

**Drinking habits of 16 year olds: Secondary
analysis of the
1970 British Cohort Study**
Short Accessible Report – May 2001

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Frequent drinkers = teenagers who consumed alcohol on two or more days per week

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Research Council**

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1. SUMMARY OF FINDINGS AND IMPLICATIONS

1.1 Relating the results to previous research

- ◆ Thirty-six per cent of girls and 46% of boys had started drinking before the age of 15 and these early drinkers were twice as likely to be binge drinkers or frequent drinkers by the age of 16.

These results demonstrate a high prevalence of early drinking and support previous work showing that early introduction to alcohol increases the risk of established alcohol habits.

- ◆ High self-esteem was associated with increased frequency of drinking, although was not a significant factor in a detailed analysis of binge drinking. Also, belief in positive social effects of alcohol was associated with both binge drinking and frequency of drinking.

This indicates that those with higher self-esteem are more likely to drink frequently, and that binge drinkers and frequent drinkers hold positive social facilitatory attitudes towards alcohol.

- ◆ Accuracy of parental knowledge of their child's drinking is not affected by social class but is affected by drinking habits of the child and of the parent. Furthermore, the frequency of mother's and mother's husband's drinking is strongly associated with the amount and frequency of the child's drinking.
- ◆ Sixteen year olds in this sample were heavily influenced by their peers and this is consistent with other research.

Nearly all, (98%) of the teenagers rated their peers as drinkers rather than non-drinkers, irrespective of their own drinking habits. There may be over-estimation of peers' alcohol consumption as the BCS70 data indicates that 92% of the respondents consumed alcohol at some point in the previous year. Over-estimation has been demonstrated in other studies and may result in an increased pressure to conform to 'social norms'.

- ◆ Teenagers with parents who drank alcohol more frequently were more likely to be binge drinkers or frequent drinkers and this supports other research that has found the influence of the family is strong.

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1.2 Policy implications and further research

Around a quarter of sixteen-year olds drank alcohol in moderate amounts and around a quarter drank in moderate frequency. Serious problems, however, were only identified in approximately seven per cent of girls and 10% of boys for both excess frequency and amount. The issue is raised as to whether prevention strategies should be universal or targeted towards specific groups. Self-awareness of excessive drinking habits is relatively poor, as only three per cent of girls and 4.5% of boys reported that they often drank more than they should, yet around a third of teenagers were classified as binge drinkers, consuming four or more units in a drinking session. Self-reports of being really drunk were much lower, with two per cent of girls and six per cent of boys reporting being really drunk every few weeks, and only one per cent of teenagers of either sex reporting that they got really drunk every week.

Prevalence rates for drinking excess amounts and consuming alcohol frequently varied almost two-fold depending on the criteria used. The proportion of teenagers reporting serious and potentially harmful drinking behaviours was higher when the measure of alcohol consumption was total units consumed in a week and units per session, when compared with the frequency of alcohol consumption. This indicates that infrequent occasions of high alcohol consumption were the general pattern rather than frequent alcohol consumption. The associated risks for different patterns of drinking raises two issues. Firstly, there may be differences in the medical risks involved with either binge drinking or frequent drinking. Secondly, we need to know the differences in behaviour patterns associated with binge or frequent drinking.

The present analysis has categorised teenagers into serious, moderate and no problem groups according to drinking habits. From a life course perspective, investigation of longitudinal links between drinking habits at age 16 and later life would explore the extent to which individuals move between these groups as they adjust to changes in their social environment, (including education, employment, relationships, family and so on) and are affected by external events (such as Government legislation, health scares etc). Analysis of this sort may also explore the issue of accumulated risk of embedded beliefs, aspects of personality and early negative health behaviours relating to morbidity and mortality later in life.

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Initiating alcohol consumption at an early age is associated with a higher risk of frequent and binge drinking. Trends from the Trent Lifestyle Survey (Roberts et al, 1995) have demonstrated that this younger group is growing and that there are more youngsters drinking more alcohol and stronger drinks. Furthermore Roberts et al warn that prevalence is likely to continue to increase.

The results presented in this report suggest that beliefs in the positive effects of alcohol are widespread regardless of drinking habits. Such prevalent attitudes may be difficult to change. It would be interesting to assess whether the quantity of alcohol consumed influences social facilitatory beliefs. For example, the belief that alcohol can make an individual more sociable and ease social situations may only hold true for the consumption of small or moderate amounts of alcohol. Larger quantities of alcohol may have the reverse effect.

The results suggest that targeting interventions, or identifying teenagers with problem drinking behaviour, through parents is unlikely to be helpful as their estimates are inaccurate and undoubtedly influenced by their own beliefs and behaviours. However, other work has pointed to the influence of adult behaviours on children and suggested that education should be targeted on families of adults with known drinking problems.

The links between both binge and frequent drinking and sexual intercourse is strong and raises the issue of associated risks, including sexually transmitted disease, pregnancy and foetal alcohol syndrome.

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Drinking habits were also strongly associated with smoking and substance use. This provides some support for the 'problem syndrome' argument that drinking, smoking, substance use and sexual activity may be behavioural manifestations of the same underlying problem. However, not all teenagers are involved in multiple problem health behaviours and a significant proportion of teenagers does not drink, smoke, take drugs *and* have sexual intercourse. This raises the wider issue of whether health promotion interventions should be focused solely on individual drinking habits and their associated risks or more broadly on common mental health factors, life events or family characteristics that may make the individual vulnerable to a range of risky health behaviours such as drinking, smoking, substance use etc. The differing approaches to interventions therefore warrant further investigation

2. INTRODUCTION: DRINKING HABITS IN TEENAGERS

2.1 Background¹

Rates of alcohol consumption among adolescents are reported to be high and the first experience of alcohol can occur very early on in life sometimes as young as six. Research has suggested that many teenagers have initiated alcohol consumption by the age of 13 years.

Early drinking habits are important as drinking patterns developed early on in life may influence those exhibited later on. Early-onset problem drinking has been associated with higher consumption of drinking, more drinking problems and poorer overall functioning in later life than late-onset problem drinking. Furthermore it has been identified that the early drinking habits of alcoholics are significantly different to those of non-alcoholics.

Many factors contribute to adolescent drinking behaviour. These include gender and social class, parental and peer drinking behaviour, personality traits including self-esteem and attitudes or beliefs about the effects of alcohol.

Findings of studies examining the relationship between self-esteem and alcohol consumption have been mixed, with some researchers reporting that high levels of self-esteem may be associated with lower levels of alcohol use among adolescents whilst others have

¹ For a full discussion of published research findings please refer to the literature review submitted to the AERC in Autumn 2000 or to the full academic report submitted to the AERC in May 2001.

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suggested that the early alcohol use can boost self-esteem in adolescents.

Gender has been found to relate to patterns of drinking. Studies have shown that early initiation of alcohol consumption occurs more commonly in boys than girls and frequent and heavy drinking being more common amongst male adolescents than females, although the gap between genders has lessened over the years.

The relationship between adolescent drinking habits and social class is not conclusive. It has been suggested that adolescents who drink more are often of a lower socio-economic class than non-drinkers are although others have found no significant relationship between social class and the use of alcohol.

Research has suggested that alcohol consumption may act as a social facilitator for teenagers and early research suggested that early alcohol consumption can be related to a need for social approval and may serve a functional purpose to adolescents marking the transition from childhood to adulthood.

Exposure to peers who drink or to parents who drink has been related to frequent drinking and binge drinking later on. Although many studies have demonstrated a relationship between parental and adolescent drinking behaviour, parental knowledge regarding the drinking habits of their child is not well investigated. Parental accuracy may be confounded by parent's own drinking habits and also socioeconomic factors such as social class.

Disturbingly, high intake of alcohol has been associated with other health risk behaviours. Alcohol use has been portrayed as a 'first step' towards the use of more damaging illegal drug use and abuse and studies have demonstrated a link between alcohol consumption and other substance use (including tobacco) and risky sexual behaviour.

Research has shown that alcohol beliefs are significant in the initiation and maintenance of drinking behaviours among adolescents and it has been further suggested that beliefs about the effects of alcohol develop at a very early age.

2.2 Data

The 1970 British Cohort Study (BCS70) is a continuing, multidisciplinary longitudinal study which takes as its subjects all those living in Great Britain who were born between 5 and 11 April 1970. BCS70 began when data were collected about the births and

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families of 17,198 babies born in England, Scotland, Wales and Northern Ireland in the week 5-11 April 1970. (16,135 excluding Northern Ireland). Data collection was conducted at age 5, 10, 16, 26 and 30 years. The 1986 survey (age 16) was carried out by the International Centre for Child Studies and named Youthscan. In this sweep, sixteen separate survey instruments were employed, including parental questionnaires, school class and head teacher questionnaires and medical examinations. Response rates varied between survey instruments (33% - 59%)².

The questions which provided the information reported in this document were closed questions where the respondent either ticked a box alongside specified options, or they were asked to write in a specific amount or number (e.g. the number of days when alcohol had been consumed in the previous week).³

2.3 Aims

This report will examine alcohol consumption in a large sample of British 16 year olds.

The report will identify key variables relating to age of initiation, binge drinking and frequency of drinking. The prevalence rates for these factors will be reported and the following four questions will then be addressed in turn:

- Early introduction to alcohol increases the risk of established alcohol habits by the age of 16 years
- Peer group behaviour and an individual's beliefs in the social facilitatory role of alcohol have a greater effect on the alcohol habits of those reporting low self-esteem
- Accuracy of parents' knowledge of their child's alcohol intake is confounded by social class and parents' own alcohol intake
- Increased alcohol intake by the age of 16 years is associated with increased sexual activity and also other substance use

² The figures for the response rates for the survey sweeps and the individual questionnaires plus further information about the 16-year follow-up is available in the full academic report submitted to the AERC in May 2001.

³ The full list of questions from which the data were obtained is available in the full academic report submitted to the AERC in May 2001.

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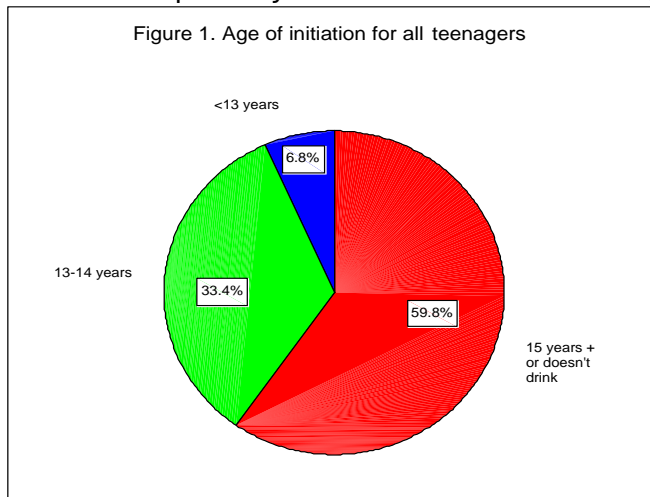
3. THE MAIN FINDINGS

3.1 Prevalence rates

The main outcome variables were selected on the basis of a review of the literature. These were: age of initiation of alcohol consumption, drinking to excess or 'binge drinking' and frequency of drinking. The outcome variables were derived from responses to questions on the student self-report forms and these have been described below. Each variable was classified into groups (no problem, moderate problem or serious problem) as defined in the tables. Ninety-two per cent of teenagers had consumed alcohol at some point in the previous year.

3.1.1 Age of initiation

The age at which the child began to drink alcoholic beverages with friends is portrayed in the chart below (see Figure 1).



Age of initiation was examined separately for boys and girls (see Table 1). Early drinking was prevalent in this sample. Almost half (46%) of the boys and over a third (36%) of the girls began drinking below the age of 15 years, with a minority of both sexes initiating alcohol consumption before the age of 13 years.

Table 1. Age of initiation of drinking with friends by gender

	Male (n=)	Female (n=)
No problem (15+ years or doesn't drink)	54.1% (1172)	64.4% (1934)
Moderate problem (13-14 years)	37.0% (803)	30.5% (914)
Serious problem (<13 years)	8.9% (193)	5.1% (153)

Binge drinkers = teenagers who consumed an average of four or more units in a session

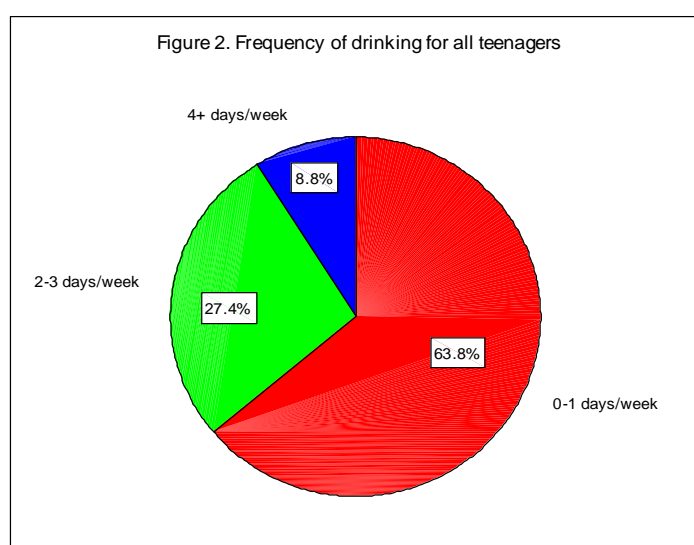
Frequent drinkers = teenagers who consumed alcohol on two or more days per week

Total	100% (2168)	100% (3001)
Missing	(3647)	(2799)

3.1.2 Frequency of alcohol consumption

Respondents were asked to state how many days out of the previous seven they had consumed alcohol. This variable has been grouped into three categories as shown in Table 2.

When drinking was estimated across the previous week and all teenagers were considered, 27% drank in moderate frequency and 9% drank very frequently (see Figure 2).



When boys and girls were considered separately, 60% of boys and 67% of girls fell into the 'no problem' category and drank one day in a week or less. However, over a third of the sample drank alcohol frequently. Twenty-nine per cent of boys and 26% of girls drank in moderate frequency, that is, on two or three days in a week. Very frequent drinking (four or more days per week) was evident in 11% of boys and seven per cent of girls (see Table 2).

Table 2. Overall frequency of alcohol consumption by gender

	Male (n=)	Female (n=)
No problem (0-1 days/week)	60.1% (1639)	67.3% (2473)
Moderate problem	28.8% (785)	25.7% (945)

Binge drinkers = teenagers who consumed an average of four or more units in a session

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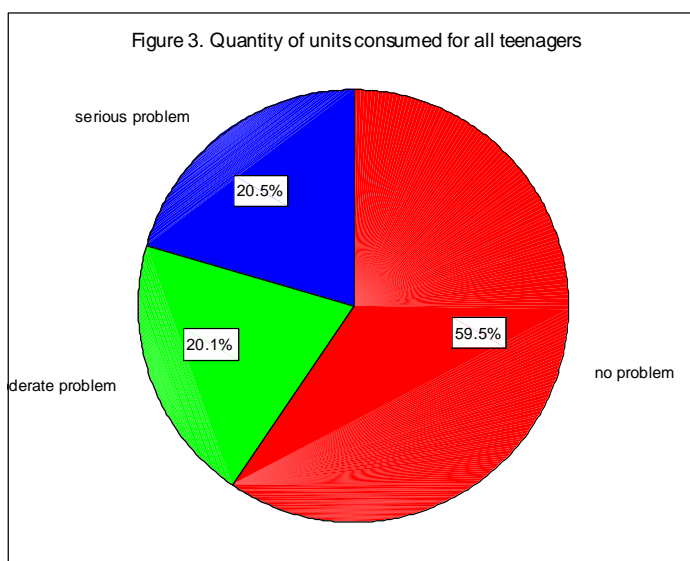
(2-3 days/week)		
Serious problem	11.0% (301)	6.9% (254)
(4+ days/week)		
Total	100% (2725)	100% (3672)
Missing	(3090)	(2128)

Binge drinkers = teenagers who consumed an average of four or more units in a session

Frequent drinkers = teenagers who consumed alcohol on two or more days per week

3.1.3 Drinking to excess

The quantity of alcohol consumed was obtained from a variable that gave the total number of units consumed in the past week. This variable was calculated with the following criteria for counting units, where pt. shandy=1, pt. beer=2, pt. cider=2, wine=1, martini etc=1, spirits=1. The quantity of alcohol consumed is portrayed in Figure 3. This variable was then grouped into three categories, with separate criteria for girls and boys⁴ as shown in Table 3.



One fifth of teenagers drank alcohol in moderately high quantities and one fifth drank alcohol in quantities that would be considered a serious problem. Table 3 shows a separate analysis for boys and girls.

Table 3. Units consumed in a week by gender

	Male (n=)	Female (n=)
No problem (boys: 0-3 units; girls: 0-2 units)	54.4% (857)	63.3% (1181)
Moderate problem (boys 4-7 units; girls: 3-5 units)	19.6% (308)	20.8% (389)
Serious problem (boys: 8+ units; girls: 6+)	26% (410)	15.9% (296)

⁴ Criteria are different for boys and girls as the Department of Health sets different criteria for male and female adults

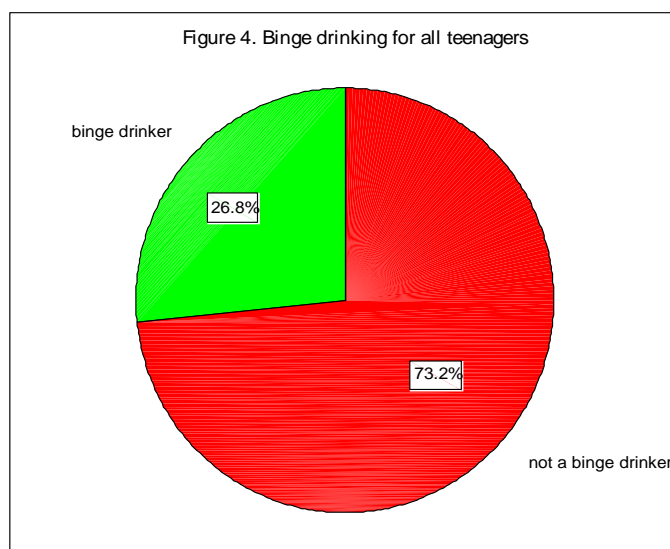
Binge drinkers = teenagers who consumed an average of four or more units in a session

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units)			
Total	100%	(1575)	100% (1866)
Missing		(4240)	(3934)

Of the boys, the majority consumed either no alcohol or only small amounts. Twenty per cent consumed moderate amounts (4-7 units per week) with 26% consuming high quantities of alcohol (8+ units per week). Of the girls, 63% consumed no alcohol or only small amounts. Twenty-one per cent consumed moderate amounts (3-5 units per week) and 16% consumed large quantities of alcohol (6+ units per week).

It was possible to use information about the quantity of alcohol consumed and classify the teenagers into those who were binge drinkers and those who were not. The total number of units consumed was divided by the number of days drinking to create a new variable representing the average number of units consumed per session of drinking. Binge drinkers were categorised as those teenagers that consumed an average of four or more units in a session⁵, while those who consumed less than an average of four units a session were not considered to be binge drinkers. The prevalence rates for binge drinking in all teenagers is shown in Figure 4. Twenty-seven per cent of teenagers were classified as binge drinkers.



⁵ Four units was selected for two main reasons. First this is a commonly noted definition found in the literature. Second a further question, used to increase the data available, asked respondents about episodes of drinking four or more units in a session.

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The prevalence rates for binge drinking are represented separately for boys and girls in Table 4. Since binge drinking was calculated from total quantity of alcohol consumed it was selected as the main outcome variable to address drinking to excess.

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Table 4. Binge drinking by gender

	Male (n=)	Female (n=)
Not a binge drinker (<4 units per session)	64.4% (1334)	80.0% (2165)
Binge drinker (4+ units per session)	35.6% (738)	20.0% (541)
Total	100% (2072)	100% (2706)
Missing	(3743)	(3094)

Binge drinking was more prevalent amongst boys than girls, with over a third of boys (36%) and a fifth of girls (20%) classified as binge drinkers.

The following sections examine the four research questions outlined in section 2.3. The first explores the relationship between the age of initiation of drinking alcohol and alcohol consumption at the age of 16. Three further sections report the results with reference to binge drinking and frequency of drinking.

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3.2 HYPOTHESIS ONE: EARLY INTRODUCTION TO ALCOHOL INCREASES THE RISK OF ESTABLISHED ALCOHOL HABITS BY THE AGE OF SIXTEEN YEARS

3.2.1 Binge Drinking

There were 4404 teenagers classified as being binge drinkers or not being binge drinkers and information was available for 4760 teenagers on the age at which they first consumed alcohol. Teenagers who started consuming alcohol from an early age were significantly more likely at age 16 to be binge drinkers than those who consumed alcohol later. Binge drinking was also influenced by the child's sex. Those teenagers who began consuming alcohol around 13-14 years and those beginning below the age of 13 years were twice as likely to be binge drinkers at age 16 compared with those who started drinking after the age of 14. Males were twice as likely to be binge drinkers than females. Early drinking is therefore a risk factor for binge drinking at age 16.

However, not all early drinkers then go on to become binge drinkers with 38% of those initiating alcohol consumption younger than 13 years, or whilst aged 13-14 years, being classified as not binge drinkers.

3.2.2 Frequency of drinking

There were 5897 teenagers classified as being frequent drinkers or not frequent drinkers and information was available for 4760 teenagers on the age at which they first started consuming alcohol. Frequent drinking was associated with early initiation of alcohol consumption also influenced by the child's sex. Teenagers who consumed alcohol before the age of 15 years were almost three times as likely to be frequent drinkers at age 16 than those who started drinking at age 15 or over. Males were more likely to be frequent drinkers than females, though the magnitude of this gender difference was less than for binge drinking.

However, not all teenagers who began drinking from an early age also drank frequently at age 16 with approximately 46% of those initiating alcohol consumption younger than 13 years, or whilst aged 13-14 years, being classified as not frequent drinkers

Binge drinkers = teenagers who consumed an average of four or more units in a session

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3.3 HYPOTHESIS TWO: PEER GROUP BEHAVIOUR AND AN INDIVIDUAL'S BELIEFS IN THE SOCIAL FACILITATORY ROLE OF ALCOHOL HAVE A GREATER EFFECT ON THE ALCOHOL HABITS OF THOSE REPORTING LOW SELF-ESTEEM

3.3.1 Binge Drinking

A comparison of self-esteem between binge drinkers and non binge drinkers showed only a slight trend towards higher self-esteem in binge drinkers.

Attitudes to alcohol differed according to the teenagers' drinking habits. Social facilitatory attitudes were classified on a three point scale (agree fully, agree partly or disagree). Those teenagers who were binge drinkers were significantly more likely to agree with the following statements: *'drinking can help people when they feel nervous or shy'*; *'young people who drink are more attractive than those who don't'*; *'drinking makes you feel more at ease'*; *'drinkers are usually more friendly than non-drinkers'*. By combining responses to these items, a new variable was created ('positive social effects') that categorised whether or not the teenager agreed or disagreed that alcohol had positive effects. Binge drinkers were significantly more likely than non binge drinkers to agree that alcohol has positive social effects. Overall, positive social facilitatory attitudes were prevalent in the sample with 98% of binge drinkers and 94% of non binge drinkers agreeing that alcohol had positive social effects.

Reported reasons for drinking alcohol also varied according to drinking habits. Those teenagers who were binge drinkers were also more likely to report that they drank alcohol to be sociable, to relax or to lose inhibitions than those who were not binge drinkers.

Not only were binge drinkers more likely to report a preference for alcoholic drinks (over non-alcoholic drinks) than those who were not binge drinkers, but the reported reasons for preferring alcohol also differed. Binge drinkers were more likely than those who were not binge drinkers to report preferring alcohol because it 'gives them a good feeling' and 'creates a sociable atmosphere'. However, there was no difference in whether or not they preferred alcohol 'because their friends do' or because 'it gives them a grown-up feeling'. Binge drinkers were also significantly more likely to report experiencing pleasant effects of alcohol, including feeling less shy, more friendly, more relaxed and confident and feeling sexy.

Binge drinkers = teenagers who consumed an average of four or more units in a session

Frequent drinkers = teenagers who consumed alcohol on two or more days per week

The drinking habits of peers were compared and showed that binge drinkers were significantly more likely than non binge drinkers to have peers that drank alcohol, including a girlfriend or boyfriend, best friend and next best friend. Furthermore, teenagers who reported that their peers did not drink or drank moderately were less likely to be binge drinkers and teenagers who reported that their peers were heavy drinkers were more likely to be binge drinkers.

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Frequent drinkers = teenagers who consumed alcohol on two or more days per week

Self-esteem was not shown to be influential in binge drinking when considered with beliefs about alcohol and peer's alcohol habits. Multivariate analysis revealed that self-esteem was not significantly associated with binge drinking, but that attitudes regarding the effects of alcohol were important, with those who agreed that alcohol has a positive effect being more than twice as likely to be binge drinkers. Males were more than twice as likely to be binge drinkers than females. Teenagers who perceived their peers to be heavy drinkers were more likely to be binge drinkers and having peers that did not drink or only drank moderately was protective against binge drinking.

3.3.2 Frequency of drinking

A comparison of self-esteem between teenagers who were frequent drinkers and those who were not showed that frequent drinkers reported higher levels of self-esteem than those who were not frequent drinkers.

Attitudes differed according to the teenagers' drinking habits. Those teenagers who were frequent drinkers were significantly more likely to agree with the following statements: *'drinking can help people when they feel nervous or shy'*; *'young people who drink are more attractive than those who don't'*; *'drinking makes you feel more at ease'*; *'drinkers are usually more friendly than non-drinkers'*. Frequent drinkers were more likely than infrequent drinkers to agree that alcohol has positive social effects.

Reasons for drinking alcohol differed, with frequent drinkers being more likely to report drinking to lose their inhibitions, to be sociable and to relax, than those who were not frequent drinkers.

Taste preferences differed with frequent drinkers being more likely to report a preference for alcoholic drinks over non-alcoholic drinks than those who were not frequent drinkers. Reported reasons for preferring alcoholic to non-alcoholic drinks also differed according to frequency of consumption. Frequent drinkers were more likely than those who were not frequent drinkers to report preferring alcohol because it creates a sociable atmosphere and because it makes them feel grown-up. However, there was no significant difference between frequent drinkers and those who were not frequent drinkers in whether or not they preferred alcohol because their friends do or because it gives them a good feeling.

Binge drinkers = teenagers who consumed an average of four or more units in a session

Frequent drinkers = teenagers who consumed alcohol on two or more days per week

Frequent drinkers were also significantly more likely than those who were not frequent drinkers to report experiencing pleasant effects of alcohol, including feeling less shy, more friendly, more relaxed and confident and feeling sexy.

The drinking habits of peers were compared and showed that frequent drinkers were more likely than those who were not frequent drinkers to have peers that drank alcohol, including a girlfriend or boyfriend, best friend and next best friend. Teenagers who perceived their peers to be heavy drinkers were more likely to be frequent drinkers themselves, but teenagers who perceived their friends to be moderate drinkers or not to drink at all were less likely to be frequent drinkers.

Teenagers predominantly perceived their peers to be drinkers rather than non-drinkers. Peer behaviour exerted a significant influence on drinking habits with a high proportion of teenagers having peers who drank alcohol. Seventy-seven per cent of frequent drinkers reported that their peers were moderate drinkers, whilst 23% reported that their peers were heavy drinkers.

Self-esteem was shown to be influential in frequency of drinking when considered with beliefs about alcohol and peer 's alcohol habits. Multivariate analysis revealed that those with low self-esteem were less likely to be frequent drinkers at age 16, and that attitudes regarding the effects of alcohol were important, with those who agreed that alcohol has a positive effect being three and a half times as likely to be frequent drinkers. Males were more likely than females to be frequent drinkers although the magnitude of this gender difference was less for frequency of consumption than it was for binge drinking. Teenagers who perceived their peers to be heavy drinkers were more likely to be frequent drinkers and having peers who did not drink or who only drank moderate amounts was protective against frequent drinking.

Binge drinkers = teenagers who consumed an average of four or more units in a session

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3.4 HYPOTHESIS THREE: ACCURACY OF PARENTS' KNOWLEDGE OF THEIR CHILD'S ALCOHOL INTAKE IS CONFOUNDED BY SOCIAL CLASS AND PARENTS' OWN ALCOHOL INTAKE.

Parents' reports on how much alcohol their teenagers drank in document P was compared with the teen's self-reported drinking on average during the past year. Document P required the mother to state the frequency with which they believed their child consumed alcohol on a six-point scale ranging from 'rarely or never' to 'every day or most days'. Parents were classified as accurate or inaccurate in their perceptions of the teen's drinking based on the criteria shown below.

Table 5. Deriving parental accuracy variable

Teenager's self-reported drinking (hd1)	Parent's reports on teenager's drinking (PG8.1)	Accuracy classification
Everyday or most days	Everyday or most days / 3 or 4 times per week	Accurate
4-5 times per week	Everyday or most days / 3 or 4 times per week	Accurate
2-3 times per week	1 or 2 times per week / 3 or 4 times per week	Accurate
Once per week	2 or 3 times per month / 1 or 2 times per week	Accurate
Once per month	Once per month	Accurate
Special occasions only	Very rarely or never	Accurate
Never drink	Very rarely or never	Accurate
Everyday or most days	Very rarely or never / Once per month / 2 or 3 times per month / 1 or 2 times per week	Inaccurate
4-5 times per week	Very rarely or never / Once per month / 2 or 3 times per month / 1 or 2 times per week	Inaccurate
2-3 times per week	Very rarely or never / Once per month / 2 or 3 times per month / Everyday or most days	Inaccurate
Once per week	Very rarely or never / Once per month / 3 or 4 times per week / Everyday or most days	Inaccurate
Once per month	Very rarely or never / 2 or 3 times per month / 1 or 2 times per week / 3 or 4 times per week / Everyday or most days	Inaccurate

Binge drinkers = teenagers who consumed an average of four or more units in a session

Frequent drinkers = teenagers who consumed alcohol on two or more days per week

Special occasions only	Once per month / 2 or 3 times per month / 1 or 2 times per week / 3 or 4 times per week / Everyday or most days	Inaccurate
Never drink	Once per month / 2 or 3 times per month / 1 or 2 times per week / 3 or 4 times per week / Everyday or most days	Inaccurate

3.4.1 Binge drinking

Parents' views of their child's alcohol consumption appear to be fairly inaccurate. Of the binge drinkers, 92% of parents had inaccurate perceptions with only eight per cent of parents having accurate knowledge of their teenager's drinking habits.

Parental alcohol consumption was reported by the mother on a scale ranging from very rarely/never to everyday/most days. A strong relationship was found between parental alcohol consumption and the teenager's drinking habits suggesting that parents may exert a strong influence on the behaviour of their children with regard to excessive drinking. Increased frequency of self-reported alcohol consumption by both the mother and mother's husband was associated with the teenager binge drinking.

3.4.2 Frequency of drinking

Overall, 28% of parents accurately reported the frequency of their child's drinking. A significant difference was found in accuracy of parents' knowledge of their child's frequency of drinking. Parents were less likely to have accurate knowledge of their teen's drinking habits if the teenager was a frequent drinker, with only 4% of frequent drinkers having parents who were accurate in their perceptions.

A strong relationship was found between parental alcohol consumption and the teenagers' drinking habits again suggesting that parents may exert a strong influence on the behaviour of their children with regard to frequency of consumption. Increased frequency of alcohol consumption self-reported by both the mother and mother's husband was associated with frequent drinking in the teenager.

3.4.3 Accuracy

Binge drinkers = teenagers who consumed an average of four or more units in a session

Frequent drinkers = teenagers who consumed alcohol on two or more days per week

Parent's knowledge about their child's drinking habits was less accurate if the teenager drank alcohol frequently or engaged in binge drinking. Parents of male offspring were less likely to be accurate in their perceptions of drinking habits, however, males were also more likely to drink alcohol frequently or engage in binge drinking. Accuracy was influenced by parent's drinking habits but not by social class. Both mother's and father's drinking habits were significantly associated with accuracy, with an increase in parental consumption of alcohol being associated with a less accurate perception of their child's alcohol consumption.

Binge drinkers = teenagers who consumed an average of four or more units in a session

Frequent drinkers = teenagers who consumed alcohol on two or more days per week

3.5 HYPOTHESIS FOUR: INCREASED ALCOHOL INTAKE BY THE AGE OF 16 YEARS IS ASSOCIATED WITH INCREASED SEXUAL ACTIVITY AND ALSO OTHER SUBSTANCE USE

3.5.1 Binge drinking

a) Binge drinking and frequency of sexual activity

Binge drinking was significantly associated with frequency of sexual activity. Binge drinkers were more likely than those who were not binge drinkers to have had sex once, several times or regularly.

Thirty-five per cent of the whole sample had engaged in sexual activity. Forty-three per cent of binge drinkers and 73% of those who were not binge drinkers reported never having had sex. Over half of the binge drinkers had had sex, with 13% having had sex once and 45% having had sex several times or regularly. The corresponding rates for those who were not binge drinkers were approximately half (7% and 20% respectively).

b) Binge drinking and number of sexual partners

Binge drinking was significantly associated with number of sexual partners. Binge drinkers were more likely than those who were not binge drinkers to have had sexual intercourse with more than one person. Of the binge drinkers, 27% had had more than one partner, compared with nine per cent of those teenagers who were not binge drinkers.

c) Binge drinking and use of other substances

Overall, ten per cent of teenagers reported trying one of the named substances. Twenty per cent of the binge drinkers had used another substance compared with seven per cent of those teenagers who were not binge drinkers. Binge drinkers were significantly more likely to have tried sniffing glue or solvents, taking uppers or downers, cannabis, LSD, cocaine or heroin. Eighty per cent of binge drinkers had not used other substances compared with 93% of those who were not binge drinkers.

Cigarette smoking was common in the whole sample and over half of those who responded had tried cigarettes. Binge drinkers were more likely to have smoked and 76% of the binge drinkers had tried cigarettes compared with 52% of those who were not binge drinkers.

Binge drinking was shown to be associated with increased sexual activity and substance use. Multivariate analysis revealed teenagers

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who had had sex once were two and a half times as likely to be binge drinkers than those who had not. Having sex several times or regularly increased the likelihood to three-fold. Teenagers who had engaged in substance use were at twice the risk of being binge drinkers and teenagers who had smoked were at greater than twice the risk of being binge drinkers.

Binge drinkers = teenagers who consumed an average of four or more units in a session

Frequent drinkers = teenagers who consumed alcohol on two or more days per week

3.5.2 Frequency of drinking

a) Frequency of drinking and frequency of sex

Frequency of drinking was significantly associated with frequency of sexual activity. Frequent drinkers were marginally more likely to have had sex once compared with those teenagers who were not frequent drinkers (9% and 7% respectively). However, having had sex several times or regularly was associated with frequent drinking, with 44% of frequent drinkers compared to 21% of those who were not frequent drinkers. Those teenagers who had never had sex were less likely to be frequent drinkers.

b) Frequency of drinking and number of sexual partners

Frequency of drinking was significantly associated with number of sexual partners. Twenty-nine per cent of frequent drinkers had had sex with one partner, compared with 17% of those teenagers who were not frequent drinkers. Of the frequent drinkers, 24% had had sex with several partners, compared with 10% of the teenagers who were not frequent drinkers. Again, teenagers who reported that they had not had sex were less likely to be frequent drinkers.

c) Frequency of drinking and use of other substances

Frequent drinkers were significantly more likely to have tried sniffing glue or solvents, taking uppers or downers, cannabis, LSD, cocaine or heroin. Eighteen per cent of frequent drinkers had tried other substances compared with seven per cent of those who were not frequent drinkers. Frequent drinkers were also more likely to smoke cigarettes than those who were not frequent drinkers.

Frequent drinking was shown to be associated with increased sexual activity and substance use. Multivariate analysis revealed that those teenagers who had had sex once were one and a half times as likely to be frequent drinkers than those who had not. Having sex several times or regularly increased the likelihood to over two and a half times. Teenagers who had engaged in substance use were at one and half times the risk of being frequent drinkers and those who smoked were at twice the risk of being frequent drinkers.

Acknowledgements

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Frequent drinkers = teenagers who consumed alcohol on two or more days per week

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