks than a TPB model including attitudes, PBC, and subjective norm for family, close friends at university and close friends outside university; Past behaviour, habit, moral norm, anticipated regret and self-identity will act as additional significant predictors of intentions to binge drink in the next two weeks.

The importance of athletics and sport to university life and university year did not significantly correlate to time 1 intentions to binge drink in the

next two weeks therefore they were excluded from the analysis (Table 6.3.14).

Results showed the models to be significant with attitude, group norm for close friends at university, PBC and self-efficacy, binge drinker self-identity, the importance of nights out to university life and anticipated regret acting as significant predictors and the final model accounting for 69.6% of the variance in time 1 intentions to binge drink in the next two weeks ( $F(6,220) = 83.894, p < .001, R^2 = .696$ ).

Table 6.3.12

Correlations to time 1 intentions to binge drink in the next two weeks

Predictor	r	sig
Attitude	.673	.000*
Group Norm for Family	.331	.000*
Group norm Close Friends at University	.506	.000*
Group Norm Close Friends Outside University	.490	.000*
PBC and Self Efficacy	.472	.000*
Past Behaviour	.671	.000*
Binge Drinker Identity	.722	.000*
Habit	.663	.000*
Moral Norm	-.654	.000*
Anticipated Regret	-.569	.000*
Sensation Seeking	.366	.000*
Impulsivity	.236	.000*
Tendency to use social comparison	.125	.030*
Importance of Nights out to university life	.625	.000*
Importance of Athletics or Sports to University Life	.093	.082
Importance of Academic Work to University Life	-.111	.048*
Gender	-.187	.002*
Year	-.079	.119

Table 6.3.13

Contribution of predictors

Model	Predictor	R <sup>2</sup>	R <sup>2</sup> Change	VIF	$\beta$	t	Sig
1	Attitude	.454	X	1.000	.674	13.673	.000
2	Attitude	.525		1.169	.564	11.331	.000
	Group Norm for Close Friends at University			1.169	.289	5.805	.000
3	Attitude	.561	.071	1.323	.490	9.595	.000
	Group Norm for Close Friends at University			1.186	.264	5.466	.000
	PBC and Self Efficacy			1.211	.208	4.260	.000
4	Attitude	.660	.099	1.753	.283	5.461	.000
	Group Norm for Close Friends at University			1.280	.168	3.787	.000
	PBC and Self Efficacy			1.212	.195	4.526	.000
	Binge Drinker Identity			1.707	.412	8.065	.000
5	Attitude	.684	.024	1.917	.221	4.217	.000
	Group Norm for Close Friends at University			1.425	.109	2.418	.016
	PBC and Self Efficacy			1.213	.198	4.762	.000
	Binge Drinker Identity			1.800	.365	7.200	.000
	Importance of Nights Out to University Life			1.754	.203	4.052	.000
6	Attitude	.696	.012	2.567	.133	2.229	.027
	Group Norm for Close Friends at University			1.426	.113	2.543	.012
	PBC and Self Efficacy			1.445	.146	3.263	.001
	Binge Drinker Identity			1.800	.363	7.282	.000
	Importance of Nights Out to University Life			1.760	.212	4.290	.000
	Anticipated Regret			2.106	-.158	-2.937	.004

### 6.3.5.2 Predicting Binge Drinking Behaviour

Multiple regression analysis tested the hypotheses that: The expanded TPB model will account for more variance in students' self-reported binge

drinking behaviour in the next two weeks, compared to the original TPB model; An expanded TPB model including attitudes, PBC, self-efficacy and group norms for family, close friends at university and close friends outside university will account for more variance in self-reported binge drinking behaviour than a TPB model including attitudes, PBC, and subjective norm for family, close friends at university and close friends outside university; Past behaviour and habit will act as additional significant predictors of self-reported binge drinking behaviour.

Cooks distance indicated 1 outlier from the model (ID = 284, Cooks D = .191) (Appendix V1) and correlations showed year did not correlate with either behaviour or intention therefore was excluded from the analysis.

Results showed the models to be significant with intention, group norm for close friends outside university, importance of athletics and sport to university life and importance of academic work to university life acting as significant predictors and the final model accounting for 51.5% of the variance in self-reported binge drinking behaviour ( $F(4,159) = 44.256$ ,  $p < .001$ ,  $R^2 = .515$ ).

Table 6.3.14

Correlations to binge drinking behaviour

Predictor	r	sig
Intention	.628	.000
Attitude	.453	.000
Group Norm for Family	.163	.019
Group norm Close Friends at University	.387	.000
Group Norm Close Friends Outside University	.402	.000
PBC and Self Efficacy	.226	.002
Past Behaviour	.589	.000
Binge Drinker Identity	.562	.000
Habit	.535	.000
Moral Norm	-.424	.000
Anticipated Regret	-.395	.000
Sensation Seeking	.359	.000
Impulsivity	.246	.001
Tendency to use social comparison	.223	.002
Importance of Nights out to university life	.485	.000
Importance of Academic Work to University Life	-.289	.000
Importance of Athletics or Sports to University Life	.326	.000
Gender	-.315	.000
Year	-.033	.339

Table 6.3.15

Contribution of predictors

Model	Predictor	R <sup>2</sup>	R <sup>2</sup> Change	VIF	$\beta$	t	Sig
1	Intention	.390	X	1.000	.628	10.264	.000
2	Intention	.405	.015	1.249	.560	8.291	.000
	Group Norm						
	Close Friends						
	Outside			1.249	.152	2.249	.026
	University						
3	Intention	.468	.063	1.261	.533	8.306	.000
	Group Norm						
	Close Friends						
	Outside			1.250	.149	2.329	.021
	University						
	Importance of						
	Athletics and						
	Sport to			1.013	.258	4.482	.000
	University Life						
4	Intention	.515	.047	1.265	.518	8.441	.000
	Group Norm						
	Close Friends						
	Outside			1.250	.143	2.344	.020
	University						
	Importance of						
	Athletics and						
	Sport to			1.016	.246	4.468	.000
	University Life						
	Importance of						
	Academic Work						
	to University Life			1.011	-.222	-4.049	.000

### 6.3.6 Assessment of Moderator Effects for Normative Influences

It was hypothesised that referent others' awareness of drinking behaviour, tendency to use social comparison and identification with the referent group would moderate the relationship between group norms and intentions to binge drink. Moderated regression was utilised to assess for these effects. To reduce the effects of multicollinearity variables were mean centred before being utilised in these analyses.

Cooks Distance indicated two outliers from the model (ID = 298, Cooks D = .11538, ID = 53, Cooks D = .11538) these were excluded from the analysis.

The initial regression model ( $F(10,233) = 16.538, p < .001, R^2 = .390$ ) accounted for 39% of the variance in time 1 intentions to binge drink in the next two weeks with all three normative components acting as significant predictors. Additionally family awareness of participants' drinking behaviour also acted as a significant predictor. The moderated model ( $F(19,224) = 11.860, p < .001, R^2 = .459$ ) accounted for an additional 6.9% of the variance in time 1 intentions to binge drink in the next 2 weeks. This model showed that level of identification with the referent group moderates the normative influence of group norm for family and friends outside university while tendency to use social comparison moderates the influence of group norm for both friendship groups on participants' time 1 intentions to binge drink.

Table 6.3.16

Correlations with time 1 intentions to binge drink

Predictor	r	sig
Group Norm for Family	.333	.000
Group Norm for Close Friends at University	.498	.000
Group Norm for Close Friends Outside University	.521	.000
Family Awareness of Drinking	-.121	.029
Close Friends at University Awareness of Drinking	.188	.002
Close Friends Outside University Awareness of Drinking	.151	.009

Predictor	r	sig
Tendency to use Social Comparison	.144	.012
Identification to Family	-.039	.274
Identification to Close Friends at University	.185	.002
Identification to Close Friends Outside University	.238	.000
Group Norm*Awareness Family	.115	.036
Group Norm*Awareness Close Friends at University	-.015	.410
Group Norm*Awareness Close Friends outside University	.024	.353
Tendency to use Social Comparison * Group Norm Family	.163	.005

Table 6.3.17

## Contribution of predictors

Model	Predictor	R <sup>2</sup>	R <sup>2</sup> Change	VIF	β	t	Sig
1	Group Norm for Family	.390	X	1.329	.245	4.241	.000
	Group Norm for Close Friends at University			1.869	.238	3.477	.001
	Group Norm for Close Friends Outside University			1.897	.253	3.673	.000
	Family Awareness of Drinking			1.504	-.180	-2.933	.004
	Close Friends at University Awareness of Drinking			2.260	.065	.860	.391
	Close Friends Outside University Awareness of Drinking			2.404	.061	.791	.430
	Tendency to use Social Comparison			1.194	.073	1.333	.184
	Identification with Family			1.163	-.063	-1.172	.242
	Identification with Close Friends at University			1.461	.088	1.447	.149
	Identification with Close Friends Outside University			1.319	.044	.764	.446
2	Group Norm for Family	.459	.069	14.234	-.293	-1.645	.101
	Group Norm for Close Friends at University			2.479	.192	2.585	.010
	Group Norm for Close Friends Outside University			2.630	.316	4.126	.000
	Family Awareness of Drinking			1.682	-.161	-2.634	.009
	Close Friends at University Awareness of Drinking			2.606	-.024	-.311	.756
	Close Friends Outside University Awareness of Drinking			2.810	.151	1.909	.058

Model	Predictor	R <sup>2</sup>	R <sup>2</sup> Change	VIF	β	t	Sig
	Tendency to use Social Comparison			24.483	.083	.357	.722
	Identification with Family			1.205	-.084	-1.625	.106
	Identification with Close Friends at University			1.679	.112	1.840	.067
	Identification with Close Friends Outside University			1.372	.036	.646	.519
	Group Norm*Awareness Family			1.385	-.041	-.733	.465
	Group Norm*Awareness Close Friends at University			2.386	-.095	-1.310	.191
	Group Norm*Awareness Close Friends outside University			2.411	.080	1.089	.277
	Tendency to use Social Comparison * Group Norm Family			8.871	.154	1.099	.273
	Tendency to use Social Comparison * Group Norm Close Friends at University			19.559	.551	2.643	.009
	Tendency to use Social Comparison * Group Norm Close Friends outside University			26.439	-.718	-2.962	.003
	Identification*Group Norm Family			13.916	.501	2.845	.005

Model	Predictor	R <sup>2</sup>	R <sup>2</sup> Change	VIF	β	t	Sig
	Identification*Group						
	Norm Close Friends at University			1.863	.063	.985	.326
	Identification*Group						
	Norm Close Friends Outside University			1.762	.193	3.079	.002

### 6.3.7 Assessment of Moderator Effects on the Intention-Behaviour relationship

It was hypothesised that past behaviour, habit and PBC would moderate the relationship between intentions and behaviour. Moderated regression was utilised to assess for these effects. To reduce the effects of multicollinearity variables were mean centred before being utilised in these analyses.

Table 6.3.18  
Correlations with Binge Drinking Behaviour

Predictor	r	sig
Past behaviour	.567	.000
Habit	.514	.000
PBCSE	.202	.002
intention	.584	.000
Past behaviour*intention	-.181	.006
Habit*intention	-.104	.077
PBCSE*intention	-.119	.050

The initial regression model ( $F(4,186) = 31.197, p < .001, R^2 = .389$ ) accounted for 38.9% of the variance in binge drinking behaviour. With

intention and past behaviour making significant contributions. The second model ( $F(7,183) = 17.839, p < .001, R^2 = .383$ ) showed no improvement and failed to demonstrate any moderating effects of past behaviour, habit and PBCSE on the intention behaviour relationship.

Table 6.3.19

Contributions of predictors of Binge Drinking Behaviour

Model	Predictor	R <sup>2</sup>	R <sup>2</sup> Change	VIF	β	t	Sig
1	Past behaviour	.389	X	3.486	.313	2.954	.004
	Habit			2.381	.095	1.088	.278
	PBCSE			1.498	-.134	-1.926	.056
	intention			2.399	.347	3.944	.000
2	Past Behaviour	.383	-.006	3.570	.312	2.896	.004
	Habit			2.927	.106	1.092	.276
	PBCSE			1.903	-.168	-2.137	.034
	intention			2.782	.347	3.647	.000
	Past behaviour*intention			3.735	.044	.396	.693
	Habit*intention			3.174	-.039	-.388	.698
	PBCSE*intention			1.842	-.080	-1.031	.304

### 6.3.8 The Relationship between Drinking Behaviour and Friendship

The hypotheses that self-reported number of friends would increase with increased drinking behaviour was tested. The relationship between drinking behaviour and in group identification and belonging were also assessed testing the hypothesis that in group identification and in-group belonging would increase with drinking behaviour.

Assessment of normality revealed data was non-normally distributed (Table 6.3.20).

Due to the non-normal distribution of the data which was too extreme to be corrected by removal of outliers or application of transformations non parametric correlations were utilised to assess the relationship between drinking behaviour, number of friends, in-group identification and in-group belonging. As can be seen in Table 6.3.21 all correlations were significant.

Table 6.3.20

Descriptive statistics

Variable	Skew	Kurtosis	Median
Drinking Behaviour	.859	-1.166	9
N of Friends outside university	40.953	156.831	20
N of Close friends outside university	12.846	19.963	5
N of Friends at university	20.322	47.845	20
N of Close friends at university	29.497	96.659	4
In Group Identification with close friends at university	-9.181	8.689	21
In Group Belonging with close friends at university	-8.383	5.517	11
In Group Identification with close friends outside university	-8.698	6.993	23
In Group Belonging with close friends outside university	-8.356	5.848	12

Table 6.3.21

Correlations with self-reported drinking behaviour at time 1

Variable	Spearman's R	Sig	N
N of Friends outside university	.325	.000	273
N of Close friends outside university	.346	.000	276
N of Friends at university	.363	.000	276
N of Close friends at university	.449	.000	278
In Group Identification with close friends at university	.277	.000	277
In Group Belonging with close friends at university	.278	.000	278
In Group Identification with close friends outside university	.223	.000	277
In Group Belonging with close friends outside university	.209	.000	277

Following significant correlations indicating relationships between drinking behaviour, number of friends, in-group identification and in-group belonging a MANOVA analysis was conducted to test the hypotheses that: binge drinkers and non-binge drinkers would differ in terms of number of friends with those who binge drink reporting a higher number of friends; binge drinkers and non-binge drinkers would differ in terms of self-reported in group belonging and identification with friends with binge drinkers reporting higher levels of identification and belonging. In line with Wechsler and Kuo (2000) three groups of drinkers were compared, non-binge drinkers (N = 77) who reported not binge drinking in the two week study period, binge drinkers (N= 151) who reported binge drinking on less than 3 occasions during the study period and frequent binge drinkers (N= 44) who reported binge drinking 3 or more times in the study period. Comparison of three groups rather than two allows the assessment of potential threshold effects of any relationships between binge drinking and friendship therefore considering not just whether participating in binge drinking relates to friendship but also whether frequency of binge drinking plays a role.

A number of the assumptions of MANOVA were violated but as observed power was high and there is no alternative to MANOVA the test was conducted. Results should however be treated with caution. Specifically the sample was not random, but it was diverse, the dependent variables were non-normally distributed (Table 6.3.33), Levene's tests showed homogeneity of variance could not be assumed for all variables (Table 6.3.34) and Box's test showed that the assumption of equality of covariance was not met (Box's M = 289.348,  $F(72, 56535.253) = 3.792$ ,  $p = .000$ ).

Table 6.3.22

## Descriptive Statistics

Variable	Drinking Group	Skew	Kurtosis	Mean	SD
Number of Friends Outside University	Non-binge	22.431	82.900	24.140	36.318
	Binge	31.427	111.884	34.640	61.406
	Frequent Binge	6.331	7.217	43.750	45.856
Number of Close Friends Outside University	Non-binge	5.109	4.353	4.040	2.895
	Binge	7.724	6.563	6.060	3.862
	Frequent Binge	6.006	9.677	7.430	5.333
Number of Friends at University	Non-binge	10.073	17.619	19.230	17.970
	Binge	18.528	51.207	27.120	24.565
	Frequent Binge	4.924	6.603	38.660	28.404
Number of Close Friends at University	Non-binge	5.493	5.104	3.130	2.755
	Binge	23.010	76.040	5.920	5.769
	Frequent Binge	9.829	23.537	8.340	8.032
In-Group Identification with Close Friends Outside University	Non-binge	-4.164	2.948	18.662	6.155
	Binge	-7.372	7.581	21.182	4.935
	Frequent Binge	-2.389	1.695	22.318	4.181
In-Group Belonging with Close Friends Outside University	Non-binge	-3.343	0.521	9.286	3.620
	Binge	-6.040	4.707	10.987	2.644
	Frequent Binge	-3.165	1.919	11.546	2.317
In-Group Identification with Close Friends at University	Non-binge	-4.062	2.342	21.325	5.401
	Binge	-5.814	4.278	22.723	4.184
	Frequent Binge	-5.490	8.074	24.114	4.172
In-Group Belonging with Close Friends Outside University	Non-binge	-3.978	2.458	10.922	2.780
	Binge	-5.759	3.543	11.500	2.340
	Frequent Binge	-5.496	7.124	12.182	2.295

Table 6.3.23

## Levene's test results

Variable	F	DF1	DF2	Sig
Number of Friends outside University	1.704	2	266	.184
Number of Close Friends outside university	5.123	2	266	.007
Number of Friends at University	4.220	2	266	.016
Number of Close Friends at University	7.224	2	266	.001
In-group Identification with Close Friends Outside University	3.626	2	266	.028
In-group Belonging with Close Friends Outside university	1.940	2	266	.146
In-group Identification with Close Friends at University	2.826	2	266	.061
In-group Belonging with Close Friends at University	7.037	2	266	.001

Due to the violations of assumptions, unequal sample sizes and the use of only 1 independent variable in the analysis, Hotellings Trace was the most

appropriate statistic to report. There was a significant effect of binge drinking ( $T = .233$ ,  $F(16,516) = 3.600$ ,  $p = .000$ ,  $\eta_p^2 = .100$ ). ANOVA analysis (with bonferroni correction applied, testing to .006) revealed significant effects in number of close friends outside university ( $F(2,266) = 11.936$ ,  $p = .000$ ,  $\eta_p^2 = .082$ ) number of friends at university ( $F(2,266) = 9.539$ ,  $p = .000$ ,  $\eta_p^2 = .082$ ) number of close friends at university ( $F(2,266) = 13.126$ ,  $p = .000$ ,  $\eta_p^2 = .090$ ), in group identification ( $F(2,266) = 8.643$ ,  $p = .000$ ,  $\eta_p^2 = .061$ ) and in-group belonging ( $F(2,266) = 11.469$ ,  $p = .000$ ,  $\eta_p^2 = .079$ ) for close friends at university and in-group identification with close friends outside university ( $F(2,266) = 5.465$ ,  $p = .005$ ),  $\eta_p^2 = .039$ ) but not for number of friends outside university ( $f(2,266) = 2.057$ ,  $p = .130$ ) or in group belonging for close friends outside university ( $F(2,266) = 3.729$ ,  $p = .025$ ). Planned comparisons with bonferroni correction showed differences were significant predominantly between non-binge drinkers compared to binge and frequent binge drinkers but not for binge drinkers compared with frequent binge drinkers. The results of the planned comparisons are displayed in Table 6.3.22.

Table 6.3.24

## Planned Comparisons

Dependent Variable	Level (1)	Level (2)	Sig
Number of Close Friends Outside University	Non Binge	Binge	.001*
	Non Binge	Frequent Binge	.000*
	Binge	Frequent Binge	.154
Number of Friends at University	Non Binge	Binge	.059
	Non Binge	Frequent Binge	.000*
	Binge	Frequent Binge	.012*
Number of Close Friends at University	Non Binge	Binge	.001*
	Non Binge	Frequent Binge	.000*
	Binge	Frequent Binge	.034*
In-Group Identification with Close Friends at University	Non Binge	Binge	.004*
	Non Binge	Frequent Binge	.001*
	Binge	Frequent Binge	.481
In-Group Belonging to Close Friends at University	Non Binge	Binge	.000*
	Non Binge	Frequent Binge	.000*
	Binge	Frequent Binge	.611
In-Group Identification with Close Friends Outside University	Non Binge	Binge	.073
	Non Binge	Frequent Binge	.004*
	Binge	Frequent Binge	.263

### 6.3.9 Participation in Drinking Games

Regression analyses were utilised to test the hypothesis that participants' motives for taking part in drinking games would predict the frequency with which they participated in drinking games. Five motives were considered, playing drinking games to: get drunk; meet people; control others; get others drunk; have fun; fit in. Data was accepted as normally distributed (Zskewness = .0986, Zkurtosis = 2.068). Cook's Distance indicated one potential outlier from the model, this participant's data were removed from this analysis (ID = 210, Cook's D = .12238).

Table 6.3.25

Correlations to frequency of participation in drinking games

Predictor	R	Significance	Tolerance	VIF
To get drunk	.476	.000	.535	1.868
To meet people	.588	.000	.538	1.859
To control others	.119	.025	.866	1.154
To get others drunk	.416	.000	.644	1.553
To have fun	.547	.000	.449	2.226
To fit in	.289	.000	.809	1.235

Multiple regression showed the model to be significant ( $F(6,266) = 39.191$ ,  $p < .000$ ,  $R^2 = .469$ ) predicting 46.9% of the variance in frequency of participation in drinking games. The motives 'to get drunk', 'to meet people' and 'to get others drunk' acted as significant predictors. The non-significant predictors were removed leaving a final regression model ( $F(3,269) = 79.049$ ,  $p < .000$ ,  $R^2 = .452$ .)

Table 6.3.26

Contributions of predictors of frequency of participation in drinking games

Predictor	R <sup>2</sup>	$\beta$	t	Significance
To get drunk	.227	.131	2.146	.033
To meet people	.346	.386	6.330	.000
To control others	.014	-.075	-1.565	.119
To get others drunk	.173	.219	3.934	.000
To have fun	.299	.130	1.934	.053
To fit in	.084	.094	1.895	.059

A further hypothesis that participants would report higher frequency of participation in drinking games since starting university compared to the frequency of participation in drinking games in their life time was tested. Assessment of normality revealed data to be non-normally distributed (Table 6.3.27).

Table 6.3.27

Descriptive statistics for frequency of participation in drinking games

Frequency of Participation in Drinking Games	Skew	Kurtosis	Median	Mean Rank
Lifetime	1.327	0.973	3.50	75.37
Since starting University	1.878	2.717	4.00	80.06

A Wilcoxon signed ranks test showed a significant difference ( $Z = -8.665$ ,  $p = .000$ ) but due to the high number of tied ranks ( $N = 116$ ) a repeated measures t-test was also conducted to try to confirm this result ( $t(273) = -10.043$ ,  $p = .000$ ) this supported the Wilcoxon result. Participants report a higher frequency of participation in drinking games since starting university compared to in their lifetime.

### 6.3.10 Summary of Key Findings

The TPB was supported as an effective model of student binge drinking explaining 51% of the variance in time 1 intentions to binge drink in the next two weeks and 34.7% of the variance in binge drinking behaviour. Attitudes were found to be the most effective predictor of intentions with subjective norm for close friends at university also contributing. Intention but not the measure of perceived control predicted behaviour.

Further to this expanded models of the TPB were found to explain more of the variance in both intentions and behaviour. A model including attitude, group norm for close friends at university, the combined measure of control beliefs and self-efficacy, self-identity, the importance of nights out to life at university, and anticipated regret explained 69.6% of the variance in time 1 intentions to binge drink in the next two weeks. An expanded model including intention, group norm for close friends outside university, the importance of athletics and sports to life at university and the

importance of academic work to life at university explained 51.5% of the variance in binge drinking behaviour.

Level of identification to referent group was found to moderate the norm-intention relationship for both family and close friends outside university. Tendency to use social comparison was found to moderate the norm-intention relationship for close friends both at and outside university.

Past behaviour, habit strength and the combined measure of perceived control and self-efficacy all failed to act as moderators of the intention-behaviour relationship.

## **6.4 Discussion**

### **6.4.1 Drinking Behaviour**

The results support those of studies 1 and 2 as well as previous research (Norman, Bennett & Lewis, 1998; Webb et al., 1996; Marks Woolfson & Maguire, 2010) showing that alcohol consumption and binge drinking are normative in the student population. Over 70% of participants report binge drinking in the past two weeks, with binge drinking occurring approximately once a week on average. Similarly student drinking was once again shown to be problematic with 75% of participants meeting the AUDIT C criteria for problematic alcohol use.

### **6.4.2 Year Differences**

The only significant difference identified between year groups was in time 2 intentions to binge drink where second year students reported significantly stronger intentions to binge drink in the next two weeks compared to first and third year students. The hypotheses that there will be significant year differences in students' overall drinking behaviour

(measured as frequency of binge drinking in the past two weeks combined with AUDIT C total score) at time 1, time 1 intentions to binge drink in the next two weeks, time 2 intentions to binge drink and time 2 self-reported frequency of binge drinking in the past two weeks, with first years reporting lower levels of alcohol consumption and weaker intentions to binge drink compared to second and third year students, were not supported. These results fail to support the results of study 2 and those of previous literature (Bewick et al., 2008; Engs & Hanson, 1993). It is suggested that the difference between the results of studies 2 and 3 are due to the fact that study 3 achieved a larger more diverse sample with a more even distribution across the year groups. However this does not explain why neither the results of study 2 or 3 support those of previous research. It is suggested that this differentiation stems from cross country differences in terms of the development of drinking behaviour over the university period.

#### **6.4.3 Gender Differences**

Male students were found to report significantly higher levels of alcohol use (measured as frequency of binge drinking in the past 2 weeks combined with AUDIT C score), time 1 intentions to binge drink, time 2 intentions to binge drink and time 2 self-reported binge drinking behaviour in the past two weeks, compared to female students. This fails to support the hypothesis that there would be no significant gender differences in measures of alcohol use, binge drinking or intentions to binge drink and is contrary to the findings of study 2. However this does support previous research which has indicated that gender differences exist in alcohol use with males consistently drinking more and more frequently than females (Makela & Mustonen, 2000; Naimi et al., 2003;

Wechsler et al., 1994). It is suggested that differing results of study 2 and 3 with regards to gender differences in alcohol use are due to the larger sample size achieved in study 3 compared to study 2. However the sample still contained more than twice as many females than males which is not desirable for between group comparisons.

#### **6.4.4 Predicting Student Binge Drinking**

The findings support the application of the TPB to the prediction of students' intentions to binge drink and binge drinking behaviour, accounting for 50.5% of the variance in intentions and 34.7% of the variance in behaviour. These findings are in line with previous evidence from applications of the TPB (see Armitage & Conner, 2001 for a meta-analysis). However the results only offer partial support for the hypotheses that: the TPB variables will predict students' self-reported intentions to binge drink in the next two weeks; The TPB variables will predict students' self-reported binge drinking behaviour in the next two weeks. While attitude was found to be a significant predictor of intentions the subjective norm-intention relationship was much weaker and only subjective norm for friends at university not family or friends outside university acted as a significant predictor. Further to this the measure of PBC, encompassing control beliefs alone, failed to act as a significant predictor of either intention or behaviour.

An intention behaviour gap was present and as PBC failed to act as a significant predictor this construct was not able to explain further variance in intentions. This validates the consideration of moderators of the intention behaviour relationship and additional predictors of behaviour as well as the expansion of the PBC construct. Similarly while utilising a single component measure of PBC focused on controllability resolved issues

encountered in study 2 regarding the low internal reliability this measure fails to act as a significant predictor of intentions, showing that further consideration of the measurement and conceptualisation of PBC was appropriate. The findings regarding subjective norm indicate that only the normative influences of the closest peer group are important in the prediction of students' intentions to binge drink. This supports the work of Terry and colleagues (Terry & Hogg, 1996; Terry & O'Leary, 1995; White, Terry, & Hogg, 1994). In line with previous literature (see Ajzen, 1991; Armitage & Conner, 2001) subjective norm contributed less to the explanation of intentions than did attitude which validates the consideration of expansions to the normative component of the TPB.

#### **6.4.5 Expanding the TPB**

##### ***6.4.5.1 Predicting Intentions***

The results support the expansion of the TPB with the expanded model being able to account for an additional: 19.1% of the variance in intentions at time 1. This also supports the hypothesis that the expanded TPB model will account for more variance in students' self-reported intentions to binge drink in the next two weeks, compared to the original TPB model.

Expanding subjective norm to group norm comprising measures of both injunctive and descriptive norms appeared effective with beta value showing a .75 increase for the contribution of group norm for close friends at university. However this expansion did not instigate significant contributions for other referent groups considered. These findings lend support to the previous literature which has demonstrated the role of descriptive as well as injunctive norms in the prediction of intentions (Rivis & Sheeran, 2003; McMillan & Conner, 2003; Jamison and Myers, 2008). Further to this, the fact that norms for friends at university acted as a

significant predictor while norms for family or friends outside university did not support the suggestion that only norms of the most salient referent group will influence intentions (Johnston & White, 2003; Terry & Hogg, 1996).

The expansion of the PBC component to consider both controllability and self-efficacy was also successful with the contribution of PBC becoming significant in the expanded model. However consideration should be given in future research as to whether the controllability measures are necessary and if a measure of self-efficacy alone would make the most effective predictor of intentions.

A number of the additional variables considered were found to make significant contributions to the prediction of intentions above those of the original TPB variables supporting previous literature. Self-identity (Conner & Armitage 1998; Hagger et al., 2007), importance of nights out to university life (Wechsler et al. 1995) and anticipated regret (Cooke, Sniehotta & Schüz, 2007; Richard et al., 1996) made significant contributors with anticipated regret showing a negative relationship to intentions. This offers partial support to the hypotheses that: An expanded TPB model including attitudes, PBC, self-efficacy and group norms for family, close friends at university and close friends outside university will account for more variance in intentions to binge drink in the next two weeks than a TPB model including attitudes, PBC, and subjective norm for family, close friends at university and close friends outside university; Past behaviour, habit, moral norm, anticipated regret and self-identity will act as additional significant predictors of intentions to binge drink in the next two weeks.

#### ***6.4.5.2 Predicting Behaviour***

The results support the hypothesis that 'the expanded TPB model will account for more variance in students' self-reported binge drinking behaviour in the next two weeks, compared to the original TPB model' with an additional 16.8% of the variance in behaviour being accounted for. However they fail to support to the hypothesis that: past behaviour and habit will act as additional significant predictors of self-reported binge drinking behaviour. While intention is found to be the most effective predictor of behaviour, group norm for close friends outside university, the importance of athletics and importance of academics in university life also emerge as significant predictors, with the importance of academics showing a negative relationship to behaviour. These findings demonstrate that while intention may be the most effective predictor of behaviour additional factors relating to norms and university lifestyle also make direct contributions which should be included in an holistic model of student binge drinking.

The findings fail to support the role of PBC in the prediction of behaviour even where PBC measures both perceived controllability and self-efficacy it does not predict student binge drinking behaviour. A number of explanations can be suggested for this. Firstly it has been shown that where behavioural control is high, behaviours fall predominantly under volitional control and the effect of PBC is negated (Ajzen, 1991; Baron & Kenny, 1986) it can therefore be suggested that student drinking falls entirely or almost entirely under volitional control. Secondly it has been suggested in cases where PBC is high it influences behaviour by facilitating the implementation of intentions to action which would be identified as a moderating effect of PBC on the intention-behaviour relationship (Ajzen,

1991) this effect is discussed in the later section regarding the moderation of the intention-behaviour relationship. Finally, it should also be noted that this study considered PBC regarding the ability to binge drink, consideration of PBC regarding drink refusal and abstinence from binge drinking may be able to account for further variance in student binge drinking behaviour, with previous research showing that drink refusal self-efficacy can predict frequency and quantity of alcohol use (Baldwin, Oei, & Young, 1993). The supported expanded model is shown in Figure 6.4.1

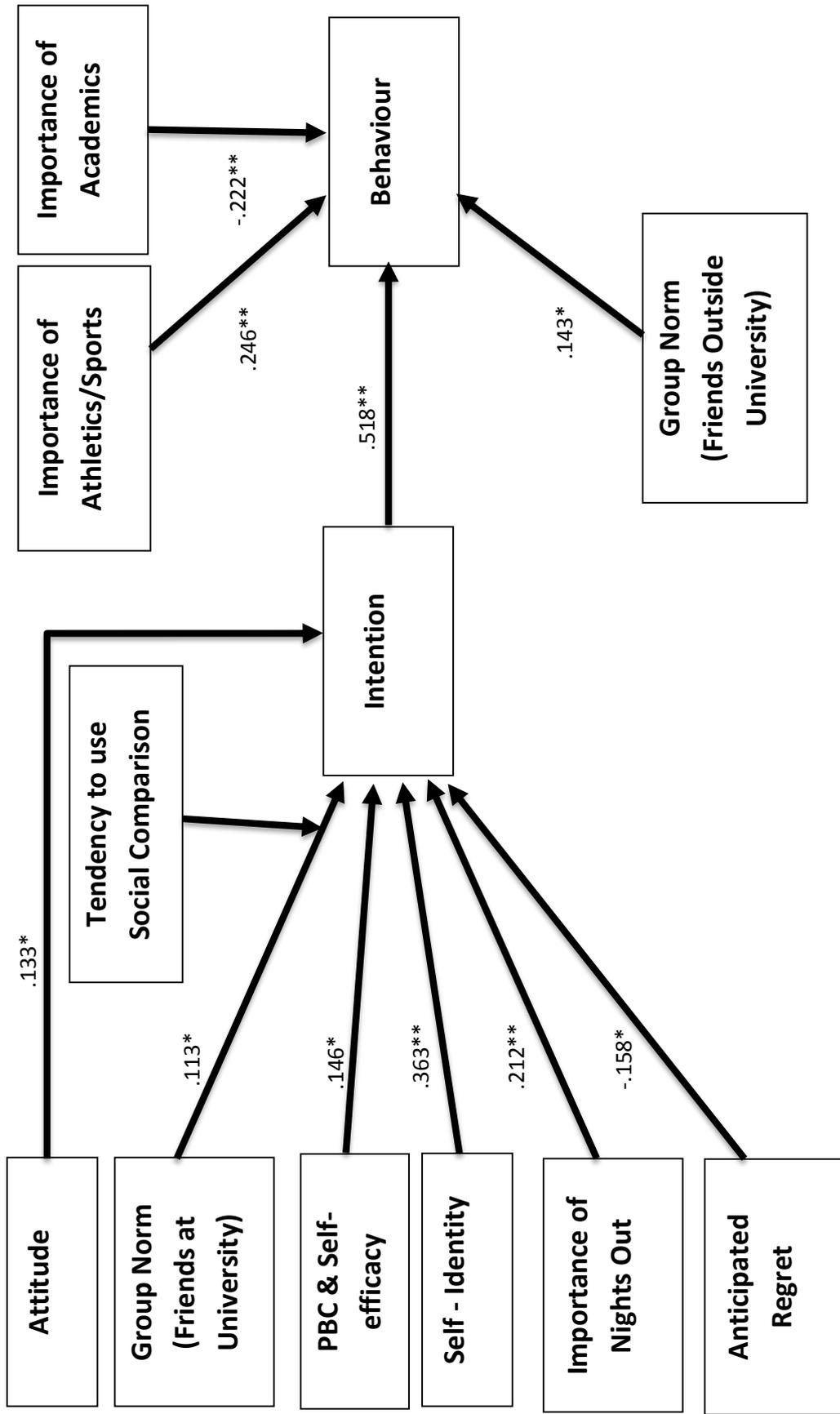


Figure 6.4.1: The supported expanded TPB model

### 6.4.5.3 Moderating Normative Influences

The supported moderated model can be seen in Figure 6.4.2. The findings failed to support the hypothesis that each referent groups' awareness of an individual's binge drinking will moderate normative influences of this referent group on intentions to binge drink. However, partial support was found for the hypotheses that identification and tendency to use social comparison will moderate the relationship between normative influences and intentions, with identification acting as a moderator for the influence of family and friends outside university and tendency to use social comparison moderating the influence of close friends both at and outside university. This supports Social Identity Theory and work by Terry and colleagues (Terry & Hogg, 1996; Terry, Hogg & White, 1999; White, Terry & Hogg, 1994).

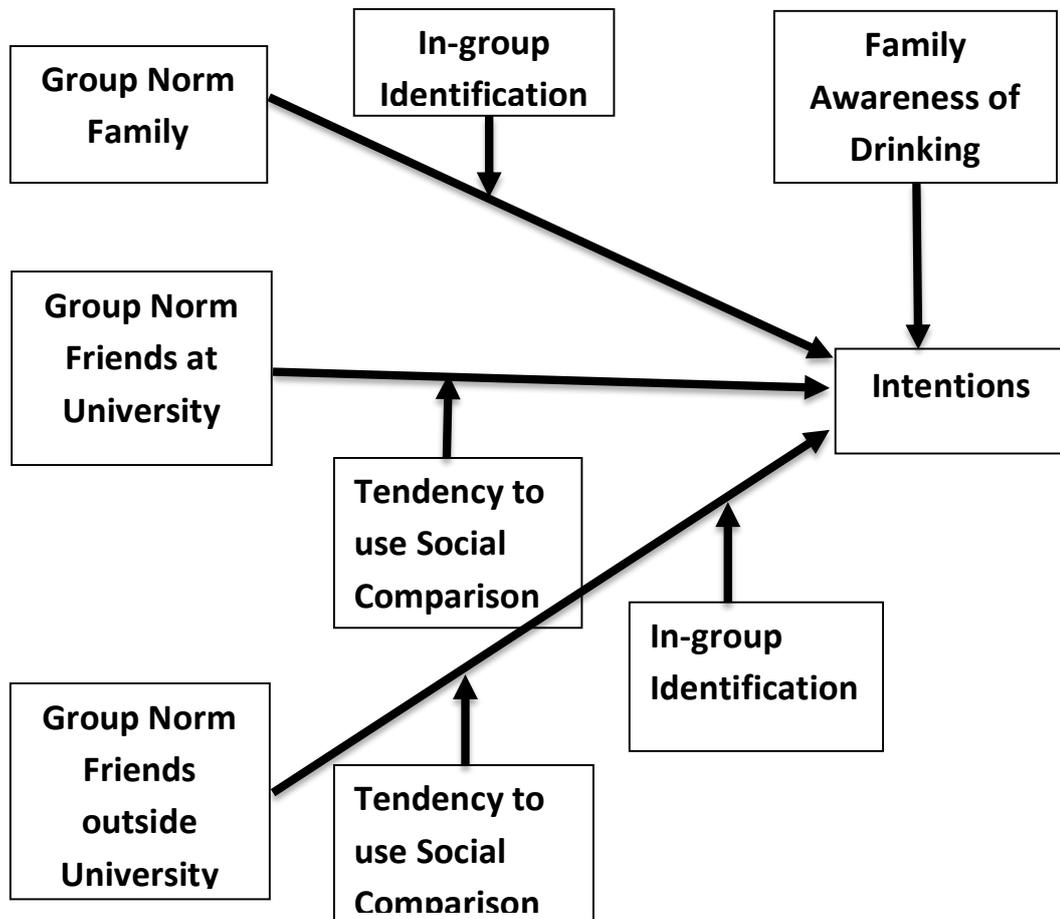


Figure 6.4.2 The Supported Moderated Model of Normative Influences on intentions

Further to this the perceived awareness of family regarding binge drinking behaviour acted as an additional predictor of intentions. As these effects were tested in the absence of attitude and PBC awareness of family should be tested as a potential further expansion to the TPB. This result does however support the findings of qualitative work which has indicated that level of parental involvement shows a negative relationship to drinking behaviour (Broadbear, O'Tool & Angerneier-Howard, 2000; Russel-Bennett, Hogan & Perks, 2010).

As the test of the expanded TPB model revealed that group norm for friends outside university acted as a direct predictor of intentions future research may seek to test whether this relationship is also moderated by identification and tendency to use social comparison.

#### ***6.4.5.4 Moderating the intention-behaviour relationship***

No evidence of past behaviour, habit or PBC (including measures of both control and self-efficacy) moderating the intention-behaviour relationship was found refuting the hypotheses that: Past behaviour will moderate the relationship between intentions and behaviour; Habit will moderate the relationship between intentions and behaviour; PBC will moderate the relationship between intentions and behaviour. This contradicts some previous research (e.g. Norman and Conner, 2006) but supports Ajzen's (1991) earlier stipulations that the effects of past behaviour are mediated by the existing TPB variables.

The assessment of moderating influences did show that in the absence of normative influences, importance of academic work and importance of athletics past behaviour acted as a direct predictor of behaviour. This in combination with the fact that past behaviour was not shown to predict current behaviour in the test of the expanded TPB model suggests that

these effects are mediated by other variables. This finding could be useful not just for understanding of the past behaviour – behaviour relationship but also for intervention works which can target these alternative variables in order to break the past behaviour – behaviour relationship however future research is needed to directly assess this potential mediation.

#### **6.4.5.5 Demographics**

##### **Ethnicity**

Despite the larger more diverse sample achieved in this work compared to study 2 the sample remains largely homogenous with regards to ethnicity with a large majority of participants identifying themselves as being white British. It was not therefore possible to assess differences in intentions to binge drink and binge drinking behaviour by ethnicity. Future research could use targeted recruitment in order to achieve a sample with more equal distributions across ethnic groups and therefore allow between groups analysis to be conducted.

##### **Religion**

Although assessing the importance of religion to university life allowed the influence of religion to be assessed in a sample which demonstrates a high level of religious homogeneity, religion was not found to predict either intentions to binge drink or binge drinking behaviour. However assessing how important religion is to the individual rather than to their life at university may show different results.

#### **6.4.6 Alcohol and Friendship**

Correlational and within groups analysis partially supported the hypotheses regarding the relationship of drinking behaviour and friendship. Significant correlations were identified between drinking

behaviour and numbers of friends and close friends both at and outside university. Significant correlations were also identified between drinking behaviour and measures of in group belonging and identification for close friends both at and outside university. Further to this between groups analyses identified significant differences between non-binge compared to binge drinkers and non-binge compared to frequent binge drinkers with non-binge drinkers reporting less friends at and outside university and less close friends at university and significantly lower levels of in-group identification and belonging with close friends at university and lower levels of in group identification with close friends outside university. However significant differences were generally not found between binge drinkers and frequent binge drinkers.

This work does not show causality and considering that drinking was reported by the participants of study 1 as the primary method of socialising for students it is likely that these relationships are, at least in part, being mediated by the amount of time spent socialising. However it is clear that there is a relationship between alcohol use, binge drinking and friendship relationships. This finding is of importance for intervention and prevention efforts as reducing such behaviours without offering students with adequate alternative opportunities to socialise without alcohol use could have negative impacts for students' friendship relationships which could in turn lead to more restricted social support systems. Additionally providing students with adequate alternative methods of socialising may also act as an intervention by reducing the reliance on alcohol for social gains.

#### **6.4.7 Participation in Drinking Games**

Regression analyses supported the hypothesis that drinking game participation would be predicted by students' motives for playing drinking games with importance of drinking to get drunk, to meet people and to get others drunk acting as significant predictors which in combination accounted for 46.9% of the variance in drinking game participation. Participation in drinking games was also found to be higher since starting university indicating that while drinking games are not played exclusively by students, attending university may be acting as a risk factor for participation in drinking games. However it could also be that drinking game participation is higher among the 18-25 year age group in general therefore future research should seek to establish whether similar relationships exist in non-student populations.

#### **6.4.8 Further Limitations**

Although the TPB and the expanded TPB were able to account for variance in behaviour this work only sought to predict behaviour over a two week period. Comparing self-reported binge drinking at time 1 with the same measure at time 2 showed an increase in the number of students binge drinking in the study period lending support to previous findings that student binge drinking behaviour varies over time (Schulenberg et al., 1996; Vik, Tate & Carrello, 2000; Weingardt et al., 1998) which is likely to be reflected in reduced predictive validity of the TPB over extended periods. However these results could have been influenced by the fact that drinking behaviour at time 2 occurs in a period when participants have already begun the study and have been exposed to the 5/4 measure of binge drinking which could have served to increase their awareness of their drinking behaviours and thus increase the accuracy of self-reported

behaviour. Alternatively it is possible that lower drinking groups showed higher rates of attrition. However neither of these effects were tested, therefore strong conclusions regarding this were not tested.

#### **6.4.9 Conclusions**

Although the original TPB has been shown to be effective in predicting both intentions and behaviour with regards to student binge drinking, expanded models are able to account for further variance and have identified additional factors which may be useful in the development of future intervention and prevention works. These applications are discussed in more depth in the next chapter. As a whole the findings highlight the fact that utilising theoretical models to understand drinking behaviour is useful but also demonstrate that relying on established theories alone is likely to limit understanding.

## **7 Discussion of Findings**

### **7.1 Summary of Key Findings**

#### **7.1.1 Study 1 Qualitative Research**

The thematic analysis of study 1 focus group transcripts demonstrated that: Students perceive alcohol use and binge drinking to be both normative and acceptable in student populations with few participants being able to identify individuals who did not drink. Though students identified that they drank in a number of different ways a clear structure to a typical night out emerged with pre-drinking and drinking games emerging as key components before students leave for the city centre or student union. As these behaviours are considered to be synonymous with student life it follows that students will not expect to continue drinking in the same way once they are no longer students and this understanding was also portrayed in the analysis. Drinking alcohol was employed by students to allow them to have fun and socialise and alcohol use was seen to both facilitate social inclusion and enhance social bonds. Price and saving money were discussed frequently in the focus groups and it was clear that price influenced the way students consumed alcohol. However there was no evidence that price influenced how often or how much students drank with multiple money saving methods being employed to keep the monetary costs of drinking low. Many of these findings support the findings of previous qualitative work conducted with students and young people (e.g. Broadbear, O'Toole & Angermeier-Howard, 2000; Dodd et al. 2010; Emery, Ritter-Randolph & Strozier, 1993; Joseph Rowntree Foundation, 2010; Engineer, 2003 Johnson, 2006).

The content analysis found that: While students are knowledgeable about both the positive and negative consequences of alcohol use they refer more frequently to the positive consequences regarding their own drinking behaviour but more frequently to the negative consequences when discussing alcoholism and problem drinking. Further to this there was evidence that students reframe negative consequences constructing them as less serious, or as humorous and dismissing them as common therefore not concerning.

A final finding of note from this study is that students conceptualise binge drinking as drinking to get drunk. They are able to present a number of arguments for applying this definition rather than a 'cut off' definition, specifically stating that it can account for individual differences in sensitivity to the effects of alcohol and for both the increased speed and volume of alcohol consumption which they felt set binge drinking apart from other forms of alcohol consumption. This finding also supports previous qualitative research (Bonar et al., 2012; Joseph Rowntree Foundation, 2010; Workman, 2001).

The findings of this work strongly support the application of social cognitive models to the prediction of student alcohol use and binge drinking. Specifically students foreground the experienced and expected outcomes of alcohol use and binge drinking as reasons for engaging in these behaviours. This closely relates to the concepts of behavioural beliefs and attitudes. Similarly discussion of drinking during time as a student as being both acceptable and expected fits well with the construct of subjective norms, while the fact that participants were able to identify few instances of avoiding alcohol and few friends who did not drink along with descriptions of the frequency and commonality of drinking behaviour

among students relate to the construct of descriptive norms. Issues regarding control and barriers to alcohol use are also evident with students employing methods to reduce the influence of barriers such as the price of drinks in bars and clubs. In combination these findings show that while students may not use the same terminology as social psychological theorists, the theoretical concepts relate to students experiences and conceptualisations of alcohol use.

### **7.1.2 Study 2 Cross-sectional Theory of Planned Behaviour Research**

Study 2 supported the findings of study 1 as well as previous research and statistics (e.g. Norman, Bennett & Lewis, 1998; Webb et al., 1996; Marks Woolfson & Maguire, 2010), identifying student binge drinking as normative with almost 70% of participants reporting binge drinking in the two weeks previous to data collection. Similarly research identifying student drinking behaviour as problematic (e.g. Jernigan, 2001; Knight et al., 2002; Wechsler et al., 1994) is also supported with over 80% of participants meeting the AUDIT C criteria for problematic alcohol use.

The TPB is supported as a model of student's intentions to binge drink with a combination of attitudes, subjective norm for family, subjective norm for friends and PBC explaining 63.3% of the variance in intentions to binge drink in the next two weeks. This supports the findings of previous applications of the TPB to the prediction of student binge drinking (e.g. Norman, 2011; Norman & Conner, 2006). In line with previous research findings (Collins & Carey, 2007; Cooke, Sniehotta & Schuz, 2007; Norman, 2011; Norman & Conner, 2006) and meta-analyses (e.g. Ajzen, 1991; Armitage and Conner, 2001), attitude showed the strongest relationship to intentions. This suggests that either intentions are more strongly related to attitudes than the constructs of subjective norm and PBC

(Ajzen, 1991) or that the measurement and conceptualisation of PBC and norms require improvement in order to effectively capture the influence of norms and level of control on behavioural intentions (Conner & Norman, 2005; Johnston & White, 2003; Terry & Hogg, 1996).

Further to this the potential for: past binge drinking behaviour; past involvement in drinking games; habit score for binge drinking; descriptive norms for family and friends drinking; in group identification and belonging with the friendship group at university; moral norm regarding binge drinking behaviour; anticipated regret of both drinking more and drinking less than 5/4 standard drinks in a single session; impulsivity; and sensation seeking to act as expansions to the TPB was identified. However findings regarding BIS BAS and optimistic bias measures demonstrated that they would not act as effective expansions for the TPB model to student binge drinking. The regression results offered partial support for the hypotheses that: Past behaviour, habit, optimistic bias, anticipated regret for binge drinking, anticipated regret for avoiding binge drinking, group norm for family and group norm for friends will act as significant additional predictors of intentions to binge drink in the next two weeks. The expanded model accounted for an additional 7% of the variance in intentions to binge drink in the next two weeks. The findings of Norman and Conner (2006) are supported with past behaviour acting as the strongest additional predictor of intentions ( $\beta = .371$ ). Similarly, the work of Norman (2011) is also, supported with habit acting as the second strongest additional predictor of intention ( $\beta = .201$ ), in fact these constructs contributed more to the prediction of intentions than either group norm for friends ( $\beta = .193$ ) or PBC ( $\beta = -.167$ ). Contrary to the work of Jamison and Myers (2008) the addition of descriptive norm did not improve the predictive power of the normative aspects of the TPB model

therefore supporting the conceptualisation of norms in the TPB model (Ajzen, 1991). The findings of Neighbor et al. (2008) showed that the predictive relationship between norms and behaviour varies dependent on the type of norm (injunctive or descriptive) and the referent (distal or proximal) being assessed. If the same is true for the norm-intention relationship then the failure of the expanded normative components to explain additional variance in intentions may be a result of combining descriptive and subjective norm into a single normative component for each of the referent groups. It is therefore recommended that future research explore descriptive and injunctive norms as separate constructs. The inclusion of past behaviour in the expanded model was found to mediate the effect of both PBC and group norm for friends on intentions. This was interpreted as being due to past experience with a behaviour influencing PBC with regards to that behaviour (Ajzen, 1991) and close relationships between an individual's drinking behaviour and that of their peers (e.g. Jamison & Myers, 2008).

Students' conceptualisation of binge drinking as being drinking to get drunk was established as being quantitatively different from research definitions of binge drinking as the consumption of 5/4 standard drinks on a single occasion. Drinking to get drunk set a higher threshold for binge drinking with less drinking occasions being identified by this description than the 5/4 measure. In support of this, students intentions to drink to get drunk were significantly weaker than their intentions to consume 5/4 standard drinks on a single occasion in the next two weeks.

Analyses regarding between groups differences in drinking behaviour showed no significant gender differences which fails to support evidence for a consistent gender gap in alcohol use (Makela & Mustonen, 2000;

Naimi et al., 2003; Wechsler et al., 1994) but supports indications that this gender gap has been closing (Johnston et al., 2010) suggesting that among students gender differences are subtle enough that they no longer reach statistical significance. Further between group analyses compared drinking behaviour across year groups and identified that second and third year students report significantly more occasions of binge drinking in the past two weeks and score significantly more highly on the AUDIT C in comparison to first year students. This in contrary to both the findings of study 1 and previous research conducted in the U.S. (Bewick et al., 2008; Engs & Hanson, 1993). In combination these discrepancies suggest that students are misperceiving changes in their drinking behaviour over years spent at university and that there may be cross country differences between the U.S. and England in terms of changes over time in students drinking behaviour.

### **7.1.3 Study 3 Prospective Theory of Planned Behaviour Research**

Once again student alcohol use was identified as normative with 71.5% of participants reporting binge drinking in the two weeks preceding time 1 data collection and 94.9% reporting binge drinking in the two week study period. As in study 2 previous research indicating that student drinking is problematic (Jernigan, 2001; Knight et al., 2002; Wechsler et al., 1994) is also supported with 89.6% meeting the AUDIT-C criteria for problematic alcohol use.

In line with previous applications of the TPB to student binge drinking (Johnson & White, 2003; Norman, 2011, Huchting, Lac & LaBrie, 2008; Collins & Carey, 2007; French & Cooke, 2012, Cooke, Sniehotta & Schuz, 2007) the TPB was supported as a model for predicting students' intentions to binge drink and their binge drinking behaviour, explaining

51% and 37.7% of the variance in concurrent intentions and intentions at two weeks respectively and 34.7% of the variance in drinking behaviour. However the role of control was not supported, with the measure of PBC failing to correlate with any of the measures of intentions or behaviour. This is in line with previous research findings (e.g. Norman, 2011; Conner, Warren, Close & Sparks, 1999; McMillan & Conner 2003; Norman & Conner, 2006) and strengthens arguments for measures of the PBC component to consider both control and efficacy beliefs (Ajzen, 1991; Norman & Conner, 2006; Marks Woolfson & Maguire, 2010) and that self-efficacy may be a more effective predictor of intentions and behaviour than PBC (Armitage & Conner, 2001; Norman & Conner 2006). The fact that only subjective norm for friends at university contributed to the prediction of intentions partially supports the work of Terry and colleagues (Terry & Hogg, 1996; Terry & O’Leary, 1995; White, Terry & Hogg, 1994) who proposed that only the influence of the most salient referent group will guide intentions. The supported model is displayed in Figure 7.1.1.

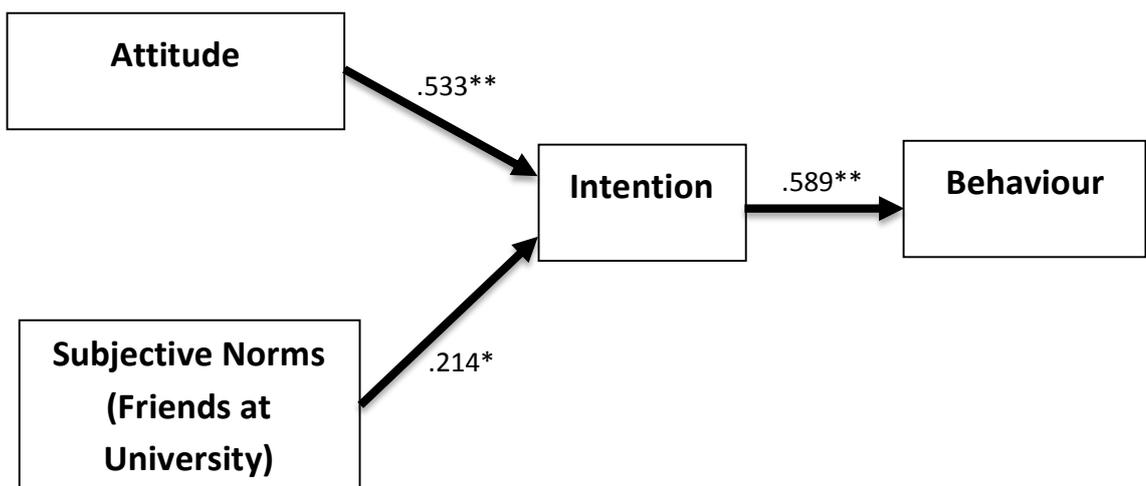


Figure 7.1.1. Supported TPB Model

Despite support for the TPB model, expansions were found to improve the predictive capabilities regarding time 1 intentions to binge drink. Re-

conceptualisations of the constructs of PBC and subjective norm were effective, specifically: The expanded normative component of group norm for friends at university, including both injunctive and descriptive component, showed a stronger relationship to intentions than did subjective norms; The PBC construct considering both control and efficacy acted as a significant predictor of intentions when control alone did not. Consideration of additional predictors identified self-identity, importance of nights out to university life and anticipated regret as additional direct predictors of intention. Self Identity made the most powerful predictor ( $\beta = .363$ ) followed by the importance of nights out ( $\beta = .212$ ) with anticipated regret making a weaker contribution ( $\beta = -.158$ ). Impulsivity, sensation seeking, tendency to use social comparison and age were found to predict the determinants of intention. This expanded model accounted for 69.6% of the variance in intentions, an increase of 18.6%. Assessment of expansions in the form of moderator variables identified that tendency to use social comparison moderated the relationship between group norm of friends and intentions. Additionally these analyses identified perceived awareness of family regarding participants' binge drinking was identified as a direct predictor of intentions, however the effect of this construct needs to be considered alongside the other TPB variables in order to establish if it still acts as a significant predictor.

Similarly an expanded model also explained additional variance in behaviour with intention, group norm for friends outside university, importance of athletics and sports to university life and the importance of academic work to university life predicting 51.5% of the variance in behaviour, an increase of 16.8%. Intention remains the most powerful predictor of behaviour ( $\beta = .518$ ) with the importance of athletics and sports to university life being the next most powerful ( $\beta = .246$ ) and group

norm for close friends outside university showing the weakest relationship to binge drinking behaviour ( $\beta = .14$ ).

However no effect of the expanded PBC construct was identified suggesting that binge drinking behaviour is directly under volitional control (Ajzen, 1991; Baron & Kenny, 1986) and no moderating effects of habit, past behaviour, or PBC were identified for the intention-behaviour relationship, failing to support Ajzen's (1991) theory that where PBC is high it moderates the intention-behaviour relationship and the findings of previous research (e.g. Aarts, Verplanken & van Knippenberg, 1998; Gardner, de Bruijn & Lally, 2010; Norman & Conner 2006) that habit, past behaviour and PBC moderate the intention-behaviour relationship. The expanded model of time 1 intentions to binge drink in the next two weeks and binge drinking behaviour is shown in Figure 7.1.2.

Assessment of between group differences in drinking behaviour identified significant gender differences in drinking behaviour with males reporting significantly higher drinking behaviour and intentions to binge drink at time 1 and significantly higher intentions to binge drink and frequency of binge drinking at time 2. While this supports previous research findings (e.g. Kuntsche et al., 2005; Makela & Mustonen, 2000; Naimi et al., 2003; Wechsler et al., 1994) it fails to support the findings of study 2, this difference is considered to be due to the larger more diverse sample achieved in study 3 compared to study 2. No significant differences between year groups were identified in any of the measures of drinking behaviour though second year students did report significantly stronger

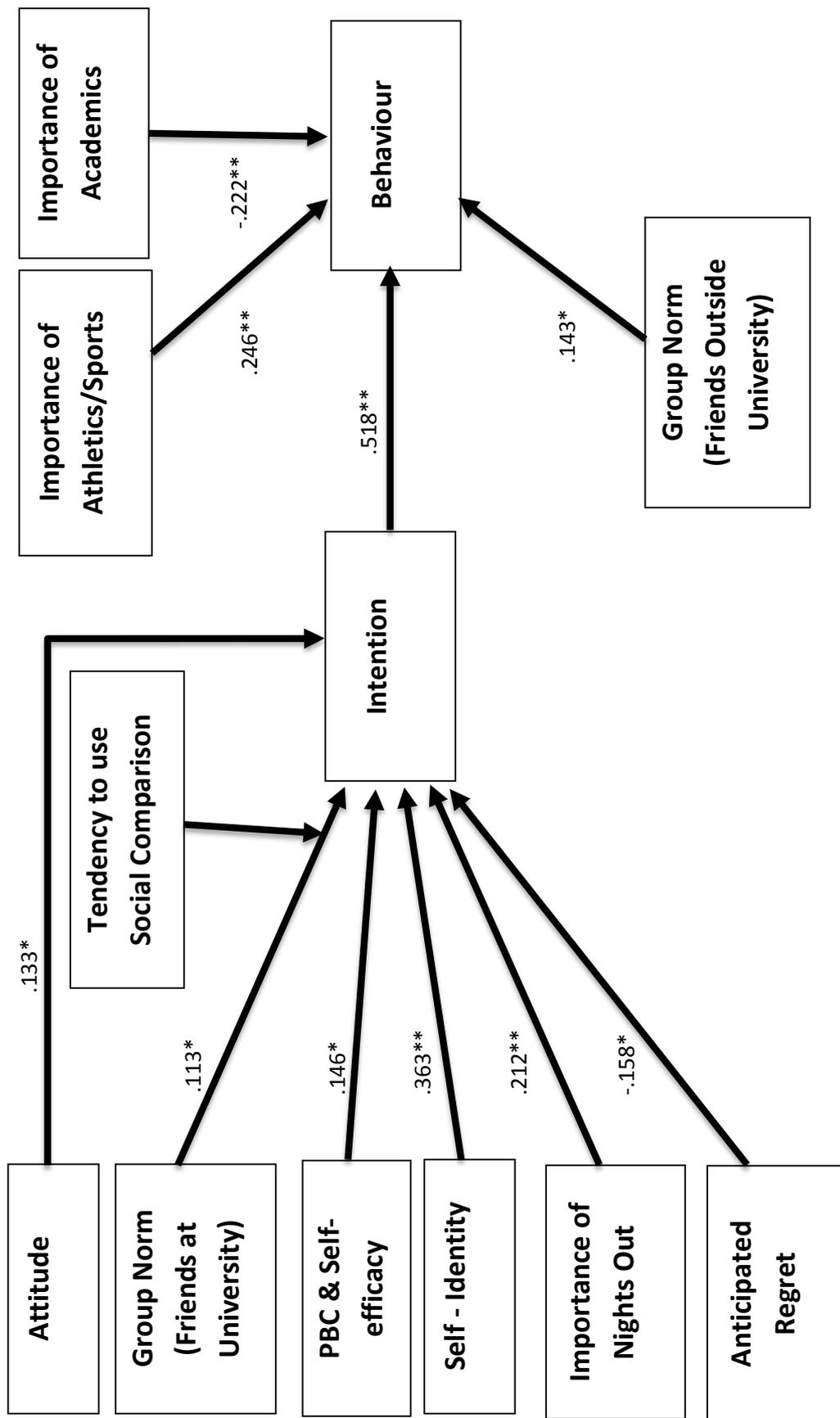


Figure 7.1.2: The supported expanded TPB model



intentions to binge drink at time 2. This fails to support both the findings of study 2, which identified first year students as drinking significantly less and less frequently than second and third years students, and those of research from the U.S. literature which have shown first year students drink significantly more and more frequently than those in later years of study (e.g. Bewick et al., 2008; Engs & Hanson, 1993). These differences are interpreted as being due to the larger sample size achieved with a more equal distribution across year groups compared to study 2 and cross country differences in the development of student drinking behaviour over time at university between England and the U.S. However due to the mixed findings further consideration of alcohol use across the period of study is suggested.

The quantitative results from study 3 supported the qualitative findings regarding the relationship between alcohol use and friendship demonstrating that drinking behaviour positively correlated with number of friends, level of identification and belonging with close friendship groups and that non-binge drinkers reported significantly fewer friends both at and outside university and significantly lower levels of identification and belonging with close friends. As study 1 and previous research (Broadbear, O'Toole & Angermeier-Howard, 2000; Joseph Rowntree Foundation, 2010; Engineer, 2003) have identified that drinking is the primary method of socialising for young adults and students it is likely that the frequency of socialising at least partly mediates these effects, however the relationship between drinking behaviour, number of friends, in-group identification and belonging are strong.

A final area of consideration was that of drinking game participation. Frequency of participation was found to be higher at university than in the

lifetime and was found to be predicted by motivations to get drunk, get others drunk and to meet new people. This supports previous research that has identified social enhancement reasons for playing drinking games as being positively related to drinking game participation (Nagoshi, Wood, Cote, Abbit, 1994; Zamboanga et al., 2005; Zamboanga, Schwartz, Ham, Borsari, & Van Tyne., 2010) and that drinking games are utilised as a method of socialising (Adams & Nagoshi, 1999; Borsari, 2004; Zamboanga, et al., 2007).

## **7.2 Limitations**

The research conducted for this thesis had a number of strengths many of which stem from the mixed methods approach employed. These were discussed in the methodology chapter. However the limitations of the work need to be considered and will be discussed in this section. The primary limitation of this research stems from the restricted samples utilised, specifically data was collected from students from a single English university and the relatively small samples showed high levels of homogeneity, especially that of study 2. Further research should look to overcome these issues testing the suggested expanded TPB models with larger student samples drawn from multiple universities. Due to the fact that the samples achieved were not diverse enough or large enough to allow the effective assessment of differences between groups in terms of drinkers and non-drinkers, and those of different ethnic backgrounds and religious faiths, it is recommended that these issues be addressed via targeted recruitment in future research.

Specifically regarding the qualitative analyses conducted, while the findings of the thematic and content analysis both support and add depth to the quantitative findings of studies 2 and 3, the application of

alternative methods of analysis to qualitative data regarding drinking behaviour could provide further insight. Alternative methods such as discourse and narrative analysis may have particular utility for the consideration of how ritualised drinking behaviours are perpetuated from one year group to another and how the language used to discuss drinking influences drinking norms and behaviours.

With regards to the quantitative analyses conducted it should also be noted that the correlation and regression analyses cannot determine the causal pathways between the test variables therefore causal pathways indicated in the models are those which are indicated in the theoretical literature. Further to this the analyses conducted to explore year differences were cross sectional while those regarding frequency of participation before and since starting university relied on retrospective measures. Longitudinal research considering these factors would be able to draw stronger conclusions about how individuals' behaviours change over time, as they would be less influenced by individual differences and inaccuracies associated with retrospective measurement

The expansions to the theoretical models tested in studies 2 and 3 were restricted in order to reduce the demand on participants' time. This means that some expansion variables which may have utility for the prediction and understanding of student binge drinking behaviour were not tested. Specifically future research may wish to consider the role of implicit attitudes in students' alcohol use and binge drinking and could also consider the moderating effects of executive functioning (Mullan, Wong, Allom, & Pack, 2011), goal desires (Prestwich, Perugini, & Hurling, 2008) and planning (Scholz, Schüz, Ziegelmann, Lippke, & Schwarzer, 2008). Additionally utilising indirect measures of beliefs underlying

attitudes, subjective norms and PBC could add to the literature regarding the formation of the determinants of intention.

Additional limitations of this work relate to the specific measures used to tap constructs. The failure of the combined measure of PBC and Self-efficacy to predict behaviour could be a result of the items used to tap these constructs. Specifically the measure of PBC employed in study 2 which acted as a significant predictor of intentions focused on control regarding avoiding binge drinking including items such as “How much control do you believe you have over drinking less than 4 (females)/ 5 (males) drinks in a single session in the next fortnight? (no control-complete control)” while the items employed in study 3 considered control and efficacy relating to binge drinking more generally “How much control do you have over whether or not you drink 5/4 standard drinks or more in a single session over the next 2 weeks?”. Therefore future work should focus on control regarding not binge drinking and refusal efficacy as these may contribute more to the prediction of student binge drinking behaviour. This would in turn have utility for future interventions which and this could seek to improve refusal efficacy in order to reduce the number of students engaging in binge drinking. Further to this although Cronbach’s alpha demonstrated the self-efficacy and control items could be combined into a reliable scale it is recommended that future research move away from combined measures and explore control and efficacy as independent predictors of intentions and behaviour so that these relationships may be better understood.

Habit measured using the self-report habit index also failed to act as a significant predictor of either intentions or behaviour, however the frequency based measure of past behaviour did make a significant

contribution to the prediction of intentions in study 2. It may be the case that because binge drinking occurs relatively infrequently, on average less than twice a week, this behaviour does not fall under habitual control in the same way that behaviours such as consuming caffeine, smoking or using a seatbelt might therefore frequency based measures of habit are recommended for future research aimed at predicting student binge drinking behaviour.

Finally the combined measures of descriptive and injunctive norms into an overall group norm construct for each of the referent groups failed to improve the prediction of either intentions or behaviour in study 2 and only improved the predictive power for close friends at university in study 3. While these findings lend support to the work of Johnston and White (2003) Terry and Hogg (1996) suggesting that only norms of the most salient referent group will influence intentions, Neighbor et al., (2008) found that the direction of the predictive relationship for descriptive and injunctive norms varied dependent on the referents considered. Therefore it may be that a combined measure including both descriptive and injunctive norms is only appropriate for specific, proximal referents. It is therefore recommended that future research consider descriptive and injunctive norms independently and do so for multiple referents.

### **7.3 Implications for Future Research**

The findings of this work have a number of implications for future research. Perhaps the most important implication is that the descriptive data regarding the frequency of alcohol use, binge drinking and participation in drinking games reinforces the need for continued research

in this area, particularly research focused on the development and testing of intervention and prevention efforts. On a related topic, the mixed findings regarding both gender differences and year differences in drinking behaviour across the three studies demonstrate the need for further research in these areas. Additionally the fact that none of the findings regarding year differences in alcohol use reflect the trends identified in the U.S. literature strengthens the argument for the continuation of U.K. and England based research.

Work regarding the TPB also has implications. The application of the TPB to the study of student alcohol use, specifically student binge drinking is supported, at least to some extent, by all three studies. However as the expanded models were shown to explain further variance in intentions and behaviour, future research should also consider these expansions. Further to this a relationship between the families' awareness of individuals' binge drinking behaviour was found to act as a predictor of intentions to binge drink and binge drinking behaviour in the presence of normative influences. The utility of this variable as an expansion to the full TPB model should therefore be considered in future. Future research may also wish to consider the influence of 'student-identity'. Study 3 found that the importance of nights out to life at university predicted intentions to binge drink while the importance of academic work and sports/athletics acted as direct predictors of binge drinking behaviour. These may be more effectively conceptualised as factors in a larger construct of 'student-identity'. While self-identity refers to the importance of a particular behaviour for the perception of self, these factors relate to perception of self as a student. It is therefore suggested that future research consider the student identity in more depth, assessing other factors which might be

important to an individuals' identity as a student and how these influence drinking behaviour.

A final consideration for future research regards the recruitment of students. Recruitment of participants to the two quantitative studies was problematic. Despite the fact that both studies utilised a variety of methods to recruit participants neither was successful in achieving the target sample sizes (N=250 and N=500 respectively). It is therefore recommended that future survey work consider carefully methods of recruitment and participation and utilise multiple methods where possible. This will allow more potential participants to be reached and enables participants to select methods of participation that best suit them therefore should reduce the number of potential participants who are unable or unwilling to participate. The importance of utilising multiple methods for questionnaire completion was evident in study 3, where completing the questionnaires on line proved popular but approximately 10% of the sample elected to complete questionnaires in hard copy demonstrating that this method is still a preference for some individuals.

#### **7.4 Implications for Interventions**

The findings of this work have a number of implications for interventions targeting student alcohol use and binge drinking.

The findings supporting the application of the TPB to the prediction of students' intentions to binge drink and binge drinking behaviour suggest that interventions targeting the TPB variables, specifically attitudes, subjective norms, PBC and intentions, may be effective in changing or preventing behaviour. However, as the expanded TPB models were shown to account for additional variance in intentions and behaviour,

interventions which can target both the original TPB variables and the expansion variables identified may have more effectiveness.

Of particular importance are findings that the importance of academic work to life at university and the importance of sports and athletics to life at university act as direct predictors of binge drinking behaviour.

Interventions targeting these factors rather than attitude, PBC and normative influences may have greater effectiveness, as influences on behaviour are not mediated by intentions. Self-reported importance of academics to university life shows a negative predictive relationship to binge drinking behaviour therefore promoting the importance of academics in university life should reduce the number of students binge drinking. Meanwhile the importance of sports and athletics shows a positive predictive relationship with binge drinking behaviour. As such two potential avenues for intervening are available: interventions could seek to reduce the importance of involvement in sports and athletics to university life, however this could have a negative impact on students health by reducing the number of students engaging in regular physical activity; alternatively interventions could focus on changing the relationship between sports and athletics, and alcohol use, potentially by focusing on the health and social benefits of involvement in sports and athletics at the same time as educating students about the detrimental health effects of excessive alcohol use.

Similarly the normative influence of friends outside university also acted as direct predictor of binge drinking behaviour therefore interventions targeting normative perceptions relating specifically to this referent group offer an opportunity to target behaviour change more directly than norms for other referent groups which are mediated by intentions.

A number of findings relating to norms, friendship and the relationship between alcohol and socialising also present opportunities for potential interventions. Firstly assessment of moderators of normative influences produced an unexpected finding that perceived awareness of family members of an individual's binge drinking behaviour acted as a direct predictor of intentions. This in combination with previous qualitative literature demonstrating that parental involvement can inhibit binge drinking (Broadbear, O'Tool & Angermeier-Howard, 2000; Russel-Bennerr, Hogan & Perks, 2010) suggests that increasing parental involvement in students' lives and parental awareness of students' drinking behaviour could be utilised by intervention works to reduce levels of binge drinking. Secondly the findings from the qualitative work indicate that students not only feel that it is acceptable for them to drink to excess but also that there is an expectation that they will do so during their time at university and that they should make the most of the opportunity to do so while they have relatively few responsibilities. This is mirrored by findings from the quantitative work which shows perceptions of binge drinking as being normative among students' and identify the importance of nights out to university life as an additional predictor of intentions to binge drink. Addressing these perceptions and promoting other aspects of university life over and above drinking culture at university should serve to reduce the numbers of students binge drinking. There is also the potential to target interventions towards parents or guardians of those planning to attend university as well as students themselves. Meanwhile reducing the number of alcohol focused social events held at universities and offering students' valid opportunities and environments in which to socialise in the absence of alcohol would serve this purpose. Finally the qualitative data show students use alcohol as a way to enhance social interactions and

enable them to make new friends. These findings are supported by correlation and MANOVA results which identify a positive relationship between alcohol consumption and friendship with students who binge drink report significantly higher numbers of close friends and significantly greater levels of belonging and identification with these groups. In order to reduce the frequency of binge drinking behaviour among students, interventions could choose to focus on the threshold effect identified in these analyses where by binge drinkers report positive friendship outcomes in comparison to non-binge drinkers but frequent binge drinkers do not significantly differ from binge drinkers. Alternatively interventionists could aim to provide students' with the skills that they need to socialise without alcohol and to increase their efficacy in relation to socialising and forming new friendships. Such methods have the potential not only to decrease the frequency with which students engage in binge drinking behaviour but also to decrease alcohol consumption among student populations as a whole could lead to a reduction in the frequency with which students drink alcohol and participate in binge drinking. To have greatest effect such interventions should be targeted at students in the final years of school or as they arrive at university.

Similarly while findings regarding the relationship between the price of alcohol and student drinking behaviour gave no indication that price would influence intentions to consume or avoid consuming alcohol, students did state that one of the reasons that they choose to socialise by drinking is because it is a cheaper alternative to activities such as going to the cinema or having a meal out. Therefore providing students with cheap alternative ways of socialising, away from alcohol, could be an effective method of reducing the number of individuals binge drinking and the number of binge drinking occasions.

Interventions specifically targeting drinking games participation could seek to address the motives underlying drinking game participation that were identified in this work. This is particularly important as getting drunk and getting others drunk were identified as key motives for participation in drinking behaviour therefore dissuading students from participating in drinking games without targeting these underlying motives could lead to students adopting alternative drinking behaviours which promote drunkenness.

A cautionary point arises from findings related to the 5/4 drink measure of binge drinking which was established as representing a lower threshold for the categorisation of a drinking occasion as being binge drinking compared to the student conceptualisation of binge drinking as drinking to get drunk. Therefore unless definitions are explained, health communications including statistics derived from the 5/4 could result in students' misperceiving drinking to get drunk is more normative than it actually is. Further to this communications explicitly stating the 5/4 drinks measure may be rejected by students because they do not relate to students conceptualisations of their own drinking behaviour (Workman, 2001).

Finally the findings regarding the relationship between the price of alcohol and students' drinking behaviours demonstrate that a minimum price per unit for alcohol sales in pubs and bars is unlikely to reduce the amount of alcohol consumed by, and the binge drinking behaviour of, students as they already consume large amounts of alcohol away from licensed premises in order to reduce the costs of their drinking. However enforcing a minimum price per unit across all alcohol retailers could serve to reduce the importance of pre-drinking in student populations and as such prompt

a move away from binge drinking during pre-drinking. This would reflect a similar policy move to that of 24 hour licensing which aimed to reduce the 'pressure' to drink imposed by strict closing times and the problems caused by large numbers of drinkers leaving pubs and bars at the same time after a nights drinking.

## **7.5 Conclusion**

The empirical work conducted for this thesis supports previous findings that have shown binge drinking to be common place among students and identified student alcohol use as problematic. This supports not only the conduction of the research contained within this thesis but also the continuation of research in this area. The five research questions posed have been answered. Through the discussions of the themes that emerged from the analysis of focus group data regarding a typical student night out the qualitative research was able to provide an in-depth account of undergraduate student drinking behaviours and identified that while students drink alcohol in a number of different ways dependent on the occasion, situation and motivations there was a clear structure to a 'typical student night out drinking' including many factors, such as pre-drinking and drinking games, that were consistent both between individuals and between groups. The thematic and content analyses conducted identified a number of reasons why students choose to drink alcohol and to binge drink with the importance of social enhancement, having fun and relaxing being particularly prominent. Further to this targeted analysis regarding students understanding of the term binge drinking revealed that students consider binge drinking to be drinking with the intention to get drunk. The two quantitative studies contributed further to the understanding of the antecedents of student binge drinking

behaviour by identifying that the TPB variables, namely attitude, subjective norm, PBC and intention act as antecedents of student binge drinking behaviour and can be utilised to predict student binge drinking in the next two weeks. A number of additional antecedents were also identified with self-identity, anticipated regret and the importance of nights out acting as predictors of students' intentions to binge drink and normative influences of friends outside university, the importance of academic work to university life and the importance of athletics to university life acting as additional predictors of students' binge drinking behaviour. Further to this moderating effects of identification with referent others and tendency to use social comparison on the norm-intention relationship are identified. In combination the identification of the contribution of these additional variables to the prediction of student binge drinking demonstrates that the TPB offers a somewhat simplified model of the antecedents of student binge drinking behaviour with expansions to the original model being shown to increase the predictive validity for both intentions to binge drink and binge drinking behaviour. The findings offer multiple implications for research and have applicability to intervention and prevention works seeking to reduce rates of binge drinking among students.

## 8 Appendices

### Appendix A

#### Study 1 Ethics

School of Social Work and Psychology  
Research Ethics Committee

#### Ethical Approval and Risk Assessment Form for Postgraduate Research Students 2009-10

All students and staff must obtain approval from the School Research Ethics Committee before conducting any fieldwork. The University, School and BPS take research ethics very seriously and it is important to consider the ethics of your project very carefully. Please take time to complete this form in detail. Forms that are incomplete or that lack necessary detail will be returned to you for resubmission and this will delay the start of your fieldwork.

When completing the form, bear in mind that reviewers must be able to understand what you intend to do, and why. You should therefore give a clear and full account, and include all available information that will help the reviewers reach a well-informed decision. Where possible and relevant, you should add appendices such as draft or final versions of interview schedules, consent forms, letters to participants and debriefing information.

When you have completed the form, submit it to your primary supervisor. The supervisor will then complete the checklist (6.2) and, if approved, sign the declaration (6.3) and submit the form for approval by a reviewer.

The form and all attachments must be word processed.

Before completing this form you should consult the School's Ethics Committee web pages ([www.uea.ac.uk/swp/research/ethics.htm](http://www.uea.ac.uk/swp/research/ethics.htm)) and read the BPS *Code of Ethics and Conduct*. It is also available at [http://www.bps.org.uk/the-society/code-of-conduct/code-of-conduct\\_home.cfm](http://www.bps.org.uk/the-society/code-of-conduct/code-of-conduct_home.cfm). Please pay particular attention to Ethical Principles 1 (Respect) and 3 (Responsibility) of the Code.

Regarding your own safety (4.7 below), see the Module Guide (section 6.8) and, for further information, refer to the SRA *Code of Practice* ([www.the-sra.org.uk/staying\\_safe.htm](http://www.the-sra.org.uk/staying_safe.htm)).

**You must not conduct any fieldwork, including piloting, before obtaining ethical approval.**

#### 1. The applicant

1.1 Student's name **Ellen Lynch**

1.2 Student number **4548914**

1.3 Programme: MA / MSc / MPhil  PhD  DSW / Other (please specify)

#### 2. Your supervisors

2.1 Primary supervisor **Dr Victoria Scaife**

2.2 Secondary supervisor(s) **Dr Neil Cooper**

### 3. The project

#### 3.1 Title **Expanding and Applying the Theory of Planned Behaviour to Investigate Binge Drinking in a Student Population\***

**\*Please note:** This application is for the first study of this project only.  
The findings of this study will be used to inform the design of the following two studies.

#### 3.2 Aims / purpose of the study (append updated proposal)

- **To investigate how undergraduate students understand the term binge drinking.**
- **To consider how students understanding of the term binge drinking may influence the process of research as well as the process and effectiveness of interventions.**
- **To investigate how students perceive binge drinking.**
- **To compare students perceptions of binge drinking with their perceptions of individuals with alcohol use problems and perceptions of their own alcohol consumption behaviour.**
- **To apply the Theory of Planned Behaviour to consider how students perceptions of binge drinking may influence their intentions to binge drink and their actual binge drinking behaviour.**
- **To investigate students knowledge of the outcomes and effects of binge drinking.**
- **To apply the Theory of Planned Behaviour to consider how students knowledge of the outcomes and effects of binge drinking may influence their intentions to binge drink and their binge drinking behaviour.**
- **To collect demographic data about participants (including age, gender, socioeconomic status, religion and ethnicity) and consider how these factors may or may not influence opinions and knowledge expressed during the focus groups.**
- **To apply the Theory of planned behaviour to consider how demographic variables (including age, gender, socioeconomic status, religion and ethnicity) may influence student's intentions to binge drink and their actual binge drinking behaviour.**
- **To collect data about individual participant's alcohol consumption and drinking behaviours and consider possible links between these factors and the opinions and knowledge expressed during the focus groups.**

#### 3.3 Research question(s)

- **How do students understand and perceive binge drinking behaviour?**
- **What knowledge do students have of the outcomes and effects of binge drinking behaviour?**

#### 3.4 Methods

3.4.1 Participants or data sources (approximate number, characteristics, method of recruitment, etc).

A total of approximately fifty participants will take part in this first study of the project. These fifty participants will be split across seven focus groups, each group including between six and eight individuals. Three focus groups will contain approximately equal gender split while the remaining four focus groups will be single gender groups (two all male, two all female).

All participants will be undergraduate students, aged between eighteen and twenty four years enrolled at the University of East Anglia.

Only participants aged eighteen and over will be asked to participate in the research as it is important to the researcher that all participants be of legal drinking age. However participants will not be asked to provide proof of age, their self reported age will be accepted.

*Consider carefully whether participants are under 18 or are members of a vulnerable or at-risk population. If you think they might be, discuss the ethical issues with your supervisors.*

3.4.2 Recruitment. How will participants be approached and invited to take part? Include copies of posters, leaflets, letters etc if relevant.

Initial contact and introduction of the study will primarily be made in lectures and seminars in the School of Social Work and Psychology. Prior consent for recruitment to be conducted will be obtained from the lecturer or seminar leader. The researcher will record the name of the individual giving consent along with the date and time at which consent was obtained. In seminars or lectures the researcher will give a standardised introduction to the study (Appendix 1). In order to minimise any potential participants feeling under pressure to take part they will not be asked to indicate interest or a decision about taking part at this time but rather will be given a flier (Appendix 2) with the details of the study and contact information for the researcher.

Individuals who wish to take part will be asked to contact the researcher by phone via the Social Work and Psychology reception phone line, or email. When potential participants contact the researcher they will be provided with an electronic copy of the written participant information sheet (Appendix 3) as well as times, dates and venues (seminar or teaching rooms on UEA campus) of planned focus groups. Participants will be asked to respond by phone (via the Social Work and Psychology reception) or email to indicate which focus group they wish to attend.

At this time individuals will also be asked to pass on information about the study to others such as housemates, team mates and friends who may also be interested in attending one of the focus groups.

Individuals who attend one of the focus groups will again be asked to pass on information about the study to others and will be given the option to take fliers (Appendix 2) to give them.

Additionally some potential participants will be approached while in cafes, canteens or the student union on UEA campus. In these circumstances the same procedure will be followed as with those participants recruited in lectures and seminars. Specifically participants will be provided with an electronic copy of the written participant information sheet (Appendix 3) as well as times, dates and venues (seminar or teaching rooms on UEA campus) of planned focus groups. Participants will be asked to respond by phone (via the Social Work and Psychology reception) or email to indicate which focus group they wish to attend.

At this time individuals will also be asked to pass on information about the study to others such as housemates, team mates and friends who may also be interested in attending one of the focus groups.

Before recruitment is begun prior consent for recruitment to take place in these venues will be obtained from the management. The name of the individual giving consent and the time and date at which consent was obtained will be recorded by the researcher.

Finally posters (Appendix 10) advertising the study will be displayed in the buildings across campus. Buildings targeted for poster recruitment will be those primarily used for either study or socialising purposes. Recruitment posters will not be displayed in the Medical Centre, Counselling Service, Student Information Centre or Dean of Students Office as these are bases for student support services thus individuals targeted by posters in these buildings may be vulnerable or seeking support which the focus groups will not be able to provide.

Posters will provide the researchers contact details so that potential participants can contact the researcher to express their interest. Once a participant has expressed interest the same procedure will be followed as with participants recruited via the other two methods. Specifically participants will be provided with an electronic copy of the written participant information sheet (Appendix 3) as well as times, dates and venues (seminar or teaching rooms on UEA campus) of planned focus groups. Participants will be asked to respond by phone (via the Social Work and Psychology reception) or email to indicate which focus group they wish to attend.

At this time individuals will also be asked to pass on information about the study to others such as housemates, team mates and friends who may also be interested in attending one of the focus groups.

*It is important to avoid making potential participants feel under any pressure to take part. For example, if others are present during recruitment (e.g., in a lecture room), potential participants might be embarrassed if they were to choose not to take part. Also, your approach must not be intrusive or annoying. For this reason, mass emails must not be used.*

3.4.3 Measures, materials or apparatus (include copies of questionnaires, interview schedules, etc.

- **Preliminary Questionnaire** including measures of demographic variables (age, gender, ethnicity, religion, Socio economic status and measures of alcohol consumption (CAGE and AUDIT).
- **Focus Group Discussion and Activity Guide** (this will not be shown to any of the participants).
- **A3 paper and marker pens** for group activities.

*Consider whether items might be sensitive or offensive to some participants. If you anticipate they might be, discuss with your supervisors.*

3.4.4 Procedure (e.g., what will the researcher and participants do, what will they experience?)

**On arrival at the seminar or teaching room, which will be the venue of the focus group, participants will be greeted by the researcher and asked to take a seat. They**

will be provided with a written information sheet (Appendix 3) and consent form (Appendix 4) for participation in the focus groups. This will include an overview of the topics to be discussed, what is expected of individuals as participants and ethical information concerning confidentiality and right to withdraw. Once they have read this brief, if participants wish to consent to participating in the focus group they will be asked to tick a box, to indicate their consent, and date the consent form.

Following this, participants will be asked to complete a questionnaire (Appendix 5) which will record the name that they will use throughout the focus group, their age, gender, ethnicity, socio economic status and whether or not they drink alcohol. Socio economic status will be judged based on whether participants are currently in receipt of any maintenance grants or hardship bursaries and the professions of their parents. In addition this questionnaire will also employ the CAGE (questions 13-15) and AUDIT (Alcohol use disorders identification test) (questions 17-26) which are self-report measures to indicate possible problematic drinking patterns. Once this questionnaire has been completed the participant will return it to the researcher. Immediately following the focus group, each participant will be allocated a pseudonym which will be used to match their questionnaire information to the CAGE and AUDIT measures as well as the focus group transcript. Original names will be removed from the questionnaire, and CAGE and AUDIT measures 48 hours after the focus group has been conducted. Pseudonyms will be used in transcription of the focus groups and names will be removed or changed in recordings of the focus groups once transcription is complete. All data including hard copies and electronic copies will be stored in a locked filing cabinet. Only pseudonyms will be used for analysis and dissemination of results.

Once all participants have arrived, given their consent, and completed the questionnaire, the focus group proper will begin. The researcher will introduce herself to the group as a whole and give a verbal introduction (Appendix 6) including information about the study, topics to be discussed, what is expected of individuals as participants, ethical information concerning confidentiality and right to withdraw and ground rules for the focus group.

Once the introduction is complete the researcher will ask if there are any questions then go on to initiate an ice breaker task during which participants will take it in turns to introduce themselves and state a fact about themselves. This information will not be used in the data analysis but will be noted down by the researcher. It is hoped that as this ice breaker will require every participant to speak it will make

them feel more comfortable and at ease when it comes to expressing their views and opinions later in the group discussion.

Once the ice breaker task is completed the researcher will begin discussion by asking participants as a group to write down any ideas they have about what happens on a typical night out. From this point onwards the researcher will use the questions, probes and activities in the discussion guide (Appendix 7) to guide discussion to cover the following topics: understanding of the term binge drinking; perceptions of binge drinking; the positive and negative outcomes and effects of binge drinking; the importance of alcohol in student life and differences between binge drinking and other forms of alcohol consumption. The activities in the discussion guide will be piloted following ethical approval and will be reviewed following piloting. Activities may be altered, added to, or removed in order to improve the effectiveness of the focus groups if necessary. However the general topics of consideration will remain the same. Activities in the discussion guide will also be reviewed following the conduction of each focus group but once again the general topics of consideration will remain the same. Any amendments made to the focus group discussion guide and activities will be approved by the supervisory team. If any amendments deviate significantly from the appended discussion guide the revised discussion guide will be submitted to the ethics committee for approval. Once discussion has finished the researcher will end the focus group with a closing statement (Appendix 8) thanking all participants for attending and taking part and give them £10 cash as compensation for the time taken up by the focus group and any travel expenses they may have incurred. This will be followed by a verbal debrief, thanking participants for taking part in the focus group and asking them not to repeat any of the details discussed in the focus group. At this point participants will also be provided with a written debrief (Appendix 9) which they can take away with them. This will include contact details for sources of information about safe alcohol consumption and dealing with alcohol related problems as well as a contact for the University Counselling Service. These details will be important if participants have been affected by any of the issues raised during the discussion or in the event that they are worried about their own or another's alcohol use. In addition to this the researcher will also have a number of alcohol advice leaflets which participants can take away with them if they so choose. These leaflets will be the same as those available through the student advice centre.

The focus groups will all be recorded using an MP3 audio recording device. These recordings will then be transcribed and analysed using thematic analysis.

Immediately following the focus group, each participant will be allocated a pseudonym which will be used to match their questionnaire information to the CAGE and AUDIT measures as well as the focus group transcript. Original names will be removed from the questionnaire, and CAGE and AUDIT measures 48 hours after the focus group has been conducted. Pseudonyms will be used in transcription of the focus groups and names will be removed or changed in recordings of the focus groups once transcription is complete. All data including hard copies and electronic copies will be stored in a locked filing cabinet. Only pseudonyms will be used for analysis and dissemination of results.

The findings of this work will be written up and discussed with reference to previous research and literature as well as existing definitions of binge drinking. In addition these findings will be used to inform the selection of the definition of binge drinking, measure of binge drinking behaviour and design of questionnaires used in studies two and three of this project. Finally findings may guide extensions to the TPB to be investigated in study three.

3.5 Proposed start date of data collection  
March 2011

#### 4. Ethical issues

*Refer to the BPS Code of Ethics.*

##### 4.1 Informed consent and briefing

4.1.1 Is informed consent to be obtained from participants?  YES  NO

If YES, how will it be obtained? (e.g., verbally, signed form. Give details or attach a draft copy of the form)

**A copy of the participant information and consent form can be seen in Appendix 3 and 4.**

**On arrival participants will receive a copy of the participant information sheet and consent form. They will be asked to read and complete the form then hand it back to the researcher. No data collection will be begun until all participants have returned completed consent forms to the researcher. Any participants not wishing to give consent at this point will be thanked for volunteering and for turning up at the focus group but will be asked to leave the seminar room where the focus group is being conducted so that data collection can be begun. No individual will be asked to provide an explanation or reason why they do not wish to give their consent to participate.**

If NO, why not? Give a full explanation  
N/A

4.1.2 Is informed consent to be obtained from others (e.g. parents / guardians)?  
 YES  NO

If YES, how will it be obtained? (e.g., verbally, signed form). Give details. If you are undertaking your project in school or with students under 18, explain how you are obtaining school or college approval (and parental approval, if the school requires this).

**Some potential participants will be approached while in cafes, canteens or the student union on UEA campus. However before any participant is approached in these settings the management will be asked to provide their consent for recruitment to take place. In these circumstances the name of the individual providing consent will be recorded by the researcher along with the date and time at which consent was given.**

**Other potential participants studying in the School of Social Work and Psychology will be recruited in lectures and seminars. In these circumstances prior consent will be obtained from the lecturer or seminar leader. The name of the individual giving their consent will be recorded by the researcher along with the date and time at which consent was given.**

**As all participants will be aged 18 or over and thus able to give their own consent no informed consent will be requested from parents or guardians of participants.**

If NO, why not?

N/A

*For observational research describe how local cultural values and privacy of individuals will be taken into account*

*Attach copies of invitation letter and consent form if appropriate. Note that consent forms are not usually necessary when consent is implied by completion of a questionnaire.*

4.1.3 Will participants be explicitly informed of what the researcher's role/status is?  
 YES  NO

**This information will appear on invitations to participate as well as in the written information sheet which participants will receive prior to consenting to take part in the study (Appendix 3). Additionally the researcher will introduce herself at the beginning of each focus group, as part of the standardized verbal introduction (Appendix 6).**

4.1.4 Will participants be told of the use to which data will be put (e.g., research publications, teaching purposes, media publication)?  YES  NO

**This information will appear in the written information sheet which participants will receive prior to consenting to take part in the study (Appendix 3).**

#### 4.2 Deception

4.2.1 Is any deception involved?

YES  NO

If YES, describe the deception and the reasons for its use

N/A

#### 4.3 Right of withdrawal

4.3.1 Will participants be told explicitly that they are free to withdraw from the study at any time?  YES / NO

If yes, explain how and when they will be told.

**Participants will be informed that they are free to withdraw from the study at any time in the written information sheet they receive before they give their informed consent to participate in the study (Appendix 3). They will also be informed of their right to withdraw at any time in the standardized verbal introduction given by the researcher at the start of each focus group (Appendix 6). It is acknowledged that participants may feel pressure to stay and participate once the focus group has commenced. To try and minimize this, participants will be told that they do not have to give a reason for withdrawing but can simply leave the area or room in which the focus group is being conducted. Participants will also be informed that if they do not wish to participate in certain parts of the discussion they are welcome to sit and listen until either they feel happy and comfortable contributing again or the focus group ends.**

*Explain how participants will be told. Ensure that you give them a genuine opportunity to withdraw. For example, someone might be unwilling to complete a questionnaire but feel pressured to do so because students beside them will notice that they are not completing it.*

If NO, explain why not

N/A

#### 4.4 Debriefing

4.4.1 Will the participants be debriefed?

YES NO

If YES, how will they be debriefed (e.g., verbally, debriefing sheet; give details or attach the debriefing information to this form)?

**Participants will initially receive a standardised verbal debrief thanking them for taking part in the focus group (Appendix 8). They will also receive a more extensive written debrief sheet (see Appendix 9) which will include contact information for the researcher and contact information for a number of services offering information and support regarding alcohol and more specifically binge drinking.**

If NO, why won't they be debriefed?

**N/A**

#### 4.5 Confidentiality and anonymity

4.5.1 Will the data be gathered anonymously?

YES / **NO**

If NO, how will you protect the identity of your participants and ensure that any personal information you receive will be kept confidential?

**Although participants will introduce themselves at the beginning of the focus group and will record their names on a questionnaire they will not have to give their full name, just a first name or nickname by which they wish to be addressed during the focus group.**

**At transcription names will be replaced with pseudonyms on both the focus group transcript and the questionnaires.**

**No original names given will be used in dissemination of the findings.**

**Only the researcher and supervisory team will have access to the questionnaires and recordings of the focus groups.**

**MP3 recordings, completed consent forms and completed questionnaires will be stored in a locked cabinet these documents will be destroyed once final analysis is complete.**

*Identifying information should be removed from all data and, if necessary, replaced by ID numbers or pseudonyms. Data should be stored securely (e.g., in a locked filing cabinet).*

### **5. Risk assessment: Protection of participants**

5.1 What inconveniences might participants experience?

**Participants will have to arrange their own transportation to the focus group venue and participation in the focus groups will require a time commitment of approximately two hours.**

5.2 What steps will you take to minimize these?

**Participants will be compensated ten pounds for taking the time to participate in the focus groups and to cover any travel costs they may have incurred.**

**Focus groups will be held in venues on the university campus. As all participants will be students at the university and thus be expected to spend**

**time on campus regularly this should minimize time and cost required for travel.**

5.3 Will involvement in the research put participants at risk of physical or psychological harm, distress or discomfort greater than that encountered in their everyday lives?



YES/NO

If YES, describe the nature of the risk and the steps you will take to minimise it

**Certain aspects of the discussion such as consideration of alcohol consumption or the ‘typical person with a drink problem’ may be sensitive topics for individual participants. To minimize this participant’s will be informed of their right to withdraw at any time without giving a reason or to ‘sit out’ and not contribute to individual sections of the focus group. Both the verbal and written brief which participants will receive before the focus group is begun will inform them that they will not be asked to discuss their own drinking behaviour with the group and do not have to give examples of their own experiences if they do not wish. A brief indication of planned discussion topics will also be included in the written brief, but due to the free flowing nature of discussion in focus groups it would not be possible to cover all topics that may arise.**

**If at any time members of the group are displaying visual signs of anxiety and discomfort then the researcher will stop the discussion, and allow participants a short break before restarting the discussion with a different topic.**

**Additionally at debrief participants will be provided with contact details for a number of sources of guidance and information related to alcohol use and binge drinking including Drinkline, Talk to Frank and the University Counseling Service(Appendix 9).**

*Be aware that interview questions or questionnaire items might raise issues that are sensitive for individual participants or may create anxiety. Explain what steps you will take to minimize this or to help participants, for example by providing information on relevant support groups or centres in your debriefing sheet.*

*Should you uncover any psychological or physical problems in a participant who appears to be unaware of them, please consult your supervisors before taking any further action*

## **6. Risk assessment. Protection of researcher**

6.1 Does involvement in the research put you at risk of physical or psychological harm, distress or discomfort greater than that encountered in your everyday life?



YES/NO

**All environments where focus groups will be conducted are environments in which the researcher may spend time during the course of everyday life.**

**Although the researcher is likely to have a higher level of contact with undergraduate students that participate in the focus groups it is possible that she would have contact with them in some form in everyday life at the university.**

If YES, describe the nature of the risk and the steps you will take to minimise it

## **7. Other permissions and clearances**

7.1 Is ethical clearance required from any other ethics committee? YES / **NO**

If YES, please give the name and address of the organisation:

.....**N/A**.....

Has such ethical clearance been obtained yet? YES / NO

**N/A**

If YES, attach a copy of the ethical approval letter

**N/A**

7.2 Will your research involve working with children or vulnerable adults? YES / **NO**

If YES, have you obtained an enhanced disclosure certificate from the Criminal Records Bureau (CRB)? YES / NO

**N/A**

*To obtain ethical clearance for a project involving children or vulnerable adults you must show the original CRB certificate to your supervisor. You should include a copy with this application and in the appendices of your final submission.*

## 8. Declarations and checklists

### 8.1. Declaration by student

I have read and understood the relevant sections of the BPS *Code of Ethics and Conduct*. I am satisfied that all ethical and safety issues raised by the proposed research have been identified here and that appropriate measures will be taken to address them. I will abide by the procedures described in this form. Any substantive changes to the procedures will be discussed with my supervisors and, if necessary, a new application form submitted.

**Student's signature**.....

**Date**.....

Appendix B

Study 1 Poster

**Fancy a break from revision?**

**Want to earn £10  
discussing alcohol ?**

**If you are aged between 18 and 24 and an  
undergraduate student at UEA, your input is  
needed for focus groups about binge  
drinking\*\***

**Interested?**

**Please contact Ellen Lynch\***

**[e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk)**

**(0) 1603 592068**

**for more information.**

\*Ellen Lynch is a PhD researcher in the School of Social Work and Psychology at  
Uea.

\*\* This study has been approved by the school ethics committee.

Appendix C

Study 1 Flyer

**FANCY A  
BREAK  
FROM  
REVISIO  
N?**

**Appendix D**

**Study 1 Information Sheet  
FOCUS GROUP PARTICIPANT INFORMATION SHEET  
SCHOOL OF SOCIAL WORK AND PSYCHOLOGY  
UNIVERSITY OF EAST ANGLIA**

**TITLE OF PROJECT:** Using an Expanded Theory of Planned Behaviour to Investigate Binge Drinking in a Student Population

**STUDY TITLE:** Investigating How Students Understand and Perceive Binge Drinking

**RESEARCHER:**

Ellen Lynch ([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk), 01603 592068)

Ellen is a PhD researcher in the School of Social Work and Psychology at the University of East Anglia.

**PURPOSE:** The purpose of this research study is to investigate how you understand and perceive binge drinking. I am interested in your knowledge, opinions, attitudes and experiences with regards to alcohol consumption, binge drinking, alcoholism and other alcohol consumption behaviours.

**USE OF DATA:** Data from this study may appear in the final PhD thesis, journal articles or academic presentations. However data will not be stored with your name and no real names or identifying information will appear at dissemination.

**LOCATION AND DURATION:** Participation in this study will last for approximately 2 hours. The focus group will take place in a seminar or teaching room on the university campus. You will be informed of the specific venue for the focus group when you book a place with the researcher.

**WHAT TAKING PART INVOLVES:** Taking part in this study will require you to engage in a group discussion of binge drinking with regards to your understanding and perceptions of a variety of alcohol consumption behaviours. You will not be asked to discuss your own alcohol consumption behaviour or any personal experiences of binge drinking however if you wish to share these things during the group discussion that is ok. Before the discussion is begun you will also be asked to complete a short confidential questionnaire. This will include things such as age and gender as well as drinking behaviour. If you do not feel comfortable responding to certain questions you can leave them unanswered.

**BENEFITS:** As a participant in this study you will receive £10 cash to compensate you for the time commitment and any travel expenses you may have incurred.

**CONFIDENTIALITY/ANONYMITY:** You will be asked to introduce yourself to the group and to record your name on the questionnaire, however you are not expected to give your full name and can use a 'nick name' or pseudonym if you like.

No names or identifying information will appear at dissemination of findings.

However anything you say during the group discussion is shared with the other participants present as well as the researcher. As such confidentiality can not be guaranteed.

It is asked that as a participant you respect others rights to confidentiality by not repeating anything you hear during the focus group and not sharing any participant names with individuals outside the group.

**RIGHT TO REFUSE OR WITHDRAW:** Participation is voluntary and you can refuse to participate without giving any reason.

If at any point you feel that you no longer want to participate in the study you can simply leave the area in which the study is being conducted.

Due to the interactive nature of the focus groups you will not be able to withdraw your data after the focus group has been conducted. However if you feel you do not wish to participate in certain sections of the discussion you can remain in the focus group and rejoin the discussion when you feel comfortable doing so.

**ETHICAL APPROVAL:** This study has received ethical approval from the schools ethics committee.

**PLEASE NOTE:** This focus group cannot offer you support with managing your alcohol consumption or dealing with an alcohol use problem. Due to the potentially sensitive nature of the discussion if you are currently dealing with an alcohol use problem you may wish to reconsider your participation in the focus group. Please remember you are free to withdraw now, or at anytime during the focus group, without giving a reason.

**OFFER TO ANSWER QUESTIONS:** If you have any questions about this study, you can ask the researcher now. If you have questions at a later time you can contact the researcher by email ([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk)) or phone (01603 592068).

If you have any complaints about this study and do not wish to raise them with the researcher please contact Dr Victoria Scaife ([v.scaife@uea.ac.uk](mailto:v.scaife@uea.ac.uk))

## Appendix E

### Study 1 Consent Form

## STATEMENT OF CONSENT

**Please tick the box below to confirm that ...**

- you have read the participant information sheet.
- you have asked any questions you had regarding participation in this study and they have been answered to your satisfaction.
- you are aged between 18 and 24 years.
- you consent to participate in this study.

Tick Here:  Date: \_\_\_\_\_

## Appendix F

### Study 1 Questionnaire Focus Group Questionnaire

1. **Name (as used in focus group)** .....

2. **Age (in years)** .....

3. **Gender**      Male                       Female

4. **What course are you enrolled on at UEA?**

Course .....

Year .....

Full time / Part time ( Please delete as appropriate)

5. **Please tick to indicate your relationship status.**

Single <input type="checkbox"/>	In a relationship <input type="checkbox"/>
Live with partner <input type="checkbox"/>	Married <input type="checkbox"/>
Divorced <input type="checkbox"/>	Separated <input type="checkbox"/>
Widow/Widower <input type="checkbox"/>	Civil Partnership <input type="checkbox"/>
Don't Know <input type="checkbox"/>	Other <input type="checkbox"/> (please specify) .....

6. **Do you have any dependent children?**      Yes       No   
(If no please go to question 7)

6a. **If yes how many?** .....

6b. **If yes how old are they?** .....  
.....  
.....

7. **Are you currently in employment?**      Yes       No   
(If no please go to question 8)

7a. **If yes please tick to indicate the type of employment**

Full time

Part time

Holidays Only

7b. **Approximately how many hours do you work a week?**  
.....

8. **Are you currently in receipt of any maintenance grant or hardship bursary to assist with you university fees or living costs (Not including a student loan)**

Yes       No

9. Please give the professions or job titles of your parents/guardians?

.....

.....

10. Please tick to indicate the ethnic group to which you belong.

<p><b>White</b></p> <p>White British <input type="checkbox"/></p> <p>White Irish <input type="checkbox"/></p> <p>White Scottish <input type="checkbox"/></p> <p>White Welsh <input type="checkbox"/></p> <p>White Other <input type="checkbox"/> (please specify) .....</p>	<p><b>Asian or Asian British</b></p> <p>Indian <input type="checkbox"/></p> <p>Pakistani <input type="checkbox"/></p> <p>Bangladeshi <input type="checkbox"/></p> <p>Asian Other <input type="checkbox"/> (please specify) .....</p>
<p><b>Black or Black British</b></p> <p>Caribbean <input type="checkbox"/></p> <p>African <input type="checkbox"/></p> <p>Black Other <input type="checkbox"/> (please specify) .....</p>	<p><b>Chinese</b></p> <p>Chinese <input type="checkbox"/></p>
<p><b>Mixed Heritage</b></p> <p>White and Black Caribbean <input type="checkbox"/></p> <p>White and Black African <input type="checkbox"/></p> <p>White and Asian <input type="checkbox"/></p> <p>Mixed Other <input type="checkbox"/> (please specify) .....</p>	<p><b>Other Ethnic Group</b></p> <p>Other <input type="checkbox"/> (please specify) .....</p>

11. Please tick to indicate your religious beliefs.

<p>No Religion <input type="checkbox"/></p> <p>Christian (including Church of England, Catholic, Protestant and all other Christian denominations) <input type="checkbox"/></p>
---

- Buddhist
- Hindu
- Jewish
- Muslim
- Sikh
- Other  (please specify) .....

**The following questions are about your alcohol consumption and drinking behaviours. For each question please tick the box to indicate your response. For your information a standard drink is 10 grams of pure alcohol or:**

**1 x 25ml measure of spirit**

**1 x glass of wine**

**1 x small glass of port or sherry**

**½ pint of larger, ale or cider**

**12. Do you drink alcohol?**

Yes

No

**13. Have you ever felt you need to cut down on your alcohol consumption?**

Yes

No

**14. Have people annoyed you by criticising your alcohol consumption?**

Yes

No

**15. Have you ever felt guilty about drinking alcohol?**

Yes

No

**16. Have you ever felt you needed a drink first thing in the morning to steady your nerves or to get rid of a hangover?**

Yes

No

- 17. How often do you have a drink containing alcohol?**
- Never
- Monthly or less
- Once a week or less
- 2 to 4 times a week
- 5 or more times a week
- 18. How many standard drinks do you have on a typical day when you are drinking?**
- 1
- 2
- 3 or 4
- 5 or 6
- 7 or more
- 19. How often do you have 6 or more standard drinks on one occasion?**
- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily
- 20. How often during the last year have you found that you were not able to stop drinking once you had started?**
- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily
- 21. How often during the last year have you failed to do what was normally expected from you because of your drinking?**
- Never
- Less than monthly
- Monthly

Weekly

Daily or almost daily

**22. How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?**

Never

Less than monthly

Monthly

Weekly

Daily or almost daily

**23. How often during the last year have you had a feeling of guilt or regret after drinking?**

Never

Less than monthly

Monthly

Weekly

Daily or almost daily

**24. How often during the last year have you been unable to remember what happened the night before because you had been drinking?**

Never

Less than monthly

Monthly

Weekly

Daily or almost daily

**25. Have you or someone else been injured as a result of your drinking?**

Never

Yes, but not in the last year

Yes, during the last year

**26. Has a friend, doctor or other health worker been concerned about your drinking or suggested you cut down?**

Never

Yes, but not in the last year

Yes, during the last year

**Thank you for completing this questionnaire. Please return it to the researcher**

## **Appendix G**

### **Study 1 Verbal introduction**

#### **Focus Group Verbal Introduction**

(Thanks to Participants and Facilitator Introduction)

Hi, My name is Ellen Lynch and I would just like to thank you all for taking the time to attend this focus group today at what I know is a busy time of year for you. As you may know, I am a PhD researcher in the school of Social Work and Psychology here at the University of East Anglia. My research focuses on binge drinking in student populations and that is what we will be discussing today. The data from today's discussion will be used to inform a large amount of my future work for the PhD and I hope that I will be able to learn a lot from you.

#### Why do the study

Having an understanding of individual's knowledge, opinions and attitudes with regards to alcohol consumption and binge drinking is very important for the conduction of effective research and I hope that today, through the discussion and activities, you will be able to inform me about how you understand the term binge drinking and how you perceive binge drinking behaviour.

#### Length of Interview

The discussion during this focus group will last between an hour and an hour and a half and the session will finish at (...Insert finish time...) at the latest.

#### Participant rights, ethical considerations, and ground rules

It is important before we start that I inform you of your rights as participants and that we lay down a few ground rules for the rest of the session.

Firstly I would like to inform you that this study has been approved by the school ethics committee.

Secondly any contributions that you make to the focus group will be shared with other members of the group as well as myself. For this reason I ask that everyone agrees to keep confidential all that they hear here today.

Thirdly all data recorded today will be anonymised in transcriptions and dissemination, no real names will be used and any possibly identifying information such as places and times will also be removed or changed.

You are free to leave at anytime. If you choose to leave, you do not have to give a reason but can simply leave the room. Alternatively if you feel uncomfortable contributing at a particular point but do not wish to leave the focus group you may stay and listen until you feel ready to contribute once again or until the focus group ends.

Due to the interactive nature of the focus group you will be unable to withdraw your data after the focus group. However if you do not feel comfortable answering certain questions or contributing to sections of the discussion you will not be forced to contribute. You are free to remain in the focus group and rejoin the discussion when you feel comfortable doing so.

There are no wrong answers to any of the questions asked or topics that will be discussed, everyone's input is welcome, encouraged and will be incorporated in to the work. It is not expected that you will be experts on the topics discussed, it is your ideas, opinions and attitudes as students and individuals which I am interested in.

Although I will ask some questions, during the discussion you will not be directly asked about your own alcohol consumption behaviour but rather about your views and

opinions, however if you wish to give examples from your life or experience that is fine. I just ask that you please avoid giving anyone's name, particularly if the individual is not here.

As for the ground rules, I would like to ask that only one person speaks at a time and that you refrain from any side conversations with those sitting near you. Would anyone like to suggest additions to these ground rules?

### Questions

Does anyone have any questions at this point?

## **Appendix H**

### **Study 1 Discussion Guide**

#### Focus Group Discussion Guide

### Introduction

Ok we will now begin the focus group with a short ice breaker task, I would like it if you could all introduce yourselves to the group, you do not have to give your full name

and if you prefer you can give a nickname by which you would like to be addressed during the focus group but it should be the name you used on the questionnaire. Following this, if you could tell us an interesting fact about yourself that would be greatly appreciated.

So I will start, then we will go round the group starting from my left, as I've already said my name is Ellen and an interesting fact about me is. . . . .

(Each take turn to introduce themselves)

### Activity 1

Ok so let's start of by thinking about a typical night out with your friends. We have some paper and markers on the table. As a group just write down any ideas you have about what happens on a typical night out.

(give them 5 minutes as a group to do this)

Probes in case they are struggling:

- How does it start?
- Who are you with?
- Where do you go?
- Do you drink certain drinks?
- When does it start/end?
- Why is that the case?
- Why do you go there/do that?
- How does the night end?

Brilliant, so let's talk through a few of the things that you have written down there. . .

(Select key areas of interest, ask them to expand on these or give more detail, explain why certain things are important, has anything obvious been missed out?)

Probes:

- Does anyone have anything to add?
- Is there anything that you think should be on here that isn't?

Question: We have been talking here about a typical night out and what I would like to know now is, is alcohol an important part of a night out?

Probes:

- Would it be different if you didn't drink alcohol?
- How/Why would it be different?
- What would be better/worse?
- Would it be easier/harder?
- Why do you think that is the case?

Question: Do you think most of your friends and peers (ie other students) drink alcohol?

Probes:

- Do they all drink?
- How often?

## Activity 2

So we have thought and talked about what makes up a typical night out. What I would like you to do next is split into two groups and take ten minutes as a group drawing a picture of someone with a 'drinking problem' such as a typical alcoholic. Don't worry about drawing skills, I'm not expecting a work of art, you can include labels for things if it's easier or makes them clearer.

(Give them ten minutes to complete their drawings)

Ok so if we just merge back into one group. (Place pictures in the middle) We've got two great drawings here. If we could start with this one, would you like to explain to the others what we have in this drawing?

- Does anyone have any questions about this drawing?
- Is there anything that you think is missing from this picture?

How about the second drawing; can this group explain to the others what we see in this picture?

- Does anyone have any questions about this drawing?
- Is there anything that you think is missing from this picture?

Probes in case they are not very forth coming/more detail is wanted:

- Can you tell me why you included that?
- Why was that thought to be important?
- Can you tell us a little more about that?

Great work so far. So what we now have in front of us is one sheet containing some of the characteristics of a typical student night out and then images of two individuals with 'drinking problems'. Can we compare and contrast the student night out with the images of those with 'drinking problems'? Can you tell me how these are different?

Probes and follow ups:

- What are the similarities?
- Why is that the case?
- Is this always the case?

## Activity 3

Ok so we have talked a little about a typical night out, and what you think someone with a 'drink problem' looks like. Now we are going to move on to thinking specifically about binge drinking.

Question: Let's start by considering what you think the term binge drinking means? As a group can you write down your ideas about this on the paper in front of you.

(give participants 5 minutes to write these down on large paper with markers)

So let's talk through what you have got written down there.

(Select key areas of interest, ask them to expand on these or give more detail, explain why certain things are important, has anything obvious been missed out?)

Probes:

- What springs to mind when you hear the term binge drinking?
- How can/Can you distinguish between binge drinking and other forms of alcohol consumption?
- Why is ... important?
- Is the amount of alcohol consumed important?
- Are the outcomes important?
- Can you tell me more about...?
- Can you expand on ...?

Question: Ok, that's great now let's think specifically about the outcomes and effects of binge drinking. Take five minutes again to write down what you think the outcomes and effects of binge drinking are?

(give participants 5 minutes to write down ideas on paper with markers)

Let's talk through what you have written down.

(Select key areas of interest, ask them to expand on these or give more detail, explain why certain things are important, has anything obvious been missed out?)

Probes:

- What about the positives/negatives?
- Which of these are most important?
- Are these important?
- Why is this the case?
- How does this come about?
- How does this link to binge drinking?
- Can you tell me a little more about...?

Question: So we now have quite a lot of information in front of us. Working from this do you think we as a group can decide on the characteristics that would describe binge drinking and set it apart from other forms of drinking?

Probes:

- Can we set binge drinking apart from other forms of alcohol consumption?
- Is binge drinking a part of a typical night out?
- Is binge drinking the same as having a 'drink problem'?

- Is . . . important?
- Is binge drinking part of celebrations and special occasions?
- Do we all agree on that?

### Summary and Conclusion

Ok so just before you go I have one more question for you to consider.

Question: Can you tell me why you think people binge drink?

Probes and follow ups:

- Why do students binge drink?
- Why is that the case?
- Can you tell me more about. . .?
- Can you expand on that?

(Go to closing statement and verbal debrief)

## **Appendix I**

### **Study 1 Verbal Debrief**

#### Focus Group Verbal Debrief and Closing Statement

Ok I would just like once again to thank you all for taking part, I hope that you have found the session interesting and enjoyable.

Does any one have any questions?

I have a few things for you to take away with you.

Firstly a debrief sheet which I hope you will all take time to read, this includes your participant number, my contact details and contacts for a number of organisations which can provide information and help with regards to alcohol.

Secondly I have ten pound for each of you to compensate for the time you have given up to attend the focus group and cover any travel expenses. If you could please sign on this sheet to show that you have received the cash. (Hand over cash and ensure participants sign)

I also have a number of leaflets here that can provide you with information about healthy alcohol consumption and binge drinking which you can take away with you if you wish.

I would just like to reiterate that in the interest of preserving confidentiality and anonymity you are asked not to repeat any part of today's discussion or anything that you have heard here today.

Finally I will be around for a little while longer if anyone has any questions or comments that they would like to discuss on a one to one basis, otherwise that's everything I need to say so thanks again and goodbye.

## **Appendix J**

### **Study 1 Debrief**

#### **Focus Group Participant Debrief**

Thank you for taking part in the focus group today.

I would just like to remind you that in the interest of preserving participant anonymity and confidentiality you are asked not to repeat anything that you heard here today and not to give the name of any other participant to individuals outside of the focus group.

Due to the interactive nature of the session today it is not possible for you to withdraw your data. However if you have any questions, queries or concerns please contact the researcher by email ([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk)) or phone via the School of Social Work and Psychology Reception (01603 592068).

If you require any help or information about alcohol use, alcohol addiction or binge drinking please call

- Talk to Frank 0800 776600
- National Drugs Helpline 0800 77 66 00
- Drinkline (the National Alcohol Helpline) 0800 917 8282

Or visit

- <http://www.talktofrank.com>
- <http://www.alcoholconcern.org.uk>

You can also contact the University Counselling Service by phone (01603 592651) or email ([csr@uea.ac.uk](mailto:csr@uea.ac.uk))

**These sources all offer free and confidential advice**

## Appendix K

### Example focus group transcript

- R: Ok so we'll now start the focus group with a short ice breaker erm I'd like it if you could introduce yourselves to the group, you don't have to give your full name, if you prefer you can just give a nickname erm and following this if you could
- give us an interesting fact about yourselves aah which you might want to start thinking about.
- Laugh.
- Erm so if I start, as I've already said my name's Ellen and an interesting

fact about me is that I can play the French horn, and the trumpet, and the Eb horn.

Erm, do you wana start

you still thinking

Laughter,

Y: Can't think of anything.

Laughter

Y: Errmm I'm yan and an interesting fact about me is that I can grab errrr this ear with this arm all the way around my head

Giggle

G: Errm

I'm Gem, and interesting fact, I think, is I'm going to America to work for two months at a theme park.

A: Ah I'm Al and an interesting fact issss I served Steven Hawkings in Waitrose.

Laughter

Y: That's pretty awesome

M: Errr I'm Meg, an interesting fact about me is I'm from South Africa.

R: Pretty interesting.

R: Ok, thanks for that guys

Erm so were gonna start off with an activity errmm and we'll do it as a whole group so if you could think about a typical night out, going out with your friends, erm and I've got some paper and some markers for you so as a group if you could write down any ideas you've got about what happens on a typical night out ah erm, what's important,

what's not important, that kinda thing, ok?

Lots of pens there

and some paper.

G: One sheet each or. . .

R: Erm . . . if you wana do it as a whole group or you can have separate sheets, which ever you prefer.

Y: Pick a colour.

Hmm

G: So, the obvious pre drinks to save money I guess.

M: Yeah.

Y: Yeah.

Y: Who, who wants to write?

R: Feel free to all write

G: Pre drinks (whispered)

Y: Okay, pre drinks it is on, erm.

G: Maybe pre drink games.

M: Yeah.

Y: Hmm. Oh yeah, games

Ring of fire

M: Ring of fire, yeah.

Laughter

Y: Everybody does it.

Erm chandelier, just t' name one, erm

M: In my flat we play a lot of beer pong, that's a pretty good game.

G: Yeah

Y: yeah

M: But you don't necessarily need beer.

Y: No, spirit's

G: Yeah

M: Yeah

Y: Not good

Y: erm, ring of fire, beer pong  
tryna think of, what other drinking games are there

G: erm

Y: I don't really know what it's called but you know the one where you got the bottle and you blow cards off the top of it, without blowing them all off,

G: Ive never played that

Y: No?  
It's harder than it sounds, coz like whoever blows it all off, which is very easy to do, has to take the shot, or whatever it is.  
Erm

G: Then

M: There's like various card games, I can't remember the names of all of em, but like

Y: I've got a book of em

M: Card games that you can drink when you do something wrong

Y: yea

M: Like ring of fire

PAUSE

G: Do you guys include food in yours, in your kind of preparation to go out, orrr

Y: yeah, sss

A: yeah

Y: yeah?

A: big meal

Y: ahhh, yeah, yeah but, how soon before, you go out?

A: Hour before were startin' drinking.

Y: yuh

A: soaks it up, then a kebab later

Laughter

Y: Shall we put it on, shall we put that on then?

G: so do ya. . .

M: yeah, food after you've gone out for definite

Y: Pre, pre eating and after eating yeah.  
yeah

G: A lot of people prefer like to kinda just go by drinking don't they? To. . . like. . . so that,

M: What without eating beforehand, yeah

G: that the effects of alcohol are heightened

Y: yeah so if you

A: sounds crazy

M: I don't like missing dinner

A: You wana soak it up

Y: so so I'd say food pre and after  
although some don't though

M: yeah I understand the incentive to  
not have food before coz then you can get  
more drunk

Y: Doing it on an empty stomach is  
not good

A: no you get drunk early

Nope

M: Then you throw up and it's not  
good

laughter

Y: but then again if you've eaten  
something you've have something  
to throw up and it doesn't hurt as  
much

M: But it takes longer

Y: True, true emmm

So food pre

Ok so going

G: what about. . .

Y: I was gonna say,

G: Yeah

Y: So actually going out, where's you  
guys first port of call

G: well do you get like taxis and buses

A: Taxis

G: Taxis

M: ah em Yeah taxis

G: It's very cheap to get them isn't it?

M: Yeah if there's a lot of you

Yeah

Then it's cheap.

Y: Yeah communal taxis

A: It's cheaper to get than getting bus

G: Where do ya tell em to go?

Ahh

emm

G: Where do we go?

Y: Usually to a pub first, pub geta pint  
in

Hmm

Y Am saying when I go out clubbing  
back at home, go to pub where everybody  
gets together, like everybody ya know  
who's, you know who like student of, who  
went to same place then we go to clubs

Sooo, I I don't know if you guys do the  
same?

M: I I don't usually do that but sounds  
quite nice to like all meet up

A: If it's like everybody's going out  
out like clubbing then generally just wait  
till like midnight, by then all the pubs are  
closed.

Y: Yeah

A: but if like coz I'd rather get to like a  
pub like early like seven, eight then if you  
wana go out after that then

M: Yeah for me if I went to a pub early  
on that'd be like the pre drinking.

A: Yeah

M: soo

Y: The only problem is obviously it's  
cheaper do pre drinking at home but like  
hmm

Ahhh

Emm

G: What clubs do people like

Y: Good question

G: Have you two got a grudge against (club) yet?

Laugh

G: everyone seems to where the

M: (Clubs) alright,

A: No It's kinda funny

M: Now and then,

A: Laughing at people

M: You can't go all the time otherwise you'd just hate it.

Y: I's gonna say, you'll grow out of (club) everybody does.

mmm

I don't mmm, here's a question, do you guys have a preference, as in have you tried different ones and found one you like, and if so like for what reason?

M: I quite like project now for propaganda, it's got really good music.

Y: Yeah

M: emm on Friday

Y: so a sya you'd

M: but that's quite recent.

Y: Yeah, so, so you'd go for the music

M: Yeah

Y: Not not the drinks not the offers,

M: well I mean the drinks are good too because you get the two for one

cocktails and I just get two cocktails and I keep getting two cocktails

Laughter

M: Which isn't good but

Laugh

M: emm Yeah that's ended badly before

Y: wey

A: I go to, well (club) at the end of the night just because it's open late and the smoking areas really good, I pretty much would go to (club) just for the smoking area, it is really good.

Y: I've got a say have you ever, coz it closes at like six in the morning have you ever stayed

A: No

Y: till six

A: Never mate

M: I've never been to (club) I always get too tired

Y: Yeah

M: When I drink I jus' get tired by the end an am like errrr

G: yeah

M: I need my bed

G: yeah

G: I think, think it emm depends on how early you start out as well doesn't it

M: It depends on what I'm drinking

G: Yeah

M: If I'm drinking beer or wine I get tired really easily

G: Yeah

Y: Sooo

M: so I try to stick to spirit's

Y: I was gonna say if you're drinking spirit's you stay up all night

M: yeah if you're drinking vodka redbulls then there's no way you're getting to bed

Y: It's coz of the redbull tho not the vodka

M: yeah I know but like that's what I usually have with vodka so

Y: yeah was 'bout to say errr

G: Think it also depends on the company as well, doesn't it if you're like ah it's getting boring.

M: yeah

Giggle

A: that's actually people, you need good people for a good night out

Y: Yeah

A: I hate going in a massive group

G: you do

Y: So you prefer a small group or a big group.

A: small group

Y: well why?

A: Why?

Y: Yeah

A: because well it depends on like the whole, if you're going to a pub for then definitely a small group coz when it's a big group like you never get like a good

conversation with anybody your kinda like mingle with

G: yeah

Y: yeah

Y: get more conversation

A: not not getting anything good

G: so

M: you don't get to have a long proper conversation

A: and then with lot of people you end up losing people anyway and

Laugh

In a club that is not in a pub

G: I guess like on the'se emm like club socials you it's a good way to meet new people but I dunno you always tend to drift off a break apart during the night.

Do you find that?

M: yeah well you don't usually stay with like the same person throughout the night

G: No that's

you go an talk to like different people

G: yeah

M: an mingle

Y: If yeah first years talk to first year, second years talk to second years then there's like the odd person meeting and mingling. Err dunno

G: So after the clubs

Y: taxi home, crawl into bed

G: well

A: Kebab shop

M: maybe get a burger first or kebab  
in A's case

A: i don't like kebabs

Y: just chips

A: kebab shop, cheesy chips

M: Nah I have to have a cheese  
burger.

Laugh

Y: ahh here's a question emm, ok  
whenever I go out on a serious nights  
drinking, emm before I go to sleep I make  
myself have at least two pints of water.

M: yeah definitely

Y: yeah

M: down as much water as you can, I  
have to do that

Y: yeah

A: Well I should, I know I should but  
laughter

G: can't be bothered

A: No

G: So I guess that's an important thing  
to you

Y: Well it's just like if your lucid  
enough to you know prepare yourself for ,  
coz you know how it's gonna hit you  
tomorrow morning after so if your lucid  
enough to think right i know I wana go to  
bed but I need to have water coz of  
tomorrow .

A: then you end up needing the toilet

Laughter

Y: yeah but here's the thing though  
would you rather be annoyed an get up in

the middle of the night or spend the whole  
entire next day well hungover I guess but  
you know what I mean, just not feeling  
right

A: take the hangover

Laughter

A: ah I don't get, I never

M: you like your sleep

A: well I never

M: way too much

A: I never get hungover that badly  
though

M: really?

A: well I will for like the morning but  
it's never like a whole day thing like I can  
kinda

M: yeah I don't usually get hangovers

A: once I get up and about and I've  
had a couple of cigarettes then I'll be fine.

Y: okay emm, just a random question  
because I know it's err different for  
me but before you came to  
university emm were your drinking  
habit's different.

M: yeah, well I didn't really go to clubs  
before I came to Uni, so that was

G: yeah

M: quite different

G: same

M: I mostly went to pubs and stuff or  
like went to parties at people's  
houses ort gatherings at people's  
houses and drank there like I never  
really went to clubs, I mean

G: I guess that's an age thing as well

M: yeah coz I'd only been eighteen for like a bit. Or like a year I dunno chhh.

G: emmm

G: ah yeah same like I think I'd only been to club like once or twice an otherwise it was just like round friends' houses, I dunno I think it I definitely increased my drinking habit's when I came to uni,

Giggle

M: I started drinking spirit's a lot more

G: drinking spirit's

Y: mmmm

M: yeah, yeah cause I mostly drank like beer and wine before

G: oh right

M: so, yeah I wasn't that much of a heavy drinker

G: why do you think that was, like that you changed? Cause of the deals or?

M: emm, possibly and also just coz like the people that I was hanging out with drank a lot more spirit's and then if we all clubbed together then it was cheaper so I just like did that instead

G: yea

Y: ohh

R: Do you think a lot of people at university feel similarly to that, do you think they had similar experiences or do you think there's some maybe that were drinking a lot before anyway

A: I certainly drank, I still think I drink more at home than I do here but probably in, well more regularly like when cause here it seems to be like there'd be like so three, two or three nights a week were everybody would go out to a club and everybody would seemingly just get smashed. But whereas like at hom in my year off working for most of it before travelling I was just most nights I'd be down the pub and have three or four pints and then probably drink more at the weekend or on my days off, so it was more regular drinking but not as much each time.

R: ah ok

G: I think that's another thing with university like you go out on a Monday night, to drink and get drunk and everything.

A: yeah

G: but you wouldn't do that in the real world as such you know 'cause you'd have a job the next day but university just messes everything up so you can go out anyday of the week.

M: anyday

G: yeah yeah

Y: all the clubs have different offers like so it's student night

G: yeah

Y: at one club on Monday and it's a different student night at a different club on Tuesday you know so you can't,

M: yeah

Y: it could

M: and so on

M: I think there's one for every night

Y: yeah, just wondered do you think that emm coz I I personally feel this way is that err, do you think that the you know the clubs, you know the actual clubs and that do you think they kinda exploit coz they know that there's lots of students round here they kinda exploit that's why they offer, there's all the'se different offers, you know, student night Monday student night Tuesday.

A: yeah

M: yeah they definitely make the most of it.

Y: yeah

M: emm, I mean they'd be silly not to

G: yeah

M: because there are

G: yeah

M: so many students around and I mean everyone, that draws in other people as well, just cause it's cheaper.

G: Yeah

A: and especially yeah for the week cause even, when you go out Friday and Saturday it's so noticeable that it's locals rather than students so

Y: mmm

A: an they get students out during the week and you'll still get students going out Friday and

Saturday so they kind of just make sure that everybody's drinking all week.

G: win win

Laughter

Y: yeah, racking it in

R: do any of you go to student pubs or clubs when you're at home or is it just when your here

A: urr

M: yeah I make use of student nights at home because cheaper.

A: yeah so I always, Monday night one was always the student night where I live

Y: yeah

A: but that was it was it always seemed to be more like people who weren't actually students who went

G: yeah

A: which I dunno

G: I didn't personally because my home town was rubbish for going out all we have is (pub chain) literally and emm to get to the nearest you know town where they have proper clubs it would be like you know, fifteen pounds in a taxi and I just can't afford it so I normally do just end up going for a quiet drink with friends so I don't go out clubbing at home.

Y: err, well emm, kinda similar here is that em soon as I turned eighteen it was every single Monday night down the pub and then the club. Was cause ah when I was at

college I was kinda like one of the ones, you know like last ones to turn eighteen so it was like everyone else would come back like you know come in on a Tuesday morning at college like 'ahh do you remember what happened last night?' and I dunno, I didn't have a clue

M: yeah

Y: so is like a soon as I turned eighteen, was like I wana get involved so i was there soooo,

M: yeah, a big part of drinking actually is the morning after when everyone talks about what happened last night

Y: hmm, (laughing) yeah

G: I guess so yeah

M: what stupid things people did, what funny stuff happened.

G: yeah

R: Do you think that's to do with being included then or is it if it's your friends particularly that or going out or is it just everyone?

M: well a bit of both I think

Y: mmm

M: because if it's like say a big student night say like on a Thursday you can talk to people on your course like, oh did you go out last night, this happened that happened, blah, blah, blah, blah, blah. But then you also like within your social circle talk about it like you know, certain people and what they did

R: So it gives you something to talk about with anybody pretty much but specifically with your friends you can talk about what went on in your friendship group kinda thing?

M: yeah

R: yeah?

G: I think cause em the clubs are a common ground you emm can sort of in a strange way bond over them because you can be like aw I went out to so and so this night and this happened and someone could have a similar experience in the same place and suddenly your two strangers and you've got someth, common ground

Y: yeah

G: so

Y: bout myself I've made some friends yeah who I've only, you know I've met them at a club and from there you know see 'em a bit more. So have you guys ever had that where you, you've met people at a club?

A: not really actually

Y: No

A: No never really meet people at clubs

M: I talk to people at clubs but I don't end up talking to them again or seeing them again.

G: It's like em, I've seen recently this might be a bit irrelevant, I've seen recently on face book like em this em page where it says it's dedicated to going into the loo

making the best friend when you come out.

M: yeah (laughing)

A: (name) does that

G: I think that's possible, it does happen

A: nah

M: yeah one of my friends is so bad for that every time she goes into the toilet she makes new friends

G: yeah, yeah

M: She's like 'meet this person they're amazing' Okay

G: I mean, I think that's the case for girls but is it the same for guys?

Y: Yeah I think that's a girls only thing.

A: It does sometimes happen occasionally.

Laughter

Y: I've haven't found that.

M: Showing your girly side here A.

Laughter

A: Yeah, actually no, it's more smoking areas.

Y: yeah

M: yeah definitely make friends in smoking areas

A: Cause there's always gonna be someone asking you, like tryin' to pinch a rizla or like a,

Y: yeah

A: an they'll just feel like they have to be polite an talk to you so yeah you can make friends when ya. . .

M: Or they might think you're interesting

A: nah

Laughter

R: So kind of following on from that then, you talked a little bit about clubs that you go to and that the music was important and the drinks being cheap was important, is it important the other kinds of people that are there?

A: yeah

Y: emmm

G: It really puts me off if you go out on a weekend and there's a load of old men in there I really don't like it so that'll make me leave, that's important to me

Giggles and laughter

A: yeah

Y: well I guess the one thing that annoys me is that you go out clubbing and there's obviously you know loads of big varieties of people there but you know what I mean you just have i mean those people who are just there ahh, I mean, I guess you could say, larger than life if you know what I mean but your just like why are you being like that, do you know what i mean?

A: yeah

M: yeah

Y: I was gonna say it's not just me but do you know when there's someone just like in your face and you're like 'go away'

M: yeah

A: With like (club) cause you know your gonna get people, the sort of people not everybody but the sort of people who are gonna be looking for a fight, like if you bump into them on the stairs like their gonna like stare you down and try an start a fight or something. It's just the that's just the sorta people that you get in there, especially at weekends.

G: In all fairness it is a big place and that's kinda where everyone goes so your more than likely gonna find like rough people there

A: I've never really I've never found that in like (club) or (other club) at all

G: oh

A: like you don't really like people always seem more chilled out like just listening to, like dancing

M: (Club)also probably if you go after a night out your more like ah ok I'm tired now, wana chill out, rather than like yeah let's get in a fight

Giggles

Y: Do they actually have beds in there, I've heard they do.

M: Dunno I've never been.

A: It's kinda like, there's like a raised bit and then it's like just a massive sofa but you could lie down and go to sleep

Giggles

A: if you so,

M: If I went there I would probably go and fall asleep

Y: just like curl up in a corner

R: Ok so we've talked quite a lot there about night out and we've also talked a lot about alcohol and drinking and one of the things that I'd really just like your opinion on is, is alcohol important for a night out, would it be different if you didn't drink?

G: emm well I do normally drink but there was some time, there was ah quite and extensive period last year where I couldn't drink cause I was on a lot of antibiotics so erm I didn't drink but i still went out and actually I had a really good time still erm, an ah, I did go back to drinking though like for some reason even though I had such a good night out, I could remember it and yeah

Giggles

M: I think you can have good like a good night out, I don't know, I don't seem to be able to have that good a night out in a club if I'm not drinking I think it's because I associate it with drinking

G: yeah

M; and so I just like every time I go to a club I'm drunk so if I'm not drunk I'm like this is weird I'm not used to this but like in any other situation I can be fine not drinking and have a

lot of fun like if I go round someone's house and there's like a gathering like I don't need to drink to have a good time it's just in clubs I find, and like the same with pubs I can be alright with just drinking diet coke but in I dunno in club setting and but also I mean in other settings alcohol does make things fun

G: I think it does depend on mood as well like in sometimes you do need to be able to loosen up

Y: mmm

G: like if you're not in the mood it can kinda help.

laughter

Y: yeah, no

M: Alternatively if you're like not in the mood for alcohol then it can make it worse

G: true

M: like if you're feeling really crappy if you then start drinking it can make you like just urgh , not good

G: true

Giggles

Y: I agree with that

A: yeah that's ah, err, you kind of, I err, I had the same thing I was on antibiotics like a couple of months ago an I couldn't drink for a week and it's not that I needed alcohol to have a good time but I'd get, cause I like my beer id get really frustrated that I couldn't drink so but

G: mmm

A: but I dunno I've got, I don't drive but friends who they always seem to end up driving and they'll just have like one drink and then wont drink and they always, it's fine for a period but i don't think you can have like a long night coz like if your drinking a lot on a night out and you're out till like for you kinda forget and time just passes and you can be doing nothing and still be entertained where as if you're not drinking then, I've been out like to a club having not drunk and it's fine for like an hour or so but you kinda get bored after a while cause it's funny seeing people at first but then it's not so funny when their all really drunk.

M: When they doing the same thing over and over again

R: So you think your night would probably end sooner if you weren't drinking?

A: Yeah yeah

G: Also I think you, if you're the only sober one you end up looking after everyone, everyone else

M; yeah it's definitely easier to have fun if you're not drinking if other people aren't drinking, if everyone else is drinking then you're like great

Y: the odd one out

M: yeah

R: So two of you said about not drinking when you're taking antibiotics do you ever go out not drinking just by choice?

A: No

G: No

M: I have on occasion when I just haven't like in pre drinking games or something I haven't drunk that much so I've ended up not being that drunk when I've gone out and like I haven't drunk that much in the club cause maybe I haven't got that much money and so I've ended up being sober and I'm just like 'great, everyone's drunk'

Laughter

M: This isn't fun

R: Okay

A: I can't think I've ever not drunk, I've ever not drunk because I didn't want, there'd always be a reason for not wanting to drink like if you feel a bit unwell like going to the pub and not drinking because you don't feel that well. But it's for like, if I feel fine then I would always have a drink if we're going to a pub or club.

G: I do think there's a slight pressure to err if everyone else is drinking you drink as well because you might be looked down upon as boring or something and when someone's going up to the bar be like 'ah what can I get you' and you'll be like 'water please, or something, or coke or'

Laughter

G: i dunno and then they'll be like 'ah come on come on' so I do think there's a pressure there

R: do you think it's, it's more than just perceived then, people do actually say?

G: Oh yes, definitely

M: oh yeah

R: People do actually say, 'come on, have a drink'?

M: people always like yeah 'just have one come on'

Y: If it's the barman saying that then no, if it's your friends yes

M: yeah

G: I think ah it's to make them feel better as well in a way, cause they'll be like not drinking, they they don't

Y: They'll feel guilty

G: yeah, they don't have to look out for you and see that you're not having such a good time, or whatever, make them feel better as well.

Y: yeah cause as i say, their drinking, your drinking with them then it's ok, they're not drinking they do kinda, I do really feel like having a beer it would be kind of awkward if i have one and you don't have one so. . .

R: okay

Y: Dunno

R: emm Well that's great, if your happy with what we've said so far we will move on to the next activity, oh, no we won't, I've got one more question for you on that, erm (laugh) Do you think that most of your friends drink?

G: Yes

M: mmhm

Y: emm

G: I do have a couple which I which, who don't and i really respect them for it because they do still come out and it's their own option not to drink and they stick to it no matter what anyone says to them and yeah I do respect people who don't drink.

Y: Yeah no the same as us, a few friends who don't drink out of choice but I dunno, as you say it is kinda a personal choice aspect to it but I don't think it's, their just different, just personal choice kind of thing

G: yeah

Y: Don't think of them any differently, don't treat them any differently but it's just a different thing about them I guess

R: Do you still kinda go on the same nights out with them

G: yeah

R: or do you tend to do different things?

Y: I do err do invite them on the same nights out but every so often cause err once you know you've tried to invite them out a few times to a night out drinking you kinda get to thinking if we invite them they won't come. You still might invite them just to give them the option but you know people who don't drink, you become too used to them saying no so you're like right, if it's another kind of night out then yes but if it's a night out drinking probably not.

M: yeah I've got emm one friend who lives in the building with me who doesn't drink and he also doesn't really like club music and stuff and he never comes out because he, he never, he like always has a b bad time. And i don't know, like one time he did drink with us and he seemed to be

having a better time but then the day after he was lika 'na I hated it'

Laughter

M: Like ok, you looked like you were having a good time erm but yeah I dunno so he doesn't like it at all like going out with people who are drinking when he's not, might just be his personality though he's not that sociable.

R: Do you find he's just not sociable in anything then?

M: generally he's just not very sociable he likes staying in his room watching movies.

R: Fair enough

G: ok

R: ok we really will move on this time, emm soo we've talked a little bit about typical nights out and were kinda gonna move to another extreme now what I'd like you to do is if you split up into pairs to, between the two of you make a drawing of the typical alcoholic. And I'm not gonna judge you're drawing skills so try not to worry about that, if you want to do it more as a diagram and label things that's absolutely fine or do it as a cartoon or something, emm soo I'll get you some more paper, so hopefully the pens you've got are alright

M: Why do I have to draw?

A: You said you liked art the other day

Y: You have to draw as well

R: Great erm I'll give you about ten minutes or we'll just see when you have finished.

A: How do you wana draw this

M: When I think typical drunk I think like an old hobo on the street just like staggering

Y: I'm thinking stick figure and their like bluarr

M: Yeah

G: What's the time?

M: I just think staggering

G: So it's a drunk person

Y: yeah the average drunk person

M: Someone staggering like arrr arrr arrr

Y: So are we doing stick figure or. . .

G: yeah

A: When I think of an alcoholic, the kinda person

G: Is that black

Y: Yeah that's fine

M: The person who is most like an alcoholic that I know, just looks normal,

G: A chav

M: and the other alcoholic who i know is just like an old man he's very red in the face

A: `yeah their always red in the face

M: Is there a red pen

Y: Yeah

M: So face is red

G: emm, wibbly wobbly legs

M: I'm not good at drawing from my imagination

A: it's alright

M: So ok he's gonna have a red face, it's gonna be a very circular face, emm, what kind of hair?

A: Balding

G: it's interesting it's like

A: So it's like

M: it's

A: sorry

M: Yeah

G: and eyes are half closed

M: he's doing, yeah, he hasn't got much hair therefore he's balding.

M: How do you draw like bleary eyes

G: Actually I'm thinking more chavy

A: They're just droopy

M: How do you draw droopy eyes?

A: I dunno I can't draw

M: errm

Giggles

M: I'll try drawing with droopy lids

Y: ahh, yawning? Or wiggley lips

M: yeah ok he doesn't have a nose

A: normal nose

G: yeah

Y: What yawning or wiggley?

M: yeah, his nose isn't affected by drinking

G: No cause

Y: I was gonna draw him yawning

M: What would his mouth be like

A: kind of open  
G: might just look tired, if it's like wiggly with little stars,  
A: It's always open  
M: just like bllllaaaah!  
G: yeah  
A: Spot on  
M: Ok, right  
Y: Where's the yellow?  
M: he's got a very thin neck despite his massive head.  
Y: oh oh oh oh, gonna  
M: Actually his head should be drooping  
Y: ok, so give him a collar  
M: I should have done his head drooping.  
G: why?  
A: Just write it  
Y: Everybody dresses up on a night out  
G: Well, not a chav  
M: ok drooping  
A: slight sway  
G: A t-shirt  
M: probably need to draw like words coming out be like wahhh!  
Y: well probably have the yellow kinda like sick stains.  
M: Ah what would he be wearing? Are we doing him as a junkie  
A: a battered tweed jacket

G: ok, it's very glamorous, has he got no nose?  
M: Bigger neck  
M: how do you do that?  
Y: bloody nose?  
A: I kinda, ahh the three kinda like resident alcoholics from my village or the next village there always like ah quite rich.  
G pink a pink blood  
Y: ahh Im gonna say he's probably lost his trousers, would you agree?  
M: But I think if their alcoholics there probably not gonna be very rich cause they spend all their money on alcohol  
A: or at least they used to be  
G: Ah...  
Y: or at least kind of round his ankles  
A: So they've got kinda good clothe's, they've just  
G: No, no  
A: and haven't been washed in a while  
G: Lost a shoe  
Y: Yeah  
M: ummmm  
M: I think his arms should be going everywhere  
Y: he's got massive feet  
A: and their kinda not that big cause if they were really big then they would be fat and they would be able to soak up alcohol so they wouldn't be alcoholics well they wouldn't get drunk  
G: You know what they say about big feet

M: Although probably would, I think, the thing is if you're thinking about people down the pub who have a lot of beer they've usually got a beer belly

Y: ahh so I'll draw the pile of puke on the floor round his feet

G: yeah

G: stepping in it

A: actually my dad's got a beer belly and he gets drunk

Y: yep cause he's that drunk

Y: ahh what else? Bottle of vodka in the hand

A: hmm

G: hhah okay

Y: and a burger in the other

G: ummhmm

M that just looks ridiculous, he's really skinny

Y: it's bigger than his neck

M: ummm at the moment he's wearing like a long sleeved top, are we putting him in a tweed jacket

A: yeah try it

M: ok

M: what do tweed jackets look like

A: ummm

A: i don't know how to explain it

M: ok he's having a belly

Y: oh dear a belly, nice

M: how do you draw like

Y: now now where shall we put him

G: Is that his stud?

Y: yeah, cause he's a chav

G: ohh

Y: Now where shall we put him

A: pretty good

Y: ha, that's good

Y: ah lying on the pavement?

M: umm I'm gonna draw little patche's on it cause it's like like umm a scrummy jacket

A: yeah that's good

Y: I think that looks pretty good actually

G: tadaa

Y: tadaa

M: have you seen the'se hands, the'se are good hands

G: umm

M: He needs to be holding a bottle of some kind or a can

A: like you know

one of those bottles of strongbow, or special brew,

G: he could have one of those scuff things

Y: I think my hairs pretty awesome

A: they love special brew

G: yeah makes the picture

Y: yeah

G: for goodness sake what's the matter with you (whispered)

G: you're such a mard

(Whispered)

Y: oh dear  
M: he can have a can in his hand as well,  
yeah  
Y: Oh oh got an idea  
M: help me draw those things  
A: yeah that looks cool  
M: that's cool  
M: emm what are his legs gonna be like  
A: wobbly  
M: like that wobbly?  
G: haha  
laughter  
A: Wobbly  
M: wwwaehhhh  
G: he could have his calvin klier's showing  
M: this isn't a very accurate picture  
obviously  
G: hmm what's that  
M: can't draw shoes,  
A: battered shoes  
M: I'll just draw like  
G: oh ok  
M: they don't look like anything that  
means their battered  
Y: blood leaking out of the wound  
G: unshaven  
Y: oh rips in the jeans  
A: oh yeah unshaved  
Y: scabby knees  
G: sniggers

Y: I think ours is pretty damn good,  
although a bit day glow of course  
M: he needs ears  
Y: isn't art fun  
M: yeah he should have an earring  
A: this is a horrible stereotype  
A: just how you think of alcoholics  
laughter  
M: should there be like some sick on the  
floor  
Y: no, no have him have stepping in it  
that's what we done  
M: alcoholics are probably sick  
A: but if you think alcoholics their pretty  
used to it so they wouldn't be that sick  
after  
M; there's gonna be stains all over him  
Y: numnumnum  
A: ha, very good  
M: okay,  
M: oh, I meant to give him a red face but  
then I done him all in red  
Y: hmmm  
M: let's colour his face in pink  
Laughter  
G: I thought you just meant flush cheeks  
M: there we go that's lovely  
M: no he's all red.  
R: ok so are you both happy with your  
pictures?  
Yeah

yep

R: right err umm, what I'd really like you to do now is just talk through what you've actually got in your picture to the other guys

G: ok

R: got volunteers to start

G: yep

Y: okey dokey, right

G: start from the top

M: what a fright

G: he's got lots of little stars and dizziness 'cause he doesn't know where he is, very disorientated

Y: he's seeing stars

G: seeing stars and he's like looking pretty aggressive there

Y: of course you know when...

G: and he's got a nose bleed

Y: yeah do you know another thing

G: and he likes to challenge people just to show he's a big man

G: umm

Y: he's got a bloody nose 'cause he was in a fight earlier, it was his second one of the night

G: do you wana do

Y: ahh yes this is his lovely fred perry shirt that he's got on tonight, errr with of course the usual puke stains down the top which of course he's actually standing in at the bottom oo he's got rips in his top 'cause of course he got in a fight earlies, somebodies stabbed him in the arm, cut a bit of the t-shirt off. But of course he's recovering now

so he's got ah err a burger in one hand oh and a bottle of a vodka in the other

G: ermm

M: and one shoe?

G: yes he'd lost a shoe somewhere along the way err, yeah okay

M: nice, you wana emm

M: Our guys balding

Giggles

M: with a very red face cause he's been drinking lots emm

A: his mouth is open cause

M: he'[s just like wahhh

A: he can't be bothered to keepo it shut

M: and his head is supposed to be drooping, I didn't draw it drooping but he's supposed to be like...

A: he's got blood shot eyes

Y: he's got very red eyes

M: he is all in red but yes he has really red eyes, umm and he has two drinks

A: wearing a battered tweed jacket

M: yeah I didn't really draw

A: he's probably got like, probably enough money to be an alcoholic

M: yeah he started off having the money

A: he's losing it...

M: to buy the alcohol and...

A: ...so he can't afford a new jacket

M: ...now he's like just lost it all

M: an he's got very wobbly legs cause he can't stand up properly umm and lots of rips and stuff

A: and one of those bottles of strongbow ones, the cheap ones

M: yeah

A: and a specialbrew

A: that's

M: and that's some sick

A: yeah

R: okay ummm so you've both chosen to draw men, was that kinda a thought about decision? Or just?

G: umm I kinda did that automatically

Y: yeah, I'm gonna say stereotyped aah view of the alcoholic

G: although having thought about it afterwards, i could have

A: could have drawn a female alcoholic

M: Could have easily drawn a female alcoholic

G: umm yeah could have just as easily drawn that and i think that, I think their even, I don't particularly think of men as getting more drunk now because you know having been to uni

M: yeah

G: most of the time it's more of the girls making a show of themselves

Y: umm oh i, I dunno, I would say that probably men are still the more violent out of the lot of them when they get drunk

M: maybe they make more of an impression when their drunk because their violent as well

G: but then women giggle and screech down the street

M: yeah

Y: oh a umm I'm just thinking that a I worked in (CLUB) for a while, nearly every single fight that was broken up was between guys, I never saw a fight between girls broken up, there wasn't one, well I saw like one or two but do you know what I mean, nowhere near the same amount

A: I've seen like, because girls can get like awful on a night out just more of a state

G: slumped over

A: but like as far as alc, I dunno, I think of an alcoholic like just drinking all the time like more day drinking and I'd never, well like I'm I'm not friends with any alcoholics but like it's you like the boys will drink round the house like maybe if their watching football or whatever or like go for pints at lunch whereas the girls will more specifically drink in the evening

G: I think that yeah

A: but like if it's for something or or if your just down the pub whereas yeah males are more, I'd always think of more likely to drink round the clock

Y: yeah

G: yeah

Y: beer with lunch

G: like yeah it's like you say I can't see girls doing that cause more more girly drinks like spirit drinks are just for the evening time aren't they? And then I think girls gout more to get wasted when they do drink. Men might be more used to it, their bodies might be more used to the alcohol cause like you say they have drinks round the clock

Y: stronger constitution, yeah

R: You talke a little bit there about the drinks tah you might have, do you think that alcoholics have specific drinks, are their specific drinks that you associate with people who are alcoholics?

A: ummm spirit's

Giggles

Y: umm

G: umm

G: not really

Y: no no

M: I usually associate beer with alcoholics actually just cause I think of them down the pub like all the time just like with a can of larger or something,

G: yeah

M: not that they get a can from the pub, but you know ummm yeah

G: It's stronger than spirit's I guess

M: yeah

Y: umm i dunno some spirits are pretty strong

M: Or like really cheap spirits

G: umm

M: because I think if they're an alcoholic they probably haven't got much money so...

Y: umm I was gonna go with what you said, like special brew so like

A: yeah

Y: the the the cheapest stuff but stuff you can just get loads of quite cheaply

A: umm

G: well..

A: and how much is it like twelve percent, ten percent?

Y: yeah some some some of them are quite strong but their just ridiculously cheap

A: I dunno ah it depends what kinda like alcoholic your thinking of cause if you're looking at, and it is like a horrible stereotype but the kinda hopeless like but you do see it like drinking like white lightening or whatever

Y: god

A: whereas like I think if you see like the kinda alcoholics in pubs who always just end up smashed and getting chucked out their normally on like kind of whiskeys and it's a bit like, or gin ...

M: got a bit more edge to it

A: ... something that's got a bit of like, a bit more edge

G: but there then I think there are some un-recognised university students who are alcoholics umm

M: yeah, I think that could quite easily be

G: that might obviously come out in later life and might you know, might be diagnosed but because it seems so much the lifestyle in university no one really picks up on it as such

M: umm

G: so

M: yeah 'cause it's just accepted

G: yeah

M: to be drinking lotta at uni

G: yeah

M: so you don't think much of it

G: and they will probably be down as someone always ready to have a good time sort of thing

M: mmm

A: yeah kinda the more you drink, the more your out, the more people would think

G: yeah

A: you're just up for a good time

Y: party person

G: might actually have a problem

A: instead of thinking he's an alcoholic

R: so do you think in later life and as you said earlier the 'real world' umm if you were behaving like that would that be interpreted differently?

G: yeah, irresponsible I think

M: uurr

Y: yeah

G: probably because you'd have a job as well, sort of you'd need to be ready and fit for the job, university it's kind of laughed off if you turn up hungover to a lecture.

M: yeah

Y: yeah

Giggles

M: yeah yeah it's just like funny

G: yeah

M: whereas if you turned up to work hungover or like still drunk you'd get...

G: you'd get sacked

M: ... bolloked

G: yeah

M: like that wouldn't happen, or it would happen but it wouldn't be cool

Laughter

Y: things is though I've gotta say in the real world umm you know you could probably you know pull off turning up to work you know once or twice drunk etc. At university thoug...

G: if you hide

Y: yeah, yeah that's what i mean though at university you can pull that off alot more and alot easier because obviously their not observing you that strictly which they would be at work and obviously at work you know you're doing stuff for them so obviously their kind of monitoring what you're doing kind of thing, whilst at university you're doing work for yourself

G: umm

M: also if you're just in a lecture like it might not be that easy to tell if you're really hungover or quite drunk well like you know just still drunk from the night before whereas at work you have to actually do things

Y: mmm

M: and you'd be able to tell

Y: yeah

M: or like in a seminar you could just like say a few things and just pretend you're ill, it'd be fine

Giggles

G: yeah

A: and also if you're in like, got like a full time job thing, people would normally

assume you've got like a partner or maybe kids to look after so would be deemed really irresponsible to be coming in hungover or drunk all the time

G: yeah, get a name for yourself wouldn't ya

Y: un, unless you had a good reason for it, you know like somebodies stag do or something

A: oh yeah

M: mmm

Y: but you know, say, regularly, nah

A: hmm

R: ok erm there was one thing that I just wanted to pick up on that I noticed while you were doing your drawings that you guys said it could be anyone, an alcoholic could be anyone, someone who just looks normal

M: yeah

R: and I just wanted to see what you think of that and if you could expand on it a little bit

M: well it's kinda like what you said about the uni student, you could just go under the radar

Y: hmm

G: mmm

M: not be noticed like it could be anyone potentially, ermm, you don't have to look like the stereotype.

giggles

Y: yeah it's just, one thing I'm gonna say, erm, problem I found, what's the definition of an alcoholic?

Y: as in like somebody you know who is staggering around like this or somebody who drinks a lot or I dunno

M: I think someone who can't function properly without drinking or drinking like regularly like every day or like i dunno, very regularly. If they don't have a drink say in like a week their gonna feel like really rough and they wouldn't be able to function normally. I would define that as an alcoholic

Y: I was just like, so would you define what I mean having a pint with lunch every day, every other day, would you define that as being an alcoholic

M: well what I'm inclined to think of it as more, more than that but I don't know what the medical definition is. That might be in the medical definition that if you have a pint every day and if you can't function without that you're an alcoholic.

Y: yeah, no it's, I'm just thinking as a student I said quite a lot of people go to the pub for lunch, etc etc, that's just kinda what I'm thinking im a bit, I dunno what what makes you count as an alcoholic

A: there's always like make, thinking about myself like some of the like I'd never ever consider myself an alcoholic but if you're thinking of it as like if some people would deem it as having a drink with lunch or going to the pub like five six times a week then it's probably last year that's what I was doing but I wouldn't, I can, could perfectly do without, an just choose to do it I think it is when your dependent on it like it wouldn't...

M: yeah

A: ...occur to you not to go to the pub like that's just your natural thing like you have to go and have to...

Y: you have to have your pint so basically if it's part of your routine fine but if you feel yeah

A: and not being able to sit there and like kinda enjoy your pint if that makes sense like you could kind of drink it slowly or whereas I think you'd think of more alcoholics as kinda like

Laughter

Y: just necking it back.

G: first thought in the morning sort of thing

A: yeah

Y: "get me a drink"

M: I think a lot of alcoholics as like if they don't have their drink they don't feel comfortable...

G: mmm

M: ...or like normal so but whereas other people just have it like on the side like oh yeah that'd be nice but without it then fine...

G: yeah

M: ... like they don't need it

R: ok that's great umm so we've now got in front of us the two drawings and umm we've also got a few of the notes we made about a typical night out. Umm And I was wondering just to kind of finish off this activity if we could do a little bit of a compare and contrast, and think about how going on a night out is different to being an alcoholic. We've kinda headed towards it a little bit there

Y: hmm yeah ok

G: umm i don't think you would err I dunno going to a club is deemed as fun but if you're an alcoholic

A: it's not going to a club

Y: you'd do it just to get the alcohol 'cause it'd be cheaper

M: yeah all the other things we talked about like the music and the people and stuff like that i would like that wouldn't be as important to the alcoholic it would just be about the alcohol.

G: no

A: just be that

G: cause you would be just as happy to drink on your own if you were an alcoholic wouldn't you but

A: yeah and obviously, they not gonna, if they were an alcoholic they wouldn't wait in a queue at (CLUB) for ages

G: yeah

A: they just wana get the alcohol...

G: yeah

A: ... and drink it

Y: going out, you're going out to have fun to meet people, to do silly things and stuff like that

M: yeah

Y: where as an alcoholics just there to drink the night away

G: err you wouldn't probably waste time with games

M: yeah this is all like really planned like it's kinda like you do this and this and this like where as an alcoholic it's just like I dunno just drink drink, it's not like a set routine

Y: err do I have to go yeah can I yeah can I do this or do I have to go to the shop to get another crate of beer of something

M: yeah

A: I naturally think of an alcoholic like as being more reclusive like more wanting to be by themselves unless their like, just because, like if they drink that much you'd think they'd find them quite like not a warped view but quite like darker thoughts you'd think they wouldn't want to be well around a lot of people

G: I think...

A: there'd be a reason why they've kinda got to that stage.

Y: problems with people

G: well yeah you'd be judged if you were drinking that much and like on your own there's no problem I guess

M: yeah might be difficult to operate normally around other people because your definition of normal is different to there's

Y: is alcoholic

G: yeah

M: yeah it's it's just based around alcohol so people would I mean people would probably erm what's the word I'm looking for err

G: notice?

Y: err Not like it? Notice?

M: like distance themselves from you anyway so even if you wanted to hang out with people, other people might not want to hang out with you if you're an alcoholic

G: and they'd probably bug you about trying to get help and oh you shouldn't drink all that much and just wouldn't want it would you wana just get the satisfaction of drinking

M: yeah

Y: yeah

Y: so I guess that's I guess it's it's two different views ones there for the alcohol the other ones there for the fun alcohol brings

M: yeah

G: err probably wouldn't spend the money on food after

Laughter

G: cause that'd just

M: just buy more alcohol

G: yeah

Y: yeah, just wake up and carry on

G: 'cause that would just soak up all the alcohol then you'd be sober again

Laughter

R: Do you think that would be the same for the food beforehand as well then?

G: yeah,

M: possibly yeah

G: I mean it's alcohol money isn't it why would you waste it on food?

Y: yeah

A: they must eat at sometime

Y: yeah yeah that's the thing is I think they just go for the bare minimum

G: yeah

M: Maybe just go for a bag of crisps

Y: yeah that's what I mean just go for the bare minimum 'cause like I think instead of going for solids they just go for liquid

M: yeah

G: yeah, then the livers like blah

Y: yeah cause it's got it's got nothing to process

G: yeah

Y: cause you can you can kinda see the ones you know as we've got we've got like you know our silly homeless red face guy over there he looks like he's obviously just not eating properly

M: yeah

A: 'cause he's alcoholic

Y: yeah with his bloated stomach and stuff

G: just the choice between food and alcohol it would be alcohol every time wouldn't it

A: yeah

G: like if you've only got a certain amount of money

A: mmm

Y: I was gonna say kinda over rides their i guess self-monitoring as their not looking after themselves whilst this person with his kelvin cliens and his fred perry tshirt

Laughter

G: that's fair

M: does that mean he's eating just cause he's wearing designer clothes

Y: he's got a burger in his hand

M: oh okay alright

Laughter

M: I forgot about the burger sorry

R: ok that's great erm well move on to the third activity then. Umm so far we've talked about the typical night out and err we've talked about the typical alcoholic or person with a drink problem now we're gonna move on to focus specifically on binge drinking erm and the first thing that id like you to consider is just your ideas about what the term binge drinking means. Erm So like we've done before if I give you another sheet of paper if you could just jot down any ideas that you've got umm do it as a whole group and just jot down some ideas as your talking.

G: binge drinking

R: yeah

Y: I'd say...

M: excessive drinking to get drunk

Y: yeah

M: like with the aim of getting drunk

Y: ah so yours would be like the purpose of it of

G: yeah yeah

M: yeah

G: definitely

M: I think binge drinking is to get drunk

Y: yeah

M: it's not like just for fun.

Y: I've got a say for me I'd just more focus on the amount cause see cause the few times that I've said that I've felt that I've been binge drinking it's just the amount that I've had has been silly

M: yeah well that depends though I mean it is a binge

A: it's a mix of yeah I think the purpose is kinda the main point that's how I always thing of binge drinking.

Y: yeah

G: umm err sorry what were you guys saying just now

Y: err excessive drinking, drinking to get drunk

M: I was just saying the fact that obviously it's a binge and a binge is like an excessive amount

G: yeah

M: so in the name

Y: yeah excessive drinking excess amount emm here's a question erm would you also say amount the speed of it as in you know like

G: yeah

Y: if you're having a pint you know you'll you'll happily go for a pint you know over the course of you know what half an hour or so mething with binge drinking would you say it's just going one two three

M: definitely it's just like downing them as soon as you can

A: yeah

M: because it gets you drunk faster

A: it's like Wednesday, Wednesday at like the bar when you've got all

Y: sports night

A: jocks sports teams, and like randomly one of them will just have to like chug it i i think that is kind of

Y: yeah you you ought to have been in my society (laughs)

Y: We we we slowly took it we were the last we were the first ones their and the last ones to leave we worked it properly

A: also like that image of just somebody like sprawled out on the pavement just throwing up. Is that

Y: yeah

A: that's what I think of being binge drinking

G: yep

G: ah girls

M: I think of 'em like girls in high heels

G: ummhmm

M: screeching and like staggering down streets and sing what i immediately think of when i think binge drinking

A: and fights

Y: yeah

A: starting fights

Y: ahh I've got one, have you guys ever heard of ah a Spartan or a centurian

G: mmm

M: centurian

Y: would you count that as binge drinking

G: yes

A: no

Y: hmm cause ah as I say it is an excessive amount.

A: it's a game

G: you keep going till you throw up

Y: yeah I know I know but that's the point does that count ass binge drinking I'm saying cause sometimes ou can say binge

drinking s a planned activity obviously  
sometimes it is I wana go out to get drunk

M: i think i would count that as binge  
drinking

G: yeah,

Y: yeah

G: it's more than your body can take and  
it's like

Y: yeah but

G: you do it

Y: you're you're doing it in a controlled  
environment though

A: yeah that's what I

G: so

M: you can still do excessive drinking in a  
controlled environment

G: yeah

M: yeah

A: I can't, I think that

M: yeah but cause like I mean you're still  
ending up throwing up

Y: yeah but does that count as binge  
drinking though cause obviously were  
thinking of binge drinking here going out  
getting drunk starting fights doing this

M: yeah that's the typical image, but that's  
not

G: you can still do it in your house

M: I mean it's not necessarily what it is

A: I I have got like the image stuck with it  
though I wouldn't agree with centurian as  
being binge drinking I dunno

G: I it cause you guys do it

Laughter

R: I was just gonna say could you explain to  
me what centurian is

Y: ok emm

A; it's a

Y: do you wana

Y: a centurian is basically umm where you  
err drink one shot of a drink for a hundred  
minutes. Obviously centurian being a  
hundred Spartan being three hundred.  
Emm Spartan and usually it's beers  
strongbow whatever you want it to be and  
centurian is easy enough it's just on hour  
and forty minutes of continuous drinking, it  
it it sounds horrible it's can i just Spartans  
are impossible though cause it's three  
hundred which is five hours of cont

A: of i i don't know many people who have  
got to centurian like easily

G: nah hay keep it down mister

Y: I got to one seventy five

M: uuuurrrr

A: that's pretty impressive

Y: I know haha but still. But I said was  
saying does that count, does that count as  
binge drinking though

G: such a...

A: I wouldn't

G: ...waste of money you know your gonna  
throw it all back up

Y: Yeah but like I say it's using alcohol for  
fun

G: no, it's not fun making yourself feel like

Y: it's controlled though

M: ive never done it but

A: because it's kinda like because the whole point of centurian is that it's like funny,  
Y: yeah exactly  
A: like people giving up and like throwing up  
Y: it's all  
A: it is kinda funny  
Y: I've gotta say sometimes it is it just leads into it you do that and then...  
A: and cause  
Y: ...you try and play silly games...  
A: and it's  
Y: ...but you can't cause your just sort of blur all over the place  
A: and cause like with binge I do think it is like going out like kinda like deliberately getting really smashed and spent like just I I can't really explain it, but like well if you're doing it like in a game like, it's like with pre-drinks though  
Y: yeah  
A: if you're doing ring of fire like you probably wouldn't consider that binge drinking  
Y: but if you look at it  
M: I would consider that binge drinking  
A: if your, if you're playing it like properly you'd but that's like a standard kinda night out, like I wouldn't say I binge drink like I don't, I'm not a massive ring of fire fan though  
M: yeah but if like it's a part of it 'cause you can play ring of fire to like start drinking

G: yeah  
M: but then you can carry on downing drinks but like i mean you do have to say drink when you wouldn't necessarily normally in ring of fire  
G: mmm  
M: cause you're forced to by the game  
Y: hmm  
M: an like you could be forced to down the kings cup and like that's excessive drinking.  
A: That's a game like you don't have a choice, like well you obviously do but like part of the game is you don't have a choice like if you pick up your card then it's like ah no  
Y: then you've got to do  
A: whereas like if you're excessive drinking then you don't have to but the point is that they're making the choice that they're gonna drink and they're gonna get smashed  
Y: ss I was jus sayin' would you guys agree then that drinking games that involve drinking as doesn't count as binge drinking then it's when you choose to down and down and down and down and down like that would count as binge drinking  
G: hmm  
A: yeah i wouldn't I think if you're going to the game like part of it is the kinda social fun aspect  
Y: yeah  
A: where as I wouldn't I think of binge drinking as not being like all that like it is just drinking to get really drunk rather than kinda thinking yeah this is gonna be really fun it's just to kinda like forget. That's what

I think of binge drinking just to kinda like just forget

Y: yeah yeah you're doing it for the purpose of getting drunk

A: yeah

Y: rather than the fun on the way

A: yeah

G: I've kinda come up with another one about emm I think to me it has to be about mixing drinks not just the same drink all night

M: yeah often

G: as such

M: it is about mixing drinks

Y: so what spirit's ciders

G: whatever

M: whatever you can find

Y: liquors

Y: so so well binge drinking is anything goes

M: yeah

Y: yeah hmm

G: there

R: ok emm so you've talked through quite a few of your ideas there which is great emm one thing that I'd like you to think about is do you think it's possible to distinguish binge drinking from other kinds of drinking, you have kind of been talking about that with the idea of games and if it's fun that's different from a normal night out. Do you think that you can distinguish the two? Is that easy to do?

Y: errr I wouldn't say it's easy to do but I'd say it's possible to do

A: mmm

Y: i wouldn't say it's easy but it's like someone was saying is that you know

M: I think that for me the distinction would be between like whether your drinking just like casually as you normally would and drinking with the purpose of getting drunk so your drinking more like when you've got that purpose to get like wasted id say that's more binge drinking when your just sort of drinking and you might get drunk along the way that isn't binge drinking.

R: ok

M: Cause you obviously wont drink as much

A: I think every like everybody's gonna go into a night like a kinda normal night out thinking I'm gonna get drunk but it's not let's get drunk like there's a difference

Y: it's the purpose behind it

A: yeah and you can you can on a night out I know there will always be a couple of people who like half way through the night will think ah hi don't really fancy a drink but they won't, they will just kinda slow down cause they don't really want to get that drunk

G: or mix it up with water basically

A: yeah

Y: or lemonade

A: so

G: well i meant water

A: there's always like yeah binge drinking I think there's be that kind of even if you knew you shouldn't you like you'd just keep going...

G: yeah

A:... just keep going till your throwing up

R: Do you guys agree with that?

Y: yeah like I I I agree that aa binge drinking is where you've got the purpose ...

G: yeah

Y: ...to get drunk nothing else obviously other kinds of drinking you're doing it for fun to seeing what happens along the way

A: I think it's the kind of like careless nature of it like just you know kinda like don't give a shit attitude just like I'm gonna get smashed unless somebody gets in my way then I'll like start a fight an' not necessarily get in a fight but just kinda like

Y: dude get out of my way

A: just to kinda like

M: I can't relate to this fight stuff

M: laughing

A: ohno no I've never been in a fight but I kinda know, especially with my next door neighbour, know the people who are like that

G: well j

A: not that I'm friends with them

G: when you go out to...

M: we don't judge you (A)

G: ... get really drunk and you know your gonna hang, wake up with a hangover next morning and you don't care about it and

M: yeah

M: mmmm

G: that's just a little consequence

Y: I wouldn't say not worry about it cause like i say even when you...

G: No

Y: ... you're having a good night out your thinking oh I'm gonna have a hangover do you know what I mean though

G: yeah but they don't care

M: yeah but they carry on drinking anyway

G: yeah

Y: awh yeah

G: and you wouldn't do anything..

M: so you can't care that much

G: ... to stop it

G: yeah

M: or is it just the 'aww well ive gone to far anyway might as well carry on, like what difference is it gonna make'

Y: hmmm

R: ok emm you've talked a little bit about some of the outcomes like emm getting drunk, being sick emm i was just wondering if we could think specifically about the outcomes of binge drinking and what you think they are?

G: bad liver (laughs)

Y: throwing up, sore well ...

M: yeah

Y: .. destroyed throat

G: well in short term yeah that but then in the long term

M: yeah

Y: bad teeth

G: bad teeth

A: thinking is this long ter or short like

R: both, any is absolutely fine

A: losing your phone or something like that

G: yeah

M: yeah

M: I ok I lose my keys...

Y: getting your nice clothes ripped up

M: ... soon as I have a beer

G: vulnerability

M: or falling over getting them dirty, mud, grass stains

Y: wow emm

G: vulnerability for, I know it's stereotypical but women but blokes like err one of my friends emm err it's a friend of a friend and erm he goes to another uni down south and well he was one of the last ones to talk to one of these guys when they were on a night out and this guy went missing and they found him a few days later in a ditch

M: oh god

G: yeah so that must, that was really hard on him because obviously he was the last one to talk to this bloke and yeah but i guess like cause he was in an equal state of intoxication nothing you know occurred to him not to let this bloke go off on his own or anything

Y: also as well as that im just thinking girls you know passed out on the pavement vulnerable like

G: 'help you into a taxi love'

Y: yeah

G: that's a point with ah taxi drivers when I've only like a couple of times had to get a taxi back on my own like I've been fine, you know I've had a couple but I'm fine I'm with it and everything but they won't let me sit in the front with them they'll always go in the back just so they can't be accused of anything either

Y: hmm

M: that's interesting

Y: protecting themselves

G: yep

Y: not accusing them of anything

G: yeah so i guess

M: yeah cause that is quite a, you know there's quite a big thing about taxi drivers

Y: yeah

M: and drunk girls so their obviously aware of it too

G: yeah

G: umm

R: You've kinda focused straight in on the negatives there do you think there's any positive outcomes of binge drinking?

M: making new friends

G: maybe if you can remember them, bonding

Y: err some of the experiences you have cause as said it will push you to do you know things you wouldn't normally consider doing

M: yep

Laughter

Y: cause as i said it's gonna be the morning after your thinking oh my god did i really do that

G: then you've got the photos

Y: exactly that's oit just the thin g s though you'll look back on it in the future and just be like yep i kinda remember that night

M: yeah

G: yeah and

M: having laughs with people and talking about it afterwards can be a bonding exercise

G: yeah and I just do think it's an aspect of this age group and something you've gotta do really cause if I imagine not having done like not gone out on nights drinking cause I can't do it once I've got family, I've got a proper job and I've gotta settle down you might as well do it now while you can

M: yeah

Y: hmm err just tryin' to think of any other positives

M: just like a shared experience generally

G: yeah

M: like you can talk to other people who you haven't necessarily gone out with and just talk about having gone out and gotten, gotten wasted and generally have a conversation about it, a bit like this and then you've got something in common

Y: here's a thought, it can get you on TV

G: uh, yes

R: how can it get you on TV?

G: yeah

Y: umm well for example when carnage came to town a couple of years ago they wanted to interview a student on the night out and yes, so i have been intoxicated on tv

Laughter

G: you ah missed your morning call didn't you?

Y: yes I was ah supposed to go and see a liver specialist with them tomorrow morning so he could analyse what I'd done to myself, unfortunately I slept through my alarm and about eleven phonecalls from them

Laughter

Y: so there's there's a positive aspect it can make you famous, not

R: did you agree to do that when you were sober

Y: yes

R: ok

Y: regretfully looking back on it but as you said the experiences you had something you can reminisce about in future

A: dancing as well

Laughter

G: yeah, oo oo err, relationships, romance, you could meet your girl

Y: ahem

G: you could be dancing..

M: what in a club on a night out really?

G: like you know

M: really?

G: no no no like you said if don't normally dance can help them loosen up and dance with a girl

Y: I've never seen

M: yeah no that's I like making my guy mates dance but then because they wouldn't do it usually

Y: well I'm just saying relationships probably not one night stand more possibly

G: possibly and and that links on to STIs and pregnancy I guess a another very bad

Y: so that's a negative there

G: uhh

Y: but then again experience you're not

R: so maybe having a one night stand might be quite a positive thing but maybe if you if you didn't if you weren't safe that would be quite a negative thing and could both be influenced by alcohol?

Y: mmm

G: yeah

R: cool

Y: im gonna say my main point is ah the experience you have

M: mmm

R: just to kinda pick up on the relationships thing do you think that binge drinking specifically or alcohol in general can be an important factor in relationships?

G: yeaah, it could make or break 'em

M: yeah it's true if you go out and someone like for example you've been going out with someone you havn't been drunk with them before and then they turn out to be like a violent drunk

G: yeah

Y: mm

M: That could not be so good or alternatively like you could have a really good time with them when your drunk and it could strengthen your relationship, just cause you know you have just like anyone

else you know have a good time and talk about it afterwards but

G: yeah

M: yeah

Y: sayin' make or break a relationship im thinking of the you know stereotypical you know Eastenders kinda think you you you know when er you know mothers at home looking after baby fathers down the pub you know make or break it depending on how

G: uh well also a lot of emotional fights break out with alcohol I think umm so again that could be a breaker

M: or you could end up cheating on someone when you're drunk

G: yeah

M: 'cause you're not as rational, that could get back

G: yeah more so break than make i think

Laughter

R: so what about at the start of relationships, can alcohol be important then

Y: ah oh umm

A: you don't really wana think of like the start of your relationship being when you were like

M: really wasted

A: yeah

G: but i think

Y: probably the morning after when you wake up next to someone you might be oh god or you might be yes

G: I was thinking maybe if it if the start of the you know wooing had begun

Laughter

G: sorry to be all right courting whatever you wana call it

Y: courtship yeah

G: umm had started whilst sober and then you go out and umm you both get dutch courage to kinda admit how you feel and then

A: yeah make it

G: and then that could work. Ok I understand meeting and whilst drunk and that being drunk no that's a problem

M: no I agree with that, like can make you more confident and then make you actually say how you fell

Y: yeah

M: so

Y: yeah get over that final hurdle yeah

Laugh

Y: no i dunno

R: emm so if we could kind of just try and summarise, what do you think would be the most important outcomes of binge drinking?

Y: what positive and negative?

R: yep

Y: umm

A: one night stands

Y: ehh ahh

G: (laughing) positive or negative

Y: let's let's let's go positives first, just list the positives

A: yeah if you want

M: positive outcomes

Y: so one night stands

G: friends

A: nah no that was like not

Laughter

M: fun, socialising

G: make new friends, meet new people

Y: experiences

M: yeah

G: experiences

G: umm

Y: anymore or shall we go to the flip side?

M: just like th whole culture thing and being

G: yeah

M: able to talk to other people that you don't know,

G: yeah

M: about something in common, dancing, you love the dancing (A)

G: re reminisce about how care free you were in the future

Y: yeah, morning after like looking back on it

A: yeah

G: umm

Y: ahh ok

G: negatives

Y: flip side negatives

M: which could be quite important

M: i think like yeah safety is quite an issue  
yeah

Y: thinking about it it could give you a  
criminal record

Y: being very very vulnerable

G: yeah

M: that's what I thought

Y: which of course could affect the rest of  
your life

A: hangover

G: yep

G: new emm

M: mmm

M: yeah

G: umm I think there's more negatives than  
positives

G: like losing your dignity

M: positives

M: yeah

Y: there are many many more

Y: I'm gonna say illnesses which is what  
liver throat, teeth

M: but I think it's, I mean you have to think  
about I mean if it's binge drinking it's more  
likely to be the negatives but if it's just  
alcohol in general if you know you control  
it doesn't have to be all those negatives it  
can be more on the positive side

M: STIs

Y: STDS yeah

M: emmm

Y; yeah

A: getting in fights na nah like arguments  
and stuff

A: like centurian

Laughter

Laughter

Y: also

Y: it's cause it's controlled you're ok

G: pregnancies

M: no

Y: ooo pregnancies, money

A: that's justified I mean

G: money

M: yeah but it doesn't make it good

M: yeah money's quite bad

Y: yeah, phones, lost wallets, lost driving  
licence, lost passports, sometimes

Y: it makes it funny

M: generally being more irresponsible

A: yeah

G: it could make you friends and it could  
lose you friends

Y: does does it

M: you could forget to go to things in the  
morning

A: you put all the positives

Laughter

M: yeah ok it'd be funny but I wouldn't  
wana do it

Y: no i was gonna say, you're looking from the outside your thinking why do this but if you're ever actually doin' one you do really enjoy yourself

A: yeah different

Y: even when you do throw up your still laughing just because ya ya you have to do one to understand the fun of it

M: ok, by the time I leave uni I will try and do one

Laughter

Y: go for a Spartan

M: oops sorry

R: it's alright ok so from everything that we've talked about concerning typical nights out, alcoholic and binge drinking emm can you kinda give me the key characteristics that describe binge drinking specifically and those that make it different from other kinds of drinking? We did cover this a little bit earlier

A: yeah

M: yeah drinking to get drunk

Y: yeah

M: and just the fact that it's very excessive

A: yeah, I think it's the aim to get really drunk, that's kinda the point

Y: yeah

A: just drunk

Y: yeah there's no other

A: really drunk

M: just like getting wasted

A: just I think it's just drinking until you

Y: till you can't

A: throw up or yeah you can't drink anymore

M: so just collapse

R: not just getting a little bit tipsy then?

A: yeah

Y: so you you're not doing it to have fun along the way, you're not doing it by playing games or anything

G: well I dunno, I think people find it fun because of the stupid things it makes them do so I think it is partly fun, it's not like alcoholic

A: yeah

Y: yeah

G: tendencies as such

Y: so it's like ah doing it very quickly though, as in your aiming to get drunk, you're just going one two three four

G: well I do think speeds an important part of it as well

Y: cause like normal drinking

M: but also I think with binge drinking if you're doing it in a group it's also you can watch other people and what they do

Y: hmm

M: so that's like a funny element of it so that could be a fun side, which is another reason

G: yeah, does need to be a group activity i think binge drinking

M: yeah otherwise it's kind of heading towards alcoholism

G: yeah, although if you consistently ah binge drink you might become reliant on it

M: yeah

G: i think binge drinking you can do you know once a month and that'll still be called binge drinking cause you're doing it all in the same one night in a month but alcoholism would be continuous wouldn't it everyday

M: yeah

A: see i think it's mainly like the kinda reckless nature of it just going for it without thinking of the consequences or

Y: yeah

A: without thinking I shouldn't 've stayed out

Y: I'm just going back to the thing we had at the start you know a planned night out I guess a bingeing night is kinda planned, just probably not to the same extent

M: umm

Y: dunno

R: ok do you think the outcomes of drinking are important for whether or not it's binge drinking? Or do you think that just fit's with any kind of alcohol consumption?

A: i think you're more likely to get with binge drinking than so well obviously kinda going to the pub or erm like just going on a normal night out that's not excessive I think you're more likely to have like the negative outcomes but it's not like could go either way really

R: yeah so you could binge drinking and nothing too bad would happen

A: yeah but it's just more likely that it would

Y: increases the possibility

R: okay so what you've kind of mentioned there is tha amount of alcohol that's drunk

and that it should be to an excess not a specific amount particularly but just too much drink erm and the speed of the drinking which are very important for binge drinking and erm you've kinda said a little bit about the fact that whereas alcoholism is probably drinking on your own binge drinking could be very much a group activity do you thi9nk that's the key points that we've covered what binge drinking is

Y: yeah

G: Yeah

M: mmm,

R: and are you...

M: and also what you said about it can just be like one night a month

G: yeah

Y: yeah

M: It doesn't have to be all the time it's just the fact that it's so excessive and it's to get really drunk

G: it's all in one go isn't it binge drinking

M: yeah

G: yeah but alcoholic

M: doesn't mean it has to be every day

G: yeah

G: obviously if your binge drinking every day then that is alcoholism

Y: alcoholism

R: okay

A: but there's no dependency so

G: hmm

A: yeah

R: do you think that you could binge drink for say two or three days pretty consistently? Would that be binge drinking?

M: I think some people could

R: yeah

A: but then they wouldn't be

M: like a whole weekend,

R: yeah

M: like if you did Friday Saturday and Sunday i think some people would could do that

A: they'd be slower

Y: yeah I'd say they could but I think they'd have to recover after

M: yeah maybe have the rest of the week to recover

Y: yeah

M: but like emm it yeah no but i you'd kinda be inclined to say that maybe they'd have a break like they'd binge drink one evening then have a break then binge drink another evening because you kinda need to recover

Y: hmm

M: there's like the massive hangover to deal with

R: you said you thought the pace would be slower?

A: yeah I mean they'd be kinda same in characteristic like the excessive drinking if you're planning a I dunno like a three day bender like it is obviously if your drinking for that amount of time gonna be excessive but the pace would slow down so kind of instead of a pint every twenty minutes you'd be drinking like every two hours if it

was like a continuous thing like not sleeping and stuff.

M: i think like the way i can relate to that is like at festivals,

G: mmm

Y: mmm

M: you drink like the whole time well some people do, when i go to festivals

Y: huh if you can

M: usually we drink like the whole day so it is like an excessive amount but obviously you aren't just downing drinks constantly 'cause that would just be ridiculous

Y: spread out

M: you wouldn't be able to enjoy anything but emm yeah it's more spread out

R: ok

Y: unless people steal you beer

A: yeah that happens

Y: it happens yeah

R: erm and a last question on that do you think binge drinking is quite, do you think it can be an important part of celebrations and special occasions or not so much.

G: yeah like weddings and there at their wouldn't be

M: champagne

G: yeah exactly and like to toast like that's not just to get drunk it's something

Y: but is it binge drinking

G: no like if you toast something with champagne it's it's just like a symb...

M: and you don't have to drink your whole drink

G: It's a it's a symbol, isn't it a symbol of celebration so it doesn't have to be necessary for because it's alcoholic it's just a tradition

M: yeah

Y: yeah

A: it it if you look at like the aim from what we said for binge drinking I guess it is it's somehow different but it is cause you like after like at the reception you wouldn't think let's get tipsy like most people think let's get really drunk like it's a time to celebrate

Laughter

A: so like you you like the whole point you you would and get like and your birthday everybody gets drunk on their birthdays

Laughter

A: like really drunk

M: apart from people who don't drink

Laughter

G: yeah

Y: those odd people

G: to be honest when it's a special occasion I make sure I don't drink too much because I wana remember it I don't know if that goes for anyone else but

M: depends on the occasion

G: just kinda

A: I just kinda know my limit

M: I think if like there are if it's a special occasion and there are people that you don't wana embarrass yourself in front of

G: yeah

M: then you won't drink as much but if it's like your birthday then

Laughter

G: I dunno if I'm surrounded by all my friends on my birthday and it's good company I wana remember it if it's just like an average normal week and I just go out from uni and ah i just wana forget about all the work and stuff that I've had to do and probably still have to doemm then I will probably let myself go a bit more but when I want to remember it that would be on the special occasions

M: it's a more sensible approach

A: nah celebrations aren't really binge drinking I don't think 'cause ah it's like the centurian thing, it's a controlled environment cause when your mums there like your gonna be

Laughter

A: be more controlled

M: nah that's if like when you're older it would be your friends' wedding, your mum would not be there

A: what's gonna happen to my mum?

Laughter

R: okay emm so er just before we finish the final thing for you to think about emm is why do you think people binge drink what are their reasons behind it?

M: I think it's partly a culture

G: mmm

M: there's definitely a drink culture at least at uni and also

Y: mm

M: like the rest of the country and yeah culture and just the people just a way to have fun

G: yeah

M: something to do

G: it's almost expected

Y: yemmm

M: yeah

Y: I agree with that it's just the only one i wana add to would be emm some people do it to forget as in you know just to take their mind off off

A: work

Y: everything yeah just everything

M: yeah

Y: cause a whew he when you binge drink, when your drunk you're not, all those worries that you have throughout the day, about everything you you you're not thinking about them you know your elsewhere

M: yeah

A: and your always like if somebodies split up with their boyfriend or girlfriend like their normally will go out an' drink

Y: yeah just to

A: just to forget

M: yeah not think about it

A: and that tha' that is like exactly kinda what binge drinking just to get drunk just to

Y: take your mind off things

A: yeah

Pause

A: I think there's probably like a kinda like unconscious like I dunno like escapist element to it but I don't think most people would think I need to ge' away like think of it like that just kinda that's how it people do do it, to kind of lose responsibility for themselves

Y: yeah

R: okay, does anybody want to add anything to what we've said today? Anything you feel that's been missed out that should have been covered

Y: mmm

G: we've covered it quite comprehensively

R: okay emm we'll stop there then

## Appendix L

### Study 1 Participant information

Table 8.1  
Study 1 participant demographics by group

Group	ID	Age	Gender	Year	Course	Time Commitment	Grant	Work	CAGE Significant	AUDIT Harmful	AUDIT Dependence
1 (N=4)	1	20	Female	2	Psychology	FT	Yes	PT	Yes	No	No
	2	19	Male	2	Psychology	FT	No	No	No	Yes	No
	3	19	Female	1	Philosophy	FT	No	H	No	Yes	Yes
	4	19	Male	1	Philosophy	FT	Yes	No	Yes	Yes	Yes
2 (N=6)	5	21	Female	1	Archaeology Anthropology and Art History	FT	Yes	No	No	Yes	Yes
	6	22	Female	3	Literature	FT	No	No	Yes	Yes	Yes
	7	21	Male	3	Psychology	FT	Yes	No	Yes	No	No
	8	20	Male	3	History	FT	No	No	No	Yes	Yes
	9	22	Female	3	Film and English Studies	FT	No	No	Yes	Yes	No
	10	20	Female	3	Drama	FT	No	PT	Yes	Yes	Yes

Group	ID	Age	Gender	Year	Course	Time Commitment	Grant	Work	CAGE Significant	AUDIT Harmful	AUDIT Dependence
3 (N=5)	11	24	Female	5	Psychology	FT	Yes	PT	Yes	Yes	No
	12	22	Female	1	Spanish and International Development	FT	No	No	Yes	No	No
	13	22	Female	3	Environment and Development	FT	No	PT	Yes	Yes	Yes
	14	19	Female	1	Speech and Language Therapy	FT	No	No	No	Yes	Yes
	15	23	Female	DNR	DNR	DNR	Yes	PT	Yes	No	No
4 (N=4)	16	20	Female	1	Development	FT	Yes	H	Yes	Yes	No
	17	19	Male	1	English Literature	FT	Yes	H	Yes	Yes	Yes
	18	19	Female	1	International Development	FT	No	No	No	Yes	Yes
	19	20	Female	1	International Development	FT	No	H	Yes	No	No

Group	ID	Age	Gender	Year	Course	Time Commitment	Grant	Work	CAGE Significant	AUDIT Harmful	AUDIT Dependence
5 (N=5)	20	25	Male	MSc	Computing Science (Masters)	FT	No	FT	Yes	Yes	No
	21	22	Male	1	Pharmacy	FT	No	PT	No	Yes	Yes
	22	20	Male	3	History	FT	No	No	Yes	Yes	Yes
	23	20	Male	1	Computing	FT	Yes	H	Yes	Yes	No
	24	21	Female	1	Films and Television	FT	No	PT	Yes	Yes	No
6 (N=6)	25	22	Male	3	Development	FT	Yes	No	Yes	Yes	No
	26	22	Female	3	Development	FT	No	No	Yes	Yes	No
	27	25	Male	3	Development	FT	No	No	Yes	No	No
	28	25	Male	3	International relations and politics	FT	No	PT	Yes	No	No
	29	20	Male	3	Politics, Philosophy and Economics	FT	No	No	Yes	Yes	No

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30	22	Male	3	Development	FT	No	PT	Yes	Yes	Yes
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## Appendix M Study 1 Content analysis

Table 8.2: Frequency of references to the outcomes of alcohol use

Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking								
				Group							Group								
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total		
Crime and Antisocial Behaviour	Anti – Social	Negative	Aggression	3		1					4	8	2	2	6	2		20	
		Negative	Violence	7			3				10		10		5		2	17	
		Negative	Anti-Social Behaviour								0		1					1	
		Negative	Verbal Aggression				1				1								0
		Negative	Stealing								0		6						6
	Crime	Negative	Sexual Assault								0				1			1	
	Negative	Crime	3							3	2	6					1	9	
Negative	Noise	1					1		2	1	1			1			3		

Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking Group									
				Group							Group									
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total			
Physical	Health Long term	Negative	Brain Damage								0		1				1			
		Negative	Dental issues	3	2						5							0		
		Negative	Physical Dependence	11		2			1		14								0	
		Negative	Poor health		1			3	2		6							4	4	
		Negative	Death								0	1		1					2	
		Negative	Liver Damage	3							3		1							1
		Negative	Heart Disease								0							1	1	
		Negative	Tolerance					1			1									0
		Positive	Health Benefits								0							1	1	

Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking							
				Group							Group							
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
Physical	Health Short Term	Negative	Injury	3		1		3			7		7	1		2	1	11
		Negative	Dehydration								0		1					1
		Negative	Vomiting	7	7			4			18	4	2	8		4	2	20
		Negative	Hangover	4	2			2			8	9	3	8	6		3	29
		Negative	Sore Throat	2							2							0
		Negative	Alcohol Poisoning								0			3				3
	Health Weight	Negative	Weight Gain		11						11						1	1
		Negative	Weight loss		2						2							0
		Negative	Loss of Appetite		2						2							0
		Negative	Increased appetite								0		1					1

Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking								
				Group						Total	Group						Total		
				1	2	3	4	5	6		1	2	3	4	5	6			
Physical	Health Sleep	Negative	Tiredness							0	3						3		
			Insomnia							0	2				1		3		
	Non-Health	Negative	Slurring		3						3							0	
			Pass Out		3		1				4		3	4				7	
			Disorientation	1					2			3							0
			Lethargy				1					1							0
			Incapacitation	8			3	4				15	4	2	5	3		2	16
			Energy									0		1					1

Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking								
				Group							Group								
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total		
Appearance	Negative		Red Complexion/ Eyes	4	5					9							0		
			Glazed Eyes						2	2								0	
			Scruffy Appearance		4			2		6									0
			Bad skin					1		1									0
Possessions	Negative		Damaged Clothing	3			4			7	2							2	
			Lost possession(s)	3	1		2	6		12	5	5		1	7			18	
			Financial Costs	4	4			2	1	11	2		4	2	2	2			12
			Homelessness	2	7	2	1		2	14									0

Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking						
				Group						Total	Group						Total
				1	2	3	4	5	6		1	2	3	4	5	6	
Desirable Effects		Positive	Getting Drunk	13	7	6	3	1	1	31	22	32	24	23	17	24	142
			Adventure/ novel experiences							0	9						9
			Common/share d experience							0	5			1			6
			Increase confidence							0	3	1	4		1	2	11
			Loss of Control							0		2				4	6
			Good time							0		1					1
			Novel Experiences							0				2			2
			Prolong the night							0			1	1	1		3

Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking							
				Group						Total	Group						Total	
				1	2	3	4	5	6		1	2	3	4	5	6		
Desirable Effects			Media appearances							0	2							2
			Dancing							0			2				1	3
			Making memories							0	3							3
			Sexual Relationships							0	4	1	2	1				8
			Romantic relationships							0	3						1	4
			Escape							0	2	3					2	7
			Have a good time							0	1							1
			Entertainment							0	1							1

Forget  
problems

0

1

1

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Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking						Student (including Binge) or General Drinking								
				Group						Group								
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
Social perceptions		Negative	Perceived negatively	2	4	3		1		6	10		4	1	1		2	8
		Positive	Perceived Positively								0	6	1	1				8
Daily Life	Responsibility	Negative	Lack responsibility	6				1			7	1						1
			Fail to do things	2							2	1						1
			Unreliable		1							1						
	Personal	Negative	Lack of personal care	3	5		2	4			14							0

Cognition and Mood	Outlook	Negative	Altered life view	1	1	2	0
			Negative outlook	1		1	0

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Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking							
				Group							Group							
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
	Mood	Negative	Worse mood			1					1	1	1				1	3
		Positive	Improved or positive mood								0	1	1	2	2	3		9
	Experience	Positive	Enjoyment					2			2	6	3		5	5	10	29
			Funny								0	6						6
			Fun	1							1	11	9	6	9	8		43
			Forgetting troubles	1							1	6						6

Social	Friends	Negative	Stress Relief	1	3	4	1		1	2	
			Relaxation	1		1	3	2	3	2	10
			Losing friendships			0	1				1

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Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking							
				Group							Group							
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
Social	Friends	Positive	Socialising	1	4			1			6	2	5	7	3	10	16	43
			Bonding							0	3		1	2		4	10	
			Meeting new people/making friends						1	1	9	7	4	1		4	25	
			Inclusion							0	2	2		7	5	3	19	

			Openness						0		1						1
			Talk with friends						0		1						1
	Relationships	Negative	Break relationships						0	6							6
		Positive	Strengthen relationships						0	5							5
	General	Negative	Restricts socialising					1	1				2				2

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Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking						Student (including Binge) or General Drinking							
				Group						Group							
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
Social	General	Negative	Restricts socialising					1		1				2			2
			Arguing							0							0
			Social Exclusion		4	1	1	5	2	13					1		1

		Social Rejection		2		1	3											0
		Positive	Breaks the ice				0						3					3
	Status	Positive	Popularity				0										2	2
		Negative	Vulnerability	2	1		1	4	2	2			1					5
Inhibited Functioning			Poor decision making					0	4	5	2	1	2	1				15
			Losing people (physically dispersing)					0		4								4

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Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking							
				Group						Total	Group						Total	
				1	2	3	4	5	6		1	2	3	4	5	6		
Inhibited Functioning			Reduced awareness							0			3	1	1			5
			Memory loss	1				1		2	4	2	7					13

			Poor time keeping		0	1	1											2
			Confusion			1												0
Risk Taking	Negative		Risky Sex	2						2	4							4
	Negative		Sexual Risks							0		3						3
	Negative		Taking risks	2						2		8		2	2	2		14
	Negative		Ignore consequences	2						2								0
	Negative		Drug Use							0							1	1
	Negative		irresponsible							0		4		1				5
	Negative		Bad experience							0	2			1				3

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Category	Sub Category	Evaluation	Outcome	Alcoholism/problem drinking							Student (including Binge) or General Drinking						
				Group							Group						
				1	2	3	4	5	6	Total	1	2	3	4	5	6	Total

		Negative	Bad experience	0	2		1		3	
		Negative	Lost dignity	0	1				1	
		Negative	Regrets	0		2		1	3	
Regrets		Negative	Bad experience	0	2		1		3	
		Negative	Lost dignity	0	1				1	
		Negative	Regrets	0		2		1	3	
	Embarrassment	Negative	General	0	1	2			1	4
			Embarrassing texts or IMs	0		5				5
			Embarrassing Photographs on social media	0		1				1
			Inappropriate Behaviour	0				1		1
Societal/ National		Positive	Economic boost	0	2					2

## Appendix N

### Study 2 Ethics Application School of Social Work and Psychology

#### Research Ethics Committee

#### Ethical Approval and Risk Assessment Form for Postgraduate Research Students (October 2011)

All students and staff must obtain approval from the School Research Ethics Committee (or an approved alternative for example an NHS research ethics committee or another UEA ethics subcommittee) before conducting any fieldwork. In most cases research students should apply for ethical approval to the SWP research ethics committee. The UEA Research Ethics Check List will help you identify by which route you should apply for ethical approval.

The University, School and BPS take research ethics very seriously and it is important to consider the ethics of your project very carefully. Please take time to complete this form in detail. Forms that are incomplete or that lack necessary detail will be returned to you for resubmission and this will delay the start of your fieldwork.

When completing the form, bear in mind that reviewers must be able to understand what you intend to do, and why. You should therefore give a clear and full account, and include all available information that will help the reviewers reach a well-informed decision. Where possible and relevant, you should add appendices such as draft or final versions of interview schedules, consent forms, letters to participants and debriefing information.

When you have completed the form, submit it to your primary supervisor. The supervisor will then complete the checklist (6.2) and, if approved, sign the declaration (6.3). The form should then be submitted, together with the UEA research ethics checklist, to the SWP Research ethics committee administrator Eve Slaymaker ([e.slaymaker@uea.ac.uk](mailto:e.slaymaker@uea.ac.uk)). At the same time, please submit an electronic copy of your application to your programme director.

The form and all attachments must be word processed.

Before completing this form you should consult the School's Ethics Committee web pages (<https://intranet.uea.ac.uk/snp/intranet/ethics>) and read the BPS *Code of Ethics and Conduct*.

<http://www.bps.org.uk/publications/policy-guidelines/research-guidelines-policy-documents/research-guidelines-policy-docum>

Regarding your own safety (4.7 below), see the Module Guide and, for further information, refer to the Social Research Association: Code of Practice for the Safety of Social Researchers:

[http://www.the-sra.org.uk/documents/word/safety\\_code\\_of\\_practice.doc](http://www.the-sra.org.uk/documents/word/safety_code_of_practice.doc)

**You must not conduct any fieldwork, including piloting, before obtaining ethical approval.**

## **1. The applicant**

1.1 Student's name **Ellen Lynch**

1.2 Student number **4548914**

1.3 Programme: **PhD**

## **2. Your supervisors**

2.1 Primary supervisor **Dr Victoria Scaife**

2.2 Secondary supervisor(s) **Dr Neil Cooper**

## **3. The project**

Please note: This application is for the second study of a three study PhD project. The first study has already gained ethical approval and has now been completed. Ethical approval for the third study will be applied for separately.

3.1 Title

**Predicting Binge Drinking in a Population of Undergraduate Students Using an Expanded Theory of Planned Behaviour**

3.2 Aims / purpose of the study (append updated proposal)

To measure alcohol consumption, problematic drinking and binge drinking (defined as drinking 4(females)/5(males) standard drinks or more in a single session) behaviours in a population of undergraduate students.

To expand the Theory of Planned Behaviour (TPB) in line with current research and the findings of study one.

Specifically to include:

Past behaviour, including past participation in drinking games, past binge drinking and past alcohol consumption.

Descriptive norms in addition to subjective norms for parents, siblings friends and peers (i.e. other university students).

Personality measures, including measures of impulsivity, sensations seeking and BIS/BAS systems.

To apply this expanded TPB model to effectively predict intentions to binge drink and binge drinking behaviour (defined as drinking 4(females)/5(males) standard drinks or more in a single session) over a two week period in a population of undergraduate students.

Specifically to:

Assess the role of personality and demographic variables in the prediction of intentions to binge drinking and binge drinking behaviour over a two week period.

To investigate the role of past behaviour, including past participation in drinking games, past binge drinking and past alcohol consumption, in the prediction of intentions to binge drink and binge drinking behaviour over a two week period.

To apply this expanded TPB model to effectively predict intentions to binge drink and binge drinking behaviour (defined as drinking to get drunk, in line with the findings for study one which indicated that this is the definition of binge drinking employed by students) over a two week period in a population of undergraduate students.

To consider the effectiveness of 'drinking to get drunk' as a definition of binge drinking. Specifically to:

Compare whether participants who report consuming 4(females)/5(males) standard drinks or more in a single session also report drinking to get drunk.

### 3.3 Research question(s)

Can an expanded TPB be used to effectively predict binge drinking behaviour in a population of undergraduate students?

### 3.4 Methods

3.4.1 Participants or data sources (approximate number, characteristics, method of recruitment, etc).

#### Piloting

Six to eight third year psychology students from the University of East Anglia will form a pilot sample. These participants will be recruited through posters displayed in the Foyer of the Elizabeth Fry Building (see appendix p)

This is primarily in order to ensure wording of the questionnaire items is effective and approximate timings given in the participant information sheets are accurate.

Pilot participants will arrange suitable times (2 weeks apart) to complete the time 1 and time 2 questionnaires via email contact with the researcher.

#### Data Collection

A minimum of 250 (target of 500) undergraduate students aged between eighteen and twenty-five and enrolled for at least one semester at the University of East Anglia will participate in this study.

Potential participants will be informed in the verbal introduction given by the researcher (see AppendixE) that only individuals age 18 or over are eligible to take part, however participants will not be asked to provide proof of age.

It is acknowledged that the majority of university students are over the age of 18 hence the majority of those targeted by recruitment in lectures and seminars will be eligible to participate.

*Consider carefully whether participants are under 18 or are members of a vulnerable or at-risk population. If you think they might be, discuss the ethical issues with your supervisors.*

3.4.2 Recruitment. How will participants be approached and invited to take part? Include copies of posters, leaflets, letters etc if relevant.

### Piloting

Before data collection proper is begun the questionnaires will be piloted on 6-8 third year psychology students recruited posters placed in the foyer of the Elizabeth Fry Building (see appendix P ).

Any individuals interested in taking part in the pilot stage of the study will then contact the researcher by email at which point they will be sent the a copy of the Pilot verbal introduction 1 (appendix A) which will inform them of the nature of the study and what participation will involve. If they are still interested in taking part they will then arrange suitable times (2 weeks apart) to complete the time 1 and time 2 questionnaires and provide feedback.

These arrangements will be made via email.

### Data Collection

Recruitment will take place in lectures and seminars on the University campus. Before potential participants themselves are approached the researcher will contact a number of gatekeepers to gain their consent for recruitment and research to take place in teaching sessions. Each gatekeeper will receive a copy of the 'staff information sheet' or 'Head of School Information Sheet' as appropriate (see Appendix C and D) These information sheets cover the nature of the research, key ethical issues and what is expected of the gate keepers themselves. Gatekeepers will also be provided with a copy of each questionnaire and participant written information and debrief sheets for their consideration.

Initial contact with gatekeepers will be made by phone or email but face to face discussion about the project will be offered should gatekeepers have any questions or concerns.

The researcher will first contact the head of school to gain their consent for potential participants from their school to be approached. The head of school will be asked to identify an appropriate member of staff to converse with the researcher about the project.

This staff member will be asked to identify teaching sessions which they feel are best able to accommodate recruitment.

The suitability of a teaching session will be judged on a number of factors:

Firstly whether or not there will be enough time during the session for the researcher to introduce the project and either for those wishing to take part to complete the questionnaire or for questionnaires and information sheets to be distributed.

Whether the session is for an optional module will also be considered and full year group sessions will be targeted where possible so that individual students do not experience multiple requests for participation.

Finally whether completing the questionnaires can be of benefit to the students in terms of their learning, for example research methods courses or those with an interest in social behaviour may be able to draw on the questionnaires as examples.

Once suitable lectures and seminars have been identified the researcher will contact the session leader (if different from the staff member identified by head of school) to gain their consent for recruitment and participation to take place in these sessions. If both the head of school and the session leader are happy for the research to take place a time and date for recruitment and participation for times 1 and 2 will be arranged with the session leader.

On the day of recruitment the researcher will introduce herself and the research to potential participants (see Appendix e: Time 1 Verbal Introduction). Those who are able and willing to participate in the research will be asked to take a questionnaire as they are passed out by the researcher.

If the teaching room is available and there is adequate time in the teaching session then participants will be able to complete the questionnaire in the session (see procedure for more details)

In the event that the teaching room is not available for participants to complete the questionnaire or the participant does not wish to complete the questionnaire in these circumstances they will be able to take the questionnaire away with them to complete at a time and place of their convenience. However participants will be asked to complete the questionnaire on that day so that time 1 and time 2 questionnaires can be completed exactly two weeks apart.

At time two the researcher will reintroduce herself and the project to participants and ask them to complete the time two questionnaire (see Appendix J Time 2 Verbal Introduction). Those that are willing and able to participate will be asked to take a questionnaire as the researcher passes them out.

Once again in the event that the teaching room is not available for participants to complete the questionnaire or the participant does not wish to complete the questionnaire in these circumstances they will be able to take the questionnaire away with them to complete at a time and place of their convenience. However participants will be asked to complete the questionnaire on that day so that time 1 and time 2 questionnaires can be completed exactly two weeks apart.

*It is important to avoid making potential participants feel under any pressure to take part. For example, if others are present during recruitment (e.g., in a lecture room), potential participants might be embarrassed if they were to choose not to take part. Also, your approach must not be intrusive or annoying. For this reason, mass emails must not be used.*

3.4.3 Measures, materials or apparatus (include copies of questionnaires, interview schedules, etc.

Participants will complete two self report questionnaires one each at time one and time two.

The time one questionnaire (see Appendix G: Time 1 Questionnaire) will include the AUDIT scale, self report measures of the original TPB measures (behaviour, intentions, subjective norm, PBC, and attitude) with regards to binge drinking and measures of personality variables including sensation seeking, impulsivity and BIS BAS measures. The time 1 questionnaire will take approximately 20 minutes to complete.

The time two questionnaire (see Appendix L: Time 2 Questionnaire) will include self report measures of alcohol consumption and binge drinking behaviour (defined as the consumption of 5/4 drinks or more in a single session and drinking to get drunk) over the past two weeks and intentions to binge drink in the next two weeks. The time 2 questionnaire will take no more than five minutes to complete.

**For a break down of the questionnaire measures and sources used please see Appendix O: Questionnaire Measures Table.**

*Consider whether items might be sensitive or offensive to some participants. If you anticipate they might be, discuss with your supervisors.*

3.4.4 Procedure (e.g., what will the researcher and participants do, what will they experience?)

### Piloting

Before data collection proper is begun the questionnaires will be piloted on 6-8 third year psychology students recruited through posters placed in the foyer of the Elizabeth Fry Building (see appendix P).

This is primarily in order to ensure wording of the questionnaire items is effective and approximate timings given in the participant information sheets are accurate.

Any individuals interested in taking part in the pilot stage of the study will contact the researcher by email at which point they will be sent a copy of the Pilot verbal introduction 1 (appendix A) which will inform them of the nature of the study and what participation will involve. If they are still interested in taking part they will then arrange suitable times (2 weeks apart) to complete the time 1 and time 2 questionnaires and provide feedback.

These arrangements will be made via email.

At time 1 pilot participants will meet the researcher at a small teaching room on the University campus.

The researcher will verbally introduce herself and the project to pilot participants (see Pilot Verbal Introduction 1 Appendix A) before handing them the questionnaire complete with information sheet, debrief sheet and a prize draw entry form. If they are willing and able to do so, pilot participants will then complete the questionnaire.

Upon completion of the questionnaire pilot participants will have the opportunity to provide verbal feedback directly to the researcher about the questionnaire or make notes on the questionnaire if they feel there are any potential changes that need to be made.

Meanwhile the researcher will time how long it takes each of the pilot participants to complete the questionnaire.

Once participants have completed the questionnaire and provided feedback they will then place the complete questionnaire into a sealed deposit box which will be clearly visible in the teaching room.

At time 2 pilot participants will again meet with the researcher in a small teaching room on the university campus. The researcher will re-introduce herself and the project (see Pilot Verbal Introduction 2 Appendix B) before providing the pilot participants with the time 2 questionnaire, information sheet and debrief sheet.

If they are willing and able to do so pilot participants will then complete the time 2 questionnaire.

Upon completion of the questionnaire pilot participants will have the opportunity to provide verbal feedback directly to the researcher about the questionnaire or make notes on the questionnaire if they feel there are any potential changes that need to be made.

Meanwhile the researcher will time how long it takes each of the pilot participants to complete the questionnaire.

Pilot participants data will remain confidential and they will be able to provide feedback confidentially by writing on the questionnaires rather than speaking face to face with the researcher.

Pilot participants will also have the right to withdraw from the study at any time by not completing or returning the questionnaire or by leaving the teaching room. Should pilot participants choose to withdraw from the project they will not be asked to give a reason.

Following piloting the estimated times for completion of the questionnaires given on the information sheets and in the verbal introductions may be changed if they are found to be inaccurate.

Additionally minor changes may be made to the wording of items in the questionnaires such as corrections of any spelling or typing errors or the reordering of words if items are found to be unclear. Any changes made will be approved by the supervisor before proceeding with data collection proper.

Third year psychology students are being targeted for the piloting of the questionnaires, information and debrief sheets as they will have a working knowledge of ethical guidelines, the methodology being employed and experience participating in research thus they will be well placed to provide a critique of the materials.

### Data Collection

On the day of recruitment the researcher will introduce herself and the research to potential participants (see Appendix E: Time 1 Verbal introduction). Those who are able and willing to participate in the research will be asked to take a questionnaire and separate prize draw entry form as they are passed out by the researcher. Participants will then read the information sheet (see Appendix F: Time 1 Participant Information Sheet) and if they are still willing to participate in the project they will then complete the Time 1 Questionnaire (see Appendix G: Time 1 Questionnaire) and prize draw entry form(see Appendix I). Upon completion participants will place the questionnaire and prize draw entry form into a sealed deposit box in the teaching room. As participants leave the room they will be handed a debrief sheet (see Appendix H).

In the event that the teaching room is not available for participants to complete the questionnaire or the participant does not wish to complete the questionnaire in these circumstances they will be able to take the questionnaire away with them to complete at a time and place of their convenience. However participants will be asked to complete the questionnaire on that day so that time 1 and time 2 questionnaires can be completed exactly two weeks apart. A sealed deposit box will be left in the foyer of the Elizabeth fry building and will be made available in their next teaching session for completed questionnaires to be returned to. When there is not time to complete the questionnaire in the teaching session, the Time 1 Questionnaire, Participant Information Sheet, Prize Draw Entry Form and Debrief Sheet will be provided together in envelopes for participants to take away with them.

When there is time to complete the questionnaire in the session but participants do not wish complete the questionnaire in the teaching room they will be able to take one of these envelopes containing all the documents as they leave the room.

By providing all the documents together this will ensure that participants receive not only the questionnaire but also the debrief sheet and the information sheet.

Between Time 1 and Time 2 data collection the completed questionnaires and prize draw entry form will be stored in a restricted access room at the University of East Anglia, in a locked filing cabinet. The questionnaires and prize draw entry forms will be stored in separate lockable draws.

Data will be entered into SPSS within 1 week of collection. At this point feedback will be provided about participants' impulsivity, sensation seeking and BIS/BAS scores (See Appendix N: Participant Feedback). Participant codes will be used to match the feedback to the email address provided on the prize draw sheet and feedback will be emailed to the participant. Immediately after feedback has been sent participant codes on the prize draw form will be separated from the email addresses so that participant codes can not be used to connect data to participant email addresses. The email addresses will be stored for the prize draw which will take place once data collection is complete, they will then be securely destroyed.

At time two the researcher will reintroduce herself and the project to participants and ask those who completed the time 1 questionnaire to complete the time 2 questionnaire (see Appendix J: Time 2 Verbal Introduction). Those that are willing and able to participate will be asked to take a questionnaire as the researcher passes them out and read the participant information (see Appendix K: Time 2 Participant Information Sheet) before completing the Time 2 questionnaire (see Appendix L: Time 2 Questionnaire). Upon completion participants will place the questionnaire into a sealed deposit box in the teaching room. As participants leave the room they will be handed a debrief sheet (see Appendix M).

When there is not time to complete the questionnaire in the teaching session, the Time 2 Questionnaire, Participant Information Sheet and Debrief Sheet will be provided together in envelopes for participants to take away with them. When there is time to complete the questionnaire in the session but participants do not wish complete the questionnaire in the teaching room they will be able to take one of these envelopes containing all the documents as they leave the room.

However participants will be asked to complete the questionnaire on that day so that time 1 and time 2 questionnaires can be completed exactly two weeks apart.

A clearly marked sealed deposit box will be made available in the foyer of the Elizabeth fry building and a second sealed deposit box will be made available in their next teaching session for completed questionnaires to be returned to.

Once data collection has been completed the email addresses from the prize draw sheets will be entered into a prize draw for £100 of Love2Shop vouchers. The winner will be contacted by email and arrangements made for them to collect their prize.

Once the prize has been collected these email addresses will be securely destroyed.

### 3.5 Proposed start date of data collection

February/March 2012

## 4. Ethical issues

*Refer to the BPS Code of Ethics.*

### 4.1 Informed consent and briefing

4.1.1 Is informed consent to be obtained from participants? **YES**

If YES, how will it be obtained? (e.g., verbally, signed form. Give details or attach a draft copy of the form)

In order that participants are able to give their informed consent the researcher will verbally introduce the project to potential participants in lectures and seminars (see Appendices E and J) providing information about herself, the project, what participation in the research will involve as well as participants rights to confidentiality and right to withdraw.

Participants will also receive a written information sheet at time 1 and time 2, which will appear as the first page of each questionnaire (see Appendices F and K). These information sheets will provide information about participants' rights to confidentiality and right to withdraw from the study at any time. Further to this the information sheet will inform potential participants that they should not complete the questionnaires if they are worried about their alcohol consumption or are receiving treatment for problematic alcohol use.

Consent will be implicit in the completion and return of questionnaires.

If NO, why not? Give a full explanation

N/A

4.1.2 Is informed consent to be obtained from others (e.g. parents / guardians)?  
**YES**

If YES, how will it be obtained? (e.g., verbally, signed form). Give details. If you are undertaking your project in school or with students under 18, explain how you are obtaining school or college approval (and parental approval, if the school requires this).

Consent for participants to be recruited in lectures and seminars will be gained from the head of school and session leaders. Each head of school and session leader will receive a copy of the appropriate information sheet (see Appendices C and D), including details about the researcher, the aims of the project, what participation will require and participants' rights to confidentiality and right to withdraw. Staff members will also receive a copy of the time 1 and time 2

questionnaires complete with participant information and debrief forms for their information.

Should staff members have any questions or require more information they will be able to contact the researcher by phone or email using the contact details supplied in the information sheet.

Verbal consent will be obtained from these individuals, the researcher will note the name of the consentor and the date on which consent was obtained.

If NO, why not?

N/A

*For observational research describe how local cultural values and privacy of individuals will be taken into account*

*Attach copies of invitation letter and consent form if appropriate. Note that consent forms are not usually necessary when consent is implied by completion of a questionnaire.*

4.1.3 Will participants be explicitly informed of what the researcher's role/status is?

YES , this information will be given in the time 1 and time 2 verbal introductions (see Appendices E and J).

4.1.4 Will participants be told of the use to which data will be put (e.g., research publications, teaching purposes, media publication)?

YES , this information will be given in the time 1 and time 2 verbal introductions (see Appendices E and J).

#### 4.2 Deception

4.2.1 Is any deception involved?

NO

If YES, describe the deception and the reasons for its use

#### 4.3 Right of withdrawal

4.3.1 Will participants be told explicitly that they are free to withdraw from the study at any time?

YES

If yes, explain how and when they will be told.

In the verbal introductions (see Appendices E and J) and in the participant information sheets (see Appendices F and K) potential participants will be informed that participation is voluntary and that they are free to withdraw at any time without giving a reason.

To avoid participants feeling pressured to take part by others present in the lecture or seminar they will have the opportunity to take the questionnaire away with them to complete at a later time that day. If a participant does not want to take part but does not want others present to know this then they will be able to take a questionnaire away with them and simply not complete or return it.

Additionally because recruitment and a large amount of data collection will occur in lectures and seminars participants will be explicitly informed that participation is not compulsory and will not have any effect on their marks or grades for the course.

*Explain how participants will be told. Ensure that you give them a genuine opportunity to withdraw. For example, someone might be unwilling to complete a questionnaire but feel pressured to do so because students beside them will notice that they are not completing it.*

If NO, explain why not

N/A

#### 4.4 Debriefing

4.4.1 Will the participants be debriefed?

YES

If YES, how will they be debriefed (e.g., verbally, debriefing sheet; give details or attach the debriefing information to this form)?

Participants will receive a debrief sheet upon leaving the teaching room. For those who choose to take the questionnaire away with them to complete the debrief sheet will be included in the envelope with the questionnaire.

There will be a separate debrief sheet for the time 1 and time 2 questionnaires, these can be seen in appendices H and M.

The debrief sheets will thank participants for taking part in the project, remind them that data will be kept confidential and provide contact details for the researcher and the primary supervisor should participants have any questions or concerns. Additionally it will contain details of how to withdraw their data (should they choose to do so) at a later date. This will be done by contacting the researcher by email or phone and providing the unique participant code which they created on the questionnaire information sheet (see Appendices F and K).

For participants who wish to gain more information about safe alcohol consumption and binge drinking contact details for Talk to Frank and Drink Aware will be provided on the debrief sheet.

For any participants who may be worried about their alcohol consumption or that of another the contact details for The Mathew Project, Drinkline and NHS Alcohol Misuse web page will be provided.

In addition the debrief sheets will also provide contact details for the University Counseling Service and the location of the Student Advice Centre.

If NO, why won't they be debriefed?

#### 4.5 Confidentiality and anonymity

4.5.1 Will the data be gathered anonymously? YES

If NO, how will you protect the identity of your participants and ensure that any personal information you receive will be kept confidential?

Participants will not be asked to give their name at any point.

Data from the time 1 and time 2 questionnaires will be matched using a participant code (see Time 1 and Time 2 information sheet, appendix F And K)

Once time 1 and time 2 questionnaires have been matched and analysis is finalized (thus participants are no longer able to withdraw their data) these participant codes will be replaced with participant numbers.

All questionnaires will be stored in a locked filing cabinet. Electronic copies of the data will be stored on a memory stick and will be password protected. This memory stick will also be kept in a locked filing cabinet.

Although participants will be asked to provide their email addresses (which may include their name) in order to be entered into the prize draw this will only be recorded on the prize draw entry form which will be separated from the questionnaires as soon as they are returned. These prize draw sheets will be stored in a separate locked draw of a filing cabinet in a restricted access room.

Once data collection is complete and the prize draw has been conducted these prize draw entry forms will be securely destroyed.

In order that participants can be provided with feedback their prize draw form will also ask them to record their participant code. This will allow the researcher to match participants BIS/BAS, impulsivity and sensation seeking scores to their email address, thus allowing feedback to be provided via email (examples of the participant feedback sheets can be seen in appendix N). Within a week of the questionnaire being returned feedback will have been provided to participants by email. As soon as feedback has been sent the participant code will be separated from the email address so that data cannot be matched to participant email addresses.

*Identifying information should be removed from all data and, if necessary, replaced by ID numbers or pseudonyms. Data should be stored securely (e.g., in a locked filing cabinet).*

### **5. Risk assessment: Protection of participants**

5.1 What inconveniences might participants experience?

Although recruitment will take place in lectures and seminars, data collection will only take place during lectures and seminars when the session leader feels there is time in the session which is not needed for teaching. Thus participants will not be losing teaching time. However participants will be giving up their own free time to participate. For those who do not wish to complete the questionnaire in the session or where there is not enough time for participants to complete the questionnaire in the session participants will be able to take the questionnaire away with them to complete at a time and place of their convenience.

5.2 What steps will you take to minimize these?

Because participants are giving up their own free time to participate in the study they will be rewarded for their time by being entered into a prize draw to win £100 of Love2Shop vouchers.

Additionally participants will receive feedback about their BIS/BAS, impulsivity and sensation seeking scores. This information will be provided via email. For an example of the participant feedback sheets can be seen in appendix N.

By recruiting through seminars and lectures the researcher can ensure that participants do not have to travel specifically to take part in the research.

For those who take the questionnaire away with them to complete the researcher will bring a deposit box to their next teaching session so that they can return the questionnaires without difficulty. An additional deposit box will be provided in the foyer of the Elizabeth Fry Building so that participants not present in this later teaching session are also able to return their completed questionnaires. Providing this second deposit box also means that any participant who may be worried about the security of their data while the completed questionnaire is in their possession will be able to return the questionnaire as soon as they wish.

Providing these deposit boxes will minimize time and travel required to return the questionnaires.

5.3 Will involvement in the research put participants at risk of physical or psychological harm, distress or discomfort greater than that encountered in their everyday lives?

Participants who are concerned about their own alcohol consumption or that of another may find some items in the questionnaires stressful or upsetting.

If YES, describe the nature of the risk and the steps you will take to minimise it

Individuals who are concerned about their alcohol consumption or who are receiving treatment or support for problematic alcohol use or an alcohol addiction will be advised not to take part in the study.

Should any participant feel anxious, worried or no longer wish to take part they will be able to withdraw from the study at any time without giving a reason.

Should the questionnaires cause any participant concern about their alcohol consumption behaviour details of a number of sources of information and support will be provided in both the time 1 and time 2 debrief sheets. These will include DrinkAware, Talk to Frank, The Mathew Project and Nhs Alcohol misuse webpage.

In addition contact details will be provided for the University Counseling Service and the Student Advice Centre.

*Be aware that interview questions or questionnaire items might raise issues that are sensitive for individual participants or may create anxiety. Explain what steps you will take to minimize this or to help participants, for example by providing information on relevant support groups or centres in your debriefing sheet.*

*Should you uncover any psychological or physical problems in a participant who appears to be unaware of them, please consult your supervisors before taking any further action*

## **6. Risk assessment. Protection of researcher**

6.1 Does involvement in the research put you at risk of physical or psychological harm, distress or discomfort greater than that encountered in your everyday life?

**NO**

If YES, describe the nature of the risk and the steps you will take to minimise it

N/A

## **7. Other permissions and clearances**

7.1 Is ethical clearance required from any other ethics committee? **NO**

If YES, please give the name and address of the organisation:

.....  
.....

Has such ethical clearance been obtained yet? **N/A**

If YES, attach a copy of the ethical approval letter

N/A

7.2 Will your research involve working with children or vulnerable adults? **NO**

If YES, have you obtained an enhanced disclosure certificate from the Criminal Records Bureau (CRB)? **N/A**

*To obtain ethical clearance for a project involving children or vulnerable adults you must show the original CRB certificate to your supervisor. You should include a copy with this application and in the appendices of your final*

*submission.*

# **Win!**

## **£100 Love2Shop Vouchers**

**Third Year Psychology Students are needed to help pilot questionnaires and materials for a study into student drinking.**

**Participants will be entered into a prize draw to win £100 of Love2Shop vouchers as well as receiving feedback on personality traits.**

**E-mail [E.lynch@uea.ac.uk](mailto:E.lynch@uea.ac.uk) for more information.**

## Appendix P

### Study 2 Time 1 Information Sheet

# Participant Information

**Please read the following information carefully before beginning the questionnaire.**

- You are advised not to complete this questionnaire if you are receiving treatment for problematic alcohol use or concerned about your drinking behaviour.
- Participation is voluntary.
- All responses will be kept confidential.
- You have the right to withdraw from the study at any time without giving a reason.
- Participation involves completing one questionnaire today and on in two weeks time
- To be entered into the prize draw and receive feedback make sure you have completed and returned the prize draw entry form.
- Once you have completed the questionnaire please place it in the sealed deposit box.

**If you are willing to take part in the study please complete the questions below.**

**This forms a participant code used to match your time 1 and time 2 questionnaires. Once the questionnaires have been matched this code will be removed.**

<b>Participant Code</b>
First Name Initial: .....
Day of Birth (e.g. 1 <sup>st</sup> or 24 <sup>th</sup> ): .....
Last 3 digits of phone number: .....

**Now turn the page to begin completing the questionnaire.**

## Appendix Q

### Study 2 Time 1 Questionnaire

## Instructions

Please complete the following questions as honestly and accurately as you can.

When questions ask about drinking 5/4 standard drinks in a single session this means 4 standard drinks or more for females and 5 standard drinks or more for males.

A standard drink means: a small glass of wine (125ml)

A single spirit measure

A 25ml shot

Half a pint of beer, lager or cider

A small bottle or can of beer, lager or cider (240-330mls)

Therefore a pint of lager, a large glass of wine (250ml) or a double spirit and mixer would be 2 standard drinks.

A number of questions have scales on which you can provide your answer, in these cases please put a ring around the number which best indicates how you think or feel.

E.G. I like the colour green.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

If you really like the colour green you would put a ring around number 7, if you neither like nor dislike green you would put a ring around number 4.

# Questions

Please now complete the following questions.

1. **Age (in years)** .....

2. **Gender** Male  Female

3. **Please provide details of the course you are enrolled on at UEA.**

Subject .....

Year .....

Full time / Part time (delete as appropriate)

Undergraduate/masters/PhD (delete as appropriate)

4. **Where do you live?**

Halls  Shared House  With Parents

**Other (please specify)**.....

5. The following items are about your alcohol consumption and drinking behaviours.

A standard drink is:

1 x 25ml measure of spirit

1 x glass of wine

½ x Pint of beer lager or cider

A small bottle of beer, lager or cider (240-330mls)

If you do not drink alcohol please tick here  and move ahead to question 6 page 3

How often do you have a drink containing alcohol?

Never      Monthly or less      Once a week or less      2 to 4 times a week      5 or more times a week

How many standard drinks do you have on a typical day when you are drinking?

1                      2                      3 or 4                      5 or 6                      7 or more

How often do you have 6 or more standard drinks on one occasion?

Never      Less than monthly      Monthly      Weekly      Daily or almost daily

How often during the last year have you found that you were not able to stop drinking once you had started?

Never      Less than monthly      Monthly      Weekly      Daily or almost daily

How often during the last year have you failed to do what was normally

**expected from you because of your drinking?**

Never                  Less then monthly                  Monthly                  Weekly                  Daily or almost daily

**How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?**

Never                  Less then monthly                  Monthly                  Weekly                  Daily or almost daily

**How often during the last year have you had a feeling of guilt or regret after drinking?**

Never                  Less then monthly                  Monthly                  Weekly                  Daily or almost daily

**How often during the last year have you been unable to remember what happened the night before because you had been drinking?**

Never                  Less then monthly                  Monthly                  Weekly                  Daily or almost daily

**Have you or someone else been injured as a result of your drinking?**

Never                  Yes, but not in the last year                  Yes, during the last year

**Has a friend, doctor or other health worker been concerned about your drinking or suggested you cut down?**

Never                  Yes, but not in the last year                  Yes, during the last year

**At what age did you first have an alcoholic drink, a whole alcoholic drink not just a sip?**

..... years



**...I do without thinking.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...that would require effort not to do it.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...that belongs to my weekly routine.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I start doing before I realize I'm doing it.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**... I would find hard not to do.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I have no need to think about doing.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...that's typically "me."**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I have been doing for a long time.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree



The following items are about your thoughts and feelings with regards to consuming 5/4 standard drinks or more in a single session in the next fortnight.

**8. Consuming 5/4 drinks or more in a session in the next fortnight would be ....**

Bad	1	2	3	4	5	6	7	Good
Foolish	1	2	3	4	5	6	7	Wise
Harmful	1	2	3	4	5	6	7	Beneficial
Pleasant	1	2	3	4	5	6	7	Unpleasant
Enjoyable	1	2	3	4	5	6	7	Unenjoyable

**9. The following items are about the thoughts and feelings of your family.**

**If I drank 5/4 standard drinks or more in a single session in the next 2 weeks my family would:**

1	2	3	4	5	6	7
Approve						Disapprove

**My family think that my drinking 5/4 or more standard drinks in a single session in the next 2 weeks would be:**

1	2	3	4	5	6	7
Undesirable						Desirable

**My family think that I should/should not drink 5/4 or more standard drinks in a single session in the next 2 weeks.**

1	2	3	4	5	6	7
Should						Should Not

**In general my family are aware of how much alcohol I drink.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree



**11. The following items are about the thoughts and feelings of your friends and peers at University.**

**If I drank 5/4 standard drinks or more in a single session in the next 2 weeks most of my friends and peers at university would:**

1 2 3 4 5 6 7  
Approve Disapprove

**Most of my friends and peers at university think that my drinking 5/4 standard drinks or more in a single session in the next 2 weeks would be:**

1 2 3 4 5 6 7  
Undesirable Desirable

**Most of my friends and peers at university think that I should/should not drink 5/4 standard drinks or more in a single session in the next 2 weeks".**

1 2 3 4 5 6 7  
Should Should Not

**In general most of my friends and peers at university are aware of how much alcohol I drink.**

1 2 3 4 5 6 7  
Strongly Disagree Strongly Agree

**How many of your friends and peers at University would drink 5/4 standard drinks or more in a single session in the next 2 weeks?**

1 2 3 4 5 6 7  
None All

**Think about your friends and peers at University. What percentage of them do you think would drink 5/4 standard drinks or more in a single session in the next 2 weeks?**

1 2 3 4 5 6 7  
0% 100%



**13. The following items are about your views and opinions with regards to drinking alcohol in the next 2 weeks.**

**For me to drink less than 5/4 standard drinks in a single session in the next fortnight would be...**

1	2	3	4	5	6	7
Very Difficult						Very Easy

**If I wanted to I could drink less than 5/4 standard drinks in a single session in the next fortnight.**

1	2	3	4	5	6	7
Definitely False						Definitely True

**How much control do you believe you have over drinking less than 5/4 standard drinks in a single session in the next 2 weeks?**

1	2	3	4	5	6	7
No Control						Complete Control

**I would feel guilty if I drank 5/4 standard drinks or more in a single session.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**I personally think that drinking 5/4 standard drinks or more in a single session is wrong.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**Drinking 5/4 standard drinks or more in a single session goes against my principles.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**14. In the next 2 weeks...**

**... I intend to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I plan to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**... I want to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I expect to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**... I intend to drink to get drunk**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I plan to drink to get drunk**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I want to drink to get drunk**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I expect to drink to get drunk**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I would feel upset if I drank more than 5/4 standard drinks in a single session.**

1	2	3	4	5	6	7
Definitely No						Definitely Yes

**...I would feel regret if I drank more than 5/4 drinks in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I would feel upset if I drank less than 5/4 standard drinks in a single session.**

1	2	3	4	5	6	7
Definitely No						Definitely Yes

**...I would feel regret if I drank less than 5/4 drinks in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

15. The following questions are about your likelihood of experiencing specific outcomes of alcohol consumption.

In comparison to other students:

How likely are you to be a victim of crime or violence after drinking 5/4

standard drinks or more in a single session?

1	2	3	4	5	6	7
Not at all likely						Extremely Likely

How likely are you to lose personal possessions (e.g. phone, money, coat) after drinking 5/4 standard drinks or more in a single session?

1	2	3	4	5	6	7
Not at all likely						Extremely Likely

How likely are you to suffer an injury after drinking 5/4 standard drinks or more in a single session?

1	2	3	4	5	6	7
Not at all likely						Extremely Likely

How likely are you to be involved in crime after drinking 5/4 standard drinks or more in a single session?

1	2	3	4	5	6	7
Not at all likely						Extremely Likely

How likely are you to suffer from liver problems in your life time if you drink 5/4 standard drinks or more in a single session?

1	2	3	4	5	6	7
Not at all likely						Extremely Likely

**16. The following items are about your life as a university student.**

**Please circle the number to indicate how important the following aspects are to your life at University.**

**Parties**

1	2	3	4	5	6	7
Not important at all						Very important

**Nights out**

1	2	3	4	5	6	7
Not important at all						Very important

**Athletics or sports**

1	2	3	4	5	6	7
Not important at all						Very important

**Religion**

1	2	3	4	5	6	7
Not important at all						Very important

**Academics**

1	2	3	4	5	6	7
Not important at all						Very important

**17. The following questions are about you personally.**

**I would like to explore strange places**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I get restless when I spend too much time at home.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I like to do frightening things.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I like wild parties.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I would like to take off on a trip with no pre-planned routes or timetables.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I prefer friends who are excitingly unpredictable.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I would like to try bungee jumping.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I would love to have new and exciting experiences, even if they are illegal.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**18. The following questions are about the ways in which you act and think. Read each statement and circle the appropriate number on the right.**

**I plan tasks carefully.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I do things without thinking.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I make-up my mind quickly.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I am happy-go-lucky.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I don't "pay attention."**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I have "racing" thoughts.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I plan trips well ahead of time.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I am self controlled.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I concentrate easily.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I save regularly.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I "squirm" at plays or lectures.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I am a careful thinker.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I plan for job security.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I say things without thinking.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I like to think about complex problems.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I change jobs.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I act "on impulse."**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I get easily bored when solving thought problems.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I act on the spur of the moment.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I am a steady thinker.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I change residences.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I buy things on impulse.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I can only think about one thing at a time.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I change hobbies.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I spend or charge more than I earn.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I often have extraneous thoughts when thinking.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I am more interested in the present than the future.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I am restless at the theatre or lectures.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I like puzzles.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

**I am future oriented.**

1	2	3	4
Rarely/ Never	Occasionally	Often	Almost Always/ Always

19. Please indicate how much you agree or disagree with the following items.

**A person's family is the most important thing in life.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**Even if something bad is about to happen to me, I rarely experience fear or nervousness.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I go out of my way to get things I want.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I'm doing well at something I love to keep at it.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I'm always willing to try something new if I think it will be fun.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**How I dress is important to me.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I get something I want, I feel excited and energized.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**Criticism or scolding hurts me quite a bit.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I want something I usually go all-out to get it.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I will often do things for no other reason than that they might be fun.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**It's hard for me to find the time to do things such as get a haircut.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**If I see a chance to get something I want I move on it right away.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I feel pretty worried or upset when I think or know somebody is angry at me.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I see an opportunity for something I like I get excited right away.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I often act on the spur of the moment.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**If I think something unpleasant is going to happen I usually get pretty "worked up."**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I often wonder why people act the way they do.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When good things happen to me, it affects me strongly.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I feel worried when I think I have done poorly at something important.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I crave excitement and new sensations.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I go after something I use a "no holds barred" approach.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I have very few fears compared to my friends.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**It would excite me to win a contest.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I worry about making mistakes.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**20. Please tick to indicate your religious beliefs.**

No Religion <input type="checkbox"/>	Jewish <input type="checkbox"/>	Hindu <input type="checkbox"/>
Christian <input type="checkbox"/> (including Church of England, Catholic, Protestant and all other Christian denominations)	Muslim <input type="checkbox"/>	Buddhist <input type="checkbox"/>
	Sikh <input type="checkbox"/>	Other <input type="checkbox"/> (please specify) .....

**21. Please tick to indicate the ethnic group to which you belong.**

<b>White</b> White British <input type="checkbox"/> White Irish <input type="checkbox"/> White Scottish <input type="checkbox"/> White Welsh <input type="checkbox"/> White Other <input type="checkbox"/> (please specify) ..... ....	<b>Asian or Asian British</b> Indian <input type="checkbox"/> Pakistani <input type="checkbox"/> Bangladeshi <input type="checkbox"/> Asian Other <input type="checkbox"/> (please specify) ..... ...	<b>Chinese</b> Chinese <input type="checkbox"/>
<b>Black or Black British</b> Caribbean <input type="checkbox"/> African <input type="checkbox"/> Black Other <input type="checkbox"/> (please specify) ..... ....	<b>Mixed Heritage</b> White and Black Caribbean <input type="checkbox"/> White and Black African <input type="checkbox"/> White and Asian <input type="checkbox"/> Mixed Other <input type="checkbox"/> (please specify) ..... ...	<b>Other Ethnic Group</b> Other <input type="checkbox"/> (please specify) ..... ...

**Thank you for taking the time to complete this questionnaire.**

If you are happy for the information you have provided to be used please place it in one of the deposit boxes.

## Appendix R

### Study 2 Time 1 Debrief

# Thank you for completing this questionnaire!

## Please take this sheet away with you and keep it somewhere

If you are happy for the information you have provided to be used please place your completed questionnaire in one of the deposit boxes at the front of the room, in the foyer of the Elizabeth Fry Building or in next week's teaching session.

To be entered into the prize draw and receive feedback make sure you have completed and returned the prize draw entry form.

If you have any questions or concerns about the study please contact Ellen Lynch (E.lynch@uea.ac.uk) or Dr Victoria Scaife (V.Scaife@uea.ac.uk).

If you want to withdraw your data after returning the questionnaire you can do so up until the 1<sup>st</sup> of June 2012. Simply contact the researcher using the contact details above.

## Want to know more about alcohol and safe drinking guidelines?

Then visit:

- DrinkAware: [www.drinkaware.co.uk](http://www.drinkaware.co.uk)
- Talk to Frank: [www.talktofrank.com/druq/alcohol](http://www.talktofrank.com/druq/alcohol)

## Worried about your own drinking behaviour or that of another?

These sources can provide you with free, confidential information and support:

- The Mathew Project: 0800 764754
- **Drinkline: 0800 917 8282**
- [www.nhs.uk/conditions/Alcohol-misuse](http://www.nhs.uk/conditions/Alcohol-misuse)

You may also want to contact:

- Your GP
- The UEA Counselling Service:  
01603 592651, [csr@uea.ac.uk](mailto:csr@uea.ac.uk)

## Appendix S

### Study 2 Time 2 Information Sheet

**Please read the following information carefully before beginning the questionnaire.**

- You are advised not to complete this questionnaire if you are receiving treatment for problematic alcohol use or concerned about your drinking behaviour.
- Participation is voluntary.
- All responses will be kept confidential.
- You have the right to withdraw from the study at any time without giving a reason.
- To be entered into the prize draw and receive feedback make sure you have completed and returned the prize draw entry form.
- Once you have completed the questionnaire please place it in the sealed deposit box.

**If you have completed the first questionnaire and are willing to complete the second please complete the questions below.**

**This forms a participant code used to match your first and second questionnaires. Once the questionnaires have been matched this code will be removed.**

<b>Participant Code</b>
First Name Initial: .....
Day of Birth (e.g. 1 <sup>st</sup> or 24 <sup>th</sup> ): .....
Last 3 digits of phone number: .....
Number of older siblings (for none write 0): .....

**Now turn the page to begin completing the questionnaire.**

## Appendix T

### Study 2 Time 2 Questionnaire

# Instructions

Please complete the following questions as honestly and accurately as you can.

When questions ask about drinking 5/4 standard drinks in a single session this means 4 standard drinks or more for females and 5 standard drinks or more for males.

A standard drink means: a small glass of wine (125ml)

A single spirit measure

A 25ml shot

Half a pint of beer, lager or cider

A small bottle or can of beer, lager or cider (240-

330mls)

Therefore a pint of lager, a large glass of wine (250ml) or a double spirit and mixer would be 2 standard drinks.

A number of questions have scales on which you can provide your answer, in these cases please put a ring around the number which best indicates how you think or feel.

E.G. I like the colour green.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

If you really like the colour green you would put a ring around number 7, if you neither like nor dislike green you would put a ring around number 4.

# Questions

1. How many days in the previous two weeks did you...  
... drink 5/4 standard drinks or more?

0	1	2	3	4	5	6	7
	8	9	10	11	12	13	14

...Drink to get drunk

0	1	2	3	4	5	6	7
	8	9	10	11	12	13	14

**2. In the next two weeks...**

**... I intend to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I plan to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**... I want to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**Thank you for taking the time to complete this  
questionnaire.**

**If you are happy for the information you have provided to be used please  
place it in one of the deposit boxes.**

## Appendix U

### Study 2 Time 2 Debrief

# **You have now completed the study!**

**Please take this sheet away with you and keep it somewhere safe.**

If you are happy for the information you have provided to be used please place your completed questionnaire in one of the deposit boxes at the front of the room, in the foyer of the Elizabeth Fry Building or in next week's teaching session.

If you have any questions or concerns about the study please contact Ellen Lynch (E.lynch@uea.ac.uk) or Dr Victoria Scaife (V.Scaife@uea.ac.uk).

If you want to withdraw your data after returning the questionnaire you can do so up until the 1<sup>st</sup> of June 2012. Simply contact the researcher using the contact details above.

## **Want to know more about alcohol and safe drinking guidelines?**

Then visit:

- DrinkAware: [www.drinkaware.co.uk](http://www.drinkaware.co.uk)
- Talk to Frank: [www.talktofrank.com/drug/alcohol](http://www.talktofrank.com/drug/alcohol)
- The student advice centre at Union House

## **Worried about your own drinking behaviour or that of another?**

These sources can provide you with free, confidential information and support:

- The Mathew Project: 0800 764754
- **Drinkline: 0800 917 8282**
- [www.nhs.uk/conditions/Alcohol-misuse](http://www.nhs.uk/conditions/Alcohol-misuse)

You may also want to contact:

- Your GP
- The UEA Counselling Service:  
01603 592651, [csr@uea.ac.uk](mailto:csr@uea.ac.uk)

**Appendix V**

**Study 2 Time 2 Prize Draw Entry Form**

**PRIZE DRAW ENTRY**

**To be entered into the prize draw please complete the participant code questions below and record your email address in the space provided.**

**Participant Code**

First Name Initial: .....

Day of Birth (e.g. 1<sup>st</sup> or 24<sup>th</sup>): .....

Last 3 digits of phone number: .....

Number of older siblings (for none write 0): .....

**Email:.....**

## Appendix W

### Study 2 Time 1 Revised Questionnaire (Post Pilot)

ENT ALCOHOL

## Participant Information



Please read the following information carefully before beginning the questionnaire.

- This study aims to predict student binge drinking behaviour over a two week period.
- If there are any questions you do not wish to complete please skip them and move on to the next question.
- You are advised not to complete this questionnaire if you are receiving treatment for problematic alcohol use or concerned about your drinking behaviour.
- Participation is voluntary.
- All responses will be kept confidential.
- You have the right to withdraw from the study at any time without giving a reason.
- Participation involves completing one questionnaire today and one in two weeks time.
- If you wish to be entered into the prize draw\* make sure you have completed and returned the prize draw entry form.
- Once you have completed the questionnaire please place it in the sealed deposit box.

If you are willing to take part in the study, please complete the questions below.

This forms a participant code used to match your time 1 and time 2 questionnaires. Once the questionnaires have been matched, this code will be removed.

### Participant Code

First Name Initial: .....

Day of Birth (e.g. 1<sup>st</sup> or 24<sup>th</sup>): .....

Last 3 digits of phone number: .....

Number of older siblings (for none write 0): .....

\*One prize of £100 Love2Shop vouchers, prize draw to be held on or before 1<sup>st</sup> June 2012, winner will be contacted by email

## Instructions

Please complete the following questions as honestly and accurately as you can.

If there are any questions you do not wish to complete please skip them and move on to

the next question.

If you make a mistake please put a cross through it and indicate your correct response.

When questions ask about drinking 4/5 standard drinks in a single session this means

4 standard drinks or more for females and 5 standard drinks or more for males.

A standard drink means: a small glass of wine (125ml)

A single spirit measure

A 25ml shot

Half a pint of beer, lager or cider

A small bottle or can of beer, lager or cider (240-330mls)

Therefore a pint of lager, a large glass of wine (250ml) or a double spirit and mixer would be 2 standard drinks.

## Questions

Please now complete the following questions.

1. **Age (in years)** .....

2. **Gender** Male 2  3 Female 4  5 6 7  
Strongly Disagree Strongly Agree

3. **Please provide details of the course you are enrolled on at UEA.**

Subject .....

Year .....

Full time / Part time (delete as appropriate)

Undergraduate/masters/PhD (delete as appropriate)

4. **Where do you live?**

Halls  Shared House  With Parents

**Other (please specify).....**

**5. The following items are about your alcohol consumption and drinking behaviours.**

**A standard drink is:**  
**1 x 25ml measure of spirit**  
**1 x glass of wine**  
**½ x Pint of beer lager or cider**  
**A small bottle of beer, lager or cider (240-330mls)**

**If you do not drink alcohol please tick here  and move ahead to question 6 page 4**

**How often do you have a drink containing alcohol?**

Never                      Monthly or less                      Once a week or less                      2 to 4 times a week                      5 or more times a week

**How many standard drinks do you have on a typical day when you are drinking?**

1                                      2                                      3 or 4                                      5 or 6                                      7 or more

**How often do you have 6 or more standard drinks on one occasion?**

Never                      Less then monthly                      Monthly                      Weekly                      Daily or almost daily

**How often during the last year have you found that you were not able to stop drinking once you had started?**

Never                      Less then monthly                      Monthly                      Weekly                      Daily or almost daily

**How often during the last year have you failed to do what was normally expected from you because of your drinking?**

Never                      Less then monthly                      Monthly                      Weekly                      Daily or almost daily

**How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?**

Never                      Less then monthly                      Monthly                      Weekly                      Daily or almost daily

**How often during the last year have you had a feeling of guilt or regret after drinking?**

Never                      Less then monthly                      Monthly                      Weekly                      Daily or almost daily

**How often during the last year have you been unable to remember what happened the night before because you had been drinking?**

Never                      Less then monthly                      Monthly                      Weekly                      Daily or almost daily

**Have you or someone else been injured as a result of your drinking?**

Never                      Yes, but not in the last year                      Yes, during the last year

**Has a friend, doctor or other health worker been concerned about your drinking or suggested you cut down?**

Never                      Yes, but not in the last year                      Yes, during the last year

**How many days in the past 2 weeks did you drink 5/4 standard drinks or more in a single session?**

0                      1                      2                      3                      4                      5                      6                      7  
 8                      9                      10                      11                      12                      13                      14

**6. Please state how strongly you agree or disagree with the following statements.**

**Drinking 5/4 standard drinks or more in one session is something...**

**...I do frequently.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...I do automatically.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...I do without having to consciously remember.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...that makes me feel weird if I do not do it.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...I do without thinking.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...that would require effort not to do it.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...that belongs to my weekly routine.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...I start doing before I realize I'm doing it.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**... I would find hard not to do.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...I have no need to think about doing.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...that's typically "me."**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**...I have been doing for a long time.**

1                      2                      3                      4                      5                      6                      7  
Strongly Disagree                      Strongly Agree

**7. The following items are about your participation in drinking games.**

**Have you ever played a drinking game in your life-time?**

Yes                       No

**Please circle the statement that best describes how often you take part in drinking games?**

Never                      Once a year                      Once every six months                      Once a month                      Once a fortnight                      Once a week                      A few times a week





**11. The following items are about the thoughts and feelings of your friends and peers at University.**

**If I drank 5/4 standard drinks or more in a single session in the next 2 weeks most of my friends and peers at university would:**

1 2 3 4 5 6 7  
Approve Disapprove

**Most of my friends and peers at university think that my drinking 5/4 standard drinks or more in a single session in the next 2 weeks would be:**

1 2 3 4 5 6 7  
Undesirable Desirable

**Most of my friends and peers at university think that I should/should not drink 5/4 standard drinks or more in a single session in the next 2 weeks".**

1 2 3 4 5 6 7  
Should Should Not

**In general most of my friends and peers at university are aware of how much alcohol I drink.**

1 2 3 4 5 6 7  
Strongly Disagree Strongly Agree

**How many of your friends and peers at University would drink 5/4 standard drinks or more in a single session in the next 2 weeks?**

1 2 3 4 5 6 7  
None All

**Think about your friends and peers at University. What percentage of them do you think would drink 5/4 standard drinks or more in a single session in the next 2 weeks?**

1 2 3 4 5 6 7  
0% 50% 100%

**12. The following questions are about you and your friends and peers at University.**

**How much do you feel you identify with your friends and peers at University?**

1 2 3 4 5 6 7  
not very much very much

**With respect to your general attitudes and beliefs, how similar do you feel you are to your friends and peers at University?**

1 2 3 4 5 6 7  
very dissimilar very similar

**Think about who you are. How important is being a member of your group of friends and peers at University?**

1 2 3 4 5 6 7  
very important very unimportant

**How much do you feel strong ties with your friends and peers at University?**

1 2 3 4 5 6 7  
very much not very much









**I like wild parties.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I would like to take off on a trip with no pre-planned routes or timetables.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I prefer friends who are excitingly unpredictable.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I would like to try bungee jumping.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**I would love to have new and exciting experiences, even if they are illegal.**

1	2	3	4	5
strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

**18. The following questions are about the ways in which you act and think. Read each statement and indicate your answer by circling the appropriate number.**

I plan tasks carefully.	1	2	3	4
	Rarely/ Never	Occasionally	Often	Almost Always/ Always

I do things without thinking.	1	2	3	4
	Rarely/ Never	Occasionally	Often	Almost Always/ Always

I make-up my mind quickly.	1	2	3	4
	Rarely/ Never	Occasionally	Often	Almost Always/ Always

I am happy-go-lucky.	1	2	3	4
	Rarely/ Never	Occasionally	Often	Almost Always/ Always

I don't "pay attention".	1	2	3	4
	Rarely/ Never	Occasionally	Often	Almost Always/ Always

1	2	3	4
---	---	---	---

I have "racing" thoughts.	Rarely/ Never	Occasionally	Often	Almost Always/ Always
I plan trips well ahead of time.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I am self controlled.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I concentrate easily regularly.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I "squirm" at plays or lectures.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I am a careful thinker.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I plan for job security.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I say things without thinking.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I like to think about complex problems.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I change jobs.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I act "on impulse."	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I get easily bored when solving thought problems.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I act on the spur of the moment.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I am a steady thinker.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I change residences.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I buy things on impulse.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always

I can only think about one thing at a time.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I change hobbies.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I spend or charge more than I earn.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I often have extraneous thoughts when thinking.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I am more interested in the present than the future.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I am restless at the theatre or lectures.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I like puzzles.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
I am future oriented.	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always

19. Please indicate how much you agree or disagree with the following items.

**A person's family is the most important thing in life.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**Even if something bad is about to happen to me, I rarely experience fear or nervousness.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I go out of my way to get things I want.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I'm doing well at something I love to keep at it.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I'm always willing to try something new if I think it will be fun.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**How I dress is important to me.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I get something I want, I feel excited and energized.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**Criticism or scolding hurts me quite a bit.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I want something I usually go all-out to get it.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I will often do things for no other reason than that they might be fun.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**It's hard for me to find the time to do things such as get a haircut.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**If I see a chance to get something I want I move on it right away.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I feel pretty worried or upset when I think or know somebody is angry at me.**

1	2	3	4
---	---	---	---

very true for me      somewhat true for me      somewhat false for me      very false for me

**When I see**

**an opportunity for something I like I get excited right away.**

1                                  2                                  3                                  4  
very true for me      somewhat true for me      somewhat false for me      very false for me

**I often act on the spur of the moment.**

1                                  2                                  3                                  4  
very true for me      somewhat true for me      somewhat false for me      very false for me

**If I think something unpleasant is going to happen I usually get pretty "worked up."**

1                                  2                                  3                                  4  
very true for me      somewhat true for me      somewhat false for me      very false for me

**I often wonder why people act the way they do.**

1                                  2                                  3                                  4  
very true for me      somewhat true for me      somewhat false for me      very false for me

**When good things happen to me, it affects me strongly.**

1                                  2                                  3                                  4  
very true for me      somewhat true for me      somewhat false for me      very false for me

**I feel worried when I think I have done poorly at something important.**

1                                  2                                  3                                  4  
very true for me      somewhat true for me      somewhat false for me      very false for me

**I crave excitement and new sensations.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**When I go after something I use a "no holds barred" approach.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I have very few fears compared to my friends.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**It would excite me to win a contest.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**I worry about making mistakes.**

1	2	3	4
very true for me	somewhat true for me	somewhat false for me	very false for me

**20. Please tick to indicate your religious beliefs.**

No Religion <input type="checkbox"/>	Jewish <input type="checkbox"/>	Hindu <input type="checkbox"/>
Christian <input type="checkbox"/> (including Church of England, Catholic, Protestant and all other Christian denominations)	Muslim <input type="checkbox"/>	Buddhist <input type="checkbox"/>
	Sikh <input type="checkbox"/>	Other <input type="checkbox"/> (please specify) .....

**21. Please tick to indicate the ethnic group to which you belong.**

<b>White</b> White British <input type="checkbox"/> White Irish <input type="checkbox"/> White Scottish <input type="checkbox"/> White Welsh <input type="checkbox"/> White Other <input type="checkbox"/> (please specify) .....	<b>Asian or Asian British</b> Indian <input type="checkbox"/> Pakistani <input type="checkbox"/> Bangladeshi <input type="checkbox"/> Asian Other <input type="checkbox"/> (please specify) ..... ...	<b>Chinese</b> Chinese <input type="checkbox"/>
<b>Black or Black British</b> Caribbean <input type="checkbox"/> African <input type="checkbox"/> Black Other <input type="checkbox"/> (please specify) .....	<b>Mixed Heritage</b> White and Black Caribbean <input type="checkbox"/> White and Black African <input type="checkbox"/> White and Asian <input type="checkbox"/> Mixed Other <input type="checkbox"/> (please specify) ..... ....	<b>Other Ethnic Group</b> Other <input type="checkbox"/> (please specify) ..... .....

**Thank you for taking the time to complete this questionnaire.**

**Please now place it in one of the deposit boxes.  
By placing the questionnaire into the deposit box you are giving consent for the  
information you have provided to be used in this study.**

## Appendix X

### Study 2 Scale Reliability

Table 8.3  
Study 2 scale reliability

Variable	Items	Alpha
AUDIT	AUDIT Items 1,2 & 3	.707
Attitude	Attitude 1,2,3, 4REV, 5REV	.855
Subjective Norm - Family	Subjective norm family 1REV, 2 & 3REV	.906
Group Norm - Family	Subjective norm family 1REV, 2, 3REV & Descriptive Norm family	.849
Habit	Habit 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12	.903
In-group Identification - Family	In-group Identification family 1, 2, 3 & 4	.903
In-group belonging - Family	In-group Belonging – Family 1 & 2	.932
Subjective Norm - Friends	Subjective norms friends 1REV, 2 & 3REV	.907
Group Norm - Friends	Subjective norms friends 1REV, 2, 3REV & Descriptive Norm friends	.910
In-group Identification - Friends	In-group identification - friends 1, 2, 3 & 4	.893
In-group Belonging - Friends	In-group Belonging – friends 1 & 2	.945
PBC	PBC 1, 2 & 3	.463
PBC 2	PBC 2 & 3	.648
Moral Norm	Moral norm 1, 2 & 3	.892
Intention to drink 5/4 standard drinks or more in the next two weeks	Intend 5/4, Plan 5/4, Want 5/4 & Expect 5/4	.977
Intention to drink to get drunk in the next 2 weeks	Intend drunk, Plan drunk, Want drunk & Expect drunk	.981
Anticipated regret of drinking more than 5/4 standard drinks or more in the next 2 weeks	Anticipated regret more 1 & 2	.901
Anticipated Regret of drinking less than 5/4 standard drinks or more in the next 2 weeks	Anticipated regret less 1 & 2	.976
Optimistic Bias	Optimistic Bias 1, 2, 3, 4 & 5	.827
Sensation Seeking	BSSS 1, 2, 3, 4, 5, 6, 7 & 8	.785
Sensation Seeking Sub scale 1	BSSS 1 & 5	.678

Variable	Items	Alpha
Sensation Seeking Sub scale 2	BSSS 2 & 6	.465
Sensation Seeking Sub scale 3	BSSS 3 & 7	.612
Sensation Seeking Sub scale 4	BSSS 4 & 8	.603
Impulsivity	BIS 1REV, 2, 3, 4REV, 5REV, 6, 7REV, 8REV, 9, 10, 11, 12, 13, 14, 15REV	.797
Impulsivity Attentional	BIS 3, 4REV, 6, 11, 14	.671
Impulsivity Motor	BIS 2, 9, 10, 12, 13	.638
Impulsivity Non Planning	BIS 1REV, 5REV, 7REV, 8REV, 15REV	.688
BAS Drive	BB3REV, BB9REV, BB12REV, BB21REV	.782
BAS Fun	BB5REV, BB10REV, BB15REV, BB20REV	.718
BAS Reward	BB4REV, BB7REV, BB14REV, BB18REV, BB23REV	.639
BIS	BB2, BB8REV, BB13REV, BB16REV, BB19REV, BB22, BB24REV	.793

## Appendix Y

### Study 2 Participants' Drinking Behaviour

Table 8.4  
Frequency and Percent of Participants' responses to AUDIT Items

Item	Response	N	%
How often do you have a drink containing alcohol?	never	16	13.7
	monthly or less	52	44.4
	once a week or less	41	35.0
	2-4 times a week	1	.9
	DNR	7	6.0
How many standard drinks do you have on a typical day when you are drinking?	0	8	6.8
	1	11	9.4
	2	38	32.5
	3-4	27	23.1
	5-6	26	22.2
	DNR	7	6.0
How often do you have 6 or more standard drinks on one occasion?	Never	12	10.3
	less than monthly	17	14.5
	monthly	39	33.3
	weekly	40	34.2
	DNR	9	7.7

## Appendix Z

### Study 2 Assessment of Normality

Table 8.5  
Study 2 Assessment of normality

Variable or Item	ZSkew	ZKurtosis	KS Test	Normality
How often do you have a drink containing alcohol?	-1.48	-1.64	.26*	Normal
How often do you have 6 of more standard drinks on one occasion?	-2.67	0.76	.25*	Non normal
AUDIT Total	-2.30	0.12	.15*	Non normal
How Many Standard drinks do you have on a typical day when you are drinking?	-1.42	-0.80	.18*	Normal
How many days in the past 2 weeks did you drink 5/4 standard drinks or more in a single session?	5.87	5.89	.22*	Non normal
How many days in the past 2 weeks did you drink alcohol to get drunk?	7.67	9.85	.22*	Non normal
Habbit	1.76	1.06	.11*	Normal
How often do you take part in drinking games?	-0.46	0.76	.17*	Normal
Take part in drinking games to get drunk	-2.97	0.14	.20*	Non normal
Take part in drinking games to meet new people	-3.29	0.11	.25*	Non normal
Take part in drinking games to control others	5.19	2.41	.34*	Non normal
Take part in drinking games to get someone else drunk	0.85	-2.22	.17*	Non normal
Attitude toward 5/4 drinks or more	-2.59	0.91	.10*	Non normal
Subjective Norm Family	1.10	-0.10	.11*	Normal
Family Aware of Drinking	-2.23	1.25	.22*	Non normal
Descriptive Norm Family	3.77	0.44	.30*	Non normal
Group Norm Family	1.71	0.79	.10*	Normal
In-group Identification Family	-4.11	0.98	.17*	Non normal
In-group Belonging Family	-4.08	1.45	.18*	Non normal
Subjective Norm Friends	-3.47	0.5	.14*	Non normal
Friends Aware of Drinking	-8.51	11.98	.26*	Non normal

Variable or Item	ZSkew	ZKurtosis	KS Test	Normality
Descriptive Norm Friends	-6.96	6.98	.34*	Non normal
Group Norm Friends	-4.44	1.99	.15*	Non normal
In-Group Identification Friends	-5.57	3.64	.20*	Non normal
In-group Belonging Friends	-4.89	3.20	.21*	Non normal
PBC	-6.06	4.59	.26*	Non normal
Moral Norm	4.62	1.96	.16*	Non normal
Intention to drink 5/4 standard drinks or more in the next two weeks	-2.2	-1.81	.15*	Non normal
Intention to drink alcohol to get drunk in the next two weeks	-1.55	-2.34	.14*	Non normal
Optimistic Bias	3.31	1.71	.10*	Non normal
Sensation Seeking	0.67	-0.02	.10*	Normal
Impulsivity	19.18	55.10	.24*	Non normal
Impulsivity Attentional	3.31	0.71	1.9*	Non normal
Impulsivity Motor	1.75	0.10	.15*	Normal
Impulsivity Non Planning	-0.07	-1.63	.10*	Normal
BAS - Total	1.57	0.16	.10*	Normal
BAS - Drive	2.01	0.44	.11*	Borderline Normal
BAS - Fun	0.20	-0.26	.13*	Normal
BAS - Reward	0.05	-1.42	.16*	Normal
BIS	-0.60	-1.49	.09	Normal

\*significant at the .05 level

## Appendix A1

### Study 2 Assumption Graphs for regression Analyses

#### Original TPB Model

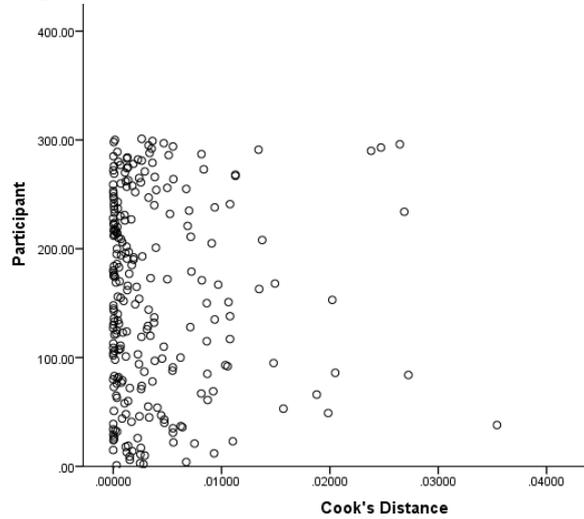


Figure 8.1 Cooks Distance

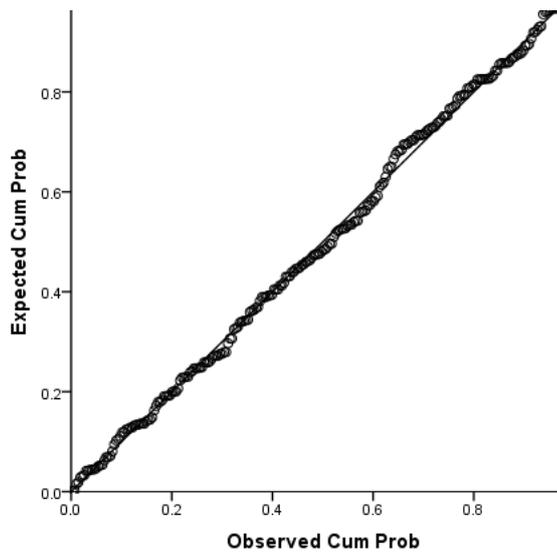


Figure 8.2 Normal P Plot

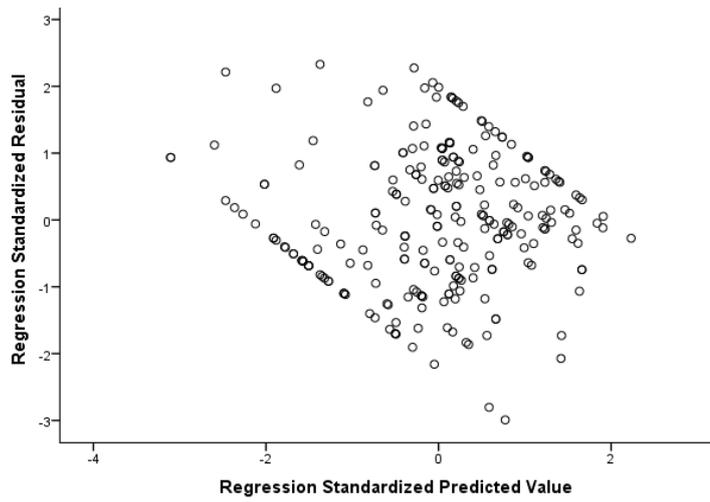


Figure 8.3 Scatter Plot

### Expanded TPB Model

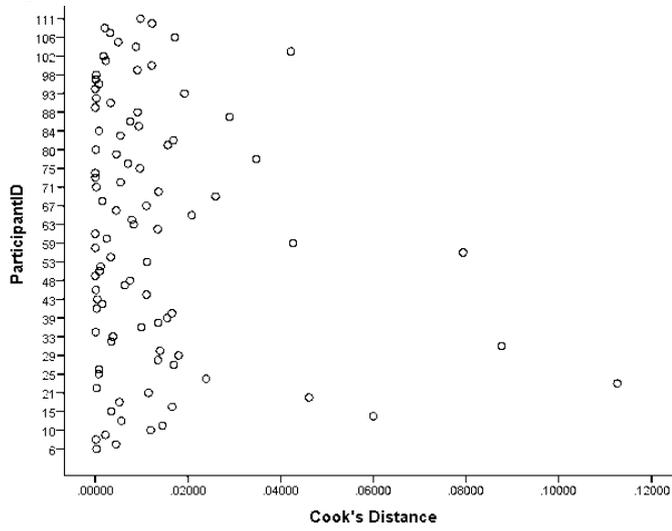


Figure 8.4 Cooks Distance

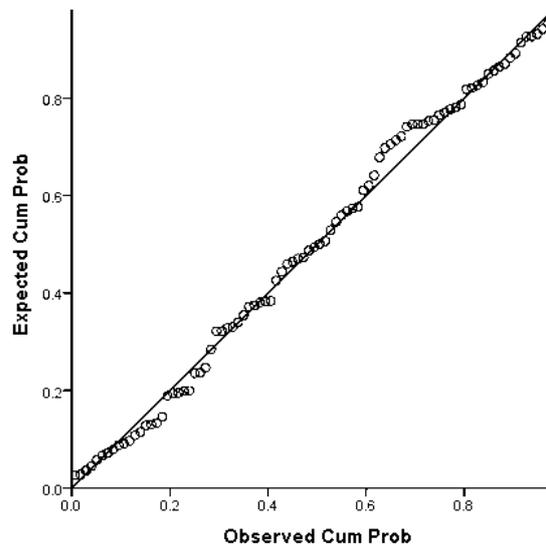


Figure 8.5 Normal p-plot

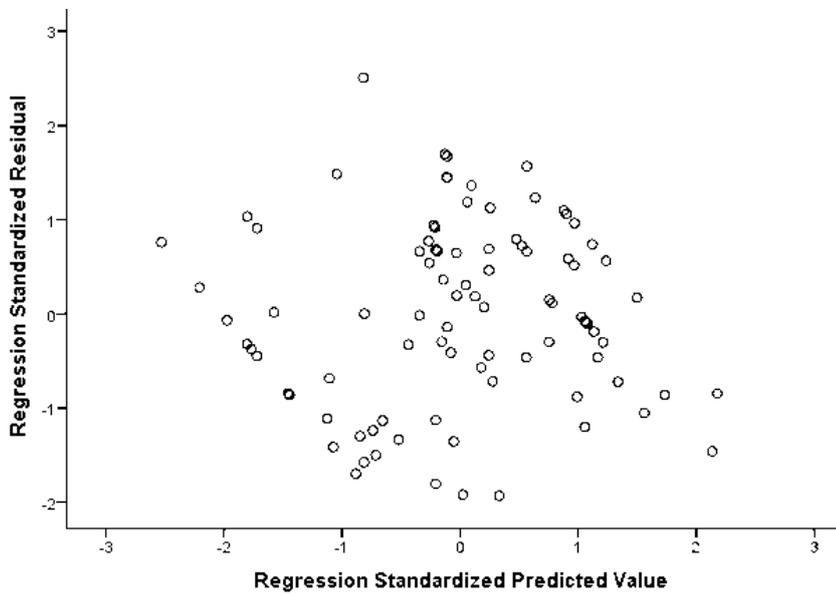


Figure 8.6 Scatter Plot

### Moderating the norm-intention relationship

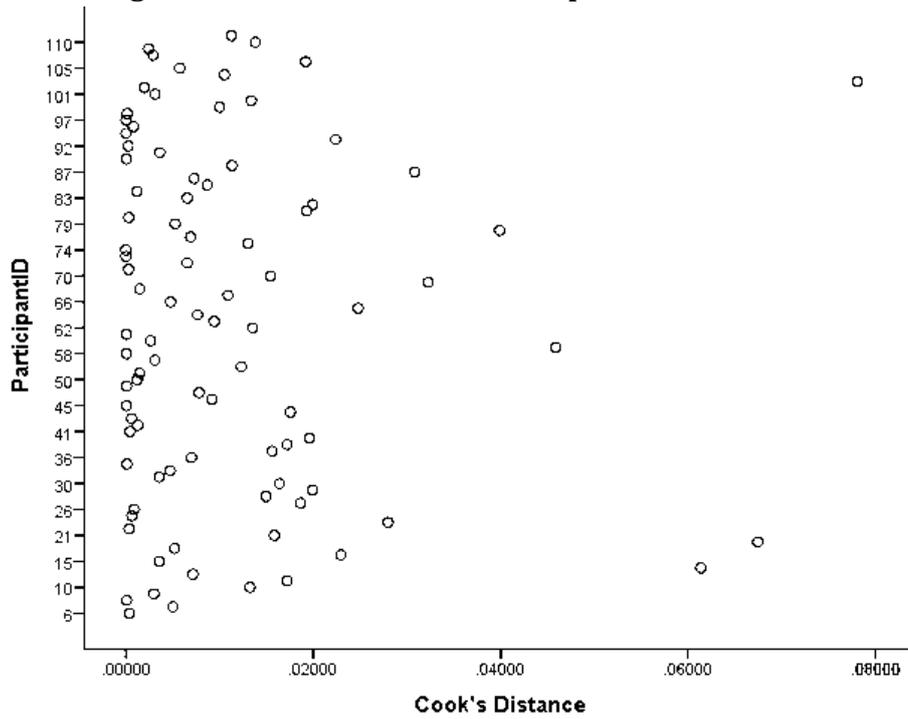


Figure 8.7 Cooks distance

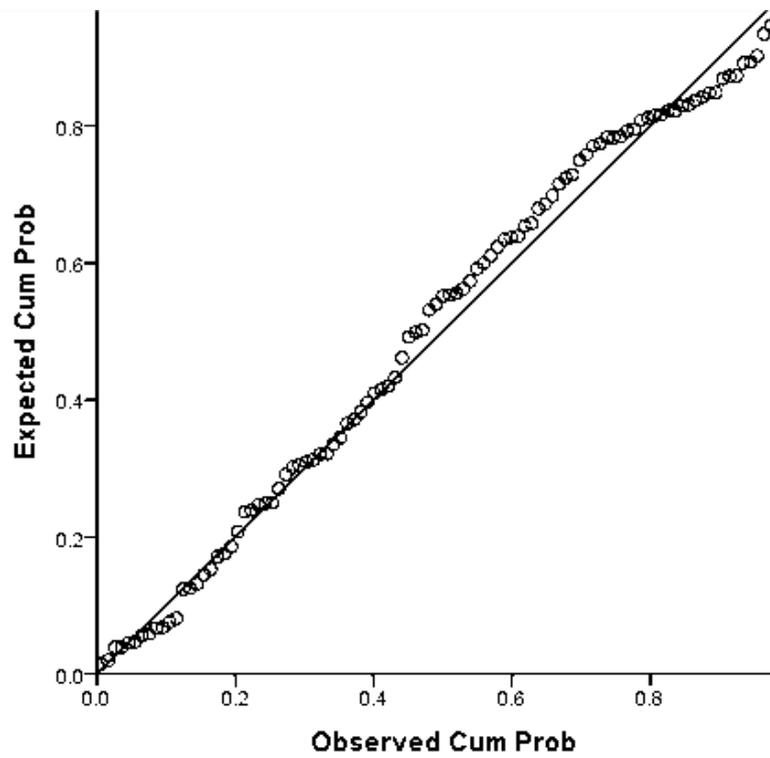


Figure 8.8. Normal P-Plot

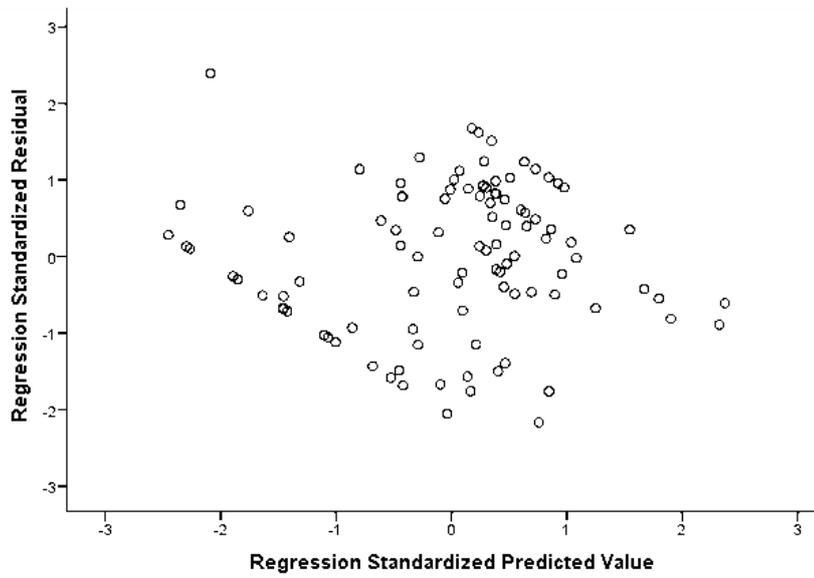


Figure 8.9 Scatter Plot

### Predicting Drinking Game Participation

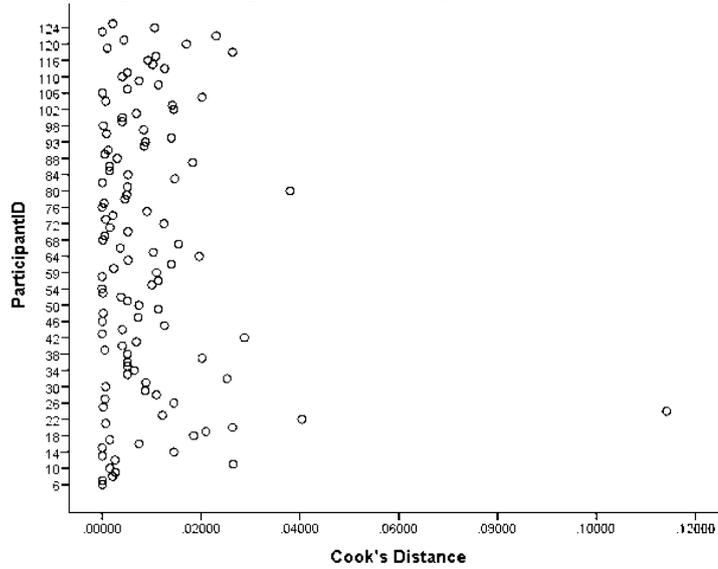


Figure 8.10 Cooks distance

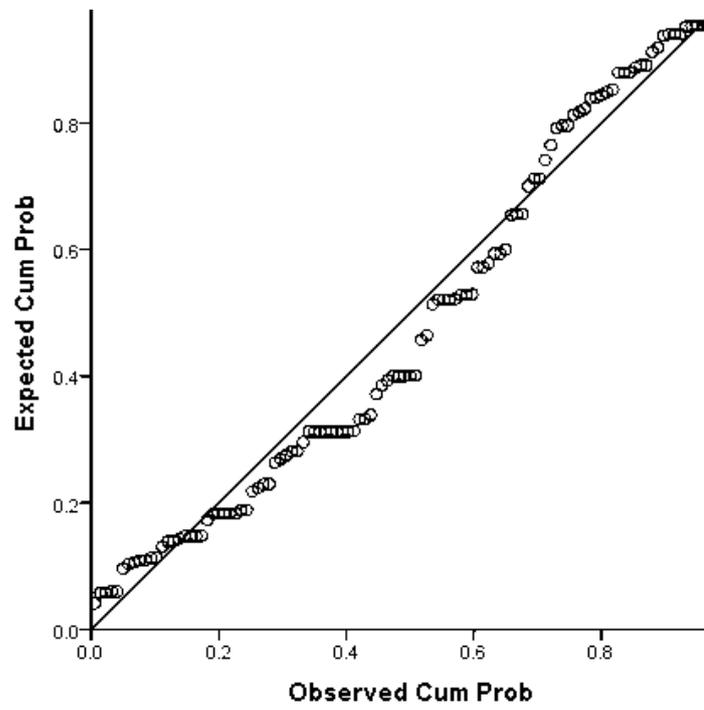


Figure 8.11 Normal P-Plot

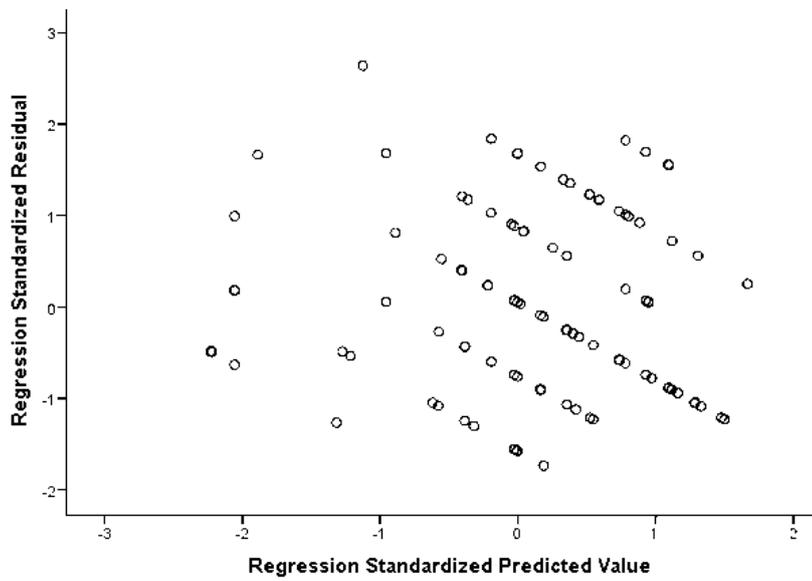


Figure 8.12 Scatter Plot

## Appendix B1

### Study 3 Ethics Application School of Social Work and Psychology

#### Research Ethics Committee

#### Ethical Approval and Risk Assessment Form for Postgraduate Research Students (October 2011)

All students and staff must obtain approval from the School Research Ethics Committee (or an approved alternative for example an NHS research ethics committee or another UEA ethics subcommittee) before conducting any fieldwork. In most cases research students should apply for ethical approval to the SWP research ethics committee. The UEA Research Ethics Check List will help you identify by which route you should apply for ethical approval.

The University, School and BPS take research ethics very seriously and it is important to consider the ethics of your project very carefully. Please take time to complete this form in detail. Forms that are incomplete or that lack necessary detail will be returned to you for resubmission and this will delay the start of your fieldwork.

When completing the form, bear in mind that reviewers must be able to understand what you intend to do, and why. You should therefore give a clear and full account, and include all available information that will help the reviewers reach a well-informed decision. Where possible and relevant, you should add appendices such as draft or final versions of interview schedules, consent forms, letters to participants and debriefing information.

When you have completed the form, submit it to your primary supervisor. The supervisor will then complete the checklist (6.2) and, if approved, sign the declaration (6.3). The form should then be submitted, together with the UEA research ethics checklist, to the SWP Research ethics committee administrator Eve Slaymaker ([e.slaymaker@uea.ac.uk](mailto:e.slaymaker@uea.ac.uk)). At the same time, please submit an electronic copy of your application to your programme director.

The form and all attachments must be word processed.

Before completing this form you should consult the School's Ethics Committee web pages (<https://intranet.uea.ac.uk/snp/intranet/ethics>) and read the BPS *Code of Ethics and Conduct*.

<http://www.bps.org.uk/publications/policy-guidelines/research-guidelines-policy-documents/research-guidelines-policy-docum>

Regarding your own safety (4.7 below), see the Module Guide and, for further information, refer to the Social Research Association: Code of Practice for the Safety of Social Researchers:

[http://www.the-sra.org.uk/documents/word/safety\\_code\\_of\\_practice.doc](http://www.the-sra.org.uk/documents/word/safety_code_of_practice.doc)

**You must not conduct any fieldwork, including piloting, before obtaining ethical approval.**

## **1. The applicant**

1.1 Student's name **Ellen Lynch**

1.2 Student number **4548914**

1.3 Programme: **PhD**

## **2. Your supervisors**

2.1 Primary supervisor **Dr Victoria Scaife**

2.2 Secondary supervisor(s) **Dr Neil Cooper**

## **3. The project**

Please note: This application is for the second study of a three study PhD project. The first study has already gained ethical approval and has now been completed. Ethical approval for intensive piloting of Study 2 has already been gained and was completed on 1<sup>st</sup> June 2012. This application is for data collection proper for study 2 which features online and pen and paper questionnaires. Ethical approval for the third study will be applied for separately.

3.1 Title

**Predicting Binge Drinking in a Population of Undergraduate Students Using an Expanded Theory of Planned Behaviour**

3.2 Aims / purpose of the study (append updated proposal)

To measure alcohol consumption, problematic drinking and binge drinking (defined as drinking 4(females)/5(males) standard drinks or more in a single session) behaviours in a population of undergraduate students.

To expand the Theory of Planned Behaviour (TPB) in line with current research and the findings of study one.

Specifically to include:

Past behaviour, including past participation in drinking games, past binge drinking and past alcohol consumption.

Descriptive norms in addition to subjective norms for family and friends.

Personality measures, including measures of impulsivity and sensation seeking.

To apply this expanded TPB model to effectively predict intentions to binge drink and binge drinking behaviour (defined as drinking 4(females)/5(males) standard drinks or more in a single session) over a two week period in a population of undergraduate students.

Specifically to:

Assess the role of personality and demographic variables in the prediction of intentions to binge drinking and binge drinking behaviour over a two week period.

To investigate the role of past behaviour, including past participation in drinking games, past binge drinking and past alcohol consumption, in the prediction of intentions to binge drink and binge drinking behaviour over a two week period.

To investigate students motivations for participating in drinking games.

To consider how students commitment to different aspects of university life impact their drinking behaviour.

Specifically, athletics, academic work, religion, parties and nights out.

### 3.3 Research question(s)

Can an expanded TPB be used to effectively predict binge drinking behaviour in a population of undergraduate students?

### 3.4 Methods

3.4.1 Participants or data sources (approximate number, characteristics, method of recruitment, etc).

A minimum of 500 (target of 1000) undergraduate students over eighteen years of age enrolled for at least one semester at the University of East Anglia will participate in this study.

The verbal introduction given by the researcher in lectures and seminars(Appendix C), the online verbal introduction (Appendix D), the participant information at the beginning of each questionnaire (Appendix M and Appendix O) and the information sheet (hard copy: Appendix L, electronic version: Appendix E) will inform potential participants that only individuals age 18 or over are eligible to take part, however participants will not be asked to provide proof of age.

It is acknowledged that the majority of university students are over the age of 18 hence the majority of those targeted by recruitment will be eligible to participate.

*Consider carefully whether participants are under 18 or are members of a vulnerable or at-risk population. If you think they might be, discuss the ethical issues with your supervisors.*

3.4.2 Recruitment. How will participants be approached and invited to take part? Include copies of posters, leaflets, letters etc if relevant.

Following previous issues with recruitment, participants will be recruited through a variety of methods. Regardless of recruitment method each method of recruitment will give participants the option of either completing the study online

or in hard copy. Details of the different recruitment methods can be seen below, while details of the two completion methods can be seen in the procedure section of this form. Copies of all versions of the recruitment documents have been attached.

### Halls of Residence

As agreed with the Dean of Students, the researcher will gain access to the halls of residence with cleaning services staff and will leave fliers (Appendix A) advertising the study on the dining table in communal areas of each flat.

Fliers will provide participants with information about the study and give them the option of completing the questionnaire online by typing in the Uniform Resource Locator (URL) or scanning the Quick Response Codes(QRC) or of requesting a questionnaire pack, by emailing the researcher with mailing address.

Fliers will include URLs and QRCs that link to each of the time 1 and time 2 questionnaires as well as a URL and QRC that link to a YouTube video of the researcher providing a verbal introduction about the study (Appendix D).

### Seminars and Lectures

Recruitment will take place in lectures and seminars on the University campus. Before potential participants themselves are approached the researcher will contact a number of gatekeepers to gain their consent for recruitment to take place in teaching sessions. Each gatekeeper will receive a copy of the 'staff information sheet' or 'Head of School Information Sheet' as appropriate (Appendix S and Appendix R) These information sheets cover the nature of the research, key ethical issues and what is expected of the gate keepers themselves. Gatekeepers will also be provided with a copy of each questionnaire (including participant information) and debrief sheets for their consideration.

Initial contact with gatekeepers will be made by phone or email but face to face discussion about the project will be offered should gatekeepers have any questions or concerns.

The researcher will first contact the Head of School to gain their consent for potential participants from their school to be approached. The Head of School will be asked to identify an appropriate member of staff to converse with the researcher about the project.

This staff member will be asked to identify teaching sessions which they feel are best able to accommodate recruitment.

The suitability of a teaching session will be judged on a number of factors:

Firstly whether or not there will be enough time during the session for the researcher to introduce the project and hand out questionnaire packs and fliers.

Whether the session is for an optional module will also be considered and full year group sessions will be targeted where possible so that individual students do not experience multiple requests for participation.

Once suitable lectures and seminars have been identified the researcher will contact the session leader (if different from the staff member identified by Head of School) to gain their consent for recruitment to take place in these sessions. If both the Head of School and the session leader are happy for the recruitment to take place a time and date for recruitment will be arranged with the session leader.

On the day of recruitment the researcher will introduce herself and the research to potential participants (Appendix C). Those who are interested in taking part will be asked to take a flier (Appendix A) about the study which will provide them with all the information they need to complete the questionnaire electronically or alternatively to take a questionnaire pack away with them. Questionnaire packs will contain everything participants need to complete the pen and paper version of the study (Participant information sheet (Appendix L), time 1 questionnaire (Appendix M), time 1 debrief (Appendix N), time 2 questionnaire (Appendix O), prize draw entry form (Appendix Q), time 2 debrief (Appendix P) and 2 stamped addressed envelopes).

#### UEA News Bulletin, Fliers and Posters

To provide a higher number of second and third year students (those recruited through halls of residence will be predominantly 1<sup>st</sup> year students) with an opportunity to take part in the study it will also be advertised through posters displayed on campus (Appendix B), fliers handed out on campus (Appendix A) and on the student UEA news bulletin.

Posters and fliers (Appendix B and A) will not be distributed in or around the Dean of Students Office, Counselling Services, UEA Medical Centre or Student Advice Centre so as to avoid targeting of any students who may be seeking help or support or may be in a vulnerable state.

Those interested in taking part will be able to complete the electronic questionnaires by following the URLs or QR codes provided on the UEA news bulletin and on the posters and fliers or they will be able to contact the researcher via email to request a questionnaire pack to be delivered by post. They will also be able to follow the QR Code or URL to the Youtube participant information clip (Appendix D) should they choose to do so.

*It is important to avoid making potential participants feel under any pressure to take part. For example, if others are present during recruitment (e.g., in a lecture room), potential participants might be embarrassed if they were to choose not to take part. Also, your approach must not be intrusive or annoying. For this reason, mass emails must not be used.*

3.4.3 Measures, materials or apparatus (include copies of questionnaires, interview schedules, etc.

Participants will complete two self report questionnaires one each at time one and time two.

The time one questionnaire (Online version: Appendix F; Pen and paper version: Appendix M) will include demographic measures (age, gender, course information, ethnicity), the AUDIT C, self report measures of the original TPB variables (behaviour, intentions, subjective norm, PBC, and attitude), expanded TPB measures (descriptive norm, past behaviour, self efficacy) with regards to binge drinking; motivations for taking part in drinking games; commitment to different aspects of university life (religion, academics, sport, parties, nights out) and measures of personality variables including sensation seeking, impulsivity and tendency to use social comparison. The time 1 questionnaire will take approximately 15 minutes to complete.

The time two questionnaire (Online version: Appendix I; Pen and paper version: Appendix O) will include self report measures of alcohol consumption and binge drinking behaviour (defined as the consumption of 5/4 drinks or more in a single session) over the past two weeks and intentions to binge drink in the next two weeks. The time 2 questionnaire will take no more than five minutes to complete.

The participant information provided with both time 1 and time 2 questionnaires in paper and electronic format will explicitly state “if there are any questions you do not feel comfortable completing please leave them blank and move on to the next question”. Additionally questions deemed to be particularly sensitive (items about family, friends and ethnicity) give the option to tick a box to indicate that items are ‘not applicable’ (family and friends) or that the participants ‘do not wish to say’ (ethnicity).

**For a break down of the questionnaire measures and sources used please see Appendix T: Questionnaire Measures Table.**

*Consider whether items might be sensitive or offensive to some participants. If you anticipate they might be, discuss with your supervisors.*

3.4.4 Procedure (e.g., what will the researcher and participants do, what will they experience?)

#### Electronic Questionnaire Completion

Upon following the URL or QR code the participant will be taken to an information screen (Appendix E) providing information about the researcher, the study and their rights as a participant. Once they have read the information if they wish to take part in the study they can click continue to progress on to the questionnaire or can close the window to exit the study.

The participant will then work their way through a series of screens containing the questionnaire items, clicking ‘next’ at the bottom of each screen to progress to the next page or ‘back’ to move back to an earlier page. Participants will be able to navigate back and forth through these pages as they wish. None of the items will be compulsory to complete before submitting the questionnaire.

Once the participant reaches the end of the questionnaire a screen containing a message of thanks for participation will be displayed (this can be seen at the end of the time 1 questionnaire Appendix F) informing them that if they are happy for the data they have provided to be used then they can click submit at the bottom of the page or if they do not wish for their data to be used then they can close the window. At this point participants will also be informed that after submitting their data if they later wish to withdraw from the study they will be able to do so by contacting the researcher up until the 1<sup>st</sup> January 2013.

Those who elect to submit their data will then be taken to the 'debrief' screen (Appendix G) containing a second message of thanks for participation, the URL address for the second questionnaire and details of sources of information about safe drinking guidelines and sources of support for any participants who may be worried about their own alcohol consumption or that of another.

At this point participants will also have the opportunity of providing an email or mobile phone contact so that they can be sent an email or SMS reminder 24hours before they are due to complete the time 2 questionnaire. The wording of this will make it clear that providing an email or mobile contact is optional and not compulsory for the completion of the study.

Completing the time 1 questionnaire will take approximately 15 minutes.

At time 2, two weeks after time 1 the participant will once again follow the URL or QR Code, this time to the time 2 questionnaire (Appendix I). The time 2 information sheet will be displayed (Appendix H), Once the participant has read the information, if they wish to continue taking part in the study they can click continue to progress on to the questionnaire or can close the window to exit the study.

The participant will then work their way through a series of screens containing the questionnaire items, clicking 'next' at the bottom of each screen to progress to the next page or 'back' to move back to an earlier page. Participants will be able to navigate back and forth through these pages as they wish. None of the items will be compulsory to complete before submitting the questionnaire.

Once the participant reaches the end of the questionnaire a screen containing a message of thanks for participation will be displayed (this can be seen at the end of the time 2 questionnaire, Appendix I) informing them that if they are happy for the data they have provided to be used then they can click submit at the bottom of the page or if they do not wish for their data to be used then they can close the browser window. At this point participants will also be informed that after submitting their data if they later wish to withdraw from the study they will be able to do so by contacting the researcher up until 1<sup>st</sup> January 2013.

Those who elect to submit their data will then be taken to the prize draw entry form (Appendix K) where they can enter their email address and click submit to be entered into the prize draw if they wish to or can click next to continue to the debrief.

Regardless of whether participants click submit or next on the prize draw entry form they will then be taken to the debrief screen (Appendix J) informing them

that they have completed the study and providing details of sources of information about safe drinking guidelines and sources of support for any who may be worried about their own alcohol consumption or that of another.

Completing the time 2 questionnaire will take no more than 5 minutes.

Participants who choose to complete the electronic questionnaire will be able to access and complete the time 1 questionnaire via the URL address provided on the information sheet at any time before the 1<sup>st</sup> December 2012 and the time 2 questionnaire at any time before the 15th December 2012.

Email and mobile phone contacts that are provided by participants so that they can receive a reminder 24 hours before they are due to complete the time 2 questionnaire will be stored alongside the date on which they completed the time 1 questionnaire but separately from the rest of the data. These contacts will be destroyed as soon as the reminder message has been sent.

Data will be transferred into SPSS within 1 week of collection.

Once data collection has been completed the email addresses from the prize draw entry forms will be entered into a prize draw for £500 of Love2Shop vouchers. The prize draw will be conducted on 3<sup>rd</sup> January 2013. The winner will be contacted by email and arrangements made for them to collect their prize.

Once the prize has been collected these email addresses will be permanently deleted..

Electronic data will be password protected and once data collection is complete will be stored on a memory stick in a locked filing cabinet in a restricted access room in the Elizabeth Fry Building.

### Pen and Paper Completion

Participants wishing to receive a hard copy of the questionnaire can do so by emailing the researcher with their postal address (as indicated on the fliers and posters advertising the study).

The researcher will send a questionnaire pack to the participant by mail. Each questionnaire pack will contain an information sheet (Appendix L), copies of the time 1 (Appendix M) and time 2 (Appendix O) questionnaires, two stamped addressed envelopes for the return of the questionnaires, time 1 (Appendix N) ,and time 2 (Appendix P), debrief sheets and a prize draw entry form (Appendix Q).

Upon receipt of the questionnaire pack, the participant will be able to read the information sheet (Appendix L) and complete the questionnaires in their own time.

The participant will read the information sheet and complete the time 1 questionnaire (Appendix M). Once completed they will read the time 1 debrief

sheet (Appendix N) and place their completed questionnaire into one of the stamped addressed envelopes. At this time they can either place the questionnaire into a standard royal mail post box or into the sealed deposit box in the hub in the Elizabeth Fry Building.

Two weeks after time 1 participants will complete the time 2 questionnaire (Appendix O) and the prize draw entry form (if they choose to do so) (Appendix Q). They will then read the Time 2 Debrief sheet (Appendix P) and if they choose to submit their data, place the completed questionnaire along with the completed prize draw entry form into the second stamped addressed envelope and return it by post or place it into the sealed deposit box in the hub in the Elizabeth Fry building.

Participants who choose to complete the pen and paper questionnaire will be able to return the questionnaires to the deposit box in the Hub in the Elizabeth Fry Building up until the 15th December 2012. Questionnaires returned by post must be received before 1<sup>st</sup> January 2013.

Although it will be up to the individual participants if and when they complete the questionnaires it will be explicitly stated in both the time 1 and time 2 information sheets that they should aim to complete the two questionnaires 2 weeks apart.

By providing all the documents together this will ensure that participants receive not only the questionnaire but also the debrief and information sheets.

Between Time 1 and Time 2 data collection the completed questionnaires and prize draw entry forms will be stored in a locked filing cabinet in a restricted access room at the University of East Anglia. The questionnaires and prize draw entry forms will be stored in separate lockable draws.

The deposit box in the Hub in the Elizabeth Fry Building will be emptied at least once a day Monday-Friday during the data collection period.

Data will be entered into SPSS within 2 weeks of collection.

Once data collection has been completed the email addresses from the prize draw sheets will be entered into a prize draw for £500 of Love2Shop vouchers. This prize draw will be conducted on the 3<sup>rd</sup> January 2013. The winner will be contacted by email and arrangements made for them to collect their prize. Once the prize has been collected these email addresses will be securely destroyed.

Electronic data will be password protected and once data collection is complete will be stored on a memory stick in a locked filing cabinet in a restricted access room in the Elizabeth Fry Building.

### 3.5 Proposed start date of data collection

October 2012

#### 4. Ethical issues

*Refer to the BPS Code of Ethics.*

##### 4.1 Informed consent and briefing

4.1.1 Is informed consent to be obtained from participants? **YES**

If YES, how will it be obtained? (e.g., verbally, signed form. Give details or attach a draft copy of the form)

In order that participants are able to give their informed consent the researcher will provide a video of a verbal introduction to the study on youtube (Appendix D) as well as verbally introducing the project to potential participants in lectures and seminars (Appendix C) providing information about herself, the project, what participation in the research will involve as well as participants rights to confidentiality and right to withdraw.

Participants will also receive written information about the study at time 1 and time 2 (Appendices E and H) in the form of an information screen for the online questionnaire and as an information sheet (Appendix L) and the first page of each questionnaire (see Appendices M and O) for the pen and paper questionnaire. These information sheets and screens will provide information about participants' rights to confidentiality and right to withdraw from the study at any time. Further to this the information sheets will inform potential participants that they should not complete the questionnaires if they are worried about their alcohol consumption or are receiving treatment for problematic alcohol use.

Consent will be implicit in the completion and return of questionnaires. At the end of each questionnaire or in the 'thank you' screen for electronic questionnaires, participants will be informed that by returning or submitting their questionnaires they are giving consent for their data to be used.

If NO, why not? Give a full explanation

N/A

4.1.2 Is informed consent to be obtained from others (e.g. parents / guardians)?

YES

If YES, how will it be obtained? (e.g., verbally, signed form). Give details. If you are undertaking your project in school or with students under 18, explain how you are obtaining school or college approval (and parental approval, if the school requires this).

Consent for participants to be recruited in lectures and seminars will be gained from the head of school and session leaders. Each head of school and session leader will receive a copy of the appropriate information sheet (see Appendices R and S), including details about the researcher, the aims of the project, what participation will require and participants' rights to confidentiality and right to withdraw. Staff members will also receive a copy of the time 1 and time 2 questionnaires complete with participant information and debrief forms for their information.

Should staff members have any questions or require more information they will be able to contact the researcher by phone or email using the contact details supplied in the information sheet.

Verbal consent will be obtained from these individuals, the researcher will note the name of the consenter and the date on which consent was obtained.

If NO, why not?

N/A

*For observational research describe how local cultural values and privacy of individuals will be taken into account*

*Attach copies of invitation letter and consent form if appropriate. Note that consent forms are not usually necessary when consent is implied by completion of a questionnaire.*

4.1.3 Will participants be explicitly informed of what the researcher's role/status is?

YES , this information will be given in verbal introduction in lectures and seminars (Appendix C) in the verbal introduction on YouTube (Appendix D), in the Participant Information Sheet (Appendix L) included in questionnaire packs and on the information screen displayed at the beginning of the time 1 electronic questionnaire (Appendix E ). This will ensure that no matter how participants are recruited they will all be aware of the researcher's role.

4.1.4 Will participants be told of the use to which data will be put (e.g., research publications, teaching purposes, media publication)?

YES , this information will be given in verbal introduction in lectures and seminars (Appendix C), in the verbal introduction on YouTube (Appendix D), in the Participant Information Sheet (Appendix L) included in questionnaire packs and on the information screen displayed at the beginning of the time 1 electronic questionnaire (Appendix E). This will ensure that no matter how participants are recruited they will all be aware of the use to which data will be put.

#### 4.2 Deception

4.2.1 Is any deception involved?

NO

If YES, describe the deception and the reasons for its use

#### 4.3 Right of withdrawal

4.3.1 Will participants be told explicitly that they are free to withdraw from the study at any time?

YES

If yes, explain how and when they will be told.

The verbal introduction to be given in lectures and seminars (Appendix C), the verbal introduction on YouTube (Appendix D), the participant information sheet (Appendix L) included in the questionnaire packs and the time 1 information screen (Appendix E) for electronic questionnaires will inform potential participants that participation is voluntary, that they are free to withdraw at any time and can withdraw their data up until 1<sup>st</sup> January 2013.

Debriefs (Appendices G, J, N and P) also inform participants that they can withdraw submitted data up until 1<sup>st</sup> January 2013 by contacting the researcher.

To avoid participants feeling pressured to take part by others present in their lecture, seminar or halls of residence they will have the opportunity to take a questionnaire pack or flier away with them. If a participant does not want to take part but does not want others present to know this then they will be able to take a questionnaire or flier away with them and simply not take part later on.

Additionally because recruitment will occur in lectures, seminars and on campus participants will be explicitly informed that participation is not compulsory and will not have any effect on their grades or reputation at UEA.

Further to this it is explicitly stated in the participant information on each questionnaire (Appendices F, I, M and O ) that they can skip any questions that they do not wish to complete.

Finally at the end of each questionnaire participants are informed that by returning the questionnaire they are giving consent for their data to be used and reminded of their right to withdraw their data up until 1<sup>st</sup> January 2013.

*Explain how participants will be told. Ensure that you give them a genuine opportunity to withdraw. For example, someone might be unwilling to complete a questionnaire but feel pressured to do so because students beside them will notice that they are not completing it.*

If NO, explain why not

N/A

#### 4.4 Debriefing

4.4.1 Will the participants be debriefed?

YES

If YES, how will they be debriefed (e.g., verbally, debriefing sheet; give details or attach the debriefing information to this form)?

Questionnaire packs and electronic questionnaires will both contain debrief information.

There will be a separate debriefs for the time 1 and time 2 questionnaires, these can be seen in appendices G and J for electronic questionnaires and appendices N and P for pen and paper questionnaires.

The debriefs will thank participants for taking part in the project, remind them that data will be kept confidential and provide contact details for the researcher and the primary supervisor should participants have any questions or concerns. Additionally it will contain details of how to withdraw their data (should they choose to do so) at a later date. This will be done by contacting the researcher by email and providing the unique participant code which they created at the beginning of the questionnaires

For participants who wish to gain more information about safe alcohol consumption and binge drinking contact details for Talk to Frank and Drink Aware will be provided alongside the location of the Student Advice Centre.

For any participants who may be worried about their alcohol consumption or that of another the contact details for The Mathew Project, Drinkline and NHS Alcohol Misuse web page will be provided.

In addition the debrief sheets will also provide contact details for the University Counseling Service.

If NO, why won't they be debriefed?

#### 4.5 Confidentiality and anonymity

4.5.1 Will the data be gathered anonymously?

**YES**

If NO, how will you protect the identity of your participants and ensure that any personal information you receive will be kept confidential?

Participants will not be asked to give their name at any point.

Data from the time 1 and time 2 questionnaires will be matched using a participant code (questions 1 in time 1 and time 2 questionnaires).

Prize draw entry forms will also contain the participant code so that the researcher can ensure only those who complete both the time 1 and time 2 questionnaires are entered into the prize draw.

Once time 1 and time 2 questionnaires have been matched, participants are no longer able to withdraw their data (1<sup>st</sup> January 2013) and the prize draw has been conducted (3<sup>rd</sup> January 2013) these participant codes will be replaced with participant numbers and all records of the codes will be removed and/or destroyed.

All questionnaires will be stored in a locked filing cabinet. Electronic copies of the data will be stored on a memory stick and will be password protected. This memory stick will also be kept in a locked filing cabinet.

Although participants will be asked to provide their email addresses (which may include their name) in order to be entered into the prize draw, entering the prize draw will not

be compulsory and the prize draw entry form will be separated from the questionnaires as soon as they are returned. These prize draw sheets will be stored in a separate locked draw of a filing cabinet in a restricted access room.

Once data collection is complete and the prize draw has been conducted these prize draw entry forms will be securely destroyed.

Participants taking part in the study electronically will have the option of leaving a phone or email contact so that they can receive a reminder email or SMS 24 hours before they are due to complete the time 2 questionnaire. As with the prize draw entry this is optional not compulsory. These contact details will be stored separately from the rest of the data alongside only the date on which each participant completed the time 1 questionnaire. Once the reminder email or SMS has been sent the contact information will be destroyed.

*Identifying information should be removed from all data and, if necessary, replaced by ID numbers or pseudonyms. Data should be stored securely (e.g., in a locked filing cabinet).*

## **5. Risk assessment: Protection of participants**

### 5.1 What inconveniences might participants experience?

Although recruitment will take place in lectures and seminars, data collection will not thus participants will not be losing teaching time. However participants will be giving up their own free time to participate.

### 5.2 What steps will you take to minimize these?

Because participants are giving up their own free time to participate in the study they will be rewarded for their time by being entered into a prize draw to win £500 of Love2Shop vouchers.

The recruitment methods and methods for returning the questionnaire have been chosen so that participants do not have to travel specifically to take part in the research.

### 5.3 Will involvement in the research put participants at risk of physical or psychological harm, distress or discomfort greater than that encountered in their everyday lives?

Participants who are concerned about their own alcohol consumption or that of another may find some items in the questionnaires stressful or upsetting however this is unlikely to be any more harm, distress or discomfort than they would experience talking to peers about drinking, something which is commonplace among student populations.

If YES, describe the nature of the risk and the steps you will take to minimise it

Individuals who are concerned about their alcohol consumption or who are receiving treatment or support for problematic alcohol use or an alcohol addiction will be advised not to take part in the study.

Should any participant feel anxious, worried or no longer wish to take part they will be able to withdraw from the study at any time without giving a reason.

Should the questionnaires cause any participant concern about their alcohol consumption behaviour details of a number of sources of information and support will be provided in both the time 1 and time 2 debriefs. These will include DrinkAware, Talk to Frank, The Mathew Project and NHS Alcohol misuse webpage.

In addition contact details will be provided for the University Counseling Service and the Student Advice Centre.

*Be aware that interview questions or questionnaire items might raise issues that are sensitive for individual participants or may create anxiety. Explain what steps you will take to minimize this or to help participants, for example by providing information on relevant support groups or centres in your debriefing sheet.*

*Should you uncover any psychological or physical problems in a participant who appears to be unaware of them, please consult your supervisors before taking any further action*

## **6. Risk assessment. Protection of researcher**

6.1 Does involvement in the research put you at risk of physical or psychological harm, distress or discomfort greater than that encountered in your everyday life?

**NO**

If YES, describe the nature of the risk and the steps you will take to minimise it

N/A

## **7. Other permissions and clearances**

7.1 Is ethical clearance required from any other ethics committee? **NO**

If YES, please give the name and address of the organisation:

Has such ethical clearance been obtained yet? N/A

If YES, attach a copy of the ethical approval letter

N/A

7.2 Will your research involve working with children or vulnerable adults? NO

If YES, have you obtained an enhanced disclosure certificate from the Criminal Records Bureau (CRB)? N/A

*To obtain ethical clearance for a project involving children or vulnerable adults you must show the original CRB certificate to your supervisor. You should include a copy with this application and in the appendices of your final submission.*

#### 8.1. Declaration by student

I have read and understood the relevant sections of the BPS *Code of Ethics and Conduct*. I am satisfied that all ethical and safety issues raised by the proposed research have been identified here and that appropriate measures will be taken to address them. I will abide by the procedures described in this form. Any substantive changes to the procedures will be discussed with my supervisors and, if necessary, a new application form submitted.

**Student's signature**.....

**Date**.....

## Appendix C1

### Study 3 Fliers

WIN **£500**

Taking part in a study about alcohol

Complete two short questionnaires, two weeks apart and you can enter a prize draw to win £500 of Love2Shop vouchers.

To start taking part visit:  
.....  
For the second questionnaire go to :  
.....

To request a hard copy of the questionnaires e-mail [e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk) with your postal address.  
For more information about the study visit:  
..... Or email Ellen Lynch  
([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk)).

Questionnaire 1      Information      Questionnaire 2

\*One prize of £500 love2shop vouchers, prize draw will be conducted on 3<sup>rd</sup> January 2013

Psychology      STUDENT ALCOHOL STUDY      UEA  
UNIVERSITY OF EAST ANGLIA

Participant Information

- This study aims to investigate the predictors of binge drinking but you can take part whether you drink or not.
- Participation is voluntary and will involve completing 2 questionnaires 2 weeks apart.
- The first questionnaire will take no more than 15 minutes
- The second questionnaire will take no more than 5 minutes.
- If you wish to be entered into the prize draw please complete the prize draw entry form at the end of questionnaire 2.
- You are advised not to take part if you are receiving treatment for problematic alcohol use or are concerned about your drinking behaviour.
- All responses will be kept confidential.
- You have the right to withdraw from the study at any time without giving a reason.
- You can take part online or get a paper copy of the questionnaires by emailing Ellen Lynch ([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk)) with your postal address.

**WIN**

# £500

**Taking part in a study about alcohol**

**Complete two short questionnaires, two weeks apart and you can enter a prize draw\* for £500 of Love2Shop vouchers.**

**To start taking part visit:**

.....

**For the second questionnaire go to :**

.....

**To request a hard copy of the questionnaires e-mail [e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk) with your postal address.**

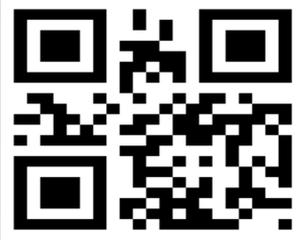
**For more information about the study visit:**

..... **Or email Ellen Lynch ([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk)).**

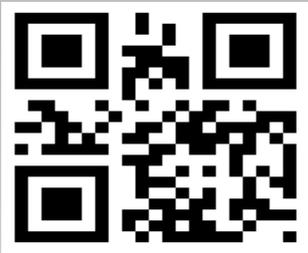
**Questionnaire 1**



**Questionnaire 2**



**Information**



**\*One prize of £500**

love2shop vouchers, prize draw will be conducted on 3<sup>rd</sup> January 2013

## Appendix D1

### Study 3 Time 1 Information Sheet



Psychology

## Participant Information

In this pack you should find:

Time 1 questionnaire

Time 1 Debrief

Time 2 Questionnaire

Time 2 Debrief

Prize Draw Entry Form

2 Stamped Addressed Envelopes

Flier advertising the study

If any items are missing please contact Ellen Lynch ([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk)).

Please read the information below before beginning the questionnaires.

Ellen Lynch is a PhD student in the School of Psychology at the University of East Anglia. Data from this study will be a part of Ellen's PhD thesis and may also be used in academic publications.

To take part you must be aged 18 or over and an undergraduate student at UEA. Participation will involve completing 2 questionnaires 2 weeks apart.

The first questionnaire will take approximately 15 minutes to complete while the second questionnaire will take a maximum of 5 minutes.

Participation is voluntary, the information you provide will be kept confidential and will have no influence on your module grades or reputation at UEA.

You can withdraw from the study at any time. You can withdraw any submitted data up until 1<sup>st</sup> January 2013 by emailing Ellen ([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk))

If you complete both questionnaires and fill in a prize draw entry form you will be entered into a prize draw to win £500 of love2shop vouchers.

Questions ask about you personally, your alcohol consumption and the alcohol consumption of your friends and family.

You are advised not to take part in the study if you are receiving treatment for problematic alcohol use or are concerned about your drinking behaviour.

Completed questionnaires can be returned via post by the 1<sup>st</sup> of January 2013, using the stamped addressed envelopes provided. Alternatively you can place them in the sealed deposit box in the Hub in the Elizabeth Fry Building by the 15<sup>th</sup> December 2012.

If you have any questions please email Ellen Lynch ([e.lynch@uea.ac.uk](mailto:e.lynch@uea.ac.uk)).

## Appendix E1

### Study 3 Time 1 Questionnaire



Psychology

## Information

*Please read the following information carefully before beginning the questionnaire.*

- *This study aims to investigate the predictors of binge drinking.*
- *To take part you should be 18 or over and an undergraduate student at UEA*
- *Participation is voluntary and all responses will be kept confidential.*
- *Taking part will involve completing 2 questionnaires 2 weeks apart.*
- *The first questionnaire will take no more than 15 minutes*
- *The second questionnaire will take no more than 5 minutes.*
- *If you wish to be entered into the prize draw\* please complete the prize draw entry form at the end of questionnaire 2.*
- *If there are any questions you do not wish to complete please skip them and move on to the next question.*
- *You are advised not to take part if you are receiving treatment for problematic alcohol use or are concerned about your drinking behaviour.*
- *You have the right to withdraw from the study at any time without giving a reason.*

**\*One prize of £500** Love2Shop vouchers, prize draw to be held on 3<sup>rd</sup> January 2013, winner will be contacted by email.

*If you want to take part in the study, please read the instructions below then complete the questionnaire.*

# Instructions

Please complete questions as honestly and accurately as you can.  
When questions ask about drinking 4/5 standard drinks in a single session,  
this means 4 standard drinks or more for females and 5 standard drinks or  
more for males.

1 standard drink is:



Small glass of wine  
(125ml)



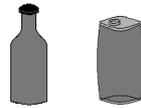
A single  
spirit and mixer



25ml measure  
of spirits

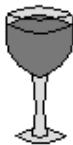


Half a pint



Small bottle/can of beer,  
cider, larger or alcopop

So 2 standard drinks is:



Large glass of wine  
(250ml)



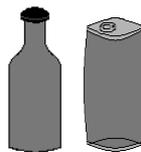
A double  
spirit and mixer



2x 25ml measure  
of spirits



1 pint of beer  
cider or larger



Large bottle/can of beer,  
cider, larger or alcopop

# Questions

Standard Drink Key						
<b>1 Standard Drink =</b>	 Small glass of wine	 Single spirit and mixer	 25ml shot	 Half pint	 Small bottle	 Small can

*Please complete the questions below to form a participant code which will be used to match your time 1 and time 2 questionnaires. Once the questionnaires have been matched, this code will be removed and destroyed.*

## 1. Participant Code

First Name Initial: .....

Day of Birth (e.g. 1<sup>st</sup> or 24<sup>th</sup>): .....

Last 3 digits of phone number: .... ..

Number of older siblings (for none write 0): .....

**Please now complete the following questions.**

2. **Age (in years)** .....

3. **Gender**      Male                       Female

4. **Please provide details of the course you are enrolled on at UEA.**

Subject .....

Year:            1                       2                       3                       4

Full time       Part time

Home             EU                       International

5. **Where do you live?**

Halls                       Shared House                       With Parents

Other (please specify) .....

Standard Drink Key						
<b>1 Standard Drink =</b>	 Small glass of wine	 Single spirit and mixer	 25ml shot	 Half pint	 Small bottle	 Small can

6. The following items are about your alcohol consumption and drinking behaviours.

a. How often do you have a drink containing alcohol?

Never      Monthly or less      Once a week or less      2 to 4 times a week      5 or more times a week

b. How many standard drinks do you have on a typical day when you are drinking?

I Don't Drink      1      2      3 or 4      5 or 6      7 or more

c. How often do you have 6 or more standard drinks on one occasion?

Never      Less than monthly      Monthly      Weekly      Daily or almost daily

d. How many days in the past 2 weeks did you drink 5/4 standard drinks or more in a single session?

0       1       2       3       4       5       6       7   
 8       9       10       11       12       13   
 14

7. Please state how strongly you agree or disagree with the following statements.

a. Drinking 5/4 standard drinks or more in a single session is an important part of who I am

1      2      3      4      5      6      7  
 Strongly Disagree      Strongly Agree

b. It would be out of character for me not to drink 5/4 standard drinks or more in a single session

1      2      3      4      5      6      7  
 Strongly Disagree      Strongly Agree



**8. Please state how strongly you agree or disagree with the following statements.**

**Drinking 5/4 standard drinks or more in one session is something...**

**...I do frequently.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I do automatically.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I do without conscious effort.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...that makes me feel weird if I do not do it.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I do without thinking.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...that would require effort not to do it.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...that belongs to my weekly routine.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I start doing before I realize I'm doing it.**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

... I would find hard not to do.

1                      2                      3                      4                      5                      6                      7  
Strongly                      Strongly  
Disagree                      Agree

...I have no need to think about doing.

1                      2                      3                      4                      5                      6                      7  
Strongly                      Strongly  
Disagree                      Agree

...that's typically "me."

1                      2                      3                      4                      5                      6                      7  
Strongly                      Strongly  
Disagree                      Agree

...I have been doing for a long time.

1                      2                      3                      4                      5                      6                      7  
Strongly                      Strongly  
Disagree                      Agree

Standard Drink Key						
<b>1 Standard Drink =</b>	 Small glass of wine	 Single spirit and mixer	 25ml shot	 <i>Half pint</i>	 Small bottle	 Small can

9. Consuming 5/4 drinks or more in a session in the next fortnight would be  
....



**b. My ..... think that me drinking 5/4 or more standard drinks in a single session in the next 2 weeks would be desirable/undesirable:**

**Family**

N/A      1      2      3      4      5      6      7  
 Undesirable                                              Desirable

**Friends at university**

N/A      1      2      3      4      5      6      7  
 Undesirable                                              Desirable

**Friends outside university**

N/A      1      2      3      4      5      6      7  
 Undesirable                                              Desirable

Standard Drink Key						
<b>1 Standard Drink =</b>	 Small glass of wine	 Single spirit and mixer	 25ml shot	 <i>Half pint</i>	 Small bottle	 Small can

**c. My ..... think that I should/should not drink 5/4 or more standard drinks in a single session in the next 2 weeks.**



	None							All
<b>Friends outside university</b>								
N/A	1 None	2	3	4	5	6	7 All	

f. **What percentage of your ..... do you think would drink 5/4 or more standard alcoholic beverages in a single session in the next 2 weeks?**

**Family**

N/A	1 0%	2	3	4	5	6	7 100%
-----	---------	---	---	---	---	---	-----------

**Friends at university**

N/A	1 0%	2	3	4	5	6	7 100%
-----	---------	---	---	---	---	---	-----------

**Friends outside university**

N/A	1 0%	2	3	4	5	6	7 100%
-----	---------	---	---	---	---	---	-----------

<b>Standard Drink Key</b>						
<b>1 Standard Drink =</b>	 Small glass of wine	 Single spirit and mixer	 25ml shot	 <i>Half pint</i>	 Small bottle	 Small can

12. a. **How much do you feel you identify with...  
... your family?**

N/A	1 not very much	2	3	4	5	6	7 very much
-----	--------------------	---	---	---	---	---	----------------

**...your friends at university?**

N/A	1 not very much	2	3	4	5	6	7 very much
-----	-----------------------	---	---	---	---	---	-------------------

**...your friends outside university?**

N/A	1 not very much	2	3	4	5	6	7 very much
-----	-----------------------	---	---	---	---	---	-------------------

**b. With respect to your general attitudes and beliefs, how similar do you feel you are to...**

**... your family?**

N/A	1 very dissimilar	2	3	4	5	6	7 very similar
-----	-------------------------	---	---	---	---	---	----------------------

**...your friends at university?**

N/A	1 very dissimilar	2	3	4	5	6	7 very similar
-----	-------------------------	---	---	---	---	---	----------------------

**...your friends outside university?**

N/A	1 very dissimilar	2	3	4	5	6	7 very similar
-----	-------------------------	---	---	---	---	---	----------------------

**c. Think about who you are. How important is being a member of your...**

**...family group?**

N/A	1 very unimportant	2	3	4	5	6	7 very important
-----	--------------------------	---	---	---	---	---	------------------------

**... group of friends at university?**

N/A	1 very unimportant	2	3	4	5	6	7 very important
-----	--------------------------	---	---	---	---	---	------------------------



**...friends at university?**

N/A	1 not very much	2	3	4	5	6	7 very much
-----	-----------------------	---	---	---	---	---	-------------------

**...friends outside university?**

N/A	1 not very much	2	3	4	5	6	7 very much
-----	-----------------------	---	---	---	---	---	-------------------

**e. In general, how well do you feel you fit into your...**

**... family group?**

N/A	1 not very well	2	3	4	5	6	7 very well
-----	-----------------------	---	---	---	---	---	----------------

**... group of friends at university?**

N/A	1 not very well	2	3	4	5	6	7 very well
-----	-----------------------	---	---	---	---	---	----------------

**... group of friends outside university?**

N/A	1 not very well	2	3	4	5	6	7 very well
-----	-----------------------	---	---	---	---	---	----------------

**f. How much do you see yourself belonging to your ...**

**...family group?**

N/A	1 not very much	2	3	4	5	6	7 very much
-----	-----------------------	---	---	---	---	---	-------------------

**... group of friends at university?**

N/A	1 not very much	2	3	4	5	6	7 very much
-----	-----------------------	---	---	---	---	---	-------------------

... group of friends outside university?

N/A                      1                      2                      3                      4                      5                      6                      7  
 not very                      very  
 much                      much

Standard Drink Key						
1 Standard Drink =	 Small glass of wine	 Single spirit and mixer	 25ml shot	 <i>Half pint</i>	 Small bottle	 Small can

13. The following items are about your views and opinions with regards to drinking alcohol in the next 2 weeks.

If I wanted to, I could easily drink 5/4 standard drinks or more in a single session over the next 2 weeks

1                      2                      3                      4                      5                      6                      7  
 Strongly                      Strongly  
 Disagree                      Agree

If I wanted to, drinking 5/4 standard drinks or more in a single session over the next 2 weeks would be...



**Drinking 5/4 standard drinks or more in a single session goes against my principles.**

1                      2                      3                      4                      5                      6                      7  
 Strongly Disagree                      Strongly Agree

Standard Drink Key						
1 Standard Drink =	 Small glass of wine	 Single spirit and mixer	 25ml shot	 <i>Half pint</i>	 Small bottle	 Small can

**14. In the next 2 weeks...**

**... I intend to drink 5/4 standard drinks or more in a single session**

1                      2                      3                      4                      5                      6                      7  
 Strongly Disagree                      Strongly Agree

**...I plan to drink 5/4 standard drinks or more in a single session**

1                      2                      3                      4                      5                      6                      7  
 Strongly Disagree                      Strongly Agree

**... I want to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I expect to drink 5/4 standard drinks or more in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**...I would feel upset if I drank more than 5/4 standard drinks in a single session.**

1	2	3	4	5	6	7
Definitely No						Definitely Yes

**...I would feel regret if I drank more than 5/4 drinks in a single session**

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

**15. The following questions are about you personally.**

<b>I get restless when I spend too much time at home.</b>	1	2	3	4	5
	strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

<b>I like to do frightening things.</b>	1	2	3	4	5
	strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

<b>I would like to explore strange places</b>	1	2	3	4	5
	strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

<b>I would like to take off on a trip with no pre-planned routes or timetables.</b>	1	2	3	4	5
	strongly disagree	disagree	neither disagree nor agree	agree	strongly agree

1	2	3	4	5
---	---	---	---	---

**I like wild parties.**      strongly disagree      disagree      neither disagree nor agree      agree      strongly agree

**I prefer friends who are excitingly unpredictable.**      1 strongly disagree      2 disagree      3 neither disagree nor agree      4 agree      5 strongly agree

**I would like to try bungee jumping.**      1 strongly disagree      2 disagree      3 neither disagree nor agree      4 agree      5 strongly agree

**I would love to have new and exciting experiences, even if they are illegal.**      1 strongly disagree      2 disagree      3 neither disagree nor agree      4 agree      5 strongly agree

Standard Drink Key						
<b>1 Standard Drink =</b>	 Small glass of wine	 Single spirit and mixer	 25ml shot	 <i>Half pint</i>	 Small bottle	 Small can

16. The following questions are about the ways in which you act and think. Read each statement and indicate your answer by circling the appropriate number.

**I plan tasks carefully.**      1 Rarely/ Never      2 Occasionally      3 Often      4 Almost Always/ Always

<b>I do things without thinking.</b>	Rarely/ Never	Occasionally	Often	Almost Always/ Always
<b>I am a careful thinker.</b>	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
<b>I concentrate easily.</b>	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
<b>I say things without thinking.</b>	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
<b>I act on the spur of the moment.</b>	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
<b>I don't "pay attention".</b>	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always
<b>I am self controlled</b>	1 Rarely/ Never	2 Occasionally	3 Often	4 Almost Always/ Always

<b>Standard Drink Key</b>						
<b>1 Standard Drink =</b>	 Small glass of wine	 Single spirit and mixer	 25ml shot	 <i>Half pint</i>	 Small bottle	 Small can

**17. The following questions are about the way in which you see yourself in comparison to others.**

**In relation to others I feel:**

Inferior	1	2	3	4	5	6	7	8	9	10	Superior
Incompetent	1	2	3	4	5	6	7	8	9	10	More competent
Unlikeable	1	2	3	4	5	6	7	8	9	10	More likeable
Left out	1	2	3	4	5	6	7	8	9	10	Accepted
Different	1	2	3	4	5	6	7	8	9	10	Same
Untalented	1	2	3	4	5	6	7	8	9	10	More talented
Weaker	1	2	3	4	5	6	7	8	9	10	Stronger
Unconfident	1	2	3	4	5	6	7	8	9	10	More confident
Undesirable	1	2	3	4	5	6	7	8	9	10	More desirable
Unattractive	1	2	3	4	5	6	7	8	9	10	More attractive
An outsider	1	2	3	4	5	6	7	8	9	10	An insider

**18. The following items are about your life as a university student. Please circle the number to indicate how important the following aspects are to your life at University.**

**Parties**



Yes  No

**b. Please circle the statement that best describes how often you have taken part in drinking games since you started drinking?**

Never	Once a year	Once every six months	Once a month	Once a fortnight	Once a week	A few times a week
-------	-------------	-----------------------	--------------	------------------	-------------	--------------------

**c. Please circle the statement that best describes how often you have taken part in drinking games since starting university?**

Never	Once a year	Once every six months	Once a month	Once a fortnight	Once a week	A few times a week
-------	-------------	-----------------------	--------------	------------------	-------------	--------------------

**d. Please circle the number to rate how important the following reasons for playing drinking games are to you .**

**To get drunk**

1 Not at all important	2	3	4	5	6	7 Very Important
------------------------------	---	---	---	---	---	------------------------

**To meet other people**

1	2	3	4	5	6	7
Not at all important						Very Important

**To control others**

1	2	3	4	5	6	7
Not at all important						Very Important

**To get someone else drunk**

1	2	3	4	5	6	7
Not at all important						Very Important

**To have fun**

1	2	3	4	5	6	7
Not at all important						Very Important

**To fit in**

1	2	3	4	5	6	7
Not at all important						Very Important

**20. Please tick to indicate the ethnic group to which you belong.**

<p><b>White</b></p> <p>White British <input type="checkbox"/></p> <p>White Irish <input type="checkbox"/></p> <p>White Scottish <input type="checkbox"/></p> <p>White Welsh <input type="checkbox"/></p> <p>White Other <input type="checkbox"/> (please specify)</p> <p>.....</p> <p>.....</p>	<p><b>Asian or Asian British</b></p> <p>Indian <input type="checkbox"/></p> <p>Pakistani <input type="checkbox"/></p> <p>Bangladeshi <input type="checkbox"/></p> <p>Asian Other <input type="checkbox"/> (please specify)</p> <p>.....</p> <p>.....</p>	<p><b>Chinese</b></p> <p>Chinese <input type="checkbox"/></p>
<p><b>Black or Black British</b></p> <p>Caribbean <input type="checkbox"/></p> <p>African <input type="checkbox"/></p> <p>Black Other <input type="checkbox"/> (please specify)</p> <p>.....</p> <p>.....</p>	<p><b>Mixed Heritage</b></p> <p>White and Black</p> <p>Caribbean <input type="checkbox"/></p> <p>White and Black African <input type="checkbox"/></p> <p>White and Asian <input type="checkbox"/></p> <p>Mixed Other <input type="checkbox"/> (please specify)</p> <p>.....</p> <p>.....</p>	<p><b>Other Ethnic Group</b></p> <p>Other <input type="checkbox"/> (please specify)</p> <p>.....</p> <p>.....</p>
<p><b>Prefer not to say</b> <input type="checkbox"/></p>		

**Thank you for taking the time to complete this questionnaire.**

Please now place it in the envelope provided, seal it and return by post or place it in the deposit box in the Hub in the Elizabeth Fry Building.

By returning the questionnaire you are giving consent for the information you have provided to be used in this study.

If you later change your mind you can withdraw your data from the study up until December 15<sup>th</sup> 2012 by contacting Ellen Lynch (e.lynch@uea.ac.uk).

## Appendix F1

### Study 3 Time 1 Debrief

# Thank you for completing this questionnaire!

### **Please keep this page somewhere safe.**

If you are happy for the information you have provided to be used please place your completed questionnaire in the stamped addressed envelope provided and return it by post or place it into the deposit box in the Hub in the Elizabeth Fry Building.

To be entered into the prize draw don't forget to complete and return the second questionnaire and prize draw entry form in 2 weeks time. These can be found in the questionnaire pack.

If you have any questions or concerns about the study please contact Ellen Lynch (E.lynch@uea.ac.uk) or Dr Victoria Scaife ([V.Scaife@uea.ac.uk](mailto:V.Scaife@uea.ac.uk)).

### **Want to know more about alcohol and safe drinking guidelines?**

Then visit:

- DrinkAware: [www.drinkaware.co.uk](http://www.drinkaware.co.uk)
- Talk to Frank: [www.talktofrank.com/drug/alcohol](http://www.talktofrank.com/drug/alcohol)
- The student advice centre at Union House

### **Worried about your own drinking behaviour or that of another?**

These sources can provide you with free, confidential information and support:

- The Mathew Project: 0800 764754
- **Drinkline: 0800 917 8282**
- [www.nhs.uk/conditions/Alcohol-misuse](http://www.nhs.uk/conditions/Alcohol-misuse)

You may also want to contact:

- Your GP
- The UEA Counselling Service:  
01603 592651, [csr@uea.ac.uk](mailto:csr@uea.ac.uk)

## Appendix G1

### Study 3 Time 2 Questionnaire



Psychology

## Participant Information

*Please read the following information carefully before beginning the questionnaire.*

- *This study aims to investigate the predictors of binge drinking.*
- *To take part you should be 18 or over and an undergraduate student at UEA*
- *Participation is voluntary and all responses will be kept confidential.*
- *You should have completed the first questionnaire (provided in this pack) 2 weeks ago. If not please complete it now and then fill in this questionnaire 2 weeks from today.*
- *This second questionnaire will take no more than 5 minutes.*
- *If you wish to be entered into the prize draw\* please complete the prize draw entry form at the end of this questionnaire.*
- *If there are any questions you do not wish to complete please skip them and move on to the next question.*
- *You are advised not to complete this questionnaire if you are receiving treatment for problematic alcohol use or are concerned about your drinking behaviour.*
- *You have the right to withdraw from the study at any time without giving a reason.*

\*One prize of **£500** Love2Shop vouchers, prize draw to be held on 3rd January 2013,

winner will be contacted by email.

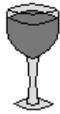
*If you want to take part in the study, please read the instructions below then complete the questionnaire.*

# Instructions

Please complete questions as honestly and accurately as you can.

When questions ask about drinking 5/4 standard drinks in a single session, this means 4 standard drinks or more for females and 5 standard drinks or more for males.

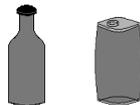
1 standard drink is:



Small glass of wine  
(125ml)

A single  
spirit and mixer

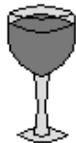
25ml measure  
of spirits



Half a pint

Small bottle/can of beer,  
cider, larger or alcopop

So 2 standard drinks is:



Large glass of wine  
(250ml)

A double  
spirit and mixer

2x 25ml measure  
of spirits



1 pint of beer  
cider or larger

Large bottle/can of beer,  
cider, larger or alcopop

Please complete questions as honestly and accurately as you can.

Standard Drink Key						
<b>1 Standard Drink =</b>	 Small glass of wine	 Single spirit and mixer	 25ml shot	 Half pint	 Small bottle	 Small can



Strongly  
Disagree

Strongly  
Agree

**...I expect to drink 5/4 standard drinks or more in a single session**

1  
Strongly  
Disagree

2

3

4

5

6

7  
Strongly  
Agree

**Thank you for taking the time to complete this  
questionnaire.**

**Please now place it in the envelope provided, seal it and return by post or place  
it in the deposit box in the Hub in the Elizabeth Fry Building.**

**By returning the questionnaire you are giving consent for the information you  
have provided to be used in this study.**

**If you later change your mind you can withdraw your data from the study up until  
December 15<sup>th</sup> 2012 by contacting Ellen Lynch (e.lynch@uea.ac.uk).**

## Appendix H1

### Study 3 Time 2 Debrief

# You have now completed the study!

**Please keep this sheet somewhere safe.**

If you are happy for the information you have provided to be used please place your completed questionnaire and prize draw entry form in the stamped addressed envelope provided and return it by post or place it into the deposit box in the Hub in the Elizabeth Fry Building.

To be entered into the prize draw don't forget to complete and return the prize draw entry form attached to the time 2 questionnaire.

If you have any questions or concerns about the study please contact Ellen Lynch (E.lynch@uea.ac.uk) or Dr Victoria Scaife ([V.Scaife@uea.ac.uk](mailto:V.Scaife@uea.ac.uk)).

If you want to withdraw your data after returning the questionnaire you can do so up until the 15th of December 2012 by contacting Ellen (e.lynch@uea.ac.uk).

## Want to know more about alcohol and safe drinking guidelines?

Then visit:

- DrinkAware: [www.drinkaware.co.uk](http://www.drinkaware.co.uk)
- Talk to Frank: [www.talktofrank.com/drug/alcohol](http://www.talktofrank.com/drug/alcohol)
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## Worried about your own drinking behaviour or that of another?

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- [www.nhs.uk/conditions/Alcohol-misuse](http://www.nhs.uk/conditions/Alcohol-misuse)

You may also want to contact:

- Your GP
- The UEA Counselling Service:  
01603 592651, [csr@uea.ac.uk](mailto:csr@uea.ac.uk)

Appendix I1

Study 3 Prize Draw Entry Form

# PRIZE DRAW ENTRY

**To be entered into the prize draw please complete the participant code questions below and record your email address in the space provided.**

***Once received, this will be separated from your questionnaire and will be destroyed once the prize draw has been conducted.***

**Participant Code**

First Name Initial: .....

Day of Birth (e.g. 1<sup>st</sup> or 24<sup>th</sup>): .....

Last 3 digits of phone number: .....

Number of older siblings (for none write 0): .....

**Email:.....**

## Appendix J1

### Study 3 Scale Analysis

Table 8.6  
Alpha values for scale variables study 3

<b>Variable</b>	<b>Alpha</b>	<b>N of items</b>
AUDIT	.796	3
Self Identity	.909	4
Habit	.944	12
Attitude	.839	5
Subjective Norm Family	.858	3
Descriptive Norm Family	.913	2
Group Norm Family	.856	5
Subjective Norm Friends At University	.852	3
Descriptive Norm Friends At University	.902	2
Group Norm Friends At University	.896	5
Subjective Norm Friends Outside University	.877	3
Descriptive Norm Friends Outside University	.901	2
Group Norm Friends Outside University	.888	5
In Group Identification Family	.901	4
In Group Belonging Family	.923	2
In Group Identification Friends at University	.897	4
In Group Belonging Friends At University	.911	2
In Group Identification Friends Outside University	.876	4
In Group Belonging Friends Outside University	.882	2
Frequency of Drinking Games Participation	.844	2
Self Efficacy	.961	3
PBC	.822	3
Competency (Self Efficacy and PBC)	.800	6
Moral Norm	.850	3
Intention (time 1')	.962	4
Anticipated Affective Response	.884	2
Sensation Seeking	.767	8
Impulsivity	.753	8
Tendency to use Social Comparison	.900	11
Intention (time 2)	.982	4
Past Drinking Behaviour 1 (N binged Time 1 and AUDIT)	.809	4
Past Drinking Behaviour 2 (N binged Time 1 and AUDIT and Drinking games frequency)	.847	6

## Appendix K1

### Assumptions graphs for Prediction of Involvement in Drinking Games

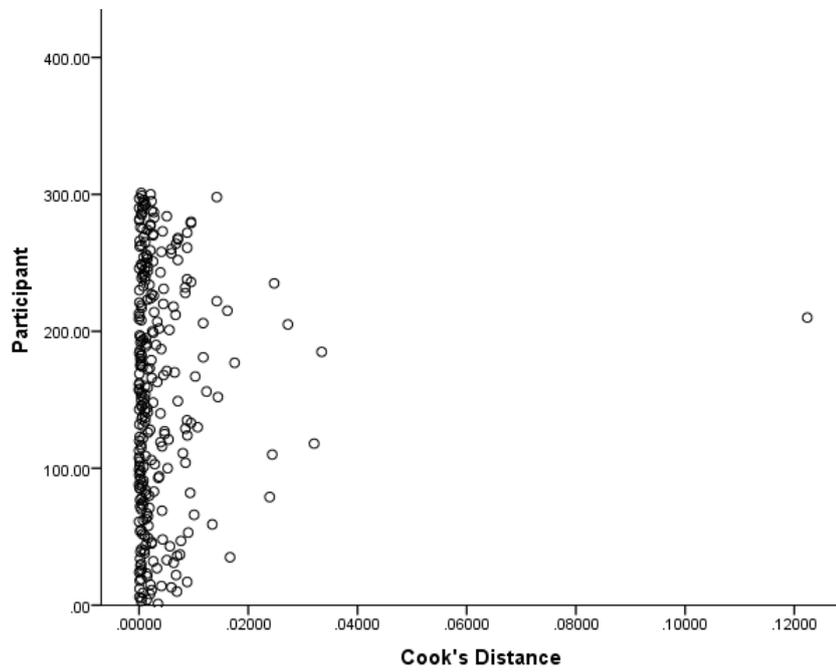


Figure 8.13. Cooks Distance for prediction of involvement in drinking games

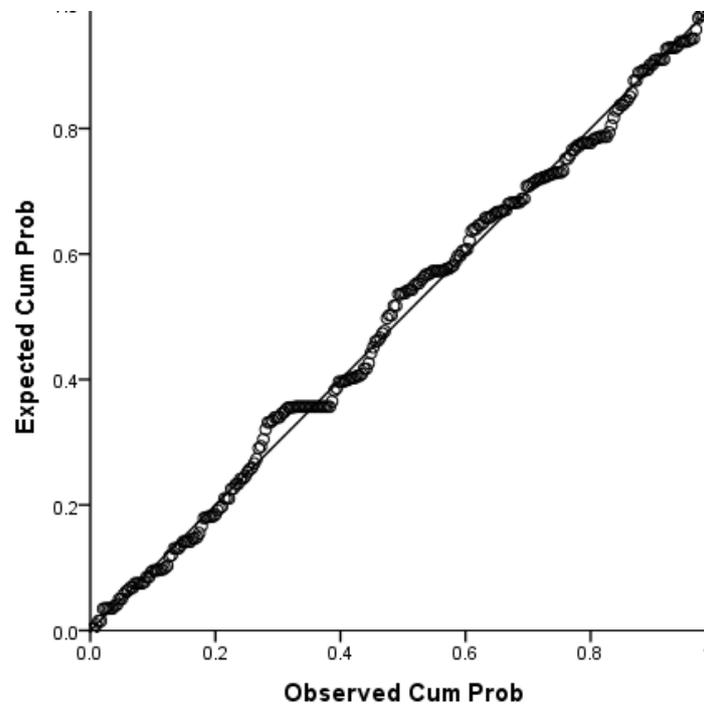


Figure 8.14 Normal P-Plot for prediction of involvement in drinking games

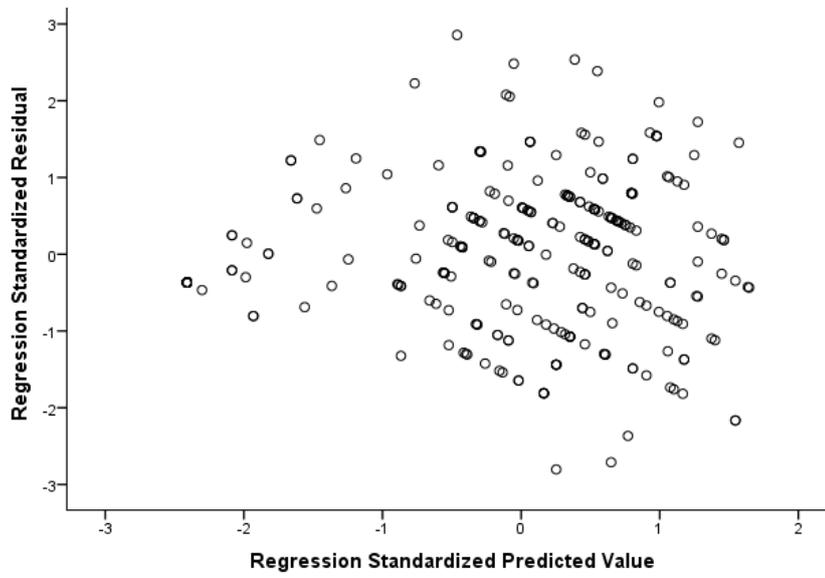


Figure 8.15 Scatter Plot for prediction of involvement in drinking games

## Appendix L1

### Assumptions graphs for Importance of Aspects of University Life predicting Drinking Behaviour

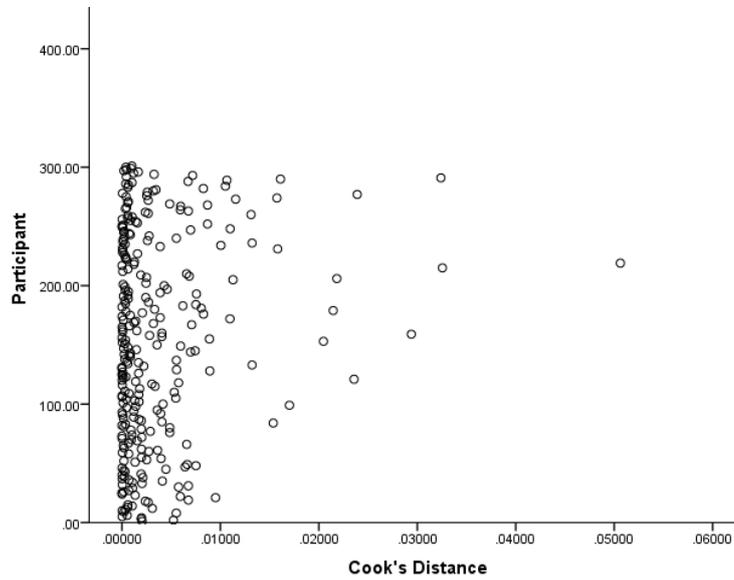


Figure 8.16 Cooks Distance for importance of aspects of university life

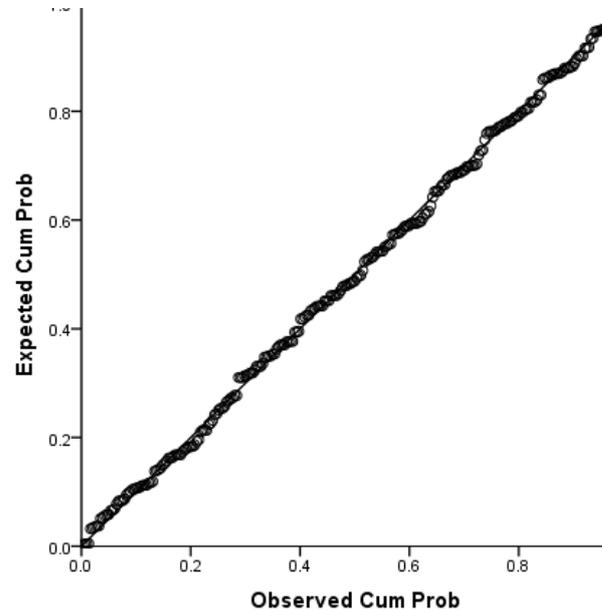


Figure 8.17 Normal P Plot for importance of aspects of university life

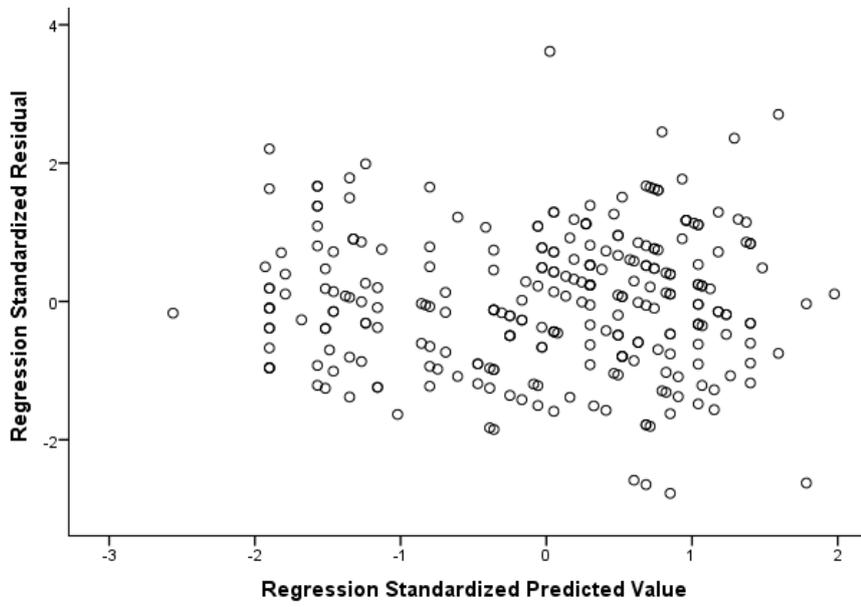


Figure 8.18 Scatter Plot for importance of aspects of university life

## Appendix M1

### Assumptions graphs for TPB predicting time 1 intentions to binge drink

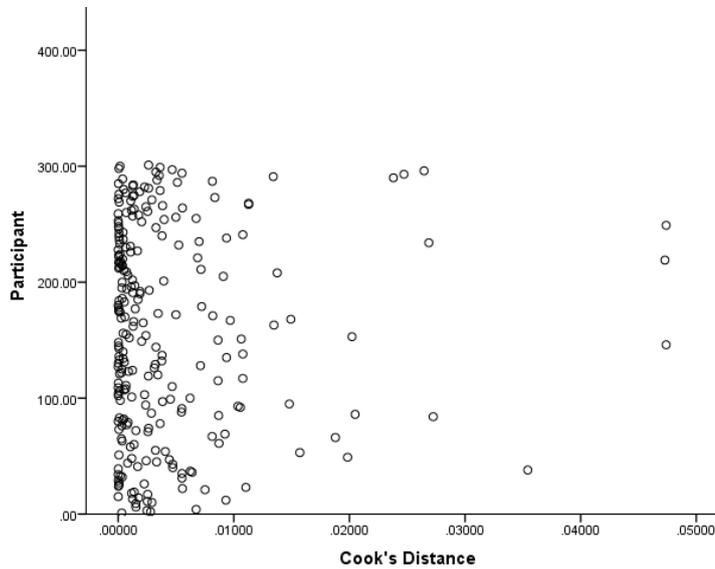


Figure 8.19. Cooks Distance for original TPB predicting time 1 intentions to binge drink

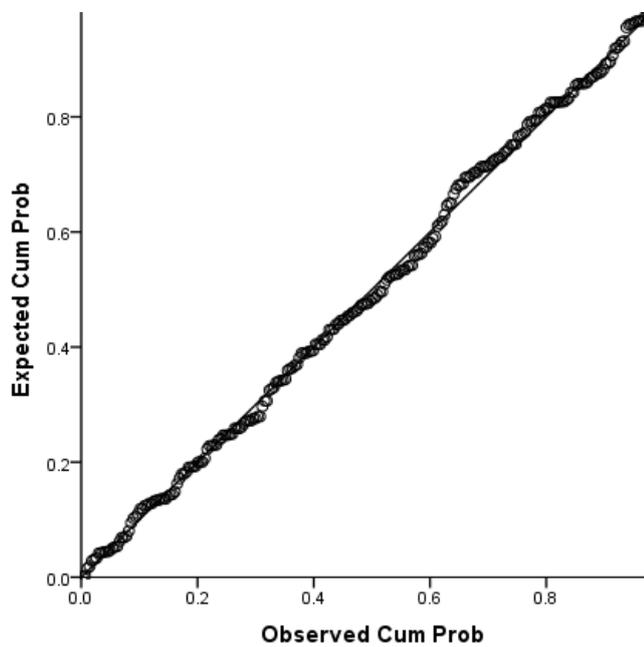


Figure 8.20. Normal P Plot for original TPB predicting time 1 intentions to binge drink

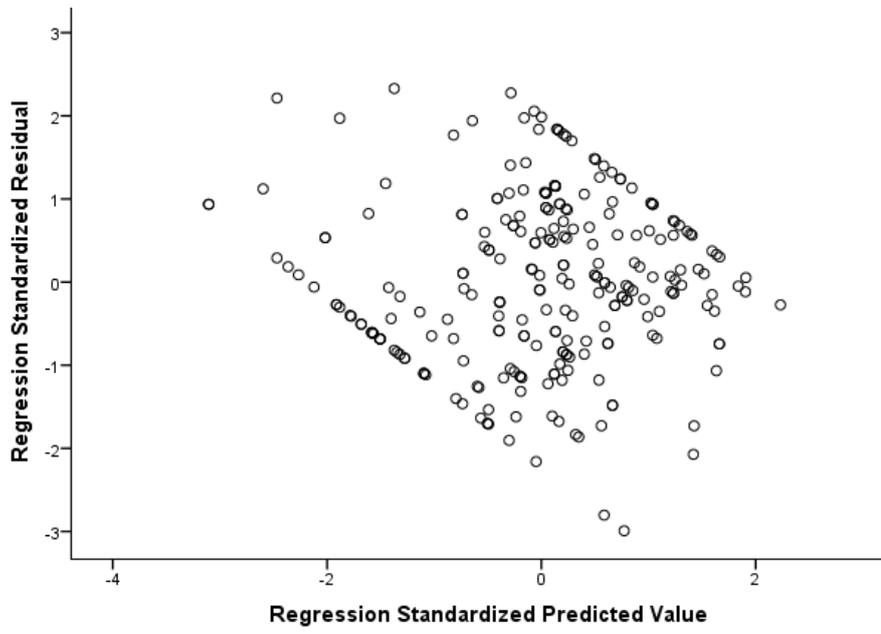


Figure 8.21. Scatter Plot for original TPB predicting time 1 intentions to binge drink

## Appendix N1

### Assumptions graphs for TPB predicting binge drinking behaviour

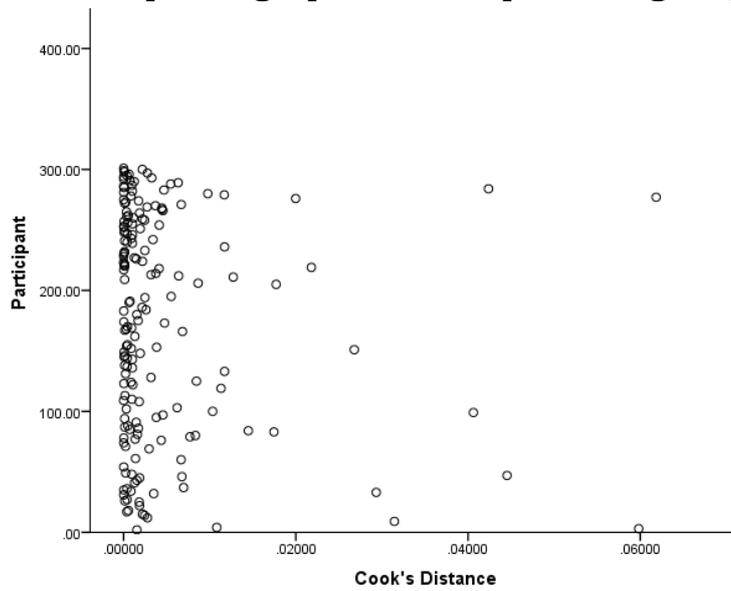


Figure 8.22 Cooks Distance for original TPB predicting binge drinking behaviour

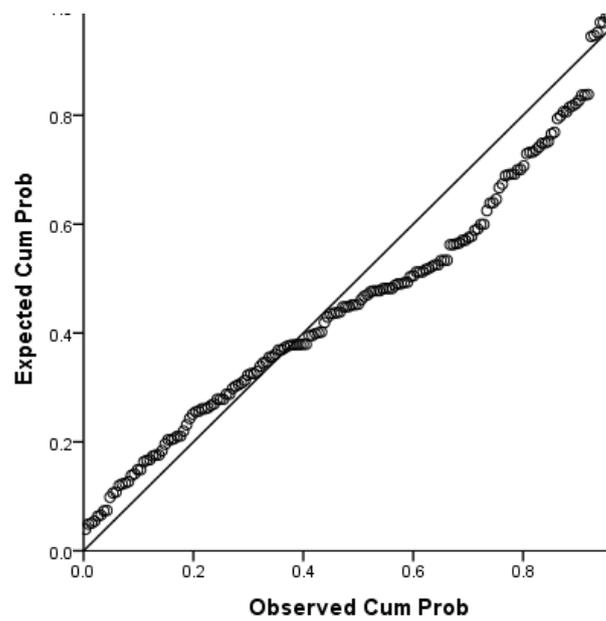


Figure 8.23 Normal P Plot for original TPB predicting binge drinking behaviour

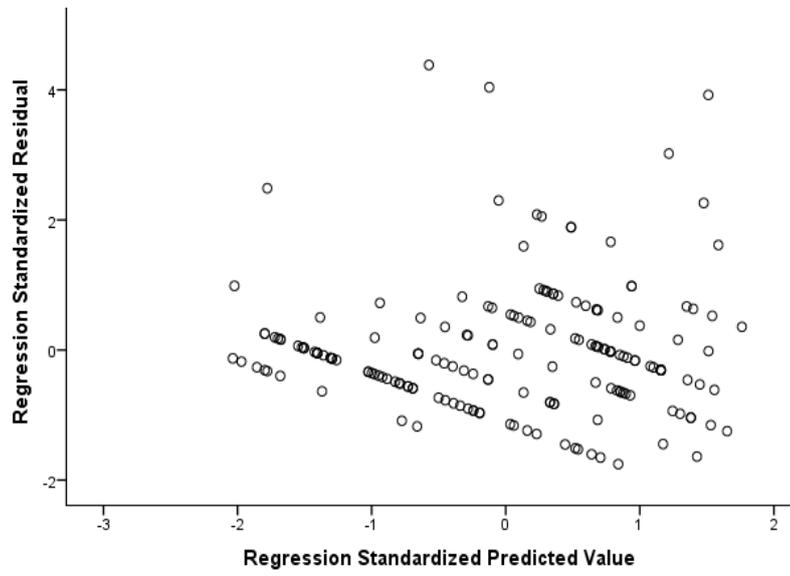


Figure 8.24 Scatter Plot for original TPB predicting binge drinking behaviour

## Appendix O1

### Assumptions Graphs for Predictors of Attitude

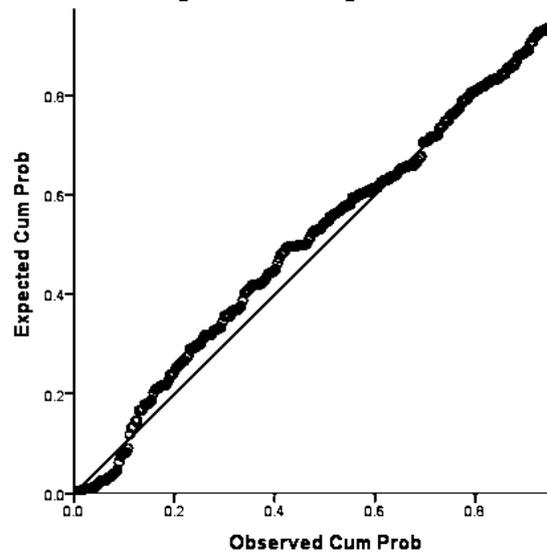


Figure 8.25 Normal P – Plot for the prediction of attitude

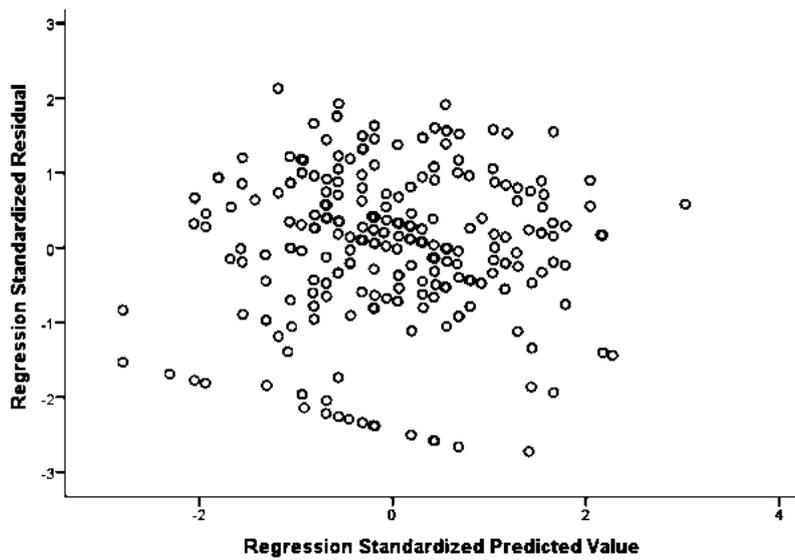


Figure 8.26 Scatter Plot for the prediction of attitude

## Appendix P1

### Assumptions Graphs for Predicting Group Norm for Family

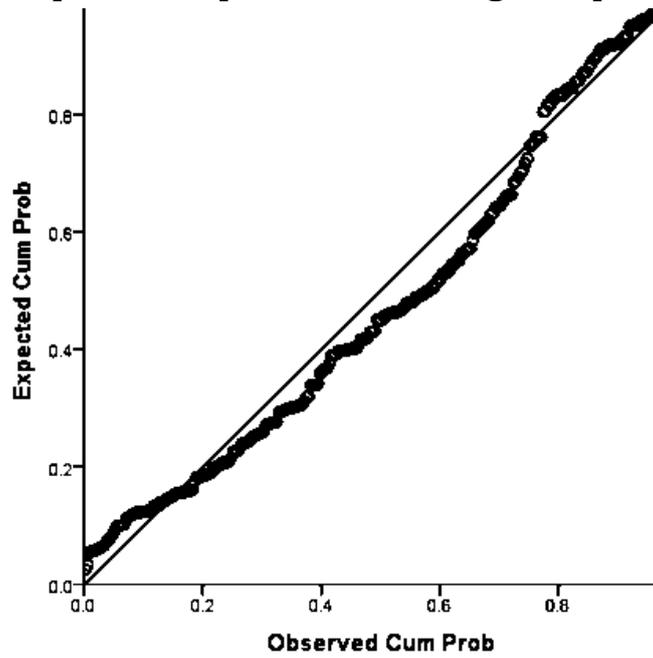


Figure 8.27 Normal P Plot for the prediction of group norm for family

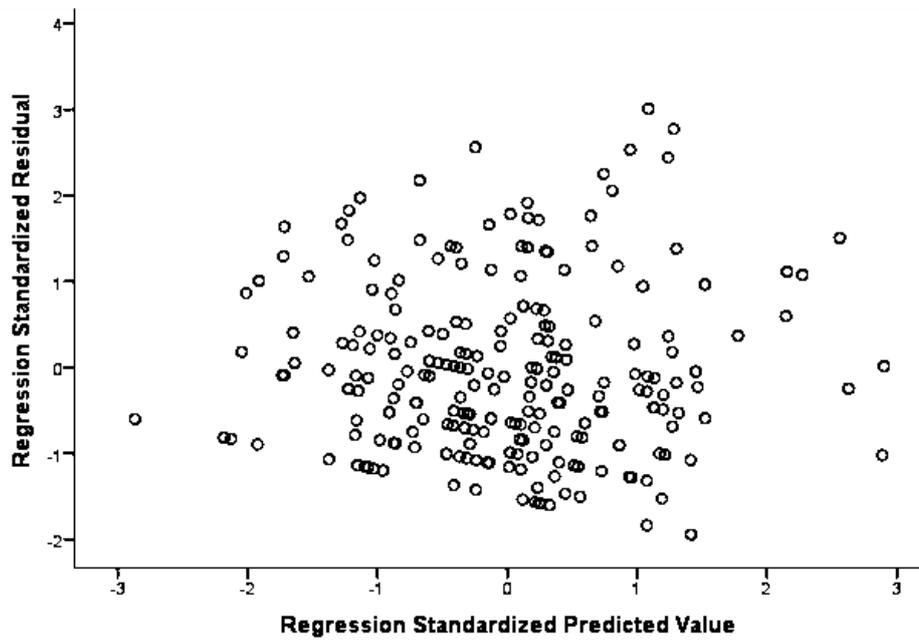


Figure 8.28 Scatter Plot for the prediction of group norm for family

## Appendix Q1

### Assumptions Graphs for predicting Group Norm Close Friends at University

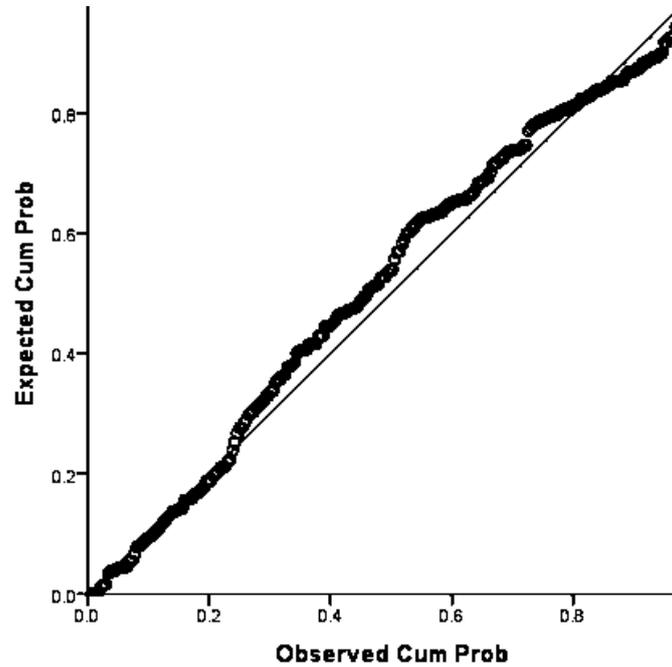


Figure 8.29 Normal P Plot for the prediction of group norm for close friends at university

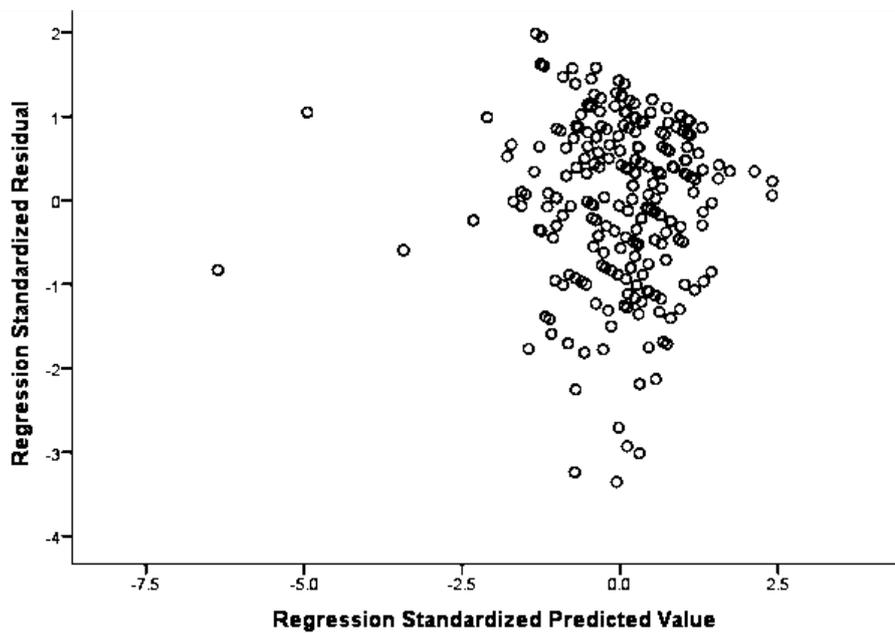


Figure 8.30 Scatter Plot for the prediction of group norm for close friends at university

## Appendix R1

### Assumptions Graphs for Predicting Group Norm for Close Friends Outside University

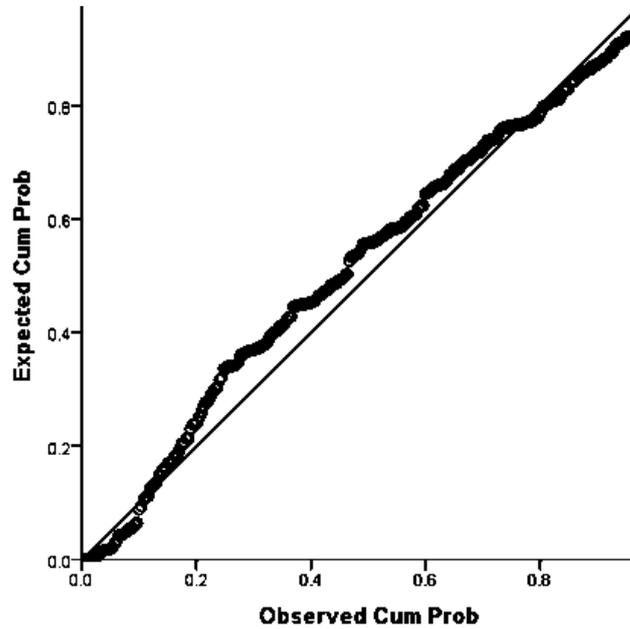


Figure 8.31 Normal P Plot for the prediction of group norm for close friends outside university

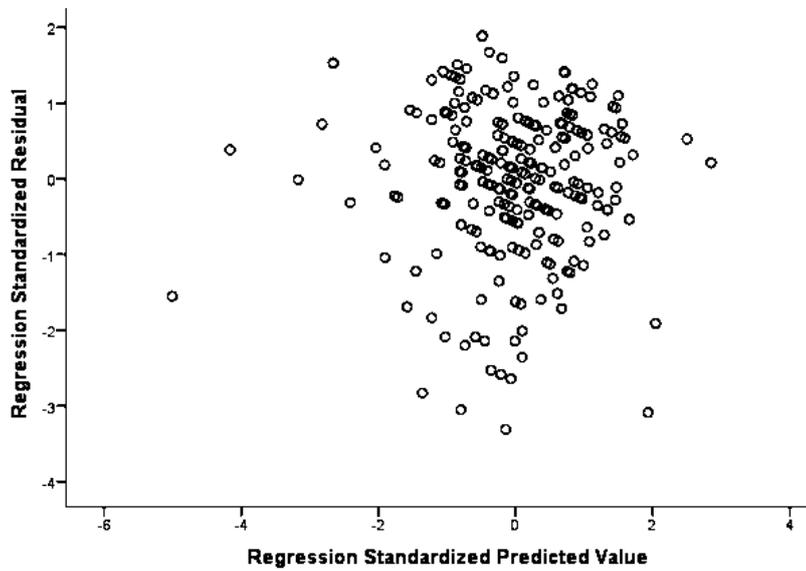


Figure 8.32 Scatter Plot for the prediction of group norm for close friends outside university

## Appendix S1

### Assumptions Graphs for Predicting PBC

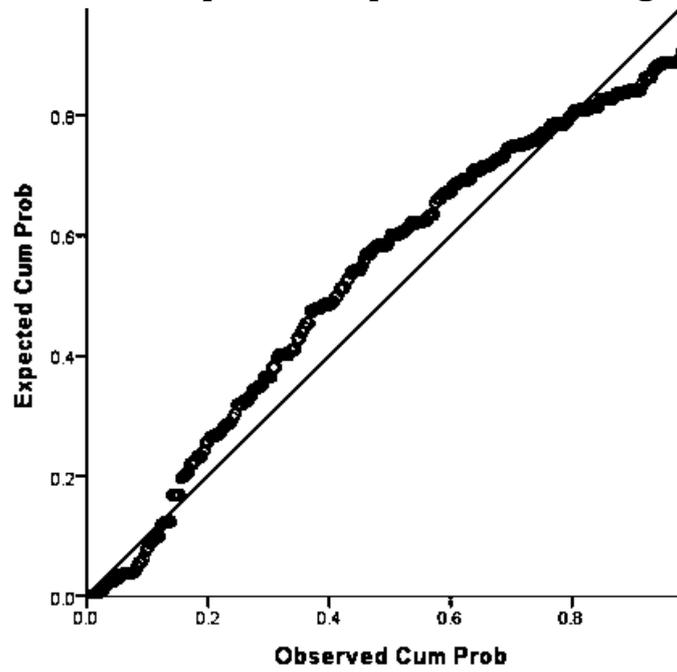


Figure 8.33 Normal P Plot for the prediction of PBC

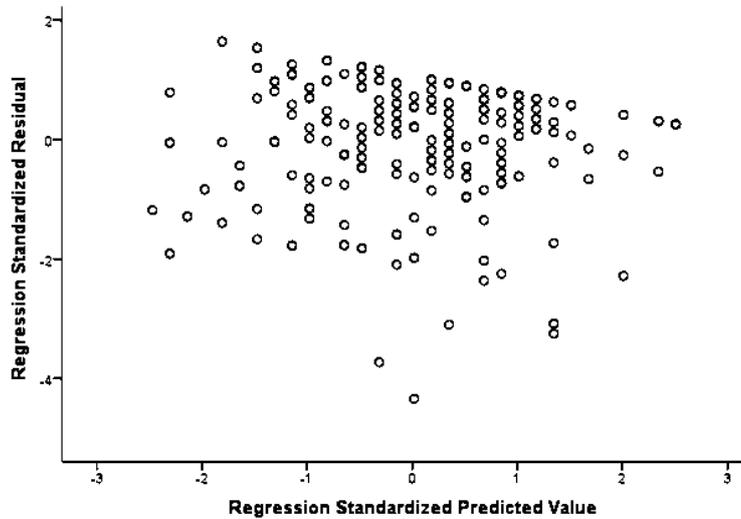


Figure 8.34 Scatter Plot for the prediction of PBC

## Appendix T1

### Assumptions Graphs for TPB Predicting Time 2 Intentions to binge drink

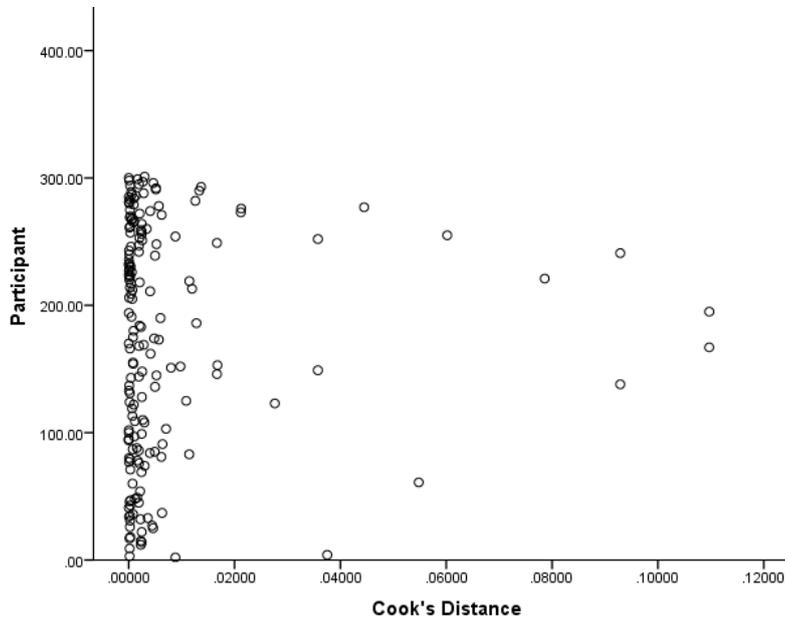


Figure 8.35 Cooks Distance for the original TPB predicting time 2 intentions

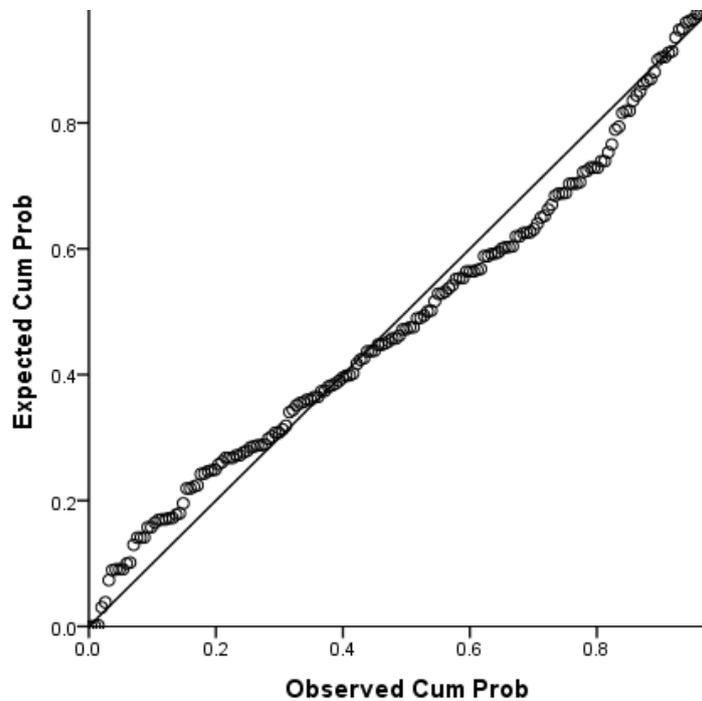


Figure 8.36 Normal P Plot for the original TPB predicting time 2 intentions

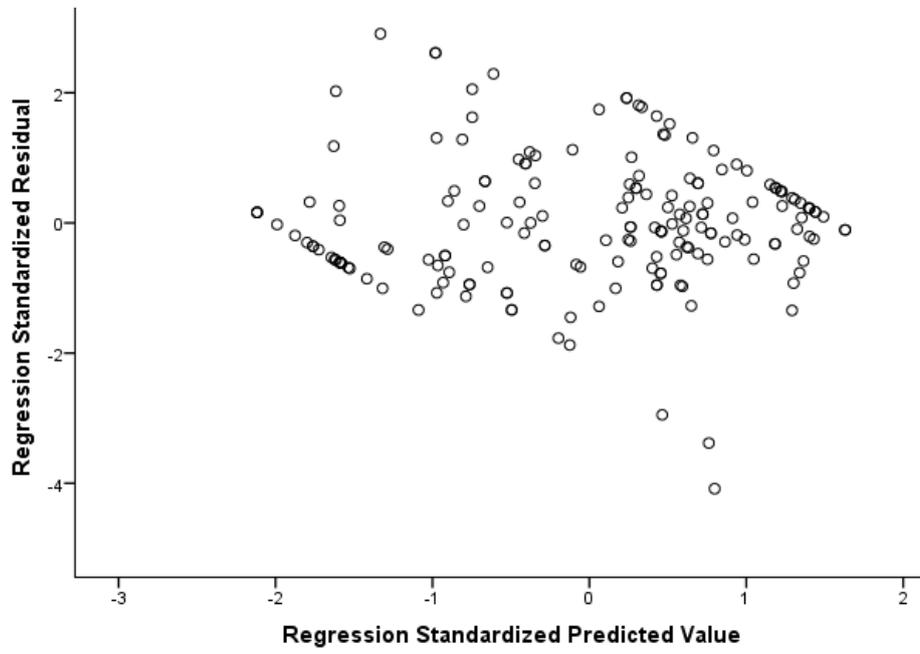


Figure 8.37 Scatter Plot for the original TPB predicting time 2 intentions

## Appendix U1

### Testing the Expanded TPB Predicting Time 1 Intentions to Binge Drink

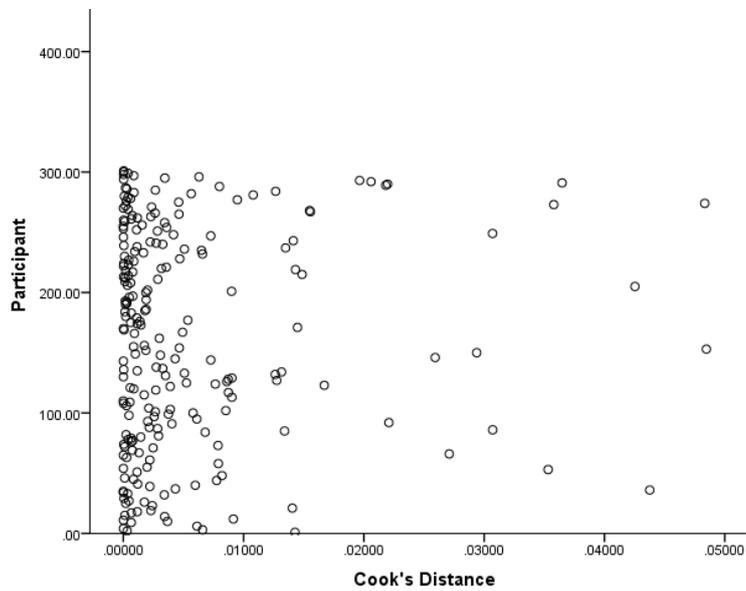


Figure 8.38 Cooks Distance for the expanded TPB predicting time 1 intentions

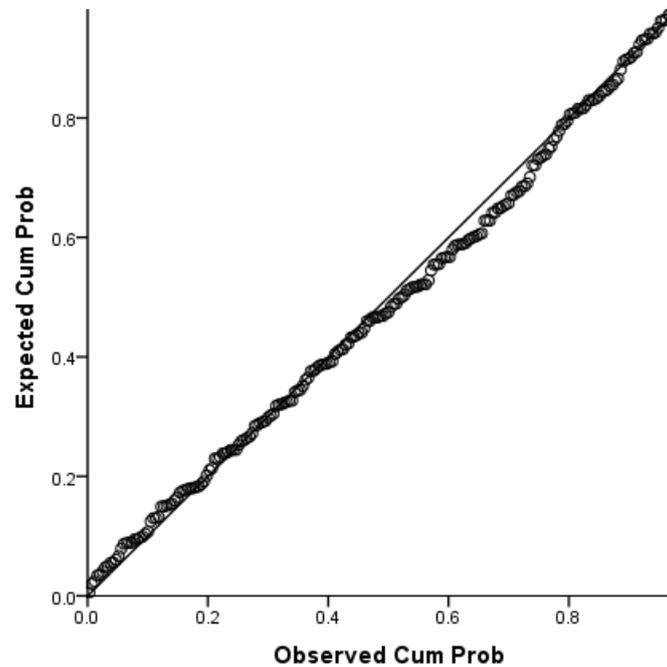


Figure 8.40 Normal P Plot for the expanded TPB predicting time 1 intentions

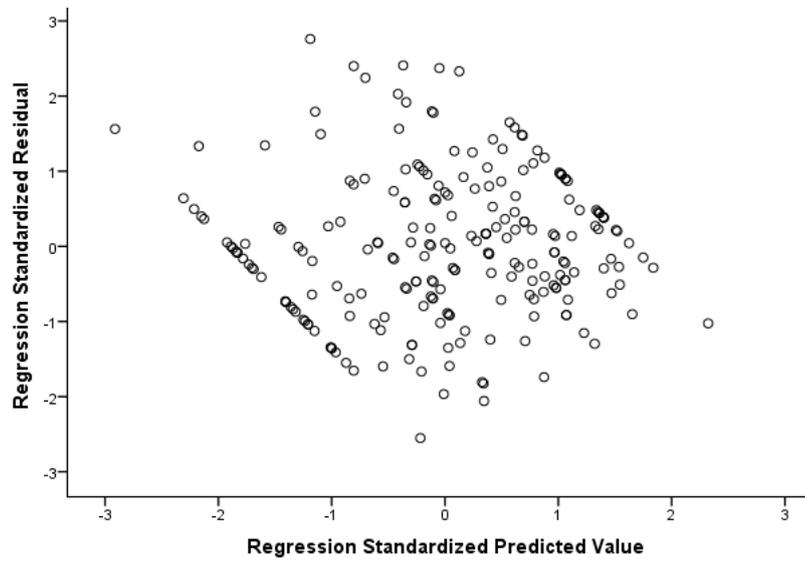


Figure 8.41 Scatter Plot for the expanded TPB predicting time 1 intentions

## Appendix V1

### Testing the Expanded TPB Predicting Binge Drinking Behaviour

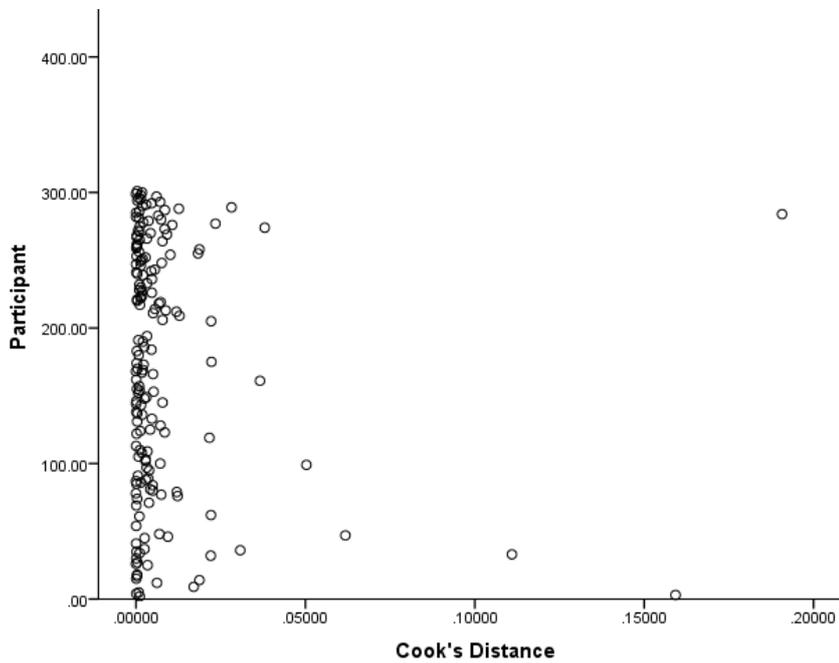


Figure 8.42 Cooks Distance for the expanded TPB predicting binge drinking behaviour

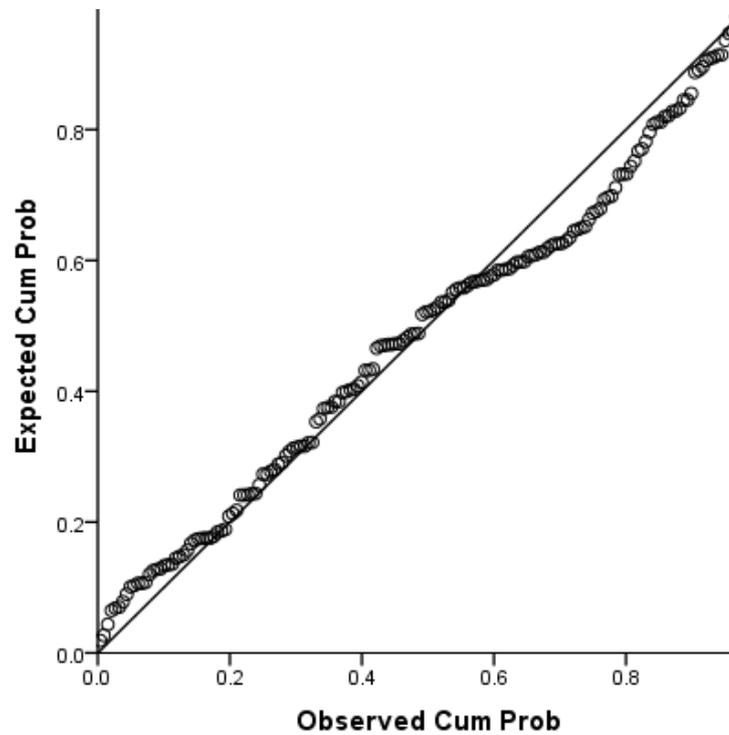


Figure 8.43 Normal P Plot for the expanded TPB predicting binge drinking behaviour

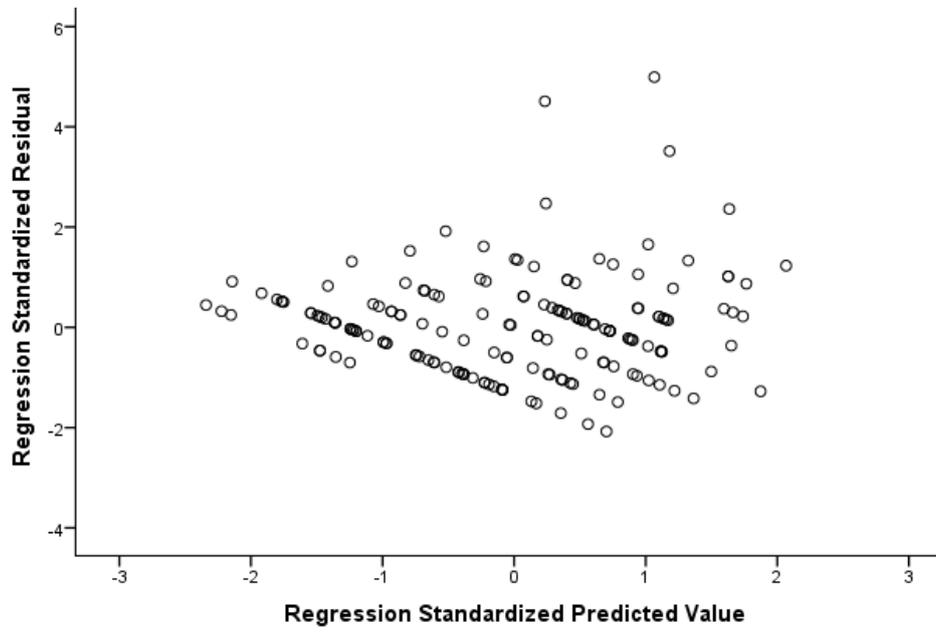


Figure 8.44 Scatter Plot for the expanded TPB predicting binge drinking behaviour

## Appendix W1

### Assumptions Graphs for Moderators of Normative Influence

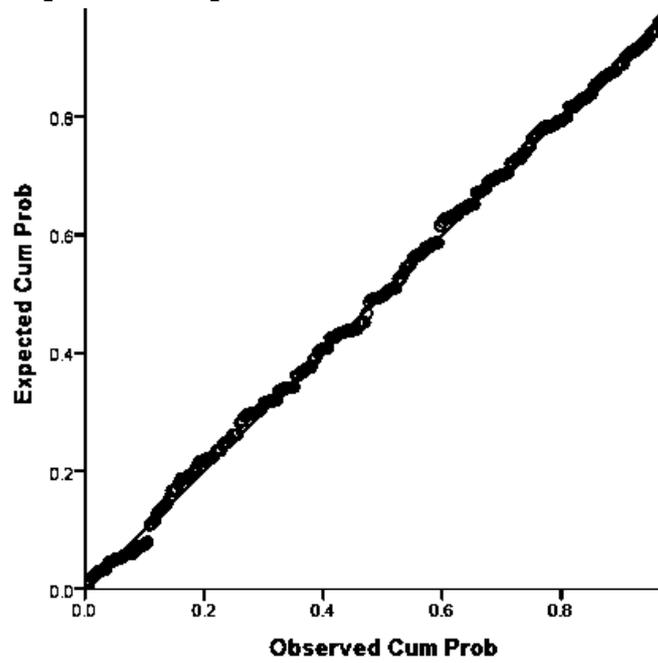


Figure 8.45 Normal P Plot for the moderators of normative influence

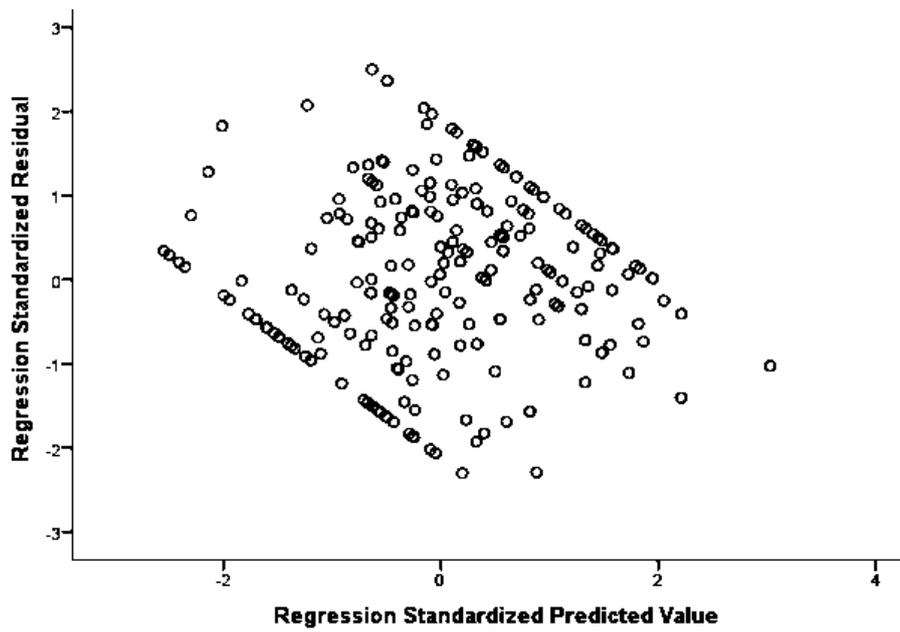


Figure 8.46 Scatter Plot for the moderators of normative influence

## Appendix X1

### Assumptions Graphs for Moderators of Intention – Behaviour Relationship

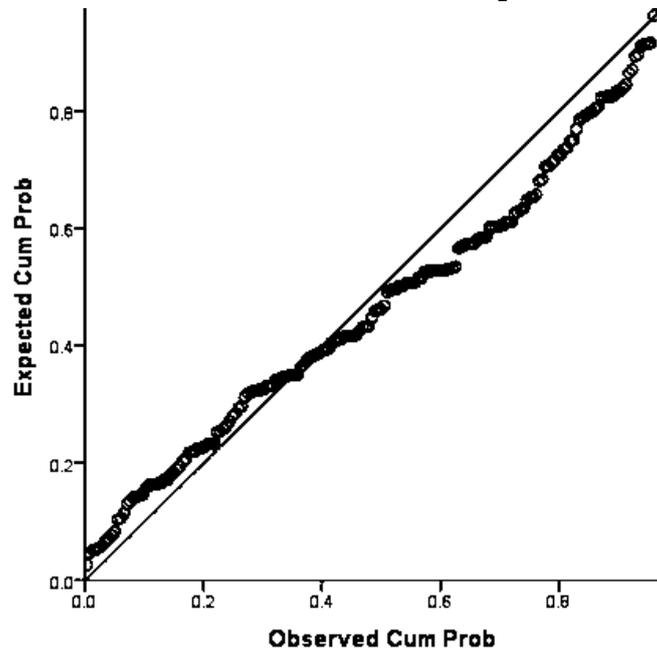


Figure 8.47 Normal P Plot for the moderators of the intention-behaviour relationship

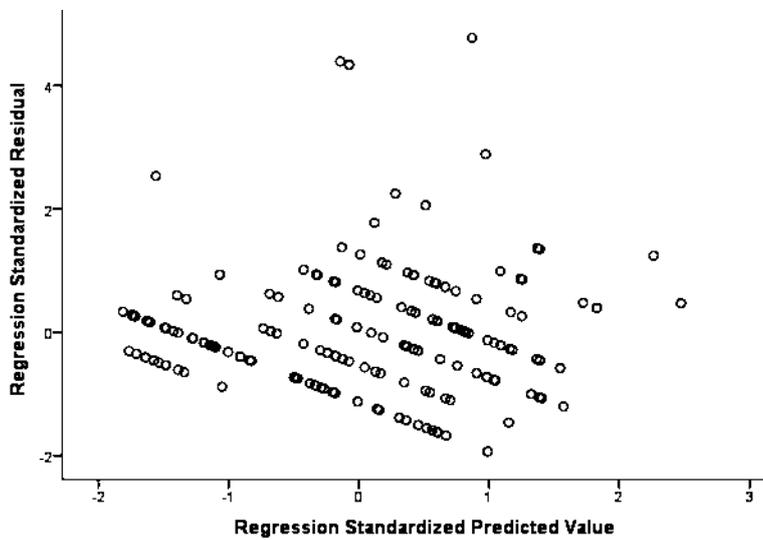


Figure 8.48 Scatter Plot for the moderators of the intention-behaviour relationship

## Appendix Y1

### Testing the Expanded TPB Predicting Time 2 Intentions to Binge Drink

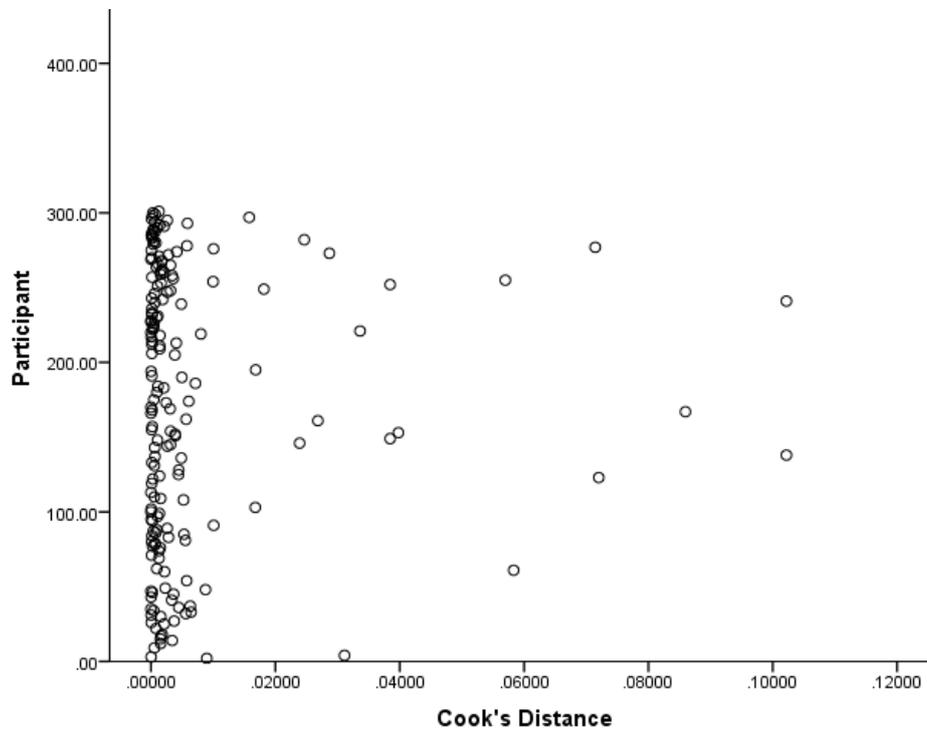


Figure 8.49 Cooks Distance for the expanded TPB predicting time 2 intentions to binge drink

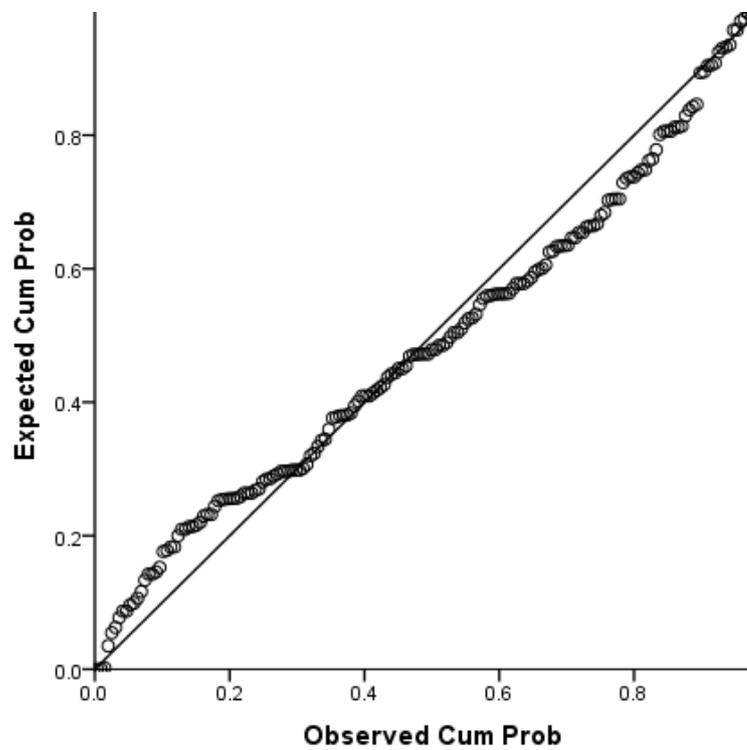


Figure 8.50 Normal P-Plot for the expanded TPB predicting time 2 intentions to binge drink

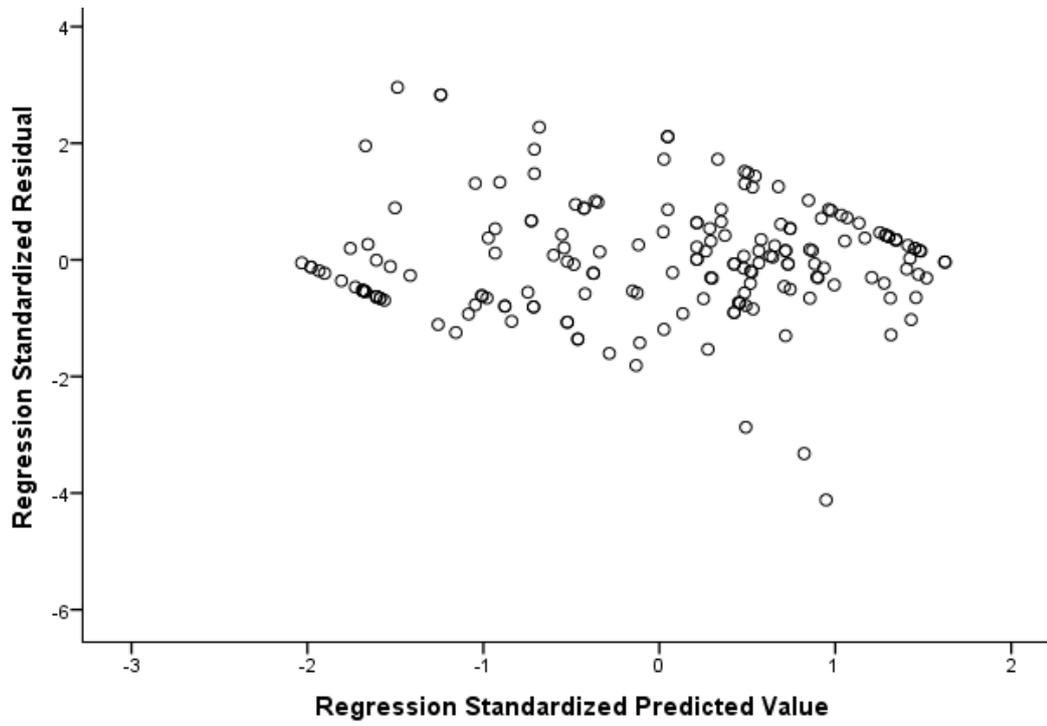


Figure 8.51 Scatter Plot for the expanded TPB predicting time 2 intentions to binge drink

## Appendix Z1

### Testing the Expanded TPB Predicting Time 2 Intentions to Binge Drink in the absence of Time 1 Intentions

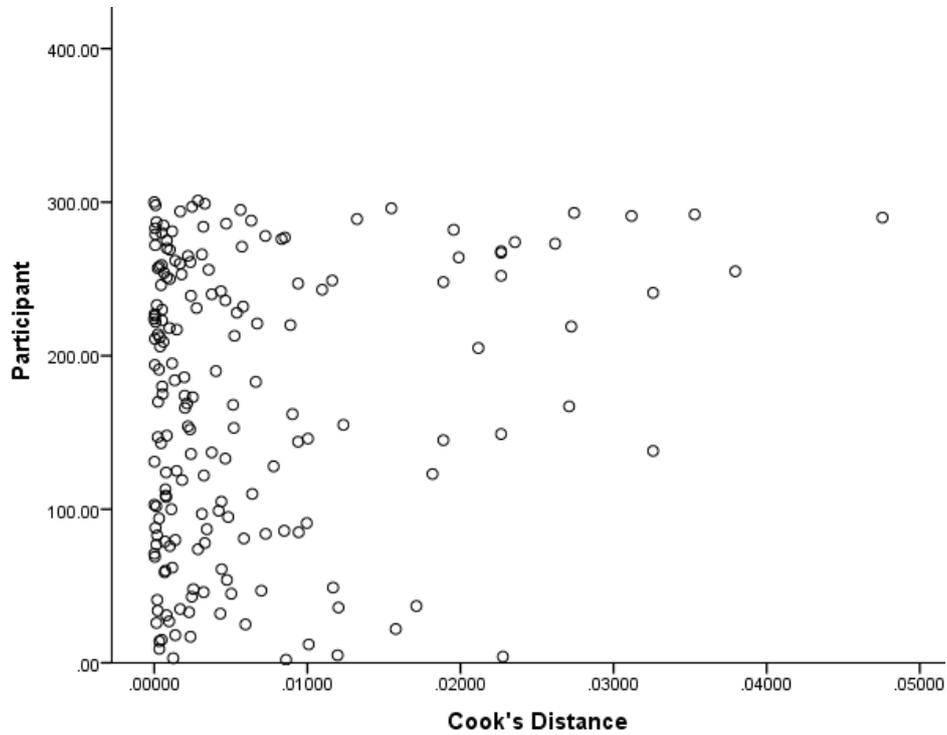


Figure 8.52 Cooks Distance for the expanded TPB predicting time 2 intentions to binge drink in the absence of time 1 intentions

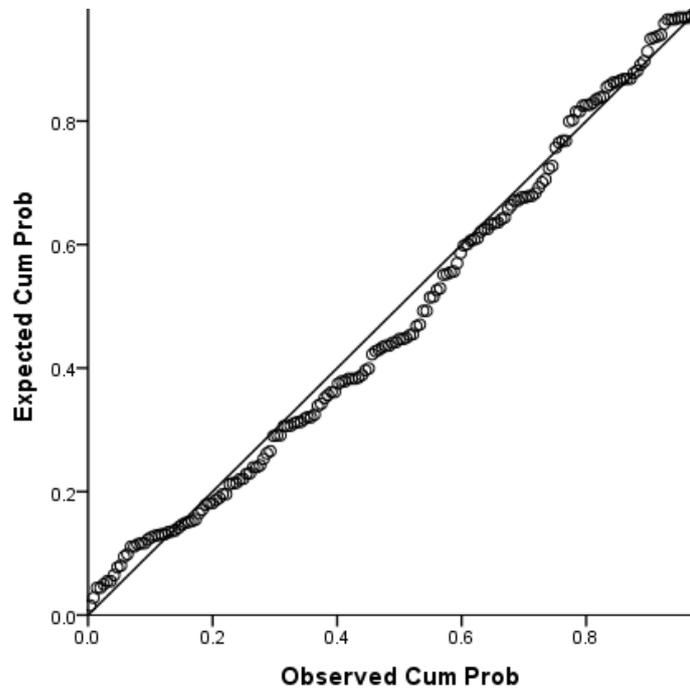


Figure 8.53 Normal P-Plot for the expanded TPB predicting time 2 intentions to binge drink in the absence of time 1 intentions

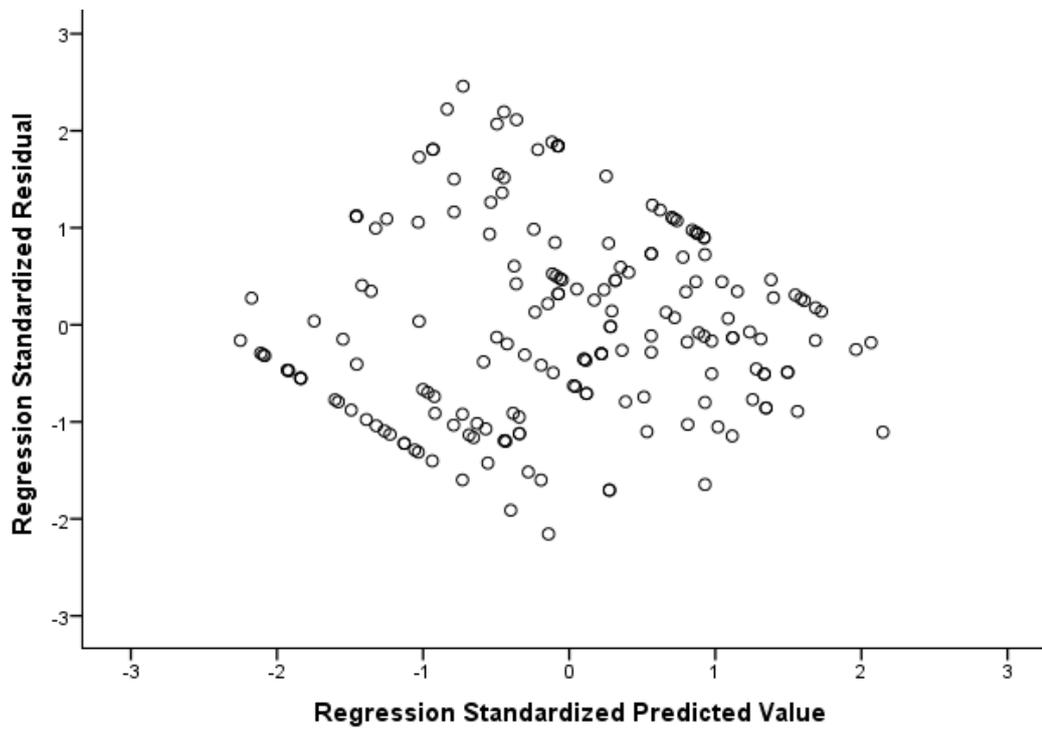


Figure 8.54 Scatter Plot for the expanded TPB predicting time 2 intentions to binge drink in the absence of time 1 intentions

## Appendix A2

### Assessment of Moderator Effects for Normative Influences: Predicting Time 1 Intentions to Binge Drink

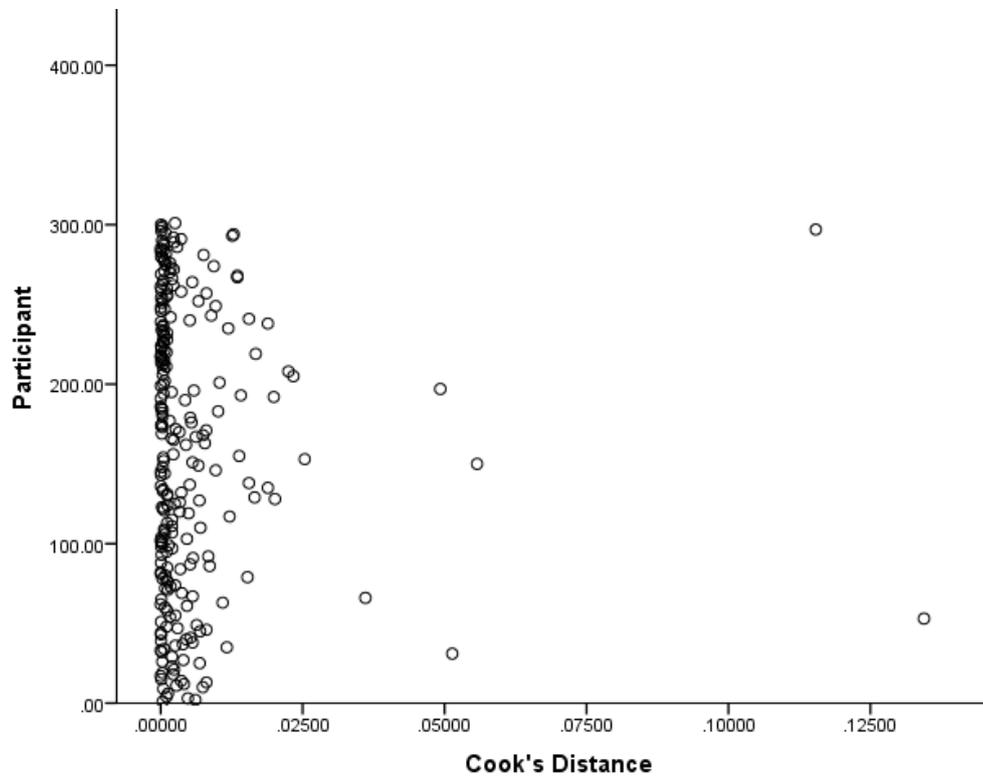


Figure 8.55 Cooks Distance for moderator effects of normative influences for time 1 intentions

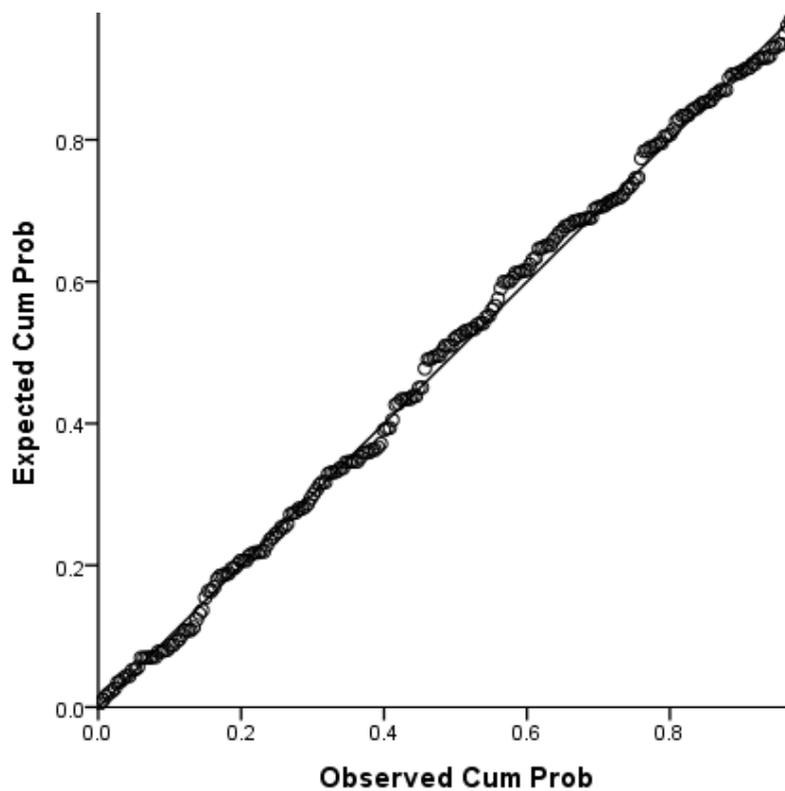


Figure 8.56 Normal P-Plot for moderator effects of normative influences for time 1 intentions

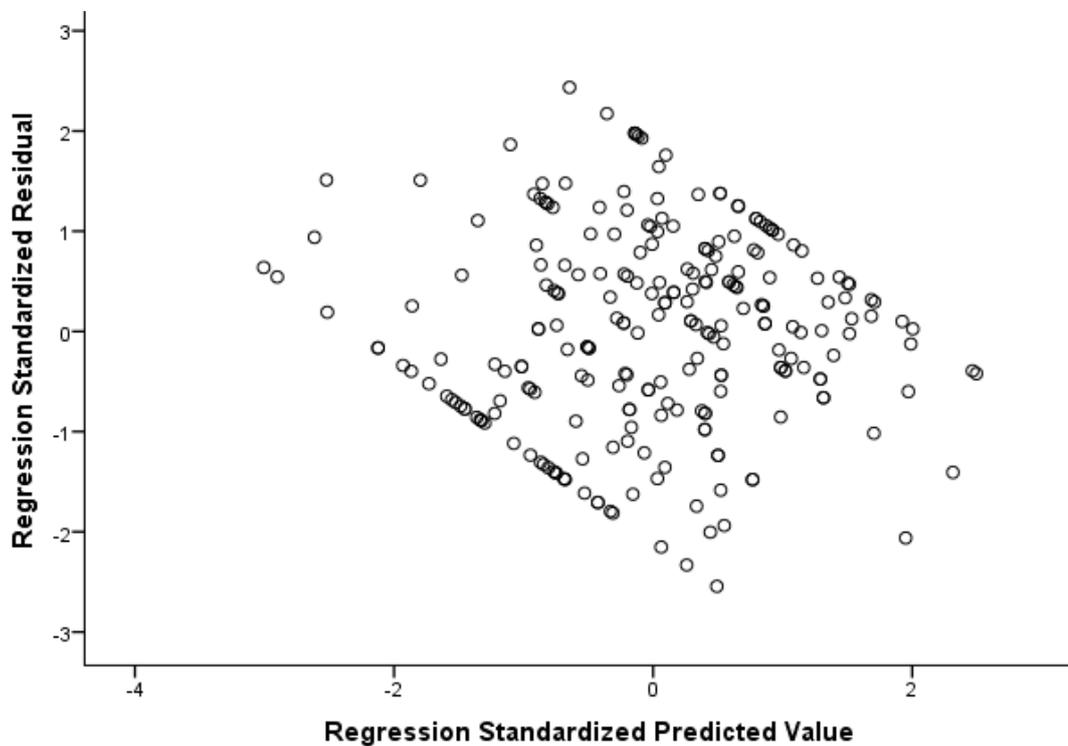


Figure 8.57 Scatter Plot for moderator effects of normative influences for time 1 intentions

## Appendix B2

### Assessment of Moderator Effects for Normative Influences: Predicting Time 2 Intentions to Binge Drink

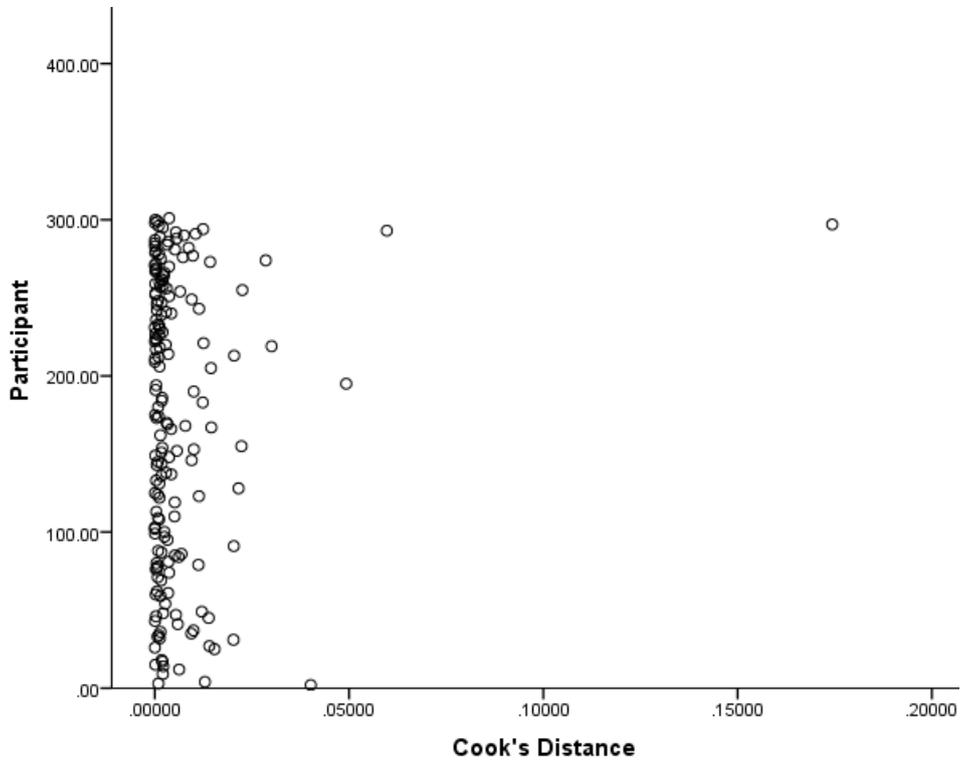


Figure 8.58 Cooks Distance for moderator effects for normative influences predicting time 2 intentions to binge drink

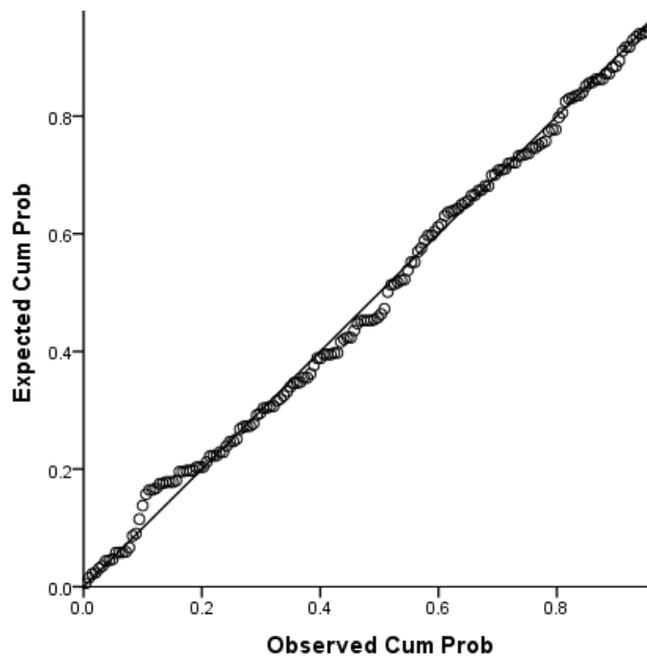


Figure 8.59 Normal P-Plot for moderator effects for normative influences predicting time 2 intentions to binge drink

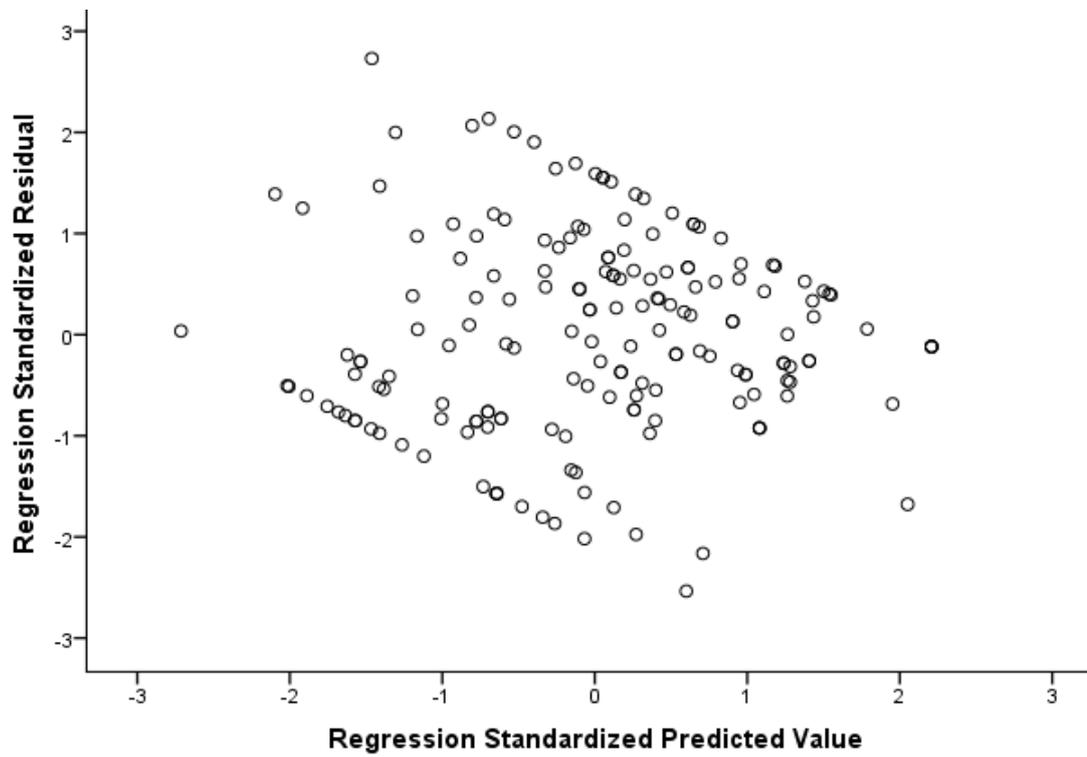


Figure 8.60 Scatter Plot for moderator effects for normative influences predicting time 2 intentions to binge drink

## Appendix C2

### Assessment of Moderator Effects for Normative Influences: Predicting Binge Drinking Behaviour

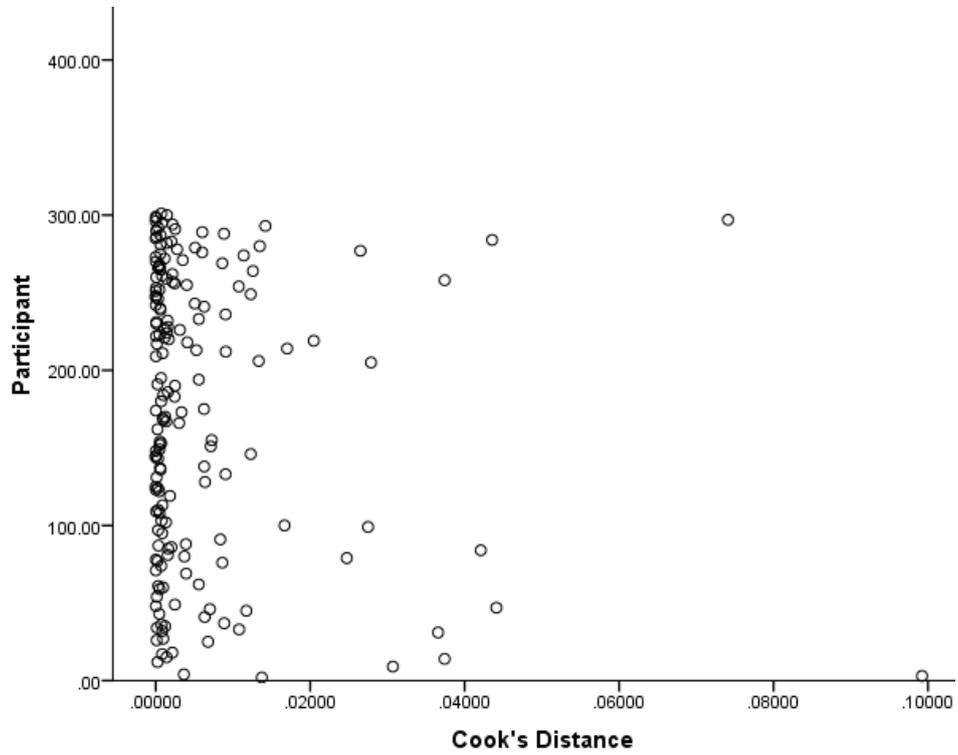


Figure 8.61 Cooks Distance for moderator effects of normative influences predicting behaviour

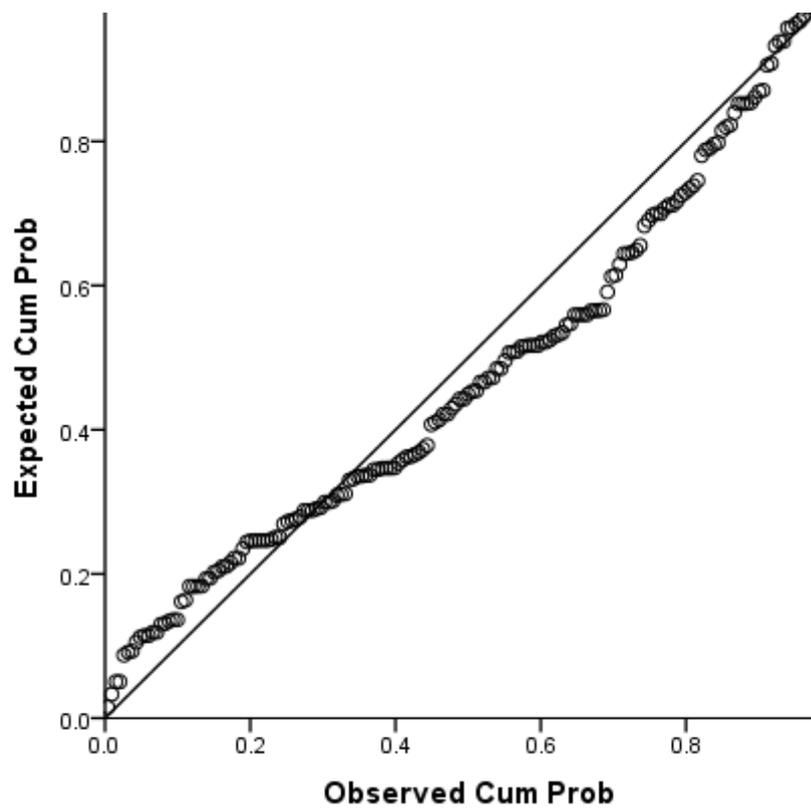


Figure 8.62 Normal P-Plot for moderator effects of normative influences predicting behaviour

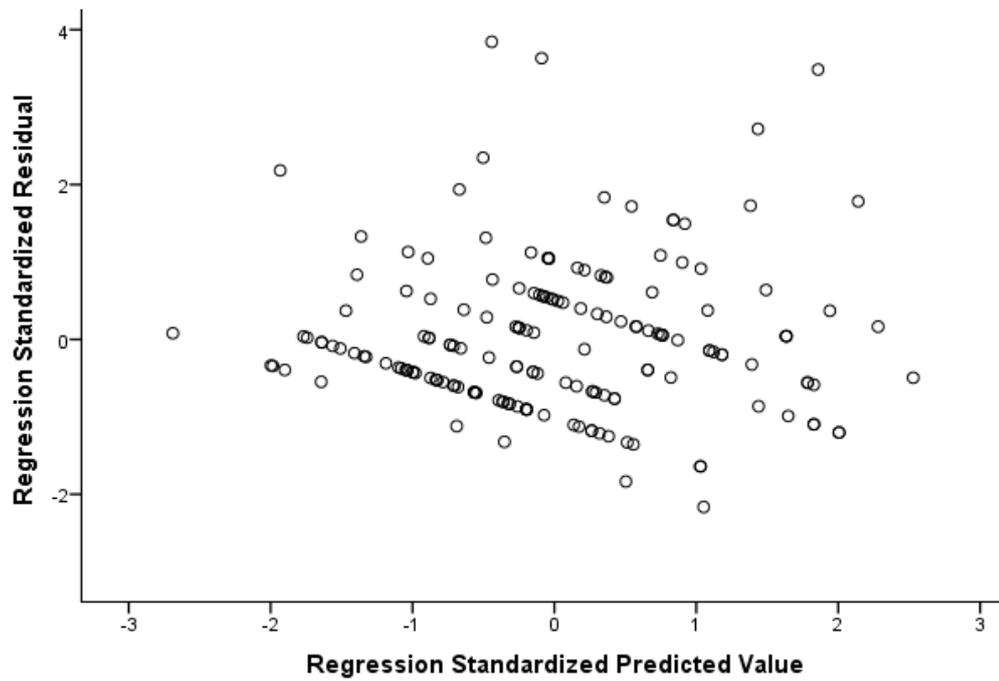


Figure 8.63 Scatter Plot for moderator effects of normative influences predicting behaviour

## Appendix D2

### Study 3 Bivariate Correlations

Table 8.7 Study 3 Bivariate Correlations

		Past Drinking Behaviour	Past Drinking Behaviour (including drinking games)	Self-Identity	Habit	Attitude	N Friends Outside University	N Close Friends Outside University	N Friends at University	N Close Friends at University
Age	<i>r</i>	-.121*	-.259**	-.076	-.018	-.037	.015	-.036	-.150*	-.181**
	<i>p</i>	.046	.000	.214	.766	.548	.809	.557	.014	.003
	N	270	267	269	264	268	264	267	267	269
Past Drinking Behaviour	<i>r</i>		.924**	.697**	.703**	.628**	.172**	.275**	.286**	.375**
	<i>p</i>		.000	.000	.000	.000	.005	.000	.000	.000
	N		267	270	265	269	265	268	268	270
Past Drinking Behaviour (including drinking games)	<i>r</i>			.637**	.636**	.570**	.169**	.263**	.296**	.416**
	<i>p</i>			.000	.000	.000	.006	.000	.000	.000
	N			266	261	265	261	264	264	266
Self-Identity	<i>r</i>				.806**	.573**	.016	.141*	.130*	.235**
	<i>p</i>				.000	.000	.802	.021	.034	.000
	N				264	268	264	267	267	269
Habit	<i>r</i>					.595**	.031	.206**	.143*	.271**
	<i>p</i>					.000	.621	.001	.021	.000
	N					264	259	262	263	264
Attitude	<i>r</i>						.090	.210**	.183**	.229**
	<i>p</i>						.146	.001	.003	.000
	N						263	266	266	268
N friends outside university	<i>r</i>							.439**	.298**	.086
	<i>p</i>							.000	.000	.164
	N							265	264	265

		Subjective Norm Family	Descriptive Norm Family	Group Norm Family	Subjective Norm Friends at University	Descriptive Norm Friends at University	Group Norm Friends at University	Subjective Norm Friends outside University	Descriptive Norm Friends outside University	Group Norm Friends Outside University	In Group ID Family
Age	r	.056	.103	.083	-.186**	-.346**	-.211**	-.146*	-.090	-.140*	-.123*
	p	.373	.093	.183	.003	.000	.001	.019	.142	.024	.044
	N	259	268	258	255	268	254	259	267	257	268
Past Drinking Behaviour	r	.252**	.150*	.245**	.428**	.451**	.471**	.453**	.368**	.480**	-.088
	p	.000	.014	.000	.000	.000	.000	.000	.000	.000	.149
	N	260	269	259	255	269	254	260	268	258	269
Past Drinking Behaviour (including drinking games)	r	.214**	.107	.197**	.420**	.504**	.481**	.385**	.314**	.408**	-.048
	p	.001	.081	.002	.000	.000	.000	.000	.000	.000	.441
	N	256	265	255	252	265	251	256	264	254	265
Self-Identity	r	.219**	.160**	.226**	.409**	.413**	.428**	.451**	.352**	.463**	-.206**
	p	.000	.009	.000	.000	.000	.000	.000	.000	.000	.001
	N	259	268	258	254	268	253	259	267	257	268
Habit	r	.254**	.228**	.278**	.407**	.371**	.417**	.451**	.346**	.459**	-.188**
	p	.000	.000	.000	.000	.000	.000	.000	.000	.000	.002
	N	255	264	254	251	264	250	256	263	254	264
Attitude	r	.381**	.138*	.319**	.351**	.290**	.365**	.475**	.355**	.484**	-.118
	p	.000	.024	.000	.000	.000	.000	.000	.000	.000	.054
	N	259	268	258	254	268	253	259	267	257	268
N friends outside university	r	.103	-.012	.067	.027	.012	.019	.025	.092	.063	.085
	p	.100	.843	.288	.667	.851	.769	.692	.139	.321	.169
	N	256	263	255	251	263	250	256	262	254	263

		In Group Belonging Family	In Group ID Friends at University	In Group Belonging Friends at University	In Group ID Friends Outside University	In Group Belonging Friends Outside University	PBC	PBCSE	Moral Norm	Time 1 Intention	Anticipated Regret
Age	r	-.139*	-.424**	-.279**	.017	.031	-.058	-.020	-.061	-.089	-.107
	p	.023	.000	.000	.783	.609	.341	.747	.317	.144	.082
	N	268	268	269	268	268	268	266	270	269	265
Past Drinking Behaviour	r	.011	.279**	.275**	.227**	.197**	.059	.536**	-.607**	.718**	-.559**
	p	.854	.000	.000	.000	.001	.339	.000	.000	.000	.000
	N	269	269	270	269	269	269	267	271	270	266
Past Drinking Behaviour (including drinking games)	r	.032	.354**	.320**	.169**	.117	.045	.489**	-.549**	.675**	-.484**
	p	.605	.000	.000	.006	.058	.463	.000	.000	.000	.000
	N	265	265	266	265	265	265	263	267	266	262
Self-Identity	r	-.093	.200**	.185**	.219**	.196**	-.150*	.323**	-.516**	.719**	-.385**
	p	.128	.001	.002	.000	.001	.014	.000	.000	.000	.000
	N	268	268	269	268	268	268	266	270	269	265
Habit	r	-.116	.210**	.202**	.244**	.197**	-.213**	.313**	-.570**	.654**	-.447**
	p	.059	.001	.001	.000	.001	.001	.000	.000	.000	.000
	N	264	264	264	264	264	263	261	265	264	261
Attitude	r	-.033	.167**	.143*	.219**	.083	-.077	.367**	-.751**	.645**	-.620**
	p	.586	.006	.020	.000	.178	.208	.000	.000	.000	.000
	N	268	268	268	268	268	267	265	269	268	265
N friends outside university	r	.064	.079	.041	.101	.094	.115	.099	-.087	.080	-.106
	p	.298	.204	.508	.102	.129	.062	.110	.159	.193	.089
	N	263	263	264	263	263	263	261	265	264	261

		Sensation Seeking	Impulsivity	Tendency to use Social Comparison	Importance of Parties	Importance of Nights out	Importance of Athletics or sports	Importance of Religion	Importance of Academic work	Time 2 Binge Drinking	Time 2 Intention
Age	r	-.033	-.122*	.014	-.332**	-.307**	-.145*	-.097	.114	-.096	-.095
	p	.590	.046	.823	.000	.000	.017	.114	.063	.185	.191
	N	268	269	264	269	269	269	266	269	193	193
Past Drinking Behaviour	r	.415**	.208**	.198**	.539**	.558**	.136*	-.159**	-.130*	.572**	.639**
	p	.000	.001	.001	.000	.000	.025	.009	.034	.000	.000
	N	269	270	265	269	269	269	266	269	194	194
Past Drinking Behaviour (including drinking games)	r	.373**	.215**	.199**	.626**	.613**	.209**	-.118	-.185**	.582**	.611**
	p	.000	.000	.001	.000	.000	.001	.055	.002	.000	.000
	N	265	266	261	267	267	267	264	267	192	192
Self-Identity	r	.370**	.192**	.238**	.481**	.526**	.114	-.116	-.117	.546**	.612**
	p	.000	.002	.000	.000	.000	.062	.060	.055	.000	.000
	N	268	269	264	268	268	268	265	268	193	193
Habit	r	.351**	.218**	.165**	.446**	.496**	.146*	-.139*	-.119	.507**	.514**
	p	.000	.000	.008	.000	.000	.018	.025	.053	.000	.000
	N	264	265	260	263	263	263	260	263	192	192
Attitude	r	.261**	.209**	.138*	.416**	.502**	.006	-.130*	-.170**	.418**	.556**
	p	.000	.001	.025	.000	.000	.916	.034	.005	.000	.000
	N	268	269	264	267	267	267	264	267	194	194
N friends outside university	r	.184**	.181**	.050	.107	.060	.201**	-.038	-.126*	.221**	.032
	p	.003	.003	.419	.084	.330	.001	.541	.041	.002	.664
	N	264	264	259	263	263	263	260	263	191	191

		N Close Friends at University	Subjective Norm Family	Descriptive Norm Family	Group Norm Family	Subjective Norm Friends at University	Descriptive Norm Friends at University	Group Norm Friends at University	Subjective Norm Friends outside University	Descriptive Norm Friends outside University	Group Norm Friends Outside University
N Close Friends outside University	r	.452*	.460**	.166**	.081	.160*	.164**	.122*	.151*	.225**	.213**
	p	.000	.000	.007	.188	.010	.009	.047	.017	.000	.001
	N	266	268	258	266	257	253	266	252	265	256
N Friends at University	r		.659**	-.009	.048	.008	.221**	.255**	.244**	-.003	.015
	p		.000	.885	.439	.904	.000	.000	.000	.956	.809
	N		268	259	266	258	254	266	253	265	257
N Close Friends at University	r			-.014	.061	.012	.261**	.320**	.291**	.082	.121
	p			.826	.318	.846	.000	.000	.000	.180	.053
	N			260	268	259	255	268	254	267	258
Subjective Norm Family	r				.476**	.908**	.205**	.115	.171**	.115	.234**
	p				.000	.000	.001	.064	.007	.064	.000
	N				259	259	250	259	249	258	253
Descriptive Norm Family	r					.801**	.195**	.205**	.204**	.171**	.227**
	p					.000	.002	.001	.001	.005	.000
	N					259	254	269	254	268	258

		In Group ID Family	In Group Belonging Family	In Group ID Friends at University	In Group Belonging Friends at University	In Group ID Friends Outside University	In Group Belonging Friends Outside University	PBC	PBCSE	Moral Norm	Time 1 Intention
N Close Friends outside University	<i>r</i>	.027	.041	.222**	.172**	.267**	.244**	.027	.120	-.224**	.199**
	<i>p</i>	.661	.502	.000	.005	.000	.000	.665	.052	.000	.001
	N	266	266	266	267	266	266	266	264	268	267
N Friends at University	<i>r</i>	.036	.102	.255**	.309**	-.015	.061	.099	.142*	-.096	.133*
	<i>p</i>	.558	.099	.000	.000	.802	.323	.106	.021	.116	.030
	N	266	266	266	267	266	266	266	264	268	267
N Close Friends at University	<i>r</i>	.028	.046	.331**	.358**	.079	.114	.012	.160**	-.181**	.217**
	<i>p</i>	.644	.451	.000	.000	.196	.063	.847	.009	.003	.000
	N	268	268	268	269	268	268	268	266	270	269
Subjective Norm Family	<i>r</i>	-.079	-.017	-.012	-.005	.068	.069	.027	.318**	-.469**	.315**
	<i>p</i>	.207	.791	.849	.934	.276	.271	.667	.000	.000	.000
	N	259	259	259	259	259	259	258	256	260	259
Descriptive Norm Family	<i>r</i>	-.127*	-.112	.018	.067	-.034	.057	-.026	.157*	-.190**	.224**
	<i>p</i>	.037	.068	.763	.271	.579	.355	.673	.010	.002	.000
	N	268	268	268	268	268	268	267	265	269	268

		Anticipated Regret	Sensation Seeking	Impulsivity	Tendency to use Social Comparison	Importance of Parties	Importance of Nights out	Importance of Athletics or sports	Importance of Religion	Importance of Academic work	Time 2 Binge Drinking	Time 2 Intention
N Close Friends outside University	r	-.172**	.226**	.239**	.128*	.194**	.169**	.205**	-.060	-.002	.331**	.182*
	p	.005	.000	.000	.039	.001	.006	.001	.331	.980	.000	.012
	N	264	267	267	262	266	266	266	263	266	192	192
N Friends at University	r	-.097	.215**	.134*	.072	.221**	.142*	.236**	.133*	-.086	.156*	.085
	p	.118	.000	.028	.243	.000	.021	.000	.031	.160	.029	.237
	N	263	266	267	262	266	266	266	263	266	194	194
N Close Friends at University	r	-.150*	.186**	.177**	.165**	.291**	.258**	.222**	.011	.026	.254**	.254**
	p	.014	.002	.004	.007	.000	.000	.000	.859	.667	.000	.000
	N	265	268	269	264	268	268	268	265	268	194	194
Subjective Norm Family	r	-.353**	.188**	.025	-.109	.173**	.123*	.041	-.111	-.020	.231**	.292**
	p	.000	.002	.691	.082	.005	.049	.514	.078	.753	.001	.000
	N	256	259	260	255	258	258	258	255	258	189	189
Descriptive Norm Family	r	-.171**	.128*	.025	-.058	.059	.064	-.010	-.076	.011	.096	.205**
	p	.005	.036	.682	.346	.338	.294	.876	.221	.863	.182	.004
	N	265	268	269	264	267	267	267	264	267	194	194
Group Norm Family	r	-.320**	.200**	.045	-.116	.163**	.133*	.019	-.114	.007	.205**	.305**
	p	.000	.001	.468	.065	.009	.034	.757	.069	.905	.005	.000
	N	255	258	259	254	257	257	257	254	257	189	189

		Descriptive Norm Friends at University	Group Norm Friends at University	Subjective Norm Friends outside University	Descriptive Norm Friends outside University	Group Norm Friends Outside University	In Group ID Family	In Group Belonging Family	In Group ID Friends at University	In Group Belonging Friends at University
Sunjective	r	1	.719**	.943**	.569**	.246**	.489**	.056	.025	.172**
Norm	p		.000	.000	.000	.000	.000	.375	.697	.006
Friends at	N	255	254	254	253	254	252	254	254	254
University	r	.719**	1	.909**	.372**	.395**	.451**	.026	.018	.406**
Descriptiv	p	.000		.000	.000	.000	.000	.675	.775	.000
e Norm	N	254	269	254	259	268	258	268	268	268
Friends at	r	.943**	.909**	1	.507**	.344**	.500**	.063	.023	.201**
University	p	.000	.000		.000	.000	.000	.320	.712	.001
Group	N	254	254	254	252	254	252	253	253	253
Norm	r	.569**	.372**	.507**	1	.600**	.921**	-.030	-.026	.126*
Friends at	p	.000	.000	.000		.000	.000	.634	.682	.043
University	N	253	259	252	260	258	258	259	259	259
Subjective	r	.395**	.344**	.600**	1	.865**	-.042	-.095	.143*	.089
Norm	p	.000	.000	.000		.000	.497	.123	.019	.149
Friends	N	268	254	258	268	258	267	267	267	267
Outside	r	.451**	.500**	.921**	.865**	1	-.044	-.070	.157*	.063
University	p	.000	.000	.000	.000		.483	.264	.012	.315
Group	N	258	252	258	258	258	257	257	257	257
Norm										
Friends										
outside										
University										

		In Group ID Friends Outside University	In Group Belonging Friends Outside University	PBC	PBCSE	Moral Norm	Time 1 Intention	Anticipated Regret	Sensation Seeking	Impulsivity
Subjective Norm Friends at University	r	.186**	.151*	-.008	.171**	-.318**	.446**	-.235**	.163**	.164**
	p	.003	.016	.895	.006	.000	.000	.000	.009	.009
	N	254	254	253	251	255	254	252	254	255
Descriptive Norm Friends at University	r	.111	.112	.072	.284**	-.271**	.496**	-.223**	.264**	.175**
	p	.070	.068	.244	.000	.000	.000	.000	.000	.004
	N	268	268	267	265	269	268	265	268	269
Group Norm Friends at University	r	.164**	.137*	.016	.212**	-.322**	.487**	-.247**	.207**	.157*
	p	.009	.029	.795	.001	.000	.000	.000	.001	.012
	N	253	253	252	250	254	253	251	253	254
Subjective Norm Friends outside University	r	.235**	.097	-.069	.243**	-.464**	.473**	-.412**	.162**	.194**
	p	.000	.121	.270	.000	.000	.000	.000	.009	.002
	N	259	259	258	256	260	259	256	259	260
Descriptive Norm Friends Outside University	r	.356**	.246**	.032	.228**	-.301**	.402**	-.313**	.206**	.165**
	p	.000	.000	.609	.000	.000	.000	.000	.001	.007
	N	267	267	266	264	268	267	264	267	268
Group Norm Friends outside University	r	.318**	.149*	-.023	.277**	-.451**	.501**	-.424**	.225**	.219**
	p	.000	.017	.719	.000	.000	.000	.000	.000	.000
	N	257	257	256	254	258	257	254	257	258

		Tendency to use Social Comparison	Importance of Parties	Importance of Nights out	Importance of Athletics or sports	Importance of Religion	Importance of Academic work	Time 2 Binge Drinking	Time 2 Intention
Subjective Norm Friends at University	r	.171**	.392**	.420**	.139*	-.139*	.017	.331**	.262**
	p	.007	.000	.000	.027	.028	.782	.000	.000
	N	250	254	254	254	251	254	184	184
Descriptive Norm Friends at University	r	.235**	.471**	.514**	.171**	-.129*	.037	.319**	.368**
	p	.000	.000	.000	.005	.036	.551	.000	.000
	N	264	267	267	267	264	267	194	194
Group Norm Friends at University	r	.238**	.445**	.483**	.144*	-.165**	-.016	.351**	.295**
	p	.000	.000	.000	.022	.009	.796	.000	.000
	N	249	253	253	253	250	253	184	184
Subjective Norm Friends outside University	r	.151*	.309**	.389**	.024	-.072	-.068	.381**	.483**
	p	.016	.000	.000	.702	.254	.275	.000	.000
	N	255	258	258	258	255	258	188	188
Descriptive Norm Friends Outside University	r	.185**	.211**	.311**	-.009	-.064	-.098	.309**	.332**
	p	.003	.001	.000	.879	.298	.111	.000	.000
	N	263	266	266	266	263	266	193	193
Group Norm Friends outside University	r	.204**	.323**	.422**	.005	-.086	-.088	.397**	.486**
	p	.001	.000	.000	.932	.172	.160	.000	.000
	N	253	256	256	256	253	256	187	187

		In Group Belonging Family	In Group ID Friends at University	In Group Belonging Friends at University	In Group ID Friends Outside University	In Group Belonging Friends Outside University	PBC	PBCSE	Moral Norm	Time 1 Intention	Anticipated Regret
IGIDFamily	r	.886**	.245**	.218**	.122*	.060	.012	-.062	.081	-.077	.108
	p	.000	.000	.000	.045	.324	.839	.315	.183	.209	.080
	N	268	269	268	269	268	267	265	269	268	265
IGBFamily	r	1	.182**	.219**	.062	.062	.059	.049	.000	-.022	.038
	p		.003	.000	.310	.311	.333	.428	.994	.720	.543
	N	269	268	269	268	269	267	265	269	268	265
IGIDUniFriends	r	.182**	1	.823**	.314**	.201**	.062	.124*	-.147*	.270**	-.011
	p	.003		.000	.000	.001	.310	.043	.016	.000	.856
	N	268	269	268	269	268	267	265	269	268	265
IGBUniFriends	r	.219**	.823**	1	.244**	.325**	.085	.184**	-.102	.221**	.003
	p	.000	.000		.000	.000	.164	.003	.093	.000	.966
	N	269	268	270	268	269	268	266	270	269	265
IGIDFriends	r	.062	.314**	.244**	1	.789**	.011	.134*	-.255**	.227**	-.217**
	p	.310	.000	.000		.000	.856	.029	.000	.000	.000
	N	268	269	268	269	268	267	265	269	268	265
IGBFriends	r	.062	.201**	.325**	.789**	1	.064	.155*	-.122*	.164**	-.175**
	p	.311	.001	.000	.000		.297	.012	.046	.007	.004
	N	269	268	269	268	269	267	265	269	268	265

		Sensation Seeking	Impulsivity	Tendency to use Social Comparison	Importance of Parties	Importance of Nights out	Importance of Athletics or sports	Importance of Religion	Importance of Academic work	Time 2 Binge Drinking	Time 2 Intention
IGIDFamily	r	-.219**	-.065	.083	.065	.049	-.061	.055	.160**	-.120	-.078
	p	.000	.287	.179	.291	.424	.317	.376	.009	.095	.281
	N	268	269	264	267	267	267	264	267	193	193
IGBFamily	r	-.184**	-.067	.138*	.124*	.082	-.085	.044	.153*	-.092	-.021
	p	.003	.273	.024	.043	.180	.168	.479	.012	.201	.776
	N	268	269	264	267	267	267	264	267	194	194
IGIDUniFriends	r	.141*	.060	.156*	.431**	.483**	.153*	.005	.096	.206**	.250**
	p	.021	.327	.011	.000	.000	.012	.940	.116	.004	.000
	N	268	269	264	267	267	267	264	267	193	193
IGBUniFriends	r	.096	-.056	.219**	.344**	.349**	.144*	.035	.104	.134	.128
	p	.118	.364	.000	.000	.000	.019	.571	.088	.063	.075
	N	268	269	264	268	268	268	265	268	194	194
IGIDFriends	r	.173**	.131*	.055	.107	.192**	.002	-.084	-.008	.210**	.152*
	p	.005	.031	.370	.080	.002	.977	.173	.891	.003	.035
	N	268	269	264	267	267	267	264	267	193	193
IGBFriends	r	.115	.018	.094	.006	.033	.045	-.038	.045	.112	.045
	p	.060	.769	.127	.919	.589	.463	.537	.466	.120	.529
	N	268	269	264	267	267	267	264	267	194	194

		PBCSE	Moral Norm	Time 1 Intention	Anticipated Regret	Sensation Seeking	Impulsivity	Tendency to use Social Comparison	Importance of Parties	Importance of Nights out
PBC	r	.612**	-.026	.016	-.068	.068	.042	.069	-.019	-.062
	p	.000	.665	.797	.267	.270	.490	.264	.761	.311
	N	267	269	268	264	267	268	263	267	267
PBCSE	r	1	-.509**	.490**	-.505**	.332**	.169**	.143*	.256**	.256**
	p		.000	.000	.000	.000	.006	.021	.000	.000
	N	267	267	266	262	265	266	261	265	265
MN	r	-.509**	1	-.645**	.783**	-.259**	-.208**	-.116	-.346**	-.409**
	p	.000		.000	.000	.000	.001	.060	.000	.000
	N	267	271	270	266	269	270	265	269	269
INTENTIONT1	r	.490**	-.645**	1	-.557**	.374**	.238**	.163**	.535**	.615**
	p	.000	.000		.000	.000	.000	.008	.000	.000
	N	266	270	270	265	268	269	264	268	268
AR	r	-.505**	.783**	-.557**	1	-.284**	-.224**	-.156*	-.252**	-.294**
	p	.000	.000	.000		.000	.000	.011	.000	.000
	N	262	266	265	266	266	266	261	264	264
SSTOTAL	r	.332**	-.259**	.374**	-.284**	1	.362**	.162**	.339**	.325**
	p	.000	.000	.000	.000		.000	.008	.000	.000
	N	265	269	268	266	269	269	264	267	267

		Importance of Athletics or sports	Importance of Religion	Importance of Academic work	Time 2 Binge Drinking	Time 2 Intention
PBC	r	-.017	-.096	.136*	-.103	-.013
	p	.788	.119	.026	.152	.854
	N	267	264	267	193	193
PBCSE	r	.082	-.161**	.052	.220**	.350**
	p	.183	.009	.404	.002	.000
	N	265	262	265	191	191
MN	r	-.091	.136*	.026	-.405**	-.522**
	p	.138	.026	.668	.000	.000
	N	269	266	269	194	194
INTENTIONT1	r	.112	-.236**	-.033	.583**	.816**
	p	.067	.000	.591	.000	.000
	N	268	265	268	193	193
AR	r	-.134*	.164**	.073	-.367**	-.392**
	p	.029	.008	.235	.000	.000
	N	264	261	264	190	190
SSTOTAL	r	.193**	-.056	-.100	.279**	.241**
	p	.002	.363	.105	.000	.001
	N	267	264	267	193	193

		Tendency to use Social Comparison	Importance of Parties	Importance of Nights out	Importance of Athletics or sports	Importance of Religion	Importance of Academic work	Time 2 Binge Drinking	Time 2 Intention
BISTOTAL	<i>r</i>	.074	.198**	.187**	.123*	-.084	-.149*	.253**	.163*
	<i>p</i>	.230	.001	.002	.045	.174	.014	.000	.023
	N	265	268	268	268	265	268	194	194
SC	<i>r</i>		.288**	.260**	.168**	.066	-.036	.172*	.096
	<i>p</i>		.000	.000	.006	.286	.557	.017	.186
	N		263	263	263	260	263	192	192
Parties	<i>r</i>			.828**	.258**	-.041	-.046	.370**	.417**
	<i>p</i>			.000	.000	.508	.456	.000	.000
	N			269	269	266	269	193	193
Nights out	<i>r</i>				.182**	-.123*	-.021	.436**	.525**
	<i>p</i>				.003	.046	.727	.000	.000
	N				269	266	269	193	193
Athletics or sports	<i>r</i>					.180**	.083	.313**	-.015
	<i>p</i>					.003	.175	.000	.831
	N					266	269	193	193
Religion	<i>r</i>						.012	-.131	-.229**
	<i>p</i>						.845	.072	.002
	N						266	190	190
Academic work	<i>r</i>							-.233**	-.078
	<i>p</i>							.001	.281
	N							193	193
Time 2 Behaviour	<i>r</i>								.539**
	<i>p</i>								.000
	N								194

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