

Drinking among British women and its impact on their pedestrian and driving activities:

A review of the literature

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August 2012



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EXECUTIVE SUMMARY

The Background to the Research

Recent work has highlighted an increase in the incidence of drunkenness amongst women and this has raised the possibility that it has also led to an increase in drink driving or risk to women as pedestrians. This literature review is the first stage of a larger project designed to explore the issue in more depth. We are grateful to the Rees Jeffreys Road Fund and RBS for the funding for this work. We would also like to thank the many colleagues who have taken an interest and discussed this work and would especially mention Paul McEvoy of the DfT for his detailed analysis of the breath test data and Roger Agombar for his helpful insights to drink driving.

The Key Findings from the Literature Review

The magnitude of the problem

- Men and women in younger age groups and those of all ages on higher incomes are more likely to have drunk more than twice the recommended limits on at least one day in the previous week
- The groups of men and women most likely to be at risk of harm from their drinking are older adults and those with higher incomes, although young people are often perceived as the greater problem
- 63% of all alcohol is drunk in the home
- Although men are still the majority, women's convictions for drink driving are increasing as a proportion of all convictions (up by 16%) whilst male rates are falling (down by 24%).
- Women drivers aged 40 and over appear to be more over the breath alcohol limit, proportionately, than other groups, both females and males.
- The peak hours for failing a breath test are 22.00-05.59 for both men and women. But the proportion of women caught in these hours is slightly higher than the proportion of men.
- Little is known about sex difference in the incidence of drug driving but there is some evidence that legally prescribed drugs are more likely to feature than recreational drugs for women tested positive.
- There is virtually no information about the differences by sex for drunk pedestrian casualties.

The biological context

- Men and women, perhaps unsurprisingly, have different drink preferences.
- More significantly, women metabolise alcohol differently and reach a higher level of blood alcohol concentration than men when the amount is adjusted for body weight. In other words, the same amount of alcohol has a greater effect on a woman than a man.

Characteristics of female over-drinkers and links with the social context

- Cultural changes have affected attitudes to drinking generally, and especially to women drinking, while legislative and regulatory changes mean that alcohol is widely and easily available.
- Drinking is increasing generally among women, with research suggesting that those over 35 have little awareness of the number of units in a glass of wine.
- Many women report drinking as a way of dealing with a stressful life.

Cognitive processes involved in drink-drive decisions

- For some, once drunk drink driving is a 'non decision'.
- For others, risk assessment generally focuses on avoidance of detection rather than collision.
- Some drink drivers believe that their driving ability is not impaired.
- 'Normalising' drink driving as acceptable, and something that others do is also used to legitimise drinking and driving.

Education and Marketing to women

- Much of road safety campaign material is aimed at males.
- The small amount that is specifically aimed at women often carries the wrong message and acts as a 'turn off'.
- The common association of 'binge drinking' with young people involved in rowdy street behaviour belies the extent and impact of binge drinking occurring more routinely in the home, especially among older women (and men).

Conclusion

Our understanding of the subject of women and drink driving has been hampered by the frequent lack of distinction by sex in the statistics and literature. A strong recommendation is that this gap needs to be redressed since it is clear from our review that there are important differences and further that a gender specific response is necessary to address what is clearly a disproportional increase in women drink driving.

The review has also identified a number of key knowledge gaps requiring further research which will be the focus of the second stage of this study. The work will include a number of strands.

- Statistical analysis from other data bases.
- Desk top work about the impact of legislation and enforcement.
- Empirical social research on economic influences, health, cognitive and sociological factors focusing on both women drivers and pedestrians.
- Conclusions on the implications of the findings for social marketing and education, training and publicity road safety work.

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1 Introduction

1.1 The Background to the Research

This research developed from a road safety pilot study for Sheffield City Council concerned with improving pedestrian safety of 17-24 year olds¹. This and other recent work has highlighted an increase in the incidence of drunkenness amongst women and this review is the first stage of a larger project designed to explore the issue in more depth².

There is a growing body of evidence suggesting increased public acceptability of (heavy) drinking among women in public, as a result of attitudinal and cultural shifts over the last decade. This may have normalised binge-drinking in some contexts. However, other authors suggest that women's drunkenness was formerly viewed more negatively than men's and public drinking was regarded as less respectable than drinking at home³. If social norms have changed it is possible that such a shift has spilled over to impact both pedestrian and driving risk. Certainly it would seem that over-consumption of alcohol may lead to drink-driving and other violence-related convictions for women, involvement in alcohol-linked road collisions and pedestrian injuries and fatalities, more attendances at Accident and Emergency departments than hitherto, and increased ill health for women generally.

1.2 Women and Crime

Traditionally, women's role in offending both on and off the road has received little attention by criminologists and the criminal justice agencies, relative to that given to male offending, mainly due to the seemingly limited involvement of women in law breaking. Even today, both discussion of and research into offending behaviour, and treatment of offenders does not routinely distinguish findings by the sex of the perpetrator, women's role being implicit in largely male behaviour and male responses to treatment.

However, in recent years the British Government has recognised that what has worked to reduce offending behaviour for men may not work for women and it has embarked on a new approach that acknowledges women's complex needs. This is manifested in the implementation of the Women's Offending Reduction Programme Action Plan⁴, the funding of the Together Women project in 2006 (designed to show how a multi-agency approach could address women offenders' needs more

¹ SRA (2011) Evaluation of an Education, Training and Publicity. Pilot to reduce casualties amongst 17-24 year olds in Sheffield City Centre. Unpublished

² SRA (2012) ongoing research funded by Rees Jeffries Foundation and RBS Insurance

³ Valentine, G., Holloway, S., Jayne, M., and Knell, C. (2007) *Drinking places: where people drink and why*. Joseph Rowntree Foundation, York.

effectively)⁵ and the commissioning of the Corston Report in 2007⁶ to review the prevention and treatment of vulnerable women's offending. Interestingly, a key focus of the latter report concerns substance abuse, including the worsening problem of alcohol misuse among women.

These initiatives reflect a new top-level interest and focus in Government on the risk posed by women's offending and how this could be reduced, and also that a gender specific response might be necessary. Importantly, this recognition provides an appropriate backdrop to the current review. This starts with the premise that women's involvement in the over-drinking of alcohol and the negative ramifications of this deserve special and separate attention in regard to their driving and pedestrian activities and the social context in which their alcohol consumption arises.

⁴ (Home Office (2004), *Women's Offending Reduction Programme Action Plan*. The Home Office, London

⁵ Hedderman, C., Gunby, Cl, Shelton, N. (2011) 'What Women Want: The Importance of Qualitative Approaches in Evaluating Work with Women Offenders'. *Criminology and Criminal Justice*, 11(1), 3-19

⁶Home Office (2007), *The Corston Report* Home Office: London.

<http://www.justice.gov.uk/publications/docs/corston-report-march-2007.pdf>

2 Aims and Structure

2.1 The aims of this review are to:

- explore the evidence of the extent of the problem of alcohol consumption by both younger and older women and how this impacts on their safety as drivers and pedestrians;
- investigate the links between alcohol consumption and the documented rise in convictions for drink driving for women;
- develop greater knowledge of the socio-cultural and drinking context in which these shifts in alcohol consumption have occurred and interpret how this may be contributing to the recorded rise in drink driving convictions;
- identify contextual risk factors from the literature (that might be explored further in empirical research), and
- provide input to the second stage of empirical research to test and refine contextual risk factors identified in the review and to recommend policy countermeasures and suggestions to help reduce female alcohol risk and vulnerability.

2.2 The structure of the review

Chapter 3 sets out the magnitude of the problem based on statistics about trends and profiles of alcohol consumption. It goes on to look at convictions for drunkenness in general and then specifically in relation to drink and drug driving. The concluding section presents evidence on the link between drink driving and general criminality.

Chapter 4 considers the biological effects of alcohol on men and women and how these differ.

Chapter 5 examines the characteristics of overdrinking among woman and looks at the research on the social and economic context of women's drinking including regulation and the role of the drinks industry and Chapter 6 addresses the cognitive processes involved in drink drive decisions.

This leads on to Chapter 7 which examines the findings in the context of education and marketing for road safety. The concluding Chapter 8 considers the overall literature view findings in the context of knowledge gaps and recommendations for the next stage of research.

3. Women and drink – the magnitude of the problem

Key points

- **Men and women in younger age groups and those of all ages on higher incomes are more likely to have drunk more than twice the recommended limits on at least one day in the previous week.**
- **The groups of men and women most likely to be at risk of harm from their drinking are older adults and those with higher incomes, although young people are often perceived as the greater problem.**
- **63% of all alcohol is drunk in the home.**
- **Although men are still the majority, women's convictions for drink driving are increasing as a proportion of all convictions (up by 16%) whilst male rates are falling (down by 24%).**
- **Women aged 40 and over appear to be more over the breath alcohol limit, proportionately, than other groups, both females and males.**
- **The peak hours for failing a breath test are 22.00-05.59 for both men and women. But the proportion of women caught in these hours is slightly higher than the proportion of men.**
- **Little is known about sex difference in the incidence of drug driving but there is some evidence that legally prescribed drugs are more likely to feature than recreational drugs for women tested positive.**
- **There is virtually no information about the differences by sex for drunk pedestrian casualties.**

3.1 The general drink problem

Many Britons drink more than the recommended maximum, according to the Health Committee of the House of Commons (2009)⁷, and this occurs in both sexes. Indeed, young British women top the European binge-drinking league, where on 22% of all drinking occasions, women binge drink, compared with 5% in France⁸. (defined in this case as at least one bottle of wine or equivalent on the occasion. Binge drinking is also defined in the UK health literature as 6 or more units a day for males and 4 or more units for females). In this context binge drinking has come to mean high levels of street drinking by young people⁹.

⁷ Health Committee (2009) *Alcohol: First Report of the Proceedings of the Health Committee*. House of Commons Publication.

<http://www.publications.parliament.uk/pa/cm200910/cmselect/cmhealth/151/151i.pdf>

⁸ <http://www.nice.org.uk/nicemedia/documents/CHB8-binge-drinking.pdf>

⁹ Valentine, G., Holloway, S., Jayne, M., and Knell, C. (2007) *op cit*

As noted above, the main problem in compiling this review has been the lack of distinction between men and women in both research and official data. Much of the research identified has indicated that where distinctions have been made, this has centred on the link between alcohol consumption and violence, or on the risk of harm to health. The section below therefore explores general trends in drinking whilst drawing out differences by sex where possible.

Overall Consumption is falling

The pattern of drinking has changed over time, with total alcohol consumption falling from just over 1400 ml per person per week in 2000 to 1200 ml in 2009. The consumption of alcohol in the home has remained fairly steady at about 790 ml per person per week but it is the consumption of alcohol outside the home which is driving down the overall consumption rates with a steady decline since 2001/02, when data for consumption outside the home first became available. The reduction reflects the large fall in beer and lager consumption from 623 ml per person per week in 2001/02 to 342 ml in 2009. There have been small rises in the consumption of cider and perry (21 to 26ml) and wine (20 to 26ml) with a small reduction in spirits (21 to 26ml). Figure 1 illustrates this with the first set showing consumption within the home, the second set, outside the home and the third set total alcohol consumption.

Nevertheless, the consumption of alcohol is not evenly distributed across the whole population with many adults (28% of men and 44% of women) not drinking at all in the last week¹⁰. However, 10% of the population drink 44% of the alcohol consumed and 75% of alcohol is drunk by people who exceed the recommended limits of 3 to 4 units¹¹ a day for men and 2 to 3 units a day for women. Thus over 10 million adults drink more than the recommended limits¹². In terms of alcohol dependence, Singleton et al¹³ estimate that about 29 out of 1000 women are alcohol dependent compared with 119 per 1000 men.

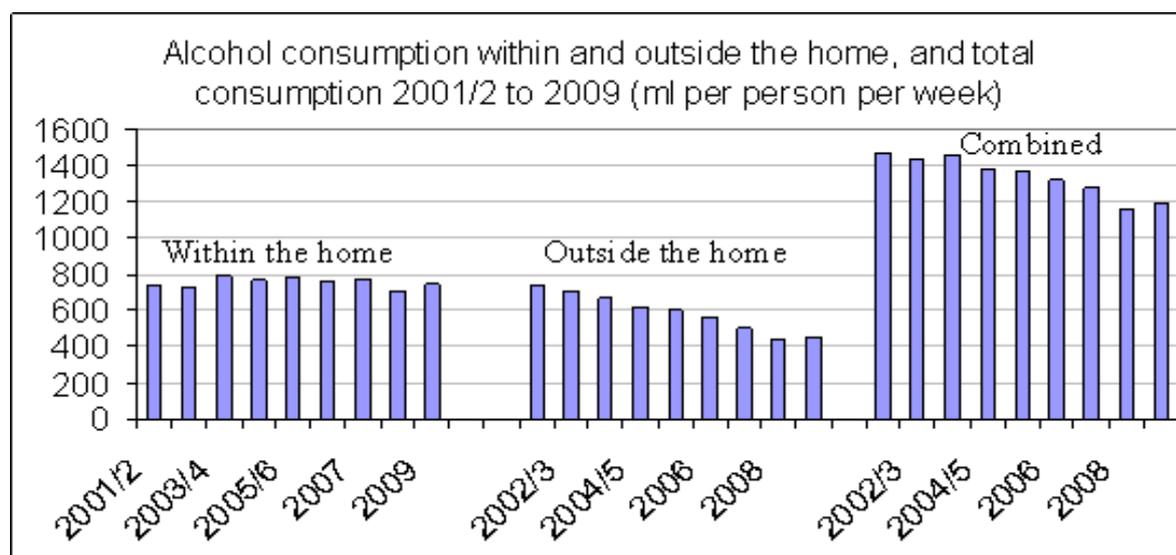
¹⁰ Health Survey for England (HSE) 2009 Vol 1. Adult Alcohol Consumption. The Health and Social Care Information Centre, 2010

¹¹ One unit of alcohol is 10ml by volume of pure alcohol. For example 1 pint normal strength beer is 2 units, single measure of spirits is 1 unit, small glass (125ml) wine 1.5 units, large glass (250ml) wine 3 units Table 10a HSE (2009) Vol 1.*ibid*

¹² Health Committee, paras 35 and 327).*op cit*

¹³ Singleton, N., Bumpstead, R., O'Brien, M., Lee, A., and Meltzer H. (2000) Psychiatric morbidity among adults living in private households. ONS

Figure 1: Alcohol consumption, within and outside the home and total consumption 2001/2 to 2009.¹⁴



Drinking at home

There are many people of all ages and both sexes who drink high levels of alcohol at home and who do not regard their drinking as remarkable. As can be seen in Figure 1 above, drinking at home accounted for about 63% of alcoholic drinks consumed in 2009, compared with 50% of all alcohol consumed in 2001¹⁵. Valentine *et al*¹⁶ found that nearly three quarters of their respondents drank at home or at other people's homes. The implications for road safety here is that as well as the drive home from the pub or club, we need to focus on the drive home from friends or family.

The culture of 'pre-loading', (the act of purchasing alcohol from an off sales and having several drinks before going out in the evening) is generally associated with under 25s behaviour. However, more people of all ages are accessing off-sales, with the main reason due to cost of alcohol. In a study of problem drinking in Scotland, on-sales alcohol was viewed as increasingly more expensive in comparison to off-sales alcohol, hence pre-loading was popular with all age groups¹⁷. Where this culture exists, the journey from home may also require consideration.

¹⁴ From Table 2.7 Household consumption of alcoholic drinks 1992-2009. Family Food Module of living costs and food survey 2009 (Defra.ONS) in Statistics on Alcohol in England 2011, The Health and Social Care Information Centre.

¹⁵ *Ibid*

¹⁶ Valentine et al (2007) *Op cit*

¹⁷ Human Factors Analysts Ltd (2007) The relationship between off-sales and problem drinking in Scotland. Scottish Executive Social Research

<http://www.scotland.gov.uk/Resource/Doc/179865/0051127.pdf>

A study of intergenerational patterns in learning to drink¹⁸ showed that the home was increasingly where young people learned to drink. Amongst the older group of respondents (mid 50s and older) women's drinking had been strongly socially regulated when they were young. The younger generation (late teens to early 20s) had largely been introduced to alcohol at a young age within a family context. Their parents were more relaxed about 'experiments' with alcohol and some even supplied alcohol for under age drinking in the belief that controlled access enabled responsible attitudes to drinking to be formed. Also some parents thought it hypocritical to preach abstinence to young people and still drink themselves.

Age related consumption

The fall in drinking is not uniform across the age groups and is largest amongst the 16-24 olds and least amongst the middle aged and oldest, especially among women. However in terms of units of alcohol drunk in 2009, the 16-24 age group for both men and women had the highest weekly consumption of any age group. This is mainly because they drink more than twice the recommended limits on any single occasion, with spirits (mainly vodka), dominating for young women and beer for young men¹⁹.

In a recent study of blood alcohol levels and drunkenness amongst young people visiting nightlife in the North West²⁰, 214 young people were interviewed and breathalysed. Among the key findings were that one third of the participants had starting drinking before 6pm with over half having drunk at home or at a friend's before coming out (preloaded) where spirits were the drink of choice for nearly two thirds of respondents. Over the course of the evening males expected to consume an average of 27.2 units and females 16.5 units. At least 10% of respondents expected to drink more than 40 units on their night out. At least half were expected to have blood alcohol concentrations equivalent to twice the legal driving limit before they went home.

Much of the published research focuses on young clubbers, and our aim in this review is to look at the wider picture. Is it only young women who represent the growing problem?

Income and occupation effects

As household income increases, so does the proportion of men and women who drank alcohol in the previous week. In households with a weekly income over £1000, 79% of men and 71% women reported drinking in the previous week compared with 56% men and 39% of women in households with a weekly income of £200 or less²¹.

¹⁸ *Ibid*

¹⁹ HSE 2009, Vol 1 Op cit

²⁰ Hughes, K., Anderson, Z., Bellis, MA., Morleo, M., Jarman, I., and Lisboa, P. (2009) *Blood alcohol levels and drunkenness amongst people visiting nightlife in the North West*. Centre for Public Health, Liverpool John Moores University

²¹ Health and Social Care Information Centre 2011 op cit

Adults in higher income households are also more likely to have exceeded more than twice the recommended limits on any single occasion in the last week²².

In the context of the relationship between alcohol consumption and income there is a strong relationship between the number of trips/distance travelled as a driver and income, with those in the highest income quintile making 29% more trips and driving 2.5 times further than those in the lowest quintile²³.

In addition to gross indicators of alcohol consumption, the Office of National Statistics publishes data on alcohol related deaths by occupation²⁴. There were over twice as many deaths for men as for women but within this, only 16% of men's deaths did not record an occupation compared with no recording of a occupation for 55% of women's deaths. Perhaps not surprisingly, the occupations with the highest proportions of alcohol related deaths for men and women were bar staff, publicans and others in the hospitality industry. Male seafarers also had high death rates. At the other end of the spectrum low death rates were found for men who were farmers and drivers, and women who worked with children.

Regional differences

In addition to age and sex differences and the influences of household income, alcohol consumption is not uniform across England. Men in Yorkshire and the Humber and the North East were more likely to have drunk at least twice the recommended limits on at least one day in the week, as were women in the North East, North West, Yorkshire and the Humber and the East Midlands. London has the lowest percentage of people drinking and in lesser amounts than further north. Men and women in England drink more than their Welsh and Scottish counterparts²⁵. Smith and Foxcroft²⁶ in their survey which explored general trends in drinking found an increase in drinking in Northern Ireland.

3.2 Convictions for Drunkenness

The percentage of women found guilty or cautioned for offences of drunkenness between 1994 – 2004 (the only recent period when the statistics were made publicly available) has shown a small increase compared with that for men. Table 1 shows a trend for males convicted or cautioned for offences of drunkenness to fall over this period from 259 to 137 men per 100,000 population in contrast to comparative figures for women of a small rise from 23 to 25 per 100,000 population. In common with other trends therefore, women's share of the total is much lower at about one in seven drunkenness offences, although the trend is a small rise for women.

²² HSE 2009 op cit

²³ <http://assets.dft.gov.uk/statistics/releases/national-travel-survey-2010/nts2010-07.pdf>

²⁴ National Statistics definition of alcohol related deaths include those causes regarded as being most directly related to alcohol consumption see Box One in Romeri, E., Baker, A., and Griffiths (2007) 'Alcohol related deaths by occupation, England and Wales, 2001-05'. *Health Statistics Quarterly* 35, Autumn 2007

²⁵ HSE 2009 op cit

Table 1: Persons found guilty or cautioned for offences of drunkenness by sex, selected years between 1994 – 2004²⁷

Number found guilty or cautioned per 100,000 population

	<u>Females</u>	<u>Males</u>
1994	23	259
1998	26	229
2004	25	137

For low level criminal behaviour requiring fewer police resources, Penalty Notices for Disorder (PNDs) were introduced in 2004. Being ‘drunk and disorderly’ is one of the offences for which these can be given and no admission of guilt is needed (in contrast to a caution where guilt must be admitted). The pattern seen in Table 1 is repeated in Table 2 which illustrates the gradually increasing female share of all Penalty Notices for Disorder issued for ‘being drunk and disorderly’ offences in selected years between 2004 and 2011. Thus in 2004, women’s share was about one in seven of all such PNDs which rose to one in six in 2011, despite the dip in these and all PND offences for 2011, so women’s contribution to being drunk and disorderly in a public place is now increasing.

Table 2: Female share of all Penalty Notices for Disorder issued for ‘Being Drunk and Disorderly’

	2004	2006	2008	2009	2011*
Female share	14.9%	15.4%	16.5%	17.3%	17.2%
Total M +F D&D Offences	26,595	43,556	49,411	43,570	29,593

For 12 months to end June 2011. [Figures largely from annual editions of *Statistics on Women and the Criminal Justice System*, Ministry of Justice.]

²⁶ Smith, L., and Foxcroft D. (2009) *Drinking in the UK: an exploration of trends*. Joseph Rowntree Foundation, York

²⁷ Figures from Home Office [Table 3.21] Criminal Statistics 2004, 19/05 2nd ed. November 2005

3.3 Women, Drinking, Drugs and Road Safety

Female convictions are increasing

A key source of objective information about negative outcomes of over-drinking comes from official criminal justice statistics that are variously made available through the Department of Transport, the Home Office, the Ministry of Justice and the National Archives. Some key statistical trends relevant to women's involvement in over-drinking are given below.

The top line of Table 3 shows that court convictions for drink/drug driving in England and Wales over the past 12 years have fallen during that period from a peak in 2003. The rate of decrease was particularly noticeable in 2010 such that the percentage change from 2003 to 2010 was a fall of 37.5%. This is very encouraging generally although the sharp drop in 2010 could partly reflect slight changes in police traffic enforcement policies that occurred between 2009 and 2010. More specifically, Table 3 shows that women's share of all drink/drug drive convictions gradually increased year on year from 9% in 1998 to 16.1% in 2010. At the same time, women's rate of increase grew by 15.7% between 2003 - 09, while the corresponding figure for men was a 24% drop. Although, as noted, there was a big reduction in convictions in 2010, this was more apparent for men than for women. Thus there was a 41% fall in male drink/drug convictions between 2003 -2010, with only a 7% corresponding fall for women in the same period.

Table 3: Trends in Drink/Drug Drive Convictions at all Courts (England and Wales) by Sex of Offender²⁸

	Year							Change	
	1998	2003	2006	2007	2008	2009	2010	2003 / 2009	2003 / 2010
All D/D convictions	93116	93701	92671	89223	80896	75411	58574	-19.5%	-37.5%
Female convictions	9.0%	10.8%	12.2%	13.1%	14.2%	15.5%	16.1%	15.7%	-6.9%
Male convictions	91.0%	89.2%	87.8%	86.9%	85.8%	84.5%	83.9%	-23.8%	-41.2%
Percent/no. millions female licence holders ²⁹	44.6% /14.0	44.5% /14.3	45.4% /15.3	45.6% /15.4	45.8% /15.8	46.0% /16.0	46.6% /16.3		

²⁸ Figures from Table 17 Supplementary Motoring Statistics for 1998, 2003, 2006 (Home Office), and from Table S6.16 Supplementary Volume 6 Motoring Statistics for 2007-2010 (Ministry of Justice).

²⁹ Department for Transport (2011) Reported Road Casualties Great Britain (2010) DfT, London

Over the years 1998 to 2010 there has been a steady rise in fully licensed female drivers (see bottom line of Table 3) from 14 million in 1998/2000 to 16.3 million in 2010 whilst male licence holding has increased more slowly from 17.4 to 19 million over the same period. Part of the female increase in the drink driving convictions stems from the rise in licence holders and the increase in number of trips and miles driven but it is unlikely to account fully for the rise (this is explored in more detail in Figure 6).

Published figures only break down the age of offenders into 'under 21 years' and '21 years and over'. Table 4 shows that over the period 2003 – 2010 there have been falls in the number of drink/drug convictions for all age groups except females under 21 where there has been a small rise despite an apparently large fall for all convictions between 2009 and 2010. For males of all ages there have been consistent falls in convictions across the years (about 56% for the under 21s and 39% for the over 21s). By contrast convictions for females have hardly changed for the under 21's and by only 7% for the over 21's.

Table 4: Sex and Age Profile of Convicted Drink/Drug Drivers (England and Wales): 2003-2010

Year	Under 21 yrs		Over 21 yrs		All %	
	Female%	Male%	Female%	Male%	Females	Males
2003	7.1	92.9	11.3	88.7	10.8	89.2
<i>Actual</i>	840	10947	9272	72642		
2006	9.5	90.5	12.6	87.4	12.2	87.8
<i>Actual</i>	1067	10173	10228	71203		
2007	11.4	88.6	13.3	86.7	13.1	86.9
<i>Actual</i>	1238	9593	10456	67936		
2008	13.4	86.6	14.3	85.7	14.2	85.8
<i>Actual</i>	1255	8091	10253	61297		
2009	13.7	86.3	15.7	84.3	15.5	84.5
<i>Actual</i>	1117	7054	10585	56655		
2010	15.3	84.7	16.2	83.8	16.1	83.9
<i>Actual</i>	861	4777	8557	44379		

Women are more likely to be over the legal limit as drivers than men

Police forces in England and Wales are using digital breath testing devices at the roadside to screen for breath alcohol. In 2010, 41 out of 43 police forces were contributing data from these devices. For breath alcohol the legal limit for driving is exceeded at 36 mcg of alcohol (or more) per 100 ml of breath. The Department for Transport analyses and reports³⁰ on the levels of breath testing and the alcohol levels detected. The bands used are 0-4 mcg/100ml , 5-20, 21-35 (all under the limit) 36-50, 51-80 and over 80 (the last three are all over the legal limit).

Figure 2 shows the reasons for the police stopping drivers for breath alcohol screening tests (data from the police forces with available data in 2010). Just under a

³⁰ Department for Transport (2011) Reported Road Casualties Great Britain 2010 DfT, London

third of tests were administered following a collision compared with just over a third for a moving traffic violation and 23% for suspicion of alcohol.

Figure 2: Reason for breath alcohol screening tests: Available police forces, 2010³¹

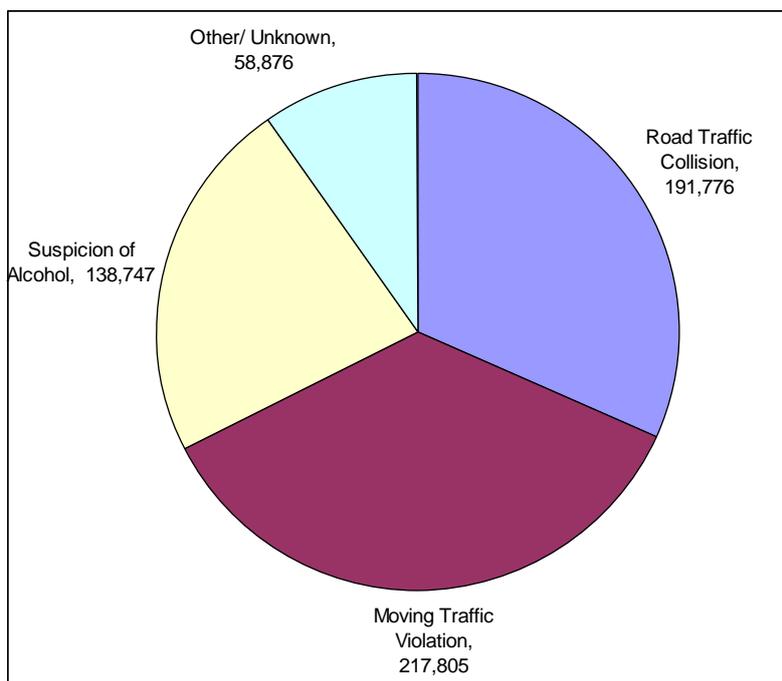
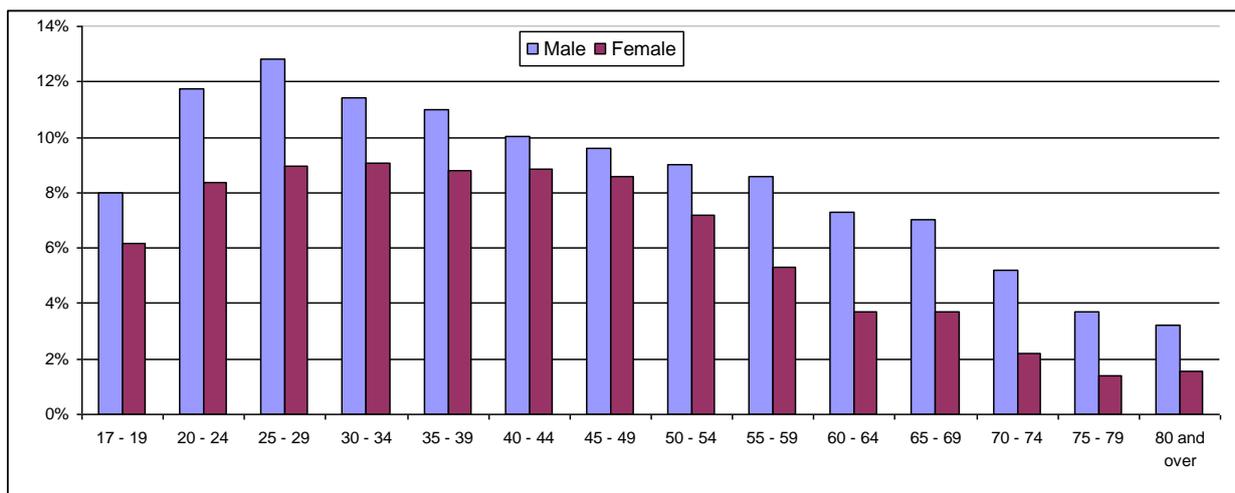


Figure 3 shows for all reasons for screening, the percentage of men and women, across various age groups who failed a roadside breath test. Across all age groups, men, especially younger men, accounted for a higher percentage of failed tests than women (i.e. provided a specimen of breath containing 36mcg of alcohol (or more) per 100 ml of breath).

For men, there is a defined peak in the percentage of failed breath tests of around 13 per cent among drivers age 25 – 29 and this steadily decreases among drivers aged 30 and above. However, among women drivers there is a less obvious peak and the highest percentage of failed tests (of around 8-9%) is displayed across a far wider group of drivers (aged 20 – 49) and this does not fall below 8 per cent until drivers are aged 50 and above.

³¹ Data for the Figures 2-6 and 8-9 were provided by DfT especially for this research

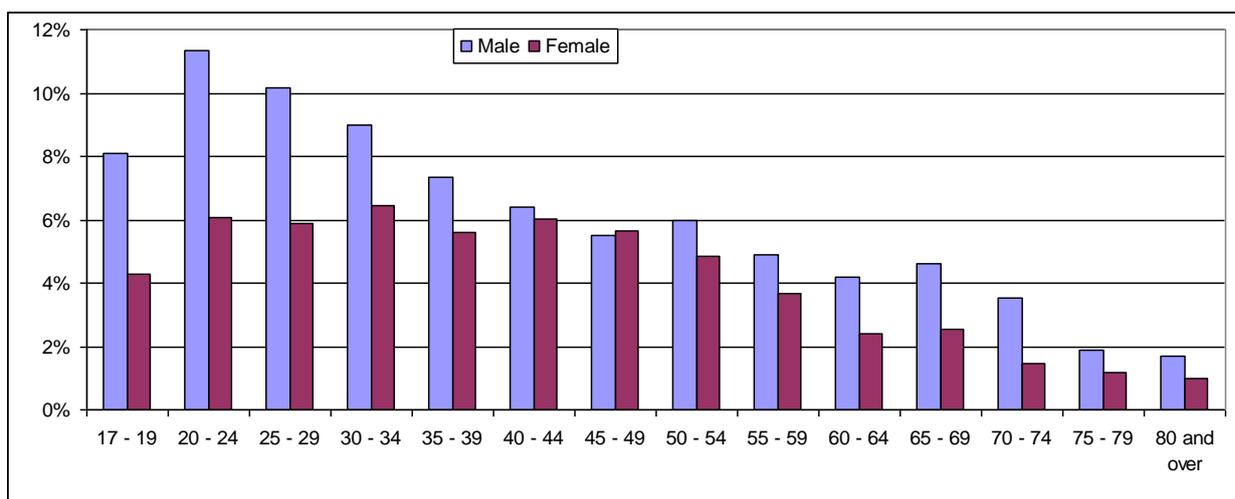
Figure 3: Percentage of drivers failing a breath test by age and sex (all reasons for screening).



In 2010, 187,929 drivers were tested after any collision whether or not it involved personal injury. Of these only 7% were found to be positive, comprising 10,775 males and 2,591 females.

Figure 4 shows the percentage of drivers failing a breath test after being involved in a road traffic collision. Young males continue to dominate and males of all ages account for a higher proportion of failed tests than females. However, at age 45-49 years females account for a higher proportion of failed tests than men (5.5% of all males compared with 5.7% of all females).

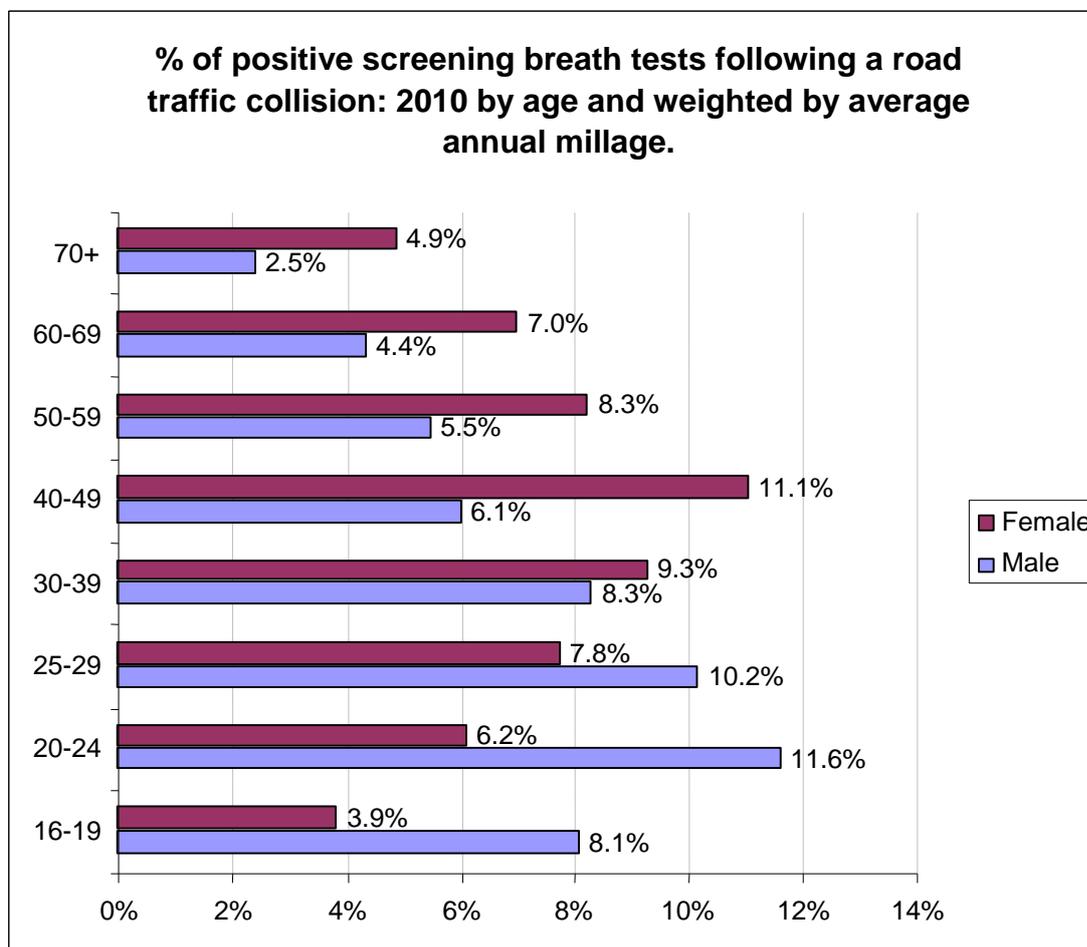
Figure 4: Percentage of drivers by age and sex failing a breath test following a road traffic collision



Some of the difference may be related to the distance driven (exposure) by each age group whereby those who drive the most might be expected to be involved in more collisions and hence be breath tested more often. In general males drive more miles per year per person than do females.

Figure 5 shows the percentage of drivers involved in collisions by age and sex, screened positive for breath alcohol, divided by the annual average mileage per person in each age and gender group.

Figure 5: Positive breath tests following a road traffic collision by age and weighted by average annual mileage



This table is based on breath test date provided by DfT divided by exposure data from the NTS.

The picture in Figure 5 is still one of young males exceeding the breath alcohol limit by the greatest amount even when their lower mileage is taken into account. As we move up the age range, the pattern turns around and proportionately **more** females fail the breath test after a collision, particularly females aged 40 to 49 years. To put this in perspective, there were 600 females in this category compared with 1675 males. In the 50-59 year age group there were 261 females and 965 males. By comparison there were 1973 males aged 20 to 24 and 505 females confirming that in terms of numbers, drink driving is a predominantly young male problem but females, especially those aged 40-49 appear to be particularly vulnerable to the effects of alcohol.

The conclusion from figure 5 appears to be that for drivers over 30, taking miles driven into account, despite the actual numbers being smaller, proportionately more women than men test positive for alcohol following a collision.

The data allow the breath alcohol levels to be broken down into bands with 80-100 and over 100 mcg/100ml being the highest. The numbers in the over 100 mcg group are small so have been combined with 80-100 to give a group 80+mcg/100ml. The percentage of males and females screened at this higher limit is shown in Figure 6. The picture of the 40-49 year old female involved in a traffic collision is becoming familiar with this group proportionately more over the limit than males of the same age. The numbers are smaller than those forming the basis for Figure 4 but 438 females compared with 721 males are in the 40-49 year age group (compared with 175 females and 816 males in 20-24 year age group).

Figure 6: Breath test failures at 81mcg/100 and over by age and sex

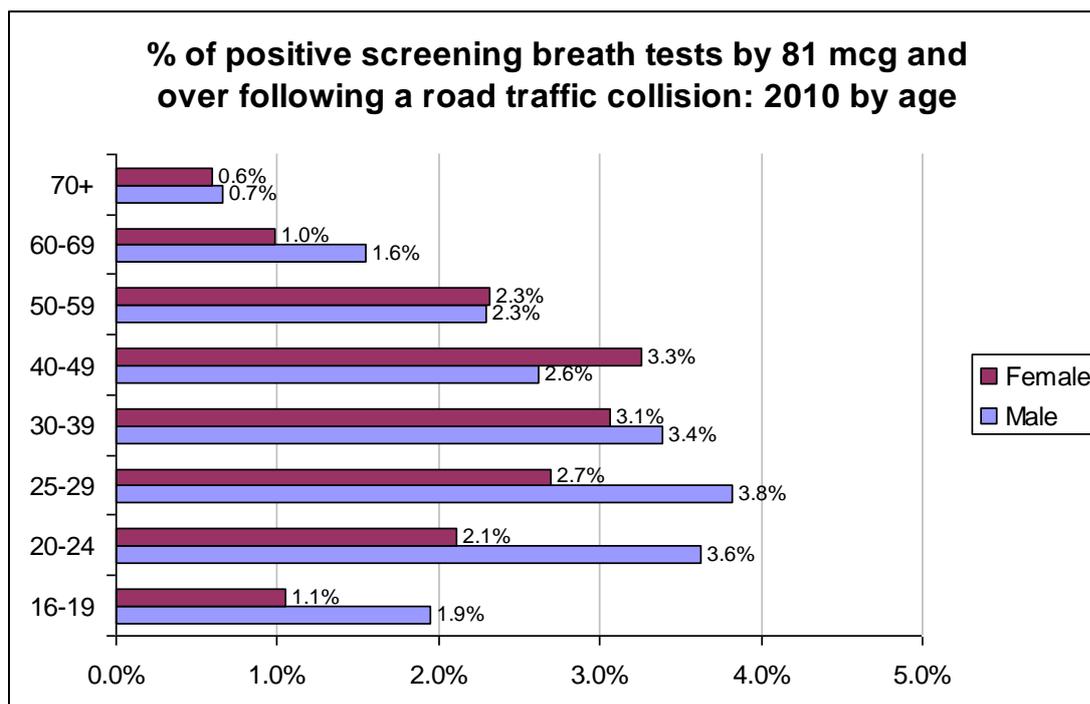
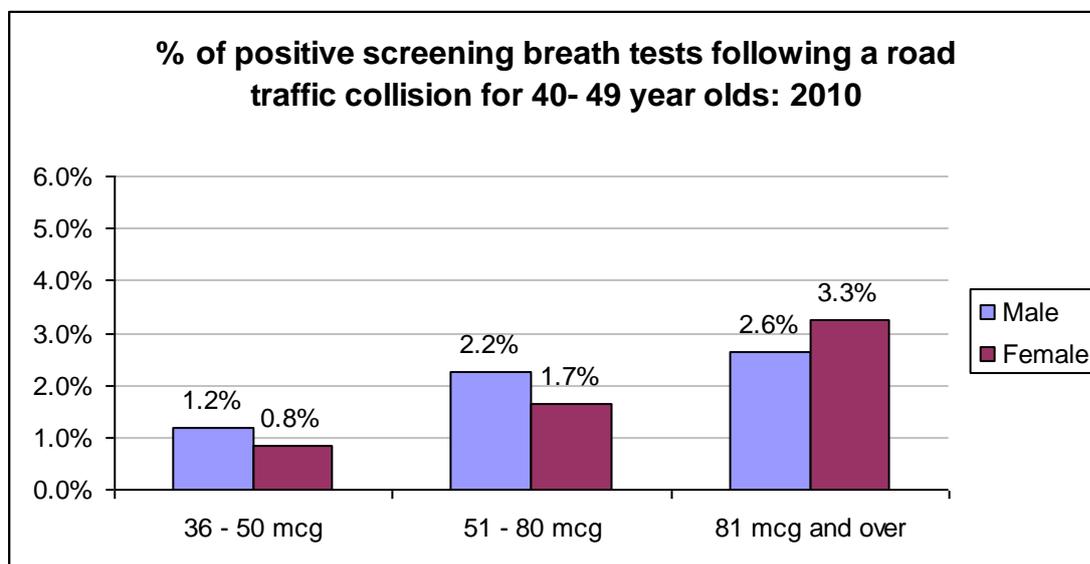


Figure 7 shows the breath alcohol levels for the 40-49 age group and it is quite clear that females have proportionality higher breath alcohol levels than males of the same age.

Figure 7: Levels of breath alcohol above the limit for 40-49 year old males and females³².



Time of day of drink driving offences

Having established that there is a drinking culture which spans all ages (younger women out and about in clubs and older women at home, or someone else's home) it is useful to look at the time profiles of men and women's failure rates for breath tests after a road traffic collision in order to establish times of day at which breath tests are failed and whether this differs for male and female drivers of different ages.

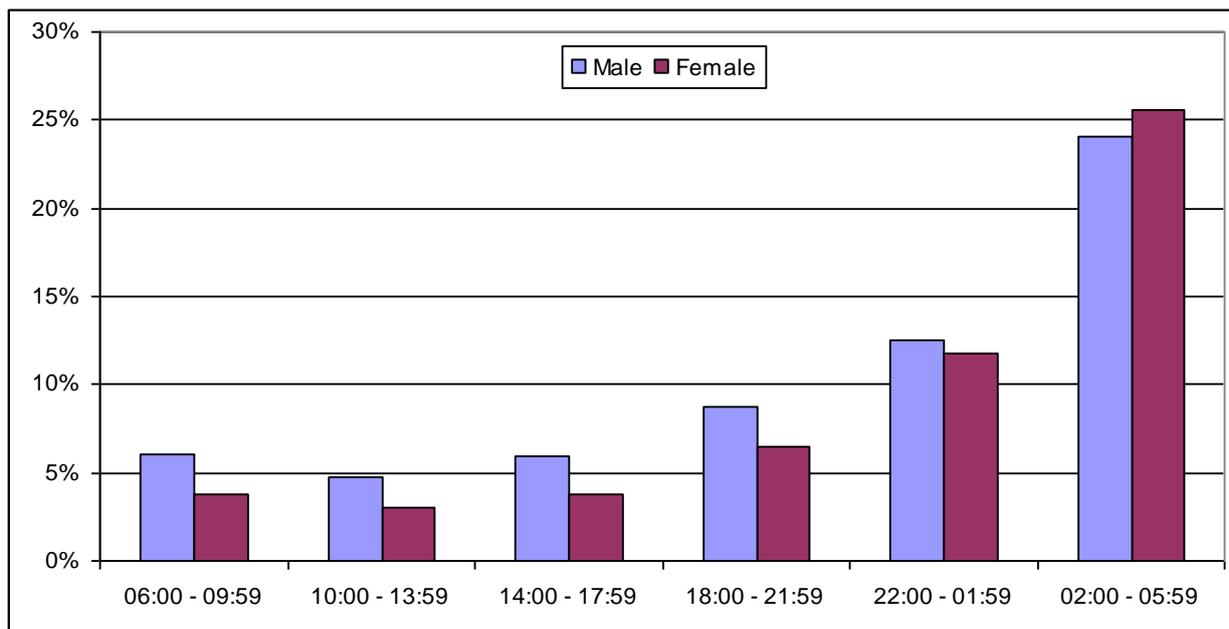
The interesting feature of Figure 8 is that the percentage of females (of all ages) failing a breath test after a road traffic collision rises through the day from 10.00 and by 22.00 exceeds the corresponding proportions of males failing a breath test. There is no evidence here to suggest that females are proportionately more likely than men to be over the limit during the day.

³² Source

Table RAS51018 Department for Transport statistics 2011

<http://www.dft.gov.uk/statistics/releases/road-accidents-and-safety-annual-report-2010>

Figure 8: Percentage of screened drivers failing a breath test following a road traffic collision by sex and time of day.

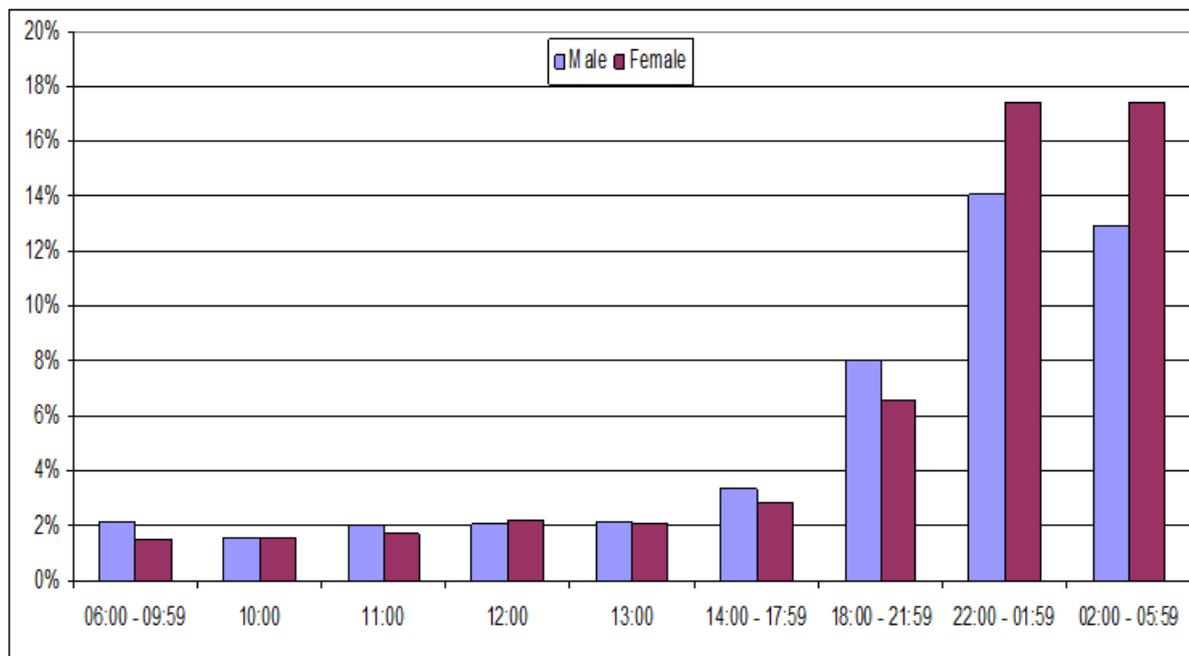


Whilst younger drivers fail more breath tests than do older drivers and males more so than females, the time of day profile of older drivers aged 40 and over is of particular interest. Figure 9 shows that in the two night time and early morning periods 22.00-01.59 and 02.00-05.59 hours, female drivers failed their tests proportionately more often than males. In the hours 18.00-21.59, 265 females failed the breath test compared with 969 males. Between 22.00 and 01.59 the corresponding numbers are 282 females and 892 males and for 02.00 to 05.59 there were 78 females and 315 males.

Repeating this analysis using breath test failures after a personal injury collision (STATS19) shows a very similar pattern with, if anything, an even higher percentage of females over 40 year of age failing a breath test in the early hours.

The finding that females are more likely to fail a breath test late at night or in the early hours is common to both younger and older drivers with very few failing a test during the day (less than 5%). This pattern is similar for males.

Figure 9: Percentage of drivers (age 40 and over) failing a breath test, following a road traffic collision by sex and time of day



Given that women aged over 40 group are more likely to have failed a breath test following a road traffic collision, this raises the question of whether in addition to drinking more now than previously, women are also driving when over the legal limit in order to ‘protect’ their inebriated male partner. This has been suggested by Australian research cited below on page 34 and could be explored further in the empirical research.

Studies from other countries

Whilst many of the studies reported in this section refer to the UK, research from other countries especially North America report similar conclusions. For example, a systematic review of interventions for alcohol-related offending by women in which alcohol offences for drink driving forms a part³³ concluded:

- Women are less likely to drink and drive than men and less likely to recidivate, also younger aged offenders predicted higher recidivism for males than for females.
- Whilst the drunk driving rates for women are lower than for men, research shows a drop in rates for men’s drunk driving over the last decade but not for women.
- More men than women had been recently arrested for public drunkenness, committed other alcohol related offences and had more previous convictions for driving under the influence of alcohol.

³³ McMurrin, M., Riemsma, R., Manning, N., Misso, K., and Kleijnen, J. (2011) ‘Interventions for alcohol-related offending by women: A systematic review’. *Clinical Psychology review*

3.4 Self-report measures of drink-driving

In addition to criminal justice system statistics, self-report measures can provide measures of alcohol consumption and some of these distinguish by gender and include statistics on drink-driving. One recent survey showed that 42% of a reasonably representative sample of the female driving population in Britain admitted drinking at least one small glass of wine before driving in the previous year, with 1% admitting having drunk four small glasses before driving³⁴. Yet while any alcohol can cause impairment behind the driving wheel, such levels do not necessarily indicate driving while over the permitted Blood Alcohol Concentration limit (BAC, currently 80mg/100ml).

Other self reporting studies show that whilst women are less likely to drink than men and drink fewer units in a week, there is a robust trend which shows a narrowing of the gender gap with drinking behaviour of women tending towards that of men³⁵. Of interest is the trend that alcohol consumption is increasing slightly among older age groups. 14% of the over 65s had a drink every day (19% of males and 10% of females) and 20% had a drink on at least five days in a week (28% of males and 14% of females). In the younger age groups (16-44years) fewer than 4% drank every day and up to 11% drank on at least five days³⁶.

Lader's national survey³⁷ echoed these themes of more daily drinking by men and by older people, thus the proportion who reported drinking almost every day was highest among the 65+ group, with 22% men and 14% reporting doing this, against 5% men and 4% women aged 25-44.

Comparison between two studies of more than 1000 Scottish drivers in 2001 and 2007³⁸ indicated that in 2001 8% of men and 3% of women suspected they might have driven while over the legal drink-drive limit in the previous year. The 2007 survey showed figures of 7% men and 3% women respectively. The proportion of men who reported 'ever' doing this fell from 32% in 2001³⁹ to 23% in 2007⁴⁰ while the proportion of women remained static at 11%. These results suggest that the increase in women's drink driving convictions (see 3.3 above) may partly be due to this narrowing of the gap between the sexes in prevalence of heavy alcohol consumption and in suspected 'over the limit' driving after drinking.

³⁴ BRAKE (2008) *Safe Driving: Men vs Women. The Green Flag Report on Safe Driving. Part eight.* http://www.brake.org.uk/assets/docs/dl_reports/gf8_menwomen.pdf

³⁵ Smith, L. and Foxcroft, D. (2009) *Drinking in the UK: An exploration of trends.* York: Joseph Rowntree Foundation

³⁶ HSE 2009 *op cit*

³⁷ Lader, D. (2009) *Drinking: Adults' Behaviour and Knowledge in 2008.* Opinions (Omnibus) Survey Report No. 39. Newport: Office for National Statistics.

³⁸ Anderson, S. and Ingram, D. (2001) *Drinking and Driving: Prevalence, Decision Making and Attitudes.* Edinburgh: Central Research Unit, Scottish Executive

³⁹ Anderson and Ingram *ibid*

⁴⁰ Collins et al 2008 *ibid*

Brasnett (2004)⁴¹ surveyed 1000+ English drivers and found that the reported prevalence of driving in the previous year when they suspected they were over the limit (whether or not they actually were) was higher on both measures for both sexes among the 30-59 year old group than the 16-29 yrs or 60+ groups. Figures for 30-59 year old women were 33% and 7% respectively, suggesting 'middle age' may be a risk factor.

These domestic self-report results of drink-drive surveys are echoed in several international surveys. For instance, Caetano and Clark⁴² found in an US nationwide household survey that irrespective of ethnicity (white, black or Hispanic) roughly four times as many men as women admitted 'ever being arrested for driving under the influence of alcohol' or being arrested for this 'in the last 12 months'. A recent national roadside survey in Belgium to estimate the proportion of drink drivers showed that women were far less likely than men to have an illegal blood-alcohol level when tested⁴³. Women's odds for drink driving were decreased by 75% compared to men. Thus while women appear at less risk than men of drink-driving, they are still a risk and a not insignificant one.

3.5 Drug-driving

It is useful to highlight at this stage that officially recorded court conviction statistics do not distinguish between incidents that come to police attention caused by alcohol, illicit drugs or a combination of these substances, since currently breathalyser technology is not yet at that state of readiness. Until accreditation of suitable devices is complete and the devices are rolled out nationally, statistics are unlikely to distinguish between these substances as causal factors, and drivers are less likely to fear being detected for drug-driving than drink-driving (as found, for example, by the Myant et al research below).

In the meantime, roadside surveys and self-report surveys are the key means by which to assess the incidence of drink and drug driving offending, though these surveys are rather limited in number and tend to say little about sex of the offender. The Myant *et al* report⁴⁴ is an exception and surveyed a representative sample of 17-39 year old drivers. Although men reported higher levels of drug use both 'ever' and in the last 12 months, there was no statistically significant difference in reported levels of drug driving between the sexes. Among men, 8% said they had 'ever'

⁴¹ Brasnett, L. (2004) Drink Driving Prevalence and Attitudes in England and Wales: 2002. Home Office Report No. 258. London: Home Office.

⁴² Caetano, R. and Clark, C. (2000). 'Hispanics, blacks and whites driving under the influence of alcohol: results from the 1995 National Alcohol Survey'. *Accident Analysis and Prevention*, **32**(1), 57 - 64..

⁴³ Vanlaar, W. (2005). 'Drink driving in Belgium: results from the third and improved roadside survey'. *Accident Analysis and Prevention*, **37**(3), 391 - 397.

⁴⁴ Myant, K., Hope, S, McIntosh, J. O'Brien T, McKeganey N, P & Stradling, S (2006) *Illicit drugs and driving*. Scottish Executive, Road Safety Scotland.

<http://www.scotland.gov.uk/Publications/2006/07/10105913/0>

driven while drug impaired compared with 5% of women, while 4% men and 2% women said they had driven while drug impaired in the previous 12 months. The report notes that although women reported more drug use *per se* since its earlier 2000 survey, there had been no increase in drug-driving among women reported in the 2005 survey.

The most commonly reported drug taken before driving was cannabis (35%) with stimulants, opiates and suppressants comprising most of the remainder. Of interest for the current study, almost half (49%) reported driving to or from a friend's or relative's house after drug ingestion. Most (67%) said they had been driving on their own, but 16% could not remember. Depth interviews among recreational drug users added that drug driving occurred mainly at weekends over short distances, usually to pubs or clubs or to visit friends. Results were not reported by sex of respondent. There was no clear pattern of drug-driving by age band and again this was not broken down by sex.

In that study it seemed that drug users were part of a wider social circle where drug-driving was condoned and indifference shown to it. This is suggestive of the normalisation of recreational drug use that may have occurred in recent years⁴⁵.

Another study involving the roadside testing of non-accident involved drivers in Glasgow⁴⁶ found that 11% of drivers were drug users with ecstasy (5% of cases) and cannabis (3% of cases) being the most common drugs ingested before driving. (Sex of respondent was not reported in the 'North' Drink and Drug Driving Review 2010 that cited this⁴⁷). These findings can be added to those of Tunbridge's (2001)⁴⁸ study which found illicit drugs in 18% of road accident victims (a six-fold increase over the decade), with cannabis being the most commonly detected drug.

A more recent French study reported by the Royal College of Psychiatrists⁴⁹ found that even when controlling for alcohol intake, cannabis users were more than twice as likely to be the cause rather than one of the victims of a fatal crash.

To reinforce this view, a comprehensive international review by Kelly *et al*⁵⁰ of almost 200 studies of drug use and driving (incorporating alcohol and other licit drugs) specifically mentioned 26 of them that made reference to sex of driver – around one in eight. This review concluded that although men were more likely to report drug driving and to test positive for drugs after suspected impaired driving or accident involvement, several of the studies cited failed to find evidence of sex

⁴⁵ Measham, F. and Brain, K. (2005) 'Binge drinking', British alcohol policy and the new culture of intoxication'. *Crime, Media and Culture*, 1(3), 262-283

⁴⁶ IMMORTAL EU Research Project, *The prevalence of drug driving and relative risk estimations: a study conducted in the Netherlands, Norway and United Kingdom*, 2005

⁴⁷ Dept for Transport (2010) *Report of the Review of Drink and Drug Driving Law*. London: DfT.

⁴⁸ Tunbridge, R., Keigan, M. and James, F. (2001) *The incidence of drugs and alcohol in road accident fatalities*. TRL Report 495. Crowthorne: TRL.

⁴⁹ Laumon B *et al.* (2005) 'Cannabis intoxication and fatal road crashes in France: population based case control study.' *British Medical Journal*, 331, 1371-1377

⁵⁰ Kelly, E., Darke, S and Ross, J. (2004) 'A review of drug use and driving: epidemiology, impairment, risk factors and risk perceptions.' *Drug and Alcohol Review*, 23: 319-344.

differences in the prevalence of drug driving⁵¹. And one found evidence of increasing prevalence of drug driving by women⁵². Kelly *et al's*⁵³ review noted that women drivers frequently are more likely to test positive for legally prescribed benzodiazepines and cited two studies that found this⁵⁴. Not only is the failure to find sex differences in some drug drive studies of concern, but also the last point highlights the danger that licit drugs can be as impairing in the driving task as illicit ones⁵⁵ and that women may be more frequent⁵⁶ recipients of prescriptions for benzodiazepans than men⁵⁷.

Given the concerning level of drug use prior to driving reported in these studies, it would be useful routinely to have a breakdown of findings by sex of driver, since women drivers, it appears, are also considerably at risk of impairment by licit and illicit drugs.

3.6 Women pedestrians and alcohol

Since 2002 there has been a slow rise of about two percent in the proportion of females killed or seriously injured as pedestrians in all age groups under 60 years. However, the effect of alcohol on pedestrian safety has received comparatively little attention in the research literature and even fewer studies distinguish between male and female drinking pedestrians. Martin's (2006)⁵⁸ review of factors influencing pedestrian safety was unable to find any reviews post 1998, which indicates how little work there is in this area. Not surprisingly, more male than female casualties had been drinking, and of the pedestrian deaths about one third had consumed enough alcohol to be over the legal limit for drivers. Generally pedestrians had the highest incidence of alcohol than casualties in any other road user group measured. The 1998 study of casualties in five Scottish hospitals⁵⁹, found the age band of

⁵¹ Lobmann, R. and Kruger, H-P. (2000) '*Factors predicting driving under the influence of illegal drugs.*' Paper presented at the International Conference on Alcohol, Drugs and Traffic Safety, Stockholm, 2000.

⁵² Skurtveit, AS., Christophersen, A., Morland, J. (1995) 'Female drivers suspected for drunken or drugged driving'. *Forensic Science International*

⁵³ Kelly *et al* (2004) *op cit*

⁵⁴ E.g. McLeod, R., Stevens, M., Stockwell, T. and Phillips, M. (1998) '*Drug use and driving in Western Australia: a survey of attitudes, beliefs and behaviours.*' Perth: National Centre for Research into the Prevention of Drug Abuse, Curtin University of Technology.

⁵⁵ Barbone, F., McMahon, A., Davey, P., Morris, A., Reid, I., McDevitt, D. and MacDonald, T. (1998) 'Association of road-traffic accidents with benzodiazepine use'. *The Lancet*, 152, 1331-1335. 24.10.1998

⁵⁶ Kelly *et al* (2004) *op cit*

⁵⁷ Commonwealth Department of Human Services and Health (2004) *Statistics on drug abuse in Australia, 1994*. Canberra: Australian Government Publishing Service

⁵⁸ Martin A. (2006) Factors influencing pedestrian safety: a literature review. Published Project Report PPR 214, TRL Ltd Crowthorne.

⁵⁹ Carole Millar Research (1998) *Alcohol and the pedestrian casualty – research findings*. Development Department Research Programme Research Findings No. 49 The Scottish Office <http://www.scotland.gov.uk/Publications/1998/12/3acc031b-dfcf-4a7c-9e11-89a0cc7528ae>

drinking pedestrians most at risk was 40-49 years. Whilst there was no breakdown by age and sex the report notes that 10% of female pedestrian casualties showed evidence of alcohol compared with 48% of men. (Table 5).

The Department for Transport's Reported Road Casualties 2009⁶⁰ estimates that blood alcohol levels were only available for about 51% of fatally injured pedestrians and therefore there may be an overestimation of the proportion of fatalities over the legal limit for drivers. Despite this caveat the data supports the 1998 Scottish study, with fatally injured pedestrians consistently having more alcohol in their blood than other road user groups. In addition 75% of pedestrians fatally injured between the hours of 22.00 and 04.00 were over the legal limit for drivers. Unfortunately there is no breakdown by sex or age.

Table 5: Percentage of road user groups showing evidence of alcohol in Accident and Emergency Departments of five Scottish hospitals 1996/1997

Age	Percentage of each road user group showing evidence of alcohol			
	Pedestrians	Car drivers	Car passengers	All road casualties
16-22	14	4	11	8
23-29	38	5	14	9
30-39	33	6	6	8
40-49	56	7	15	17
50-59	33	2	0	7
60 and over	27	0	0	10

Source: Carole Millar Research for Scottish Office (1998)⁶¹

3.7 The link between drunkenness, driving offences and mainstream offending

Rose⁶² carried out a large-scale study using the Home Office Offenders Index (OI), as at 1996, that documents the criminal careers of serious offenders including serious traffic offenders, and the Young People and Crime (YPAC) Home Office survey. He found that 8% of convicted drink drivers in the OI were women (corresponding to Motoring Statistic figures discussed above) and that 5.9% of women aged 16-29 in the YPAC survey admitted 'ever' drink-driving, with 3.2% admitting doing it 'in the last year'. Interestingly, he found that only 14.5% of female

⁶⁰ Department for Transport (2010) *Reported Road Casualties 2009*. DfT

⁶¹ Carole Millar Research for Scottish Office 1998 *ibid*

⁶² Rose, G. (2000) *The Criminal Histories of Serious Traffic Offenders*. HORS 206. London: Home Office. <http://library.npia.police.uk/docs/hors/hors206.pdf>

drink drivers in the OI had a previous conviction for any traffic or mainstream offence on this database, considerably lower than the 42.7% of male drink drivers who did. In fact, female drink drivers were only more 'criminogenic' than females convicted of dangerous driving (10.5% of whom had a criminal record); they were less criminogenic than females who were disqualified drivers, car thieves, mainstream offenders or other offenders on the database. Given that 46.6% of women on the OI had a previous conviction overall, female drink drivers by contrast largely look to be untainted by previous serious criminal involvement.

Conversely, Rose notes that drink drivers were estimated to be twice as likely to have a criminal record as a member of the general population of the same age and gender (at least considering those aged 21-32). So although young drink driving women have a relatively low risk of previous convictions compared with other traffic offenders of the same sex (in the OI), they are still twice as likely as women of similar age in the general population to have previous convictions for either mainstream or traffic offences.

At the more serious end of mainstream offending, arrests for notifiable offences (i.e. those which must be recorded by police) for each year since 2002/03 show that numbers of arrests have increased for women and men, but the rate of increase was greater for women than men⁶³. So the percentage change between 2002/03 to 2009/10 for men was +10% and for women it was +16%. However, men were around five times more likely to be arrested than women for a notifiable offence during this period. Since 2006/07, the single most common type of offence for both sexes was for violence against the person, which replaced theft and handling as the most common type for women.

It is not known what proportion of these recorded offences involved prior consumption of alcohol or drugs. However, there is a considerable body of evidence showing that alcohol consumption frequently precedes the commission of violent crime, e.g. Budd⁶⁴; Graham *et al*⁶⁵). Moreover, assault victims surveyed for the annual British Crime Survey regularly report that around 45% of their attackers 'had been drinking'⁶⁶. It is thus unlikely that women's rise in violent offending has been

⁶³ Using figures from Table 3.2 Statistics on Women and the Criminal Justice System 2008 and Table 3.01 Statistics on Women and the Criminal Justice System 09.10 (Ministry of Justice)

⁶⁴ Budd, T. (2003) *Alcohol-Related Assault: Findings from the British Crime Survey*. London: Home Office.

⁶⁵ Graham, K.; Wilsnack, R., Dawson, D. and Vogeltanz, N. (1998) 'Should alcohol consumption measures be adjusted for gender differences?' *Addiction* 93(8): 1137-1147.
<http://alcalc.oxfordjournals.org/content/34/6/894>

⁶⁶ E.g. Flood-Page, C. and Taylor, J. (eds) *Crime in England and Wales 2001/2002: Supplementary Volume*. Home Office Statistical Bulletin 01/03. Nicholas, S., Kershaw, C. & Walker, A. (2007: page 65), *Crime in England and Wales 2006/07*, Home Office Statistical Bulletin (4th Edition).
<http://webarchive.nationalarchives.gov.uk/20110218135832/http://rds.homeoffice.gov.uk/rds/pdf/s07/hosb1107.pdf>

untouched by prior alcohol consumption. There is some evidence too of drug ingestion preceding criminal violence⁶⁷.

In combination, these figures, tables and statistics suggest that women's contact with the criminal justice system is becoming greater and is slowly converging with that of men. Their consumption of alcohol could be a key factor in women's increasing involvement in arrests for violence offences, as well as a self-evident factor in their growing share of drink-driving convictions and drunk and disorderly PNDs.

⁶⁷ Bennett, T. and Sibbitt, R. (2000) *Drug use among arrestees*. Home Office Research Findings 119. London: Home Office.

4. *The biological context*

Key points

- Men and women, perhaps unsurprisingly, have different drink preferences.
- More significantly, women metabolise alcohol differently and reach a higher level of blood alcohol concentration than men when the amount is adjusted for body weight. In other words, the same amount of alcohol has a greater effect on a woman than a man.

4.1 Sex differences in alcohol consumption

There are differences in drink preferences between men and women and between different age groups, with women more likely than men to drink wine, fortified wine, alcopops and spirits (see Table 6 below). Even though women drink fewer units in a week than men across all age groups, they drink more wine, with women aged 45-64 years consuming 7.4 units (70% of an average intake) compared with 5.5 units (33% of an average intake) for men in the same age group. Younger women drink more spirits than men or women in any age group with spirits (mainly vodka) accounting for 36% of their total alcohol intake of 11 units.

Table 6: Average weekly consumption in units of different types of drink by gender and age 2009⁶⁸

Age and sex	Total units	Beer lager cider	Strong beer lager cider	Spirits	Alco-pops	wine	Fortified wine
Females							
16-24	11	1.3	1.2	4	1.7	2.5	0.3
25-44	10.2	1.9	0.4	1.6	0.3	5.9	0.1
45-64	10.5	1.7	0.3	0.8	0.7	7.4	0.1
65+	5.6	0.5	0.2	0.9	0	3.7	0.5
<i>All ages</i>	9.5	1.5	0.4	1.6	0.4	5.4	0.2
Males							
16-24	17.5	7.9	4.1	3.3	1.4	0.7	0.1
25-44	15	8.2	1.6	1.3	0.1	3.8	0.1
45-64	16.8	7.7	2	1.4	0.2	5.5	0.1
65+	12.5	4.4	1	2.3	0.2	4	0.1
<i>All ages</i>	15.6	7.3	2	1.8	0.3	4	0.1

⁶⁸ Source for Table 6 Drinking: Adult's behaviour and knowledge in 2009 Office for National Statistics

4.2 Sex differences in alcohol metabolism

When alcohol is consumed it passes from the stomach into the intestines from where it is absorbed into the blood. Some of the alcohol is metabolised in the stomach and intestine but most of the alcohol consumed is metabolised in the liver. The rate at which this happens depends upon a number of factors such as the amount of enzymes present in the liver (dehydrogease) and the amount of alcohol in the blood. Alcohol is metabolised in the liver more slowly than it is absorbed into the blood so the concentration in the blood rises until consumption and, hence, absorption stops.

Research has confirmed the observation that after drinking similar amounts of alcohol women become more impaired than men. Mumenthaler et al (1999)⁶⁹ undertook research on gender differences in moderate drinking effects and provides a good synopsis. Women achieve higher blood alcohol concentrations than men even when the amount of alcohol consumed is adjusted for body weight. This is generally accepted to be because women of the same weight as men have more fat and less water in their bodies. As alcohol is dispersed in body water the concentration of alcohol in women is higher than in men after drinking the same amount of alcohol. It is also thought that women may have lower levels of the metabolising enzyme (dehydrogease) in their stomachs so it stays longer in the system before it is metabolised which would also lead to a higher blood alcohol concentration.

Another factor which influences the rate of absorption of alcohol into the blood is how much and what type of food is in the stomach. Food containing fats, proteins and carbohydrates slow the rate at which the stomach empties into the intestines and this has a marked effect on the rate at which alcohol is absorbed.

The authors also comment that because of the higher concentration of alcohol in the blood reaching the brain, women may be more susceptible than men to alcohol's effects on cognitive function (e.g. divided attention, memory) but found no difference between the genders in psychomotor performance (eye-brain-hand coordination, body sway).

These differences between the sexes are important to note with regard to driving as women reach higher blood alcohol levels more quickly than men and they experience more adverse effects of cognitive function⁷⁰.

The empirical research could explore how this important information could best be disseminated without appearing to be discriminatory.

⁶⁹ Mumenthaler, M S., Taylor, J., O'Hara, R., and Yesavage JA. (1999) 'Gender differences in moderate drinking effects'. *Alcohol Research & Health* Vol 23 (1) 55-64

⁷⁰ Mumenthaler et al 1999.*ibid*

5. Characteristics of female over-drinkers and links with the social Context

Main points

- **Cultural changes have affected attitudes to drinking generally, and especially to women drinking, while legislative and regulatory changes mean that alcohol is widely and easily available.**
- **Drinking is increasing generally among women, with research suggesting that those over 35 have little awareness of the number of units in a glass of wine.**
- **Many women report drinking as a way of dealing with a stressful life.**

5.1 Social and Cultural change

Measham and Brain⁷¹ have explained the increase in alcohol consumption in terms of attitudinal and behaviour changes which have occurred against a backdrop of economic, social and cultural change. One such change is the shift from an industrial to a post-industrial consumer society, where young people's identities, once 'rooted in occupational stability, class-based communities, patriarchal nuclear family structure and an interventionist welfare state', are now formed in the market of consumption, e.g. what you wear, how you style yourself, and the hedonistic search for gratification. So they say, gone is the link between 'beer and labour'⁷² where young men learned to take their place and follow masculinity routines in working-class industrial culture. Instead the demise of traditional norms and values facilitates young people's hedonistic search for pleasure and 'determined drunkenness'.

In assessing women's changing drinking patterns, the Institute of Alcohol Studies⁷³ concludes that a wide range of factors contribute to this. A key factor is increased opportunity, which is presented by a greater proportion of women who work, often in professional roles and with younger women having fewer family responsibilities. As a result they have more disposable income, more financial independence and more socialising opportunities outside the home. Increased opportunity has also arisen through multiple outlets for alcohol purchase and consumption and designer drinks aimed at women. More socially acceptable attitudes generally to women's drinking facilitate the behaviour, as do cultural attitudes favouring heavy drinking, including celebrity endorsements portrayed through the media. Advertising targeted directly at women, depicting the consumption of alcohol as fashionable and glamorous and women who do it as fun-loving, desirable and independent, also promote a positive image about alcohol consumption.

⁷¹ Measham and Brain ((2005), 274-5.

⁷² Coffield, F. and Gofton, L. (1994) *Drugs and Young People*. London: Institute for Public Policy Research

⁷³ Institute of Alcohol Studies (2008) *Women and Alcohol*.
<http://www.ias.org.uk/resources/factsheets/women.pdf>

5.2 Age

Binge drinking is most commonly associated with young people out revelling in public places leading often to public order offences, displays of drunkenness and physical harm. Mostly men are involved, as illustrated by various statistics such as the PND figures earlier, but young women are also responsible for a significant share of these outcomes. However, accumulating social research evidence suggests that another key group at risk of over-drinking that warrants concern is women over 35 years of age.

The British Liver Trust⁷⁴ used Prima magazine to ask its readership to complete a survey of readers' drinking habits, and this revealed some surprising findings. Of almost 2000 online respondents, a 'safe conclusion' was that women over the age of 35 did not identify with the 'binge drinking' culture, even though one in five of their respondents did actually binge drink (according to the definition used of 6+ units in any one drinking session). Moreover, the over 35s had very low awareness of how many units were in a glass of wine, especially given more potent wines from Australasia, and 79% of 55-64 year olds favoured wine as their alcohol of choice. Special offers in supermarkets such as 'three bottles for £10' were encouraging bulk buying among older women and drinking wine at home. Wine was becoming intrinsically linked with an evening meal, facilitating convenient daily drinking. Reasons cited for this switch from the pub to the home as the drinking location of choice for older women included a lack of childcare, smoking bans in pubs and restaurants, drink-drive limits and convenience. Fiona Measham's comments on the findings added that wine had become part of life, being affordable yet sophisticated (and possibly perceived as medicinal), and emulated the Mediterranean lifestyle that even the Government encouraged (through the Licensing Act 2003). It was also a 'legitimate treat at the end of the day'. Importantly, Measham noted that women could find it 'hard to believe that two large glasses of wine over a leisurely evening meal could be considered a binge', and might fail to trust often conflicting advice messages about drinking.

There is evidence from a New Mexico study⁷⁵ that women tend to develop problems later in life than men and develop them faster. Younger women (aged 18-34) have higher rates of drinking-related problems than do older women but the rates of alcohol dependence are greater among middle aged women (aged 35-49).

Against this backdrop of broad social and cultural undercurrents and changes in their impact, a key predictor of over-drinking in general might be attitudes to the

⁷⁴ British Liver Trust (2006) 'How much do you really drink?'
<http://www.britishlivertrust.org.uk/home/about-us/trust-projects/alcohol-and-women.aspx?searchId=2380>

⁷⁵ In Robertson, R, Marcoux, K, Holmes, E and Vanlaar W (2011) State of Knowledge: Female Drunk Drivers Traffic Injury Research Foundation Ottawa, Canada
http://www.tirf.ca/publications/publications_show.php?pub_id=274.

acceptability of drinking and drug taking. Interestingly, the British Crime Survey⁷⁶ asked a series of questions around these issues for the first time in the 2010/11 BCS questionnaire. It found that the majority of a representative sample of adults aged 16-59 believed it was acceptable to get drunk occasionally (74%) or frequently (6%). A third of adults (33%) thought it was acceptable to take cannabis occasionally, with the remainder disagreeing. The acceptability of taking cocaine and heroin was much lower. The BCS reported that attitudes to the acceptability of taking these substances varied by age (16-19 year olds and 45-59 year olds tending to be less tolerant than all other groups). However, it reported on differences by sex only in respect of drugs – with men displaying more tolerance towards cannabis and cocaine. Although this was not analysed statistically, the comment implies there was no difference by sex in acceptability to getting drunk.

However, Valentine *et al's*⁷⁷ study of drinking patterns in an urban and a rural area of England indicates that men drank more heavily and drank alone more often than women. Men tended to buy rounds, generally of the same drink, and were competitive about how much they drank. Showing off was associated with young men's drinking whilst women tended not to show off but sat in groups focussing on the social side of drinking. Women did not buy rounds in the same way and were happier to change the type of drinks (for example to add alcohol-free drinks) they consumed through the evening.

Brooks' study⁷⁸ conducted focus groups and interviews with thirty five 18-25 year old women in further education in Scotland and showed a number of interesting findings: women were aware of the messages of many safety campaigns aimed at women and their drinking and by and large they followed it. However, once several drinks had been consumed, it became more difficult to keep to these tenets such as never accept a drink you haven't seen poured, and these tended to interfere with or get forgotten in their pursuit of having a good time in the prevailing drinking culture.

However, while the contemporary view of drinking and getting drunk in bars, clubs and pubs was perceived as more acceptable for women than it used to be, they still felt that maintaining control and respectability was a gendered responsibility which impacted on women more than men. For example while a response to male drunkenness might be 'you were so drunk last night', to a female it might be 'sort yourself out, you should be ashamed'. Thus Brooks reports that earlier normative female virtues of 'modesty, 'caring' and 'nurturance' have not usually been associated with women who are drunk⁷⁹, which state could be linked with being viewed as 'unfeminine', 'unattractive' and 'of questionable sexual character'.

⁷⁶ Home Office 2012 *British Crime Survey 2010/11* Home Office: London

⁷⁷ Valentine *et al* (2007) *op cit*

⁷⁸ Brooks, O. (2011) 'Guys! Stop Doing It!: Young Women's Adoption and Rejection of Safety Advice when Socializing in Bars, Pubs and Clubs'. *British Journal of Criminology*, 51(4): 635-651

⁷⁹ Day *et al* (2004) *op cit*

Interestingly, Hopkins *et al*'s⁸⁰ review of the literature on drink-driving indicated few studies mentioning perceptions of the acceptability of drink-driving, and none of these few broke this down by sex of respondent, which is of note in itself.

5.3 Stress and family work balance

The key reason cited in the British Liver Trust⁸¹ report for much female drinking was stress associated with balancing family life with the demands of a job, which is a finding echoed in earlier Australian research. Dobson *et al*⁸² found that pressure and stress in some mid-aged professional women's working lives, including feeling rushed, pressured or too busy and working long hours were linked with a higher habitual alcohol consumption and lower life satisfaction scores. Importantly for the current review, these factors were associated with poorer driving behaviour including speeding and other traffic breaches, and higher levels of lapses and errors on the road.

The vulnerability of older professional women to alcohol dependence was shown in a survey for the TUC⁸³ that found while overall more male civil servants than their female colleagues reported symptoms of alcohol dependence, a higher proportion of women reported these at the top level. Between 10%-12% men were considered alcohol dependent at all employment grades, but for women, only 4% were dependent at the lowest grade, rising to 14% at the highest grade. Such top-level women often resorted to alcohol first thing in the morning⁸⁴. This suggests older professional women may be more vulnerable to alcohol dependence than other groups, supporting the IAS report and British Liver Trust survey findings.

Together with being older, professional status, often in a male-dominated occupation, the IAS also report that better education, not living with a partner or having children and being in social classes 1 or 2 are other risk factors for problem drinking among women. Interestingly, the Department of Health (2005) in its Alcohol Needs Assessment Research Project⁸⁵ also showed an interaction between educational status, age and binge drinking. Better educated women were more inclined than the less well educated to binge drink in their twenties, with the position reversed by the time of reaching their forties. Speculative explanations were that the

⁸⁰ Hopkins, J. Sykes, W., Groom, C. and Kelly, J. (2010) *A qualitative study of drinking and driving: Report on the Literature Review*. London: DfT. RSRR No 113.
<http://assets.dft.gov.uk/publications/rsrr-113/review.pdf>*

⁸¹ British Liver Trust (2006) *op cit*

⁸² Dobson, A., Brown, W., Ball, J., Powers, J. and McFadden, M. (1999). 'Women drivers' behaviour, socio-demographic characteristics and accidents'. *Accident Analysis and Prevention*, 31(5), 525 - 535. Department of Health (2005) *Alcohol Needs Assessment Research Project for England*.
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4122341

⁸³ Head J, Stansfield S., Siegrist J. (2003) 'The psychosocial work environment and alcohol dependence: a prospective study.' *Occupational and Environmental Medicine*, no. 61, pp 219-224

⁸⁴ *ibid.*

⁸⁵ Department of Health (2005) Alcohol Needs Assessment Project
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4122239.pdf

less educated tend to have children earlier and to work in employment environments with a heavier drinking culture.

Dobson *et al*'s⁸⁶ findings above chime with Bost's⁸⁷ (2001) evidence for 'hurried woman syndrome' that results from women, typically aged 25-55 and often mothers, who live with the chronic stress of trying to fulfil many roles for many people. This includes managing demanding paid or voluntary jobs, maintaining a home and bringing up children and facilitating their activities. Bost noted that such lifestyles cause fatigue, stress, self-doubt, overeating, lack of energy and eventual depression that all need treatment.

These themes have been echoed by other Australian research suggesting high levels of stress and conflict in women's lives was triggering heavy drinking. It has been reported that Australian women were not only drinking more than ever before, but were often drink-driving to 'protect' inebriated male partners or husbands⁸⁸. It was also reported that some Australian women would rather risk drink-driving than take public transport home

Similarly, McMurren *et al*⁸⁹ also echo many of these broader links between drunkenness and life style including that:

- Women drunk drivers were older, and better educated than men, but had a lower income. Women were more likely to be separated, divorced or widowed (men were more likely to be married or single).
- More women had partners who abused alcohol or had parents with alcohol problems.
- Women drunk drivers tended to have a greater history of mental health problems.
- Educational underachievement is apparent for both young men and young women drink drivers.
- The risk for a drink driving conviction is higher for both men and women from a single parent background.

This brief review of female risk characteristics in over-drinking clearly shows how they are linked in with the social context and suggests that part of the problem is with women who are older, who show less antisocial behaviour, and who have mental health or psycho social problems. Many will be separated, widowed or divorced and those with a partner may be living with someone with an alcohol problem. This challenges the popular image of over drinkers which often focuses on younger women and the concept of the 'ladette' culture, which is discussed in the next section.

⁸⁶ Dobson *et al* (1999) *op cit*

⁸⁷ Bost (2001) *op cit*

⁸⁸ <http://www.perthnow.com.au/news/more-women-are-driving-drunk/story-e6frg12c-1226204341989>

⁸⁹ McMurren *et al* (2011) *op cit*

5.4 The emergence of the 'ladette' culture

One possible product of the claimed increased hedonism and the increased availability and accessibility of alcohol and to women's greater buying power, is the emergence of so-called 'ladette culture'. This phenomenon has been linked with the notion that women are becoming more involved in crime because of their changed status in relation to men, which is associated with the 'liberalisation hypothesis' that emerged in the 1970s. Certainly, there has been a narrowing over time in the gender ratios found in self-report crime surveys, such that the gap between the sexes is gradually closing – although women still exhibit considerably less offending and less serious offending. Their involvement in violent crime and alcohol-related crime seems to be increasing and gradually converging more with that of men, fuelling media headlines likely to invoke concern.

Criminologists have considered the roots of ladette culture, with Day *et al*⁹⁰ constructing 'ladette culture' as a phenomenon that has emerged in late modern society as an undesirable by-product of women's increasing independence and equality with men. Jackson and Tinkler⁹¹ argue that negative media comments about ladettes have arisen through their supposed hedonistic lifestyles and gender disorder, and Silvestri and Crowther-Dowey⁹² affirm that 'ladettes' are seen as able and willing to participate in a culture of violence and drinking. If ladette behaviour spills over into driving after over drinking, this could perhaps help explain some increase in women's involvement in drink-driving, and may help account for women's raised pedestrian risk after drinking.

5.5 Macro level influences

While individuals may make independent and freely chosen decisions to respond in particular ways to opportunities to consume alcohol, broad social undercurrents and background factors can make those decisions more or less likely. Several researchers have focused on these macro-level factors including the following.

Deregulation

Measham and Brain⁹³ assessed evidence for a new culture of intoxication that they say encompasses a broad spectrum of young people in Britain and which has been encouraged by the ambiguities of economic deregulation and by legislative change. They examined cultural developments from the mid-1990s that they suggest has led to behavioural and attitudinal change in alcohol consumption. A further point is made by the Health Committee report⁹⁴ in concluding (Para 4) that one of the biggest

⁹⁰Day, K., Gough, B. and McFadden, M (2004) 'Warning! Alcohol can seriously damage your female health'. *Feminist Media Studies*, 4:,165-83

⁹¹Jackson, C., and Tinkler, P. (2007: p295) "'Ladettes" and "Modern girls": "Troublesome" young femininities,' *The Sociological Review*, 55: 251-272.

⁹²Silvestri, M., and Crowther-Dowey, C. (2005: p25) *Gender and Crime*. Sage Publications.

⁹³Measham and Brain(2005) *op cit*

⁹⁴Health Committee (2009) *op cit*

changes over past decades has been the drinking habits of young people including students.

These developments according to Measham and Brain include the following: the normalisation of recreational drug use in the 1990s, as part of an increasing hedonistic style of consumption, required a repositioning of the alcohol industry in order to compete directly with the illicit drugs night-time economy. This, they say, explains the new or repackaged alcohol products that were launched from the 1990s onwards, ranging from high-strength beers, ciders and lagers, to alcopops and 'buzz' drinks containing legal stimulants, to shots (or shooters) and to wine strength that has increased by up to 50%. This recommodification of alcohol products was accompanied by their marketing as lifestyle markers, facilitated by the move in the retail trade "from 'spit and sawdust' working-class back street pubs to redesigned licensed leisure venues such as 'chrome and cocktails' city centre cafe bars with plate glass fronts", aimed at attracting a new more sophisticated and professional client base.

These authors also discuss a 'controlled loss of control' which enables young people to indulge in a 'hedonistic yet bounded drinking style' without attendant risks of jeopardising personal safety returning home, health through hangovers, security through reducing violent confrontations and of driving after drinking.

Changes to licensing laws

Measham and Brain⁹⁵ continue that the liberalisation of licensing with extended hours in city centre bars, fore-grounded drinking as an increasingly important component in the development of the night-time economy (e.g. Hobbs *et al*⁹⁶). They say that the Government's attempts to import the southern European cafe culture to Britain backfired and that such aims cannot be achieved by legislation. Instead of what was intended, they cite the Government's Strategy Unit's⁹⁷ report which focused on longer drinking sessions linked with raised A and E attendances and hospital admissions and more alcohol-related arrests, along with an increase in young women's involvement in alcohol-related violence, disorder, injury and harm.

The Strategy Unit and other researchers report on what Measham and Brain refer to as 'determined drunkenness' whereby having a good night out often involves 'getting drunk as an end in itself' and where public drunkenness is socially accepted. Worryingly, their own research showed in 2004 there were no statistically significant gender differences in respondents' desired levels of intoxication, and that the self constraints and self control showed by young females in Measham's earlier mid-1990's research was gone by 2004.

Interestingly, Measham and Brain highlight contradictions in the Government's legislative and law and order policies. One the one hand, they point out that the

⁹⁵ Measham and Brain (2005) *op cit*

⁹⁶ Hobbs, D., S. Lister, P. Hadfield, S. Winlow and S. Hall (2000) 'Receiving shadows: Governance and liminality in the night-time economy', *British Journal of Sociology* 51(4): 701-18.

⁹⁷ Strategy Unit (2004) *Alcohol harm reduction for England*. London: Prime Minister's Strategy Unit.

Licensing Act 2003 was meant to deregulate the night-time economy, but shortly after the Government released the Alcohol Harm Reduction Strategy for England (Strategy Unit 2004) that identified 'binge drinking' culture as a major social problem and discussed various repressive and deterrent measures, like 'alcohol banning orders' to ban drinkers convicted of three alcohol-related offences from city and town centres for up to one month, and the introduction of penalty notices for disorder given on-the-spot to unruly revellers. At the same time, they point out that the Government did not want to ban promotions like 'all you can drink' and 'happy hours'.

This theme was taken up in the Health Committee's Report⁹⁸ that noted in its conclusion, *inter alia*, that the Government has given greatest emphasis to the least effective policies (education and information) and too little emphasis to the most effective policies (pricing, availability and marketing controls)⁹⁹, noting that a more comprehensive policy is needed whereby use is made of all possible control mechanisms including price, availability, marketing controls, improvements in NHS provision to alcohol-related problems, and in education and information¹⁰⁰.

The Health Committee (HC) also advises that universities and colleges have a most important 'duty of care' to their students in this regard, for example, by ensuring students are not subjected to marketing activity that promotes a 'binge drinking' culture. In general, the HC says that the approach of universities/colleges appears to have been much too passive and tolerant. An example is provided by BBC News' report of an all-day annual drinks event at Sheffield University where a female student was injured as a pedestrian¹⁰¹.

The role of the drinks industry

The HC questions how keen the drinks industry really is on encouraging sensible drinking. Its report (para 87) cites Meier¹⁰² who calculated for the Health Committee that if all over drinkers reduced their consumption to recommended levels, total alcohol consumption would fall by 40%. The implication is that it is therefore not in the better interests of the drinks industry to uphold and encourage adherence to recommended maxima.

A study In Scotland of alcohol consumption and the density of off sales¹⁰³ concluded that alcohol was viewed by young people as an ordinary commodity similar to general groceries and that an increasing number of people were buying at off sales due to the cost of alcohol. Interestingly, direct underage purchasing was not as prevalent as third party purchase of alcohol for those underage. For many, such

⁹⁸ Health Committee (2009) *op cit*

⁹⁹ *Ibid.* Conclusions and Recommendations, paragraphs 11 and 92.

¹⁰⁰ *Ibid.*, paragraph 13.

¹⁰¹ BBC News, (2011)

¹⁰² HC, *op.cit.* para 87. No citation given for Prof Meier's calculation except as AL 62A evidence to the HC.

¹⁰³ Human factors Analysts Ltd (2007) The relationship between off-sales and problem drinking in Scotland. Scottish Executive Social Research

purchases were part of a pattern of 'pre-front loading' of drinking before going out and was popular with both young people (<25 years) and older groups. Age also influenced the type of alcohol purchased with the younger age group preferring pre mixed drinks and lager/beer whilst spirits were more common for older people. The exception to the latter was vodka which was popular with young females.

6. Cognitive processes involved in drink-drive decisions

Main Points

- For some, once drunk drink driving is a ‘non decision’.
- For others, risk assessment generally focuses on avoidance of detection rather than collision.
- Some drink drivers believe that their driving ability is not impaired.
- ‘Normalising’ drink driving as acceptable, and something that others do is also used to legitimise drinking and driving.

Although there is an emerging body of research about the incidence and profile of drink drivers, the cognitive processes which lead to the activity itself have been under-researched and under-theorised as a topic among criminologists. However more recently fresh and emerging interest is being shown.

An interesting study of convicted Danish drink-drivers highlighted different kinds of cognitive inconsistencies in the explanations of offenders to account for their behaviour¹⁰⁴. Although a small proportion of women participated and findings were not distinguished by gender, some of the conclusions are relevant to this review. The study examined drivers’ risk assessments and risk management of their drink-driving behaviour and categorised responses along four dimensions. The first framed drink-driving as a ‘non-decision’ insofar as respondents reported being too drunk to be aware of making a decision to drive under the influence of alcohol, expressed as ‘alcohol makes the decision on their behalf’¹⁰⁵ once the ‘risk-taking as conscious thought’ stage had passed. Habitual, routine behaviours are also made without conscious decision or calculated risk assessment. Having managed it many times before, one female participant said ‘why should I start worrying about it now’?

By contrast, drink-driving as ‘strategic behaviour’ – meaning carefully planned to manage the risks – countered the non-thinking approach, and was often proffered by the same people¹⁰⁶. Thus interviewees outlined strategies used to shake off possible police interest. The authors noted that participants’ accounts of their risk-management strategies concerned their risk of detection rather than risk of collision, suggesting the latter was seen as a lower probability than the former. The third dimension of ‘being in control’ while drink-driving was often presented as thinking of themselves as ‘impeccable drivers’ or safe drivers even when under the influence, which in hindsight might have an element of self-delusion about it¹⁰⁷. ‘Normalising’

¹⁰⁴ Fynbo, L and Jarvinen, M. (2011) ‘The Best Drivers in the World: Drink-Driving and Risk Assessment’, *British Journal of Criminology*, 51(5) 773-788

¹⁰⁵ *Ibid*, p 778.

¹⁰⁶ *Ibid*, p.779.

¹⁰⁷ See Corbett et al, 1991 Corbett, C., Simon, F. and Hyde, G. (1991) ‘Driving with excess alcohol: why some drivers do and why some don’t’. In *Behavioural research in road safety: proceedings of a*

their drink-driving was the fourth dimension identified which appealed to the views that 'most people in Denmark drink-drive', and/or that it was 'exceptionally prevalent in their own social environment'. Belonging to a specific professional or sub-cultural group that engaged in the behaviour tended to legitimise, excuse and encourage the individual's actions even though the group's norms might overshadow the individual's intentions to behave responsibly.

Fynbo and Jarvinen applied their drivers' accounts to Sykes and Matza's¹⁰⁸ theory on 'techniques of neutralisation' that people engage in to defray responsibility and concluded that the more that drivers accepted they had a choice whether to engage again in the behaviour, accepted their behaviour was as dangerous as other drink-drivers', and the more they had disengaged from their former heavy drinking sub-group colleagues and indeed their subject position at the time of the offence, the less likely they were to relapse. Thus, the less that drivers invoked the techniques of neutralisation, the lesser their risk of relapse.

seminar at Nottingham University, September 1990. (eds. G. Grayson and J. Lester). 108-117. Crowthorne: TRRL.

¹⁰⁸ Sykes, G., and Matza, D., (1957) 'Techniques of neutralisation', *American Sociological Review*, 22: 664-670.

7 ***Education and Marketing to women***

Main points

- **Much of road safety campaign material is aimed at males.**
- **The small amount that is specifically aimed at women often carried the wrong message and acts as a ‘turn off’.**
- **The common association of ‘binge drinking’ with young people involved in rowdy street behaviour belies the extent and impact of binge drinking occurring more routinely in the home, especially among older women (and men).**

As mentioned earlier, the Health Committee¹⁰⁹ notes that the ineffectiveness of education is at least due in part to the low level of Government spending on this. Using their figures, this is a minimum of 33 times lower than the amount spent by the drinks industry in promoting alcohol [Conclusion, Para 17, referring to their paragraph 154.] The Health Committee notes that while education may not change behaviour immediately, it can make people more responsive to more effective policies such as raising prices, and that people have a right to know what risks they are running [Para 155].

In contrast to the lack of a gendered focus noted above in the HC Report, a range of (criminological) studies have engaged with female drinking and the environments in which it occurs. Brooks’ study, noted earlier,¹¹⁰ showed that women are well aware of the message of many safety campaigns aimed at them and their drinking and that by and large they followed it, although the message was sometimes lost sight of when drinking with friends.

In similar vein, the predominant focus on female behaviour in safety campaigns led participants to switch-off from safety messages having ‘heard it all before’, and to feel resentment at times that messages should instead be targeted at male behaviour and male responsibility. Brooks concluded that campaigns that fuse messages about female alcohol consumption and the prevention of sexual assault risk re-invoking a victim-blaming discourse, such that harm occurring to women in a ‘risky’ inebriated state would be located as her responsibility. Interestingly, she found there was a tendency among her predominantly middle-class participants to consider themselves normally in control of their drinking. Thus she questioned the extent to which such women would see safety campaigns as directed at them rather than to ‘other women’ who might be less in control.

This view was also reported by a study of where people drink which compared Stoke on Trent with Eden in Cumbria¹¹¹. The study found that young people ignored health implications of binge drinking; they justified it as a phase and didn’t recognise

¹⁰⁹ Health Committee (2009) *op cit*

¹¹⁰ Brooks, O. 2011 *op cit*

¹¹¹ Valentine *et al* (2007) *op cit*

potential longer term health risks. In contrast older people lacked awareness of the alcohol content of drinks and the extent to which their consumption might be defined as binge drinking. The study concluded that this is under-recognised because binge drinking has come to mean heavy drinking in public places such as the street.

This means that interviewees who drank well above Government guidelines at home thought their drinking unremarkable and therefore considered public health messages as being irrelevant to them. In addition they considered their lifestyles indicated that as they ate healthily this would balance their alcohol consumption.

8 Recommendations from the Literature Review for Stage 2 Research

In reviewing the literature on women and drink driving, whether research studies or statistics, we were hampered by the frequent lack of distinction by sex in the presented findings. Criminologists have long noted this, dubbed as a 'malestream' approach, seemingly based on early findings that crime was mainly a male phenomenon and most erstwhile criminologists were male. A strong recommendation is that even if results from representative samples of the population or from whole populations are not distinguishable by sex, such a note should routinely be added to the publication.

Meanwhile, the review has identified a number of key knowledge gaps requiring further research. This will be the focus of the second stage of this study.

The next stage of research

- Statistical analysis from other data bases.
- Desk top work about the impact of legislation and enforcement.
- Empirical social research on economic influences, health, cognitive and sociological factors focusing on both women drivers and pedestrians.
- Conclusions on the implications of the findings for social marketing and education, training and publicity road safety work.

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