

How Can I Drink Safely?; Perception Versus the Reality of Alcohol Consumption.

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This paper investigates differences between perception and actual consumption of alcohol in young adults within the UK suggesting that inaccurate information in the public domain may hamper those seeking to drink safely plus the development of moderate drinking cultures. Results confirm that inaccurate information may be preventing development of safe drinking behaviours amongst certain groups. In addition, they indicate that some groups choose to ignore safe consumption limits in particular circumstances. Results indicate that many government strategies aimed at reducing unsafe drinking behaviour are inaccurately targeted; changing male public consumption behaviour may trigger changes in female behaviour.

Key words: alcohol units, alcohol consumption, alcohol policy, safe drinking, moderating drinking

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Introduction

As Birkitt (2007) and others discuss, anti-social usage of alcohol is now a major topic of public concern because, whilst accepting consumers' right to choose to consume alcohol, alcohol misuse is both financially and culturally damaging to society (AHRSE, 2004). It also prevents the individual's ability to operate within the confines of expected cultural norms (Birkitt, 2007; Ritchie *et al*, 2008). Legislators face pressure in balancing the fiscal and health needs of the nation. In responding to excess alcohol consumption concerns no government advocates abstinence both because of the financial implications (the UK whisky industry alone had sales in 2007 of £3.8Bn, (Mintel, 2008)) and the unsuccessful efforts to introduce temperance or abstinence during the mid nineteenth and early twentieth centuries. In addition the Government's ability to moderate price successfully, although an issue of current debate between Government and the licenced trade, is likely to be severely limited (Eley, 2008; Parkinson, 2008). Therefore most government policies are focussed on encouraging moderate drinking cultures. However the successful adoption of this behaviour assumes that government and users have accurate information about what they are drinking.

This paper suggests that inaccurate information in the public domain may hamper those seeking to drink safely and the development of moderate drinking cultures; it also challenges the notion that simply improving information will change behaviours. The aim of this paper is therefore to develop our understanding of the perceptions of 'safe limits' and alcohol units amongst the young adult (eighteen to thirty) population and contrast it with actual consumption behaviour.

The literature review identifies issues influencing the development of current government and medical body policies intended to encourage moderate drinking behaviours. It then discusses the unit of alcohol system and a range of drinking cultures as they relate to the UK.

The results demonstrate how inaccurate information may well be preventing the development of safe drinking behaviours within the young adult population. However they also indicate that knowledge of safe drinking limits may not translate into safe drinking in practice. The paper concludes by suggesting that these results indicate that current government policy to encourage moderate drinking behaviours may be confusing, poorly targeted and too simplistic in its assumption of how behaviours can be affected.

Literature Review

Background

Although the UK has a reputation for being a heavy drinking nation, alcohol consumption is not particularly high in European terms: France, Germany and Spain all surpass the UK (Mintel, 2005; Cornibear, 2007). In fact per capita consumption of alcohol has stabilised during the last five years at just over 160 litres per head per annum (adults over 18) (Mintel, 2007). However, as Barr (1999) argues high and abusive alcohol consumption has always been of major concern in British culture and society. Indeed for hundreds of years bodies such as the Royal College of Physicians (RCP) have lobbied Governments of all persuasions for action to be taken to avoid consumption meltdown. For example, in 1726 the RCP wrote to the House of Commons on what

they called '*a great and growing evil*' (RCP, 1987).

Traditionally excessive alcohol consumption has not been regarded as a particular problem amongst the majority of moderate drinkers, but rather as a specific problem amongst the minority of underage and abusive drinkers. However it is now being recognised that there may well be potential health problems developing amongst groups not previously considered to be unsafe drinkers (Anttila *et al* 2004; Laurance, 2008).

Successive governments have acted with differing levels of success. In recent times the Health Education Authority (1987) recommended that men should consume no more than 21 and women no more than 14 units of alcohol per week. This was endorsed by the government in the 1992 White Paper 'Health of the Nation'. In 1995 the specific risks associated with excessive drinking in a single session were recognised, therefore the safer drinking message was changed by the Government to focus on daily guidelines. These suggested a maximum intake of 2-3 units per day for women and 3-4 for men. More recent actions have included the introduction of The Licensing Act 2003 and the Alcohol Harm Reduction Strategy for England, 2004 (AHRSE) both of which aim to tackle the problems of alcohol related harm, crime and disorder and underage drinking. Furthermore, advances in technology have allowed for more accurate reading of alcohol content (NHSa, 2008) and ways of drinking have changed (Ritchie *et al*, 2008). Both of these factors impact upon actual and perceived alcohol consumption and alcohol related behaviours.

Identifying Units of Alcohol

The consumer can only consume alcohol within safe limits if they have been provided with accurate information from public information bodies, alcohol producers and the retailer. The concept of a 'unit of alcohol' (10ml) is central to government policy to increase alcohol awareness. However, discussion of, and promotion of, an understanding of units *per se* is an overly simplistic way to tackle the problem. A significant reason for this is that the alcohol content of most alcoholic beverages has changed since the guidelines were originally introduced. In relation to wine, Marrison (1976, p 61) suggested in 1976 that '*10%[abv] is a good average in Europe, and much wine is sold at 7 [% abv]*'. The latter increased to approximately 9% abv at the time of introduction of the weekly guidelines and is currently around 10% - 14% abv (ACNielsen, 2006). Alcohol Concern (2007) reports the same type of change in beers and ciders.

The problem of increase in alcohol content was compounded, particularly in relation to spirits, by the introduction of metrication in 1985 when 25ml and the, increasingly common, 35ml measures were introduced. This increased the size of a legal serving unit. Glass size for wine servings also increased so that teaching bodies such as the Wine and Spirit Education Trust (WSET) no longer refer to one glass as equalling one unit as they did in the past (WSET text book circa 1993 and WSET 2005).

Some confused messages are still being sent out by professional and government bodies. For example in October 2008 a National Health Service (NHS) survey in Wales (Health Improvement and Patient Outcome Project – HIPO) requested information on drinking habits using the traditional one glass/one half pint equals one unit of alcohol measure. Concurrently the NHS website Alcohol Know your Limits (NHSa, 2008) quite clearly demonstrated the range of units that can be contained in a single alcoholic drink.

Despite this, there appears, superficially, to be a good understanding of the concept. The Office of National Statistics (ONS) asserted that, in 2006, 69% of people were aware of the weekly/daily drinking limits (ONS, 2007). NHSb (2008) suggests that 82% of adults say they know what a unit of alcohol is - although

77% do not know how many units are in a typical glass of wine. Hassan and Shiu (2007) suggest that it is particularly women who are aware of the recommended unit intake and use this knowledge to try to moderate their public alcohol consumption.

Drinking Cultures

As Ritchie *et al* (2008) discuss, the changing nature of alcoholic content in drinks may be partly responsible for those who use the unit system to help control their alcoholic intake unknowingly drinking at levels which may cause alcohol related harms. In addition to the physical effects of alcohol consumption, many academics also agree that the social situations individuals find themselves in are prime contributors to heavy/binge drinking sessions (Cornibear, 2004; Mason, 2004; Hunt *et al*, 2005) particularly in relation to young adult males. As Barr (1995:1) points out, alcoholic drink '*has served as an object of religious ritual, a focus of secular ceremonies and a lubricant of [moderate] social intercourse*' for thousands of years.

Demossier (2004), Cable and Sacker (2007) and Smith and Foxcroft (2007) all discuss how adult interaction with alcohol is related to drinking cultures and expectations learned in adolescence. Fowler (1997), Beardsworth and Keil (2000) and Shepherd and Raats (2006) would suggest that the social and cultural significance of food and drink starts being developed much earlier, in babyhood, as parents socialise their children towards their cultural norms including the importance of image in public consumption situations. As Ferguson (2000), Haden (2005) and Jones (2007) all point out, in relation to food, in order for food to be used to demonstrate culture in this way it must be consumed publically, usually as part of a group in which others are included or excluded.

In the UK there is a tradition of buying drinks in 'rounds' particularly in non food situations such as a social drink with friends. One member of the group will buy the first round of drinks, another will buy the second round until all members of the group have bought equally. It is considered bad manners in all social groups not to buy your round, even if that round is held over until the next meeting. Historically however it was men who consumed most in public (Beardsworth and Keil, 2000; and Jones, 2007) and, as the income earners, they who paid for the rounds even in mixed company. As more women have entered the workforce, become financially independent and achieved a higher social status their drinking behaviours have started to mirror those of men (Makela *et al*, 2006). One consequence of this may be that in a group of two men and two women where two rounds, bought by the male members, would traditionally have satisfied social need it is now necessary for four rounds to be bought, particularly in groups where all the members are single. Thus an unexpected, unacknowledged consequence of the increasing financial independence of women may mean that more alcohol is bought, and consumed, than is physiologically necessary or required in order to maintain social status. This behaviour is particularly likely to occur amongst young, single, adult groups.

Graham and Wells (2003) and Galloway *et al* (2007) suggest that image is a significant contributor to high alcohol consumption in young adults. However, agreeing with Barr (1995), Demossier (2004), Charters (2006) and Ritchie (2007) suggest that image is very important even in moderate drinking cultures, in relation to what is drunk, how it is drunk and where it is drunk. Demossier (2004) and Ritchie *et al* (2008) go further and suggest that there are significant differences between drinking behaviours within the same group dependent upon whether the situation is perceived as private, i.e. in the safety of the home, or in public and upon the gender make up of the group.

These differences may impact upon conventionally understood/observed drinking cultures and actual consumption behaviours. Traditionally government policy has been aimed at moderating drinking behaviours in public consumption situations, e.g. DrinkAware (2007) and Know Your Limits (2008). However if consumers are changing their behaviour significantly in differing situations this may mean that many of the advertising campaigns developed by government, medical bodies and alcohol producing companies aimed at moderating drinking behaviour in public are too simplistic. Cox *et al* (2006) suggest specifically targeted approaches, relevant to actual behaviours, are more effective than a broad brush strategy

Methods

The purpose of this research was to establish if young adults were aware of the government and medical bodies definitions of units of alcohol and safe drinking guidelines. It was also to establish whether their perceptions of what they consumed was accurate or not in terms of what they actually consumed, using units of alcohol as the measuring tool. Finally, it was to establish whether or not those who had accurate knowledge utilised it to ensure safe drinking behaviours. This paper is unusual in that the data collected enabled the measurement of knowledge about safe drinking guidelines against perceptions of, and actual, alcohol consumption levels to be made. It establishes that knowledge of safe drinking guidelines *per se* is no guarantee of actually achieving or attempting to remain within them in young adult groups.

Development of the Research Process

The results presented in this paper are based upon a small sample of the young adult population within the UK (18 to 30). This population was deliberately used because much anti-social behaviour takes place within this age group (Home Office, 2008) and 18 to 30 is a commonly used statistical age banding, e.g. Home Office Research (2005). This is also the age group who, by virtue of their age, accommodation and lack of domestic/ young child commitment tend to have the most active alcohol-inclusive social lives (Graham and Wells, 2003; Mintel, 2006; Hassan and Shiu, 2007). The results presented in this paper are part of a larger study; for more details of the research methods than can be presented in this paper see Ritchie *et al* (2008).

It was decided to use questionnaires as the main, primary data collection source. Whilst questionnaires have limitations many of these can be over-come by careful planning and rigorous piloting. Advantages of using self-administered questionnaires include economy, speed, lack of interviewer bias, and, in particular, privacy and anonymity to encourage more candid responses on sensitive issues (Babbie, 1998; Clarke 1999). Alcohol consumption can be a sensitive issue to some. The limitation of using predominately closed questions is that pre-set responses can prevent the respondent from qualifying their response. In this research therefore the initial use of self-administered questionnaires was off-set by a second set of data collection which utilised semi-structured interviews to qualitatively investigate respondents' behaviour and perceptions.

The Research Process

The research was undertaken during the winter and spring of 2007 and 2008 on a target group of 18-30 year old males and females, 60 in each group. The self-administered questionnaires were issued via non-probability sampling, using a purposive sampling system (Denscombe, 2005). The authors identified suitable venues where it was likely members of the study groups would be located, making it relatively simple to meet the quota needed for each group. Whilst purposeful sampling has the potential to introduce bias, for the purpose of this research it was essential that

there was balance between the target populations.

Each questionnaire was coded enabling restricted identification of the group and name of the respondent. These details were required for possible inclusion in the second, qualitative, data collection section of the research. Following analysis of the initial data using SPSS, eight semi-structured interviews (four male, four female) were carried out to explore the issues raised by the self administered questionnaires.

Respondents were excluded from the study if:

- they did not drink alcohol;
- they were pregnant, since most pregnant women moderate their alcohol consumption behaviour during pregnancy;
- they had children living at home under the age of 14. Parents are likely to moderate alcohol intake if young children are present within the family home (Makela *et al*, 2006).

Whilst information from young adults falling into these categories can provide valuable information about alcohol consumption behaviours in order to investigate across an homogeneous group it was necessary to exclude those who did not fit a basic profile, young, with an acknowledged 'work' commitment and without children.

What distinguishes this questionnaire from other studies is that it did not assume a priori that respondents were aware of what they were drinking. In the questionnaire the respondents were asked what they knew about units of alcohol, if they knew about safe drinking guidelines and what they actually drank (by quantity and brand, not by unit). The salient questions asked are included in appendix 1. Unit intake was calculated by the research team using Alcohol Focus Scotland's (2007) calculation; multiply the amount drunk in millilitres by the percentage ABV for that brand and divide by 1,000. Following on from NHS's (2007) results it was believed that this would give a more accurate reflection of alcohol consumed rather than asking participants about their perception of units consumed.

The semi-structured interviews enabled reference to be made back to the participant's previous self-administered questionnaire. This cross referencing allowed for the information gained during the quantitative data collection to be explored in greater depth giving greater validity to participants responses. Confidentiality and anonymity were maintained throughout the research process.

Limitations / Assumptions made

Some limitations in the data collection are acknowledged. Discussion of alcohol consumption is a sensitive subject therefore there may have been some normative misconceptions, subconscious exaggeration or diminution of consumption, even when honest answers were given. However this is not unusual, and almost inevitable, in studies of alcohol related behaviour, (Graham and Wells, 2003; Galloway *et al*, 2007). The results of this study would also have had greater significance if there had been a larger number of participants. However given the time-constraints of this project it is felt that the data gathered forms a useful basis for further research amongst a much larger sample of young adults. Analysis of the primary data enables the presentation of robust indicative results, providing a coherent picture of this age group consistent with previously suggested gender and public versus private behaviour differences (Graham and Wells, 2003; Galloway *et al*, 2007; Ritchie, 2007; NHSb, 2008)

Results and Discussion

Government policy aimed at developing safe alcohol consumption behaviours is based around the unit (of alcohol) system. It tries to encourage people to use the safe drinking guidelines to

develop positive alcohol related behaviours. The results from this research suggest that there are four questions needing to be investigated if Government policy is to achieve its aim of developing safe drinking behaviours in the UK adult population.

- Do people know what a 'unit' is?
- Do people know how much they are drinking?
- Are some better at identifying consumption accurately?
- Are people trying to drink safely?

Do people know what a 'unit' is?

Table I shows different potential 'unit' measures of alcohol, along with the response rates from males and females. Since an exact measure depends upon the alcohol being drunk, the approximately correct answers are in bold.

Table I: Knowledge of Units of Alcohol Amongst Young Male and Female Adults

Whilst awareness of a unit of wine was generally high, particularly amongst females, there was much less knowledge about a unit in relation to beer and spirits. For these less than a quarter knew what a unit was; the rest almost always under-estimate consumption by up to 100%. Females were more knowledgeable about wine and beer, and less about spirits; but generally the gender patterns were the same. Interestingly, those who guessed 250ml as the unit for wine were all relatively light drinkers (under 20 units a week – in the bottom decile for this group).

Agreeing with NHSb (2008) this does not necessarily mean that most wine-drinking is done with a knowledge of units in the glass consumed. This is because the 125ml measure, although a standard measure in UK pubs, is more likely to contain 1.5 units at current alcohol levels (NHSa, 2008). Moreover, the commonest wine glass size in pubs is now 175ml, and a 'large' glass is often 250ml. The questionnaire did not explicitly ask respondents what they thought a standard wine glass was. This paper assumes that respondents could identify 125ml glasses and that this approximates to a true unit, but it should be understood that the results presented here are likely to be a lower bound for estimates of the difference between what wine-drinkers think they consume and what they actually do[1] .

Do people know how much they are drinking?

As described in the methodology, respondents' beliefs about a unit were used to assess their 'perceived' alcohol consumption. This was then compared with the actual consumption, see table II.

Table II: Comparison between Perceived and Actual Consumption

On all measures, women are likely to be underestimating their consumption of units of alcohol by 20%-

30%. This is due to a combination of factors. Women are likely to drink wine frequently and most appear to know that a single glass of wine equates to a unit of alcohol. However, they appear to have little knowledge in relation to glass size and alcohol content. They also consume beer and spirits, where the units are generally misunderstood (see NHSb, 2008). For men, the underestimates are far higher; overall actual consumption is likely to be around 50% higher than perceived consumption. The higher consumption of beer by men is the main reason for this: units of alcohol in beer are not well understood (NHSb, 2008), and 75% of men are underestimating the alcohol level by 100%. Interestingly, this seems to have the largest effect on the lighter drinkers. This may be because the heavy drinkers mix a variety of drinks and so, ironically, are less inaccurate in their estimates of consumption than the light drinkers who stick to beer.

In most advertising, and government initiatives related to safe drinking, women are often shown with a glass of wine in their hand (Jacobs Creek, 2006), conversely men are usually shown with a pint (e.g. Fosters Beer, 2008; Guinness, 2008). Given the results identified in this paper it may well be that this imagery subconsciously contributes towards the perceptions of one pint and one glass as both equalling one unit of alcohol. This reinforces Cox *et al's* (2006) contention that broad brush strategies to reduce unsafe drinking behaviour are not particularly effective.

Are some better at identifying consumption accurately?

The authors investigated whether there was any correlation between knowing unit definitions for wine and beer and the personal characteristics of the respondent. The characteristics included: gender, weekly consumption, and status (current student, ex-student, and non-graduate, given current alcohol awareness education policies used in many universities). For wine, there was little evidence of any relationship between personal characteristics and knowledge of alcohol content, other than that men are more likely to get it wrong. For beer, there are indications that the likelihood of knowing beer units is increased for three groups. Firstly, current (but not ex-) student males (Ritchie *et al*, 2008) whose knowledge may have been increased by student union based alcohol awareness campaigns. Secondly, the older males were more likely to have accurate knowledge of beer units as were the third group, heavy drinkers of both sexes.

In general, though, it is difficult to draw strong conclusions. It is probable that factors such as education, family background, reasons for and location of drinking, also impact upon drinking behaviours (Fowler, 1997; Beardsworth and Keil, 2000; Demossier, 2004; Shepherd and Raats, 2006; Cable and Sacker, 2007; Ritchie, 2007; Smith and Foxcroft, 2007). This is beyond the scope of the current paper.

Are people trying to drink safely?

Respondents were asked whether they knew the current guidelines for safe drinking of 14 units per week for women and 21 units for men; see Table III.

Table III: Knowledge of UK Government Recommended Safe Drinking Guidelines

Interestingly, most respondents did not know (or want to guess) what the official limits are. Of those who did offer an answer, the female limit was generally correctly identified, but not the male limit. This result was the same for both sexes and raises the question why? The authors speculate that it may be related differences in gender behaviours where traditionally women

discuss issues related to body, image and appearance more frequently than men.

Table IV compares respondents' perceptions of alcohol consumption with actual levels, and how this relates to the 14-21 unit weekly guidelines. It shows that only 10% of males and 2% of females were drinking within the current official limits. However, perceptions of consumption led many men and some women to conclude that they were drinking within safe guidelines.

Table IV; Perceived and Actual Consumption Related to Official Safe Limits.

It could be argued that as only 8% of men know the current guidelines, the 10% of 'safe' drinkers are the ones who know the limits. However, this is not the case; as noted above it is the heavy drinkers who are more likely to be better informed. Moreover, even if the men had known what the safe limits were, only 50% would have been able to identify that they were drinking over the limit. The other 50% would still have been confident that they drank within safe guidelines. This reinforces the view that, for men, knowing what safe drinking limits are in an abstract sense may have very limited effect, even amongst those who might prefer to drink safely, if they don't comprehend it in physical terms.

In terms of female consumption behaviour, the results show that 98% drank over the safe guidelines and that if the women had known what the safe consumption limits were only 5% of them would have mistakenly believed that they were under the limit. Given that females are more likely to drink wine, and to know the correct alcohol content of wine, this suggests that whilst knowing about safe limits many women choose to drink an unsafe amount. Contradicting Hassan and Shui (2007), are this group of young women, as de Rocha-Silva (1996) and Makala *et al* (2006) suggest, drinking 'like men' - both in actual consumption terms and in terms of making equal financial contribution to rounds? Graham and Wells (2003), and Ritchie *et al* (2008) would suggest that this paradox may be understood by looking at changes in current drinking behaviour. Whilst women may be drinking more many pre-load, i.e. drink at home before going out or may choose to have a girl's night in. Hassan and Shui's (2007) study investigated public drinking behaviour and identified certain groups of women who often utilise low risk strategies to remain safe in public consumption situations; they did not investigate private consumption situations.

Finally, discussion of safe drinking behaviour is confused by the difference between actual and perceived values. This can be resolved by creating respondents' own perceptions of a 'safe' limit. Those who did not know the official guidelines were asked to estimate the guidelines. This was combined with information from those who knew to generate, for each respondent, a perception of what would be an 'official', 'safe' limit, see table V. Note that not all respondents supplied enough information to calculate guidelines.

Table V; The Relationship between Perceived Consumption Perceived Safe Unit Guidelines

Even on respondents' own perception of what they drank, most drink more than their self-defined safe guidelines (and almost all were actually drinking much beyond those limits).

This question of actual consumption and knowledge of safe drinking levels was explored further in the follow-up qualitative interviews. The interviewees were shown the difference in their actual consumption and their perceived consumption, which varied by as much as 50 units. Some of the respondents were

surprised at their actual consumption.

I'm really shocked: I always thought a bottle of wine was 6 units. I drink a lot of wine and have always assumed I was doing ok unit wise...

(Respondent D)

However, all of them believed that they were in control of their drinking. When questioned further there was an absolute belief that they had no need to worry about medical harm as they were all too young:

... but now that I know I don't think I will be cutting down.

(Respondent D, continued)

I didn't realise that I drank that much but I'm young so I still have plenty of time to calm down my drinking

(Respondent A).

This has serious implications for alcohol-awareness policies. Female drinkers appear quite happy to drink beyond guidelines – even on their own definition of safe guidelines, and on their own perception of what they drink. For males, the case is more complicated. They may take the same attitude as females and are responding to social pressure (Graham and Wells, 2003; Hunt *et al*, 2005; Makala *et al* 2006). However, it could also be argued that a large number are simply unaware of their levels of consumption and thus unable to consume safely.

In summary,

- Most young people only have a good grasp of units in relation to wine consumption
- As a result, most appear to be estimating their alcohol consumption at 20%-50% below the actual levels
- Most young people are not aware of the official guidelines on safe drinking levels, particularly male guidelines
- Females appear to be unconcerned about staying within safe drinking guidelines
- Males also appear unconcerned but because their perceived levels of consumption are much lower they may simply not realise how much they are drinking.

Conclusion and recommendations for further study

In conclusion, whilst recognising that this is a small scale study the authors suggest that the results indicate that there is little point in government or other public bodies developing positive alcohol consumption behaviour initiatives if the alcohol consuming public are not given the correct, and effectively targeted, information upon which to base their behaviour. For example it is recommended that medical bodies such as the NHS (a and b, 2008) seek to convey a consistent message throughout their publications and in all contact with the general public.

The results in this research indicated that the female participants were much more likely to know what safe guidelines were than men. However they were unlikely to comply with them. As previously discussed this may be explained by confusion between perceptions of medical and physical safety; it's fine to get the wine out and share bottles with girl friends when in a safe home situation, but unsafe to be drunk in public

consumption situations. This perception may explain why the female participants were not worried about drinking too much in general. Like the males they thought that they were young enough not to be in any imminent medical danger, so safe drinking behaviour means to be physically safe. However de Rocha-Silva's (1997) work would suggest that other women, or the same women in other social situations, are under considerable pressure in public to keep up appearances by drinking to male consumption levels. This suggests that moderating unsafe drinking behaviours in men may be a key to returning to safe drinking behaviours in women. Thus simplistic government campaigns aimed at reducing drunkenness in public, are irrelevant to much young adult female alcohol related behaviour.

In relation to male consumption since there is much peer pressure, the macho hearty drinking image in public consumption situation this may explain why the male participants, having misunderstood what a unit of alcohol is initially don't then worry about consumption level. Reflecting the work of Graham and Wells (2003) and Galloway *et al* (2007) the results suggest that it is often more important for young adult males to demonstrate masculine drinking behaviours than to worry about some nebulous future medical problem.

It is also likely that advertising itself lends itself to more confusion. The imagery of pints for men and glasses of wine for women in current safe drinking campaigns, may be being erroneously translating into a pint and a glass both equalling one unit. It is unlikely that a safe drinking campaign showing men drinking half pints would be effective because of cultural perceptions. However, a policy in which glasses of wine and pints of beer were shown to equate to two units, one (drink) equals two (units), might well be effective in term translating theoretical knowledge into practical understanding.

In summary the results indicate that there is a fundamental difference in how safe drinking behaviour initiatives need to be targeted at young adult male and female populations. The females do not need to be educated about safe consumption limits, they need to understand that medical damage is done even in their own age group. On the other hand the young adult male population does need to be educated about safe drinking limits before they can be encouraged to drink within safe guidelines. Therefore, in order to develop effective government policies aimed at reducing unsafe drinking behaviours in young adults:

- The government and medical bodies must send out consistent messages.
- Physical/ practical imagery of units relevant to drinking behaviours should be developed and utilised in public campaigns: 'two units in one drink'
- Strategies, incorporating relevant guidelines, must be precisely targeted at the full range of drinking situations in which unsafe drinking behaviour occurs.
- The issue of female perceptions of 'safe' in terms on alcoholic consumption need to be further investigated.

It is the intention of the authors to undertake a much larger scale study including further in-depth investigation to further develop the findings discussed in this research paper.

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Table I: Knowledge of Units of Alcohol Amongst Young Male and Female Adults

	Options	Relative to correct measure	Male	Female
Wine	125ml	-	75%	90%
	175ml	+40%	18%	7%
	250ml	+100%	7%	3%
Beer/cider	1/3 pint	-17%	2%	0%
	1/2 pint	-	22%	27%
	1 pint	+100%	77%	73%
Spirits	25ml	-	25%	20%
	35ml	+40%	75%	80%

Table II: Comparison between Perceived and Actual Consumption

Weekly consumption (units)	Males			Females		
	Perceived	Actual	Under-estimate	Perceived	Actual	Under-estimate
Mean	27.1	40.1	48%	27.7	33.1	19%
Standard deviation	18.8	26.1	39%	7.9	8.7	10%
10th Percentile	12.1	21.1	74%	16.1	20.1	25%
Median	20.0	31.0	55%	29.0	34.5	19%
90th Percentile	67.3	98.9	47%	37.9	43.0	13%

Table III: Knowledge of UK Government Recommended Safe Drinking Guidelines

	Males	Females
Male limit correct	8.3%	8.3%
Male limit incorrect	11.7%	10.0%
Female limit correct	15.0%	15.0%
Female limit incorrect	5.0%	3.3%
Didn't know limits	80.0%	81.7%

Table IV; Perceived and Actual Consumption Related to Official Safe Limits.

	Official guidelines	Actual above limit	Actual below limit
Males	Perceived above limit	45.0%	--
	Perceived below limit	45.0%	10.0%
Females	Perceived above limit	93.3%	--
	Perceived below limit	5.0%	1.7%

Table V; The Relationship between Perceived Consumption Perceived Safe Unit Guidelines

	Self-defined guidelines	Actual above limit	Actual below limit
Males	Perceived above limit	53.7%	--
	Perceived below limit	35.2%	11.1%
Females	Perceived above limit	89.8%	--
	Perceived below limit	8.5%	1.7%

Appendix 1 -

Questions from the self-administered questionnaire

From the following please indicate what you believe is 1 unit of alcohol;

(Please circle one in each column)

	Quantity		
Wine	125ml	175ml	250ml
Beer/Lager	1/3 Pint	1/2 Pint	1 Pint
Spirits	25ml	35ml	50ml

Do you know what the Government weekly & daily recommended alcohol limits (in units) are

For men and women?

Yes () No () Not sure ()

If yes; Please enter an amount of units in each box below.

	Daily	Weekly
Male		
Female		

If no; Please enter, in units, what you think would be a safe recommended drinking limit.

	Daily	Weekly
Male		
Female		

Do you consider the guidelines to be appropriate?

Yes () No () Not Important ()

If no; Do you think the limits should be higher or lower?

Please tick one box for each gender.

	Higher	Lower
Male		
Female		

How many drinks do you TYPICALLY consume each day for each of the categories below? (where you TYPICALLY consume nothing please enter zero)							
	Spirits 35ml Mixed Drinks	Shots	Lager/beer Bottle/can 330ml	Lager Beer Pints	Cider Pints	Alcopops 275ml	Wine 175ml
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							
Sunday							
Please indicate which brand of Spirit, Shot, Lager. Beer, Cider, Alcopop and Wine you most often consume? Where no product is purchased please enter a zero.							
	Spirits 35ml Mixed Drinks	Shots	Lager/beer Bottle/can 330ml	Lager Beer Pints	Cider Pints	Alcopops 275ml	Wine 175ml

[1] The error may not be large as it applies to wine bought by the glass only. Ritchie *et al* (2008) show that much of the wine consumption by this group is done at home prior to going out; friends bringing bottles to share. The standard 750ml bottle makes assessments of perceived units more straightforward.