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Establishing rates of binge drinking in the UK: anomalies in the data

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Abstract

Aims: Several studies funded by the UK government have been influential in understanding 'binge drinking' rates in the UK. This analysis aims to establish consistency between results and clarify UK rates of binge drinking.

Method: The relevant sections of these surveys were compared: the Scottish Health Survey (SHS) 1998, the General Household Survey (GHS) 2002 and the Health Survey for England (HSE) 2003. In addition the methodology used by the Health Protection Agency in the Adult Drinking Patterns in Northern Ireland (2003) was compared to the approach used by the SHS, GHS and HSE.

Results: Marked differences were observed between the results of the GHS 2002 and both the SHS 1998 and the HSE 2002 despite each using a similar methodology, with the HSE 2003 reporting a rate of binge drinking in young males of 57%, and the GHS a rate of 35%. These difference may be largely attributed to variations in the criteria in binge drinking in each study. These differences in interpretation do not appear to have been acknowledged. Indeed several key alcohol harm reduction documents made inaccurate citations of previous surveys.

Conclusion: The media rhetoric on escalating rates of binge drinking in the UK should be regarded with caution until trends are based on standardized recording and reporting .

'Binge drinking' is a topic of rising media and research interest in the UK, discussed in the context of health and social issues and a target for health education initiatives. However while there is agreement in respect of the need for action, there is less agreement on the definition and the prevalence of binge drinking. Binge drinking is not a new term, but its recent usage has changed. Once a 'drinking binge' in the British literature described heavy drinking over a prolonged period, often days, usually by alcohol dependent drinkers. Now the term binge drinking is often taken to refer to sporadic, short periods of excessive alcohol use (Gmel *et al.*, 2003). However, there remains problems with this definition and the way in which it has been measured in UK binge drinking research. This paper identifies two issues that need to be resolved to improve our information base.

The first issue is the operationalisation of binge drinking. One particularly influential series of studies underlying our current understanding of binge drinking in the UK is the General Household Surveys (GHS), which comprises of an approximately annual, large scale doorstep based survey. In the 2002 study (Rickards *et al.*, 2004), the results of which are the most recent available, 13248 addresses were selected resulting in 8620 completed interviews from Scotland, England and Wales. This survey identified that 21% of men and 10% of woman in Great Britain drank more than 8 or 4 units (male and female respectively) in one day at least once in the preceding 7 days. The term 'binge drinking' is not used anywhere within the GHS 2002 reports: instead figures are cited as referring to 'heavy drinking'. The figures from the GHS 2002 report have since come to be referred to as the current 'binge drinking' rates and cited as such in a number of key publications, including the Alcohol Harm Reduction Strategy for England (Cabinet Office, 2004). They are also cited in numerous government publications on the subject of alcohol use and binge drinking including the Statistics on Alcohol Bulletin 2003 (National Statistics, 2003) and several home office reports (Engineer *et al.*, 2003; Richardson and Budd, 2003).

Comparing the results of the GHS with similar studies it is apparent that anomalies exist in the research findings. The 2003 Health Survey for England, HSE (Sproston and Primatesta, 2004) used the same methodology and consumption questions as the GHS 2002 on approximately the same sample size, yet produced notably higher rates of binge drinking. This is demonstrated in figure 1.

It is unlikely that the large differences between UK surveys in 2002 and 2003 shown in figure 1 could be all attributed to changes in behaviour. At first glance, the HSE 2003 and the GHS 2002 appear to use the same definition i.e.8/ 6 units. However, the GHS defines heavy or binge drinking as 'more than 8 or more than 6' units of alcohol (male and female respectively) on one occasion; the HSE 2003 on the other hand interprets the definition as '8 or more or 6 or more'. i.e. GHS uses a definition of $> 8 / > 6$ and the HSE uses a definition of $\geq 8 / \geq 6$. These surveys used the same questions about drinking and were conducted in the same country only a year apart. Although differences in sampling might

explain some of the discrepancy between the findings of these two surveys, some will be due to the different interpretations of the 8 / 6 unit definition

Several UK government studies have mistakenly described the GHS 2002 as using the $\geq 8 / \geq 6$ unit definition. Engineer et al's (2003) Home Office study of binge drinking in young adults for example states that -

'One definition that has frequently been used in the UK is men drinking at *least* eight units or woman drinking at *least* six units, on at least one day in the past week. This definition has been used in several nationally representative, government funded surveys: the General Household Survey,...' (emphasis added).

Anomalies and referential mistakes can be found in other UK Reports. The Scottish Executive's 'Plan for Action on Alcohol Problems' (Scottish Executive, 2002) quotes figures from the Scottish Health Survey 1998 (Shaw *et al.*, 2002), a survey similar in methodology and approach to the GHS 2002. In the 'Plan for Action on Alcohol Problems' binge drinking is defined as drinking $> 8 / > 6$ units and figures are presented from the SHS 1998, with the implication that these are based on the same definition. In fact, in contrast to the GHS 2002, the SHS 1998 instead uses a binge drinking definition of $\geq 8 / \geq 6$ units on one occasion.

Misleading conclusions arise if the results of such studies are presented as directly comparable. For example, if the results of the SHS 1998 were presented alongside the English results of the GHS 2002 then it would appear that Scottish men had a markedly higher rate of binge drinking than their English counterparts. Specifically the GHS 2002 reports a rate of binge drinking of 21% for English males, whereas the SHS 1998 reports a rate of 44% for Scottish males. The Scottish results of the GHS 2002 on the other hand, which are obviously based on the same $>8 / >6$ interpretation as the English results, give a lower rate of 26%. Again this variance in results may not be solely attributed to the different interpretations of the 8/ 6 unit definitions without re-analysis of both datasets, but it is difficult to envisage what else could account for such a discrepancy. Such errors do little to help establish the rates of binge drinking in the UK and contribute to the misunderstanding and confusion which surrounds this topic.

The second issue concerns the data that are collected to measure binge drinking. Aside from the problems with definition discussed above there are, as has been noted elsewhere, numerous additional issues with how binge drinking is conceptualized and measured (DeJong, 2001; Goodhart *et al.*, 2003). The GHS and therefore the SHS use two measures of alcohol consumption, average weekly consumption and consumption on the heaviest drinking day in the week prior to interview. This is a measure commonly used to generate binge drinking rates; in the Alcohol Harm Reduction Strategy for England it is in fact described as the best available method (Cabinet Office, 2004). There are a number of points on which this approach can be criticized. For example, it only

records the individual's heaviest drinking day in the last week, and does not take into account any additional heavy drinking days.

Specifically designed measures should be used to identify a binge drinking pattern. Many existing alcohol measures are not so designed (Borsari *et al.*, 2001). There have however been several smaller alcohol studies in the UK which do use more suitable measures. The 'Adult Drinking Patterns in Northern Ireland' survey (Health Promotion Agency, 2003), for example, took a different research approach than that used in the GHS and SHS surveys. Using a sample of over 2000 addresses, doorstep interviewing was conducted using a recent recall approach of the last 7 days, in addition to a number of other questions. As such in contrast to the approach used by the GHS the HPA survey prompted respondents specifically about each individual day in the last week, rather than querying about their sole heaviest drinking day in the last week. This is arguably an approach more suited to the identification of binge drinking than the heaviest drinking day and average weekly consumption method used in the GHS surveys. It should be acknowledged though as commented above that the GHS survey does not cite its figures as 'binge drinking' rates, however this what they have come to be referred to as. The HPA 2003 report is not directly comparable to the GHS survey as it is one of the studies to use an alternative criterion for binge drinking (10/ 7 units male/ female respectively). Nevertheless it illustrates that additional information on binge drinking can be gained through the use of more suitable measures and that the method can be employed in large scale surveys.

In conclusion the media rhetoric on escalating rates of binge drinking in the UK should be regarded with caution until trends are based on standardized recording and reporting

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