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Alcohol consumption patterns and attitudes toward drink-drive behaviours and road safety enforcement strategies



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ABSTRACT

Background: Alcohol contributes to approximately 30% of all serious crashes. While the majority of drivers acknowledge the risks associated with drink-driving, a significant proportion of the population continue to engage in this behaviour. Attitudes towards drink-driving as well as personal alcohol consumption patterns are likely to underpin a driver's decision to drink-drive. These associations were explored in the current study.

Methods: A large (N = 2994) cross-sectional online survey of a representative sample of drivers in Australia was conducted. Participants provided information about their own alcohol consumption patterns, drink-driving behaviour as well as attitudes towards drink-driving (own and others) and enforcement strategies. Results: Alcohol consumption patterns differed according to age, gender and work status. Drivers who reported drink-driving behaviour and had high risk alcohol consumption patterns were less likely to agree that drink-driving leads to increased crash risk and more likely to agree they drink and drive when they believed they could get away with it. In contrast, drivers who did not report drink-driving and had low risk consumption patterns were more likely to report that the enforcement strategies are too lenient. Binary logistic regression showed that high risk alcohol consumption patterns and agreement from drivers that they drink and drive when they believe they can get away with it had the strongest associations with drink-driving. These findings highlight the relationships between one's drinking patterns, drink-drive behaviour and attitudes towards drink-driving and drink-driving enforcement

Conclusions and implications: The patterns of associations that emerged suggest that drink-driving is the expression of a broader health issue for the most "at-risk" cohort of drinkers. The decision to drink and drive may result from a need borne from an alcohol dependent lifestyle exacerbated by a social acceptability of the behaviour and positive attitudes towards one's ability to drink-drive with few adverse consequences. Therefore, the broader alcohol consumption patterns of drink-drivers needs to be considered when targeting drink-drive reductions.

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1. Introduction

Alcohol consumption is a global public health issue and is considered more harmful than other illicit drugs and tobacco (Nutt et al., 2010; World Health Organization, 2014). On a global level, the average alcohol consumption per capita is 6.2L per year. However, Australians exceed worldwide consumption averages with the average Australian consuming 9.71L per year (Australian Bureau of Statistics, 2015a,b). The harm resulting from alcohol consumption costs the Australian society an estimated 15.3 billion AUD per annum (Collins and Lapsley, 2008) and is spread across the

entire drinking population, rather than being clustered towards Australia's heaviest drinkers as would be expected (Livingston, 2015). A recent cross-sectional study of alcohol consumption patterns reported by a representative sample of adult Australians has shown young males (16–21 years) report the highest proportion of risky drinking compared to males in other age groups (Liu, Bishop, Stephens & Fitzharris, under review), whilst this was not the case for similarly aged females. This indicates that there are different patterns in high risk drinking between men and women.

Drink-driving accounts for a significant proportion of alcoholrelated harm. Recent statistics show that alcohol is a contributor to approximately 30% of serious-injury crashes in Australia (Australian Transport Council, 2011; Terer and Brown, 2014). There are not only devastating emotional and social costs to the road users involved in the crash but also significant economic costs with

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each serious injury crash costing approximately \$804,618 AUD and each fatal crash costing \$4.94 million AUD (Fitzharris and Stephan, 2013).

Despite the well-known risks of drink-driving promoted through public education and media campaigns, drink-driving still occurs. Approximately, 12% of those who have consumed alcohol in the previous twelve months self-report drink-driving (Australian Institute of Health and Welfare, 2014). The profiles of drivers likely to engage in drink-driving behaviour are unsurprisingly similar to those likely to have at-risk alcohol consumption patterns. In particular, males are more likely to drink-drive than females. Younger drivers, for example those aged 15-24 are more likely to report having driven over the legal BAC limit than their older counterparts (Davey et al., 2005; Petroulias, 2014). The similarities between high-risk groups for harmful drinking and also drink-driving suggest a relationship exists between the two. Indeed, it has been shown that regular and high levels of alcohol consumption significantly predicts increased episodes of drink-driving (Davey et al., 2005; Freeman and Watson, 2009).

Given the associated costs and continued prevalence of drinkdriving, it is important to understand the motivations behind the behaviour. Whilst this varies considerably on an individual basis, it has been suggested that moral and social acceptability, as well as the potential consequences of the behaviour may influence a person's decision to drink-drive (Greenberg et al., 2005). In the past few decades, attitudes toward drink-driving have shifted dramatically. For most, it is considered a high-risk and unacceptable behaviour (AAA Foundation for Traffic Safety, 2013; Greenberg et al., 2005). An American report has shown that 97% of drivers consider it unacceptable to drive when they may be over the legal blood alcohol content limit, and likewise an Australian report suggests that 89% of people view drivers over the legal limit as irresponsible (TMR, 2012). It is also clear that most drivers believe that if they drive after consuming alcohol, their own, and the safety of others, is threatened, and are aware of the risk of crashing after drinking (AAA Foundation for Traffic Safety, 2013; TMR, 2012). Thus, a pattern emerges to suggest that the majority of people hold negative attitudes towards drink-driving and do not engage in the behaviour.

Despite this, a significant number of individuals do not view drink-driving as a socially unacceptable or inappropriate behaviour. Further, not surprisingly, it has been shown that attitudes towards drink-driving significantly relate to drink-drive behaviour (Davey et al., 2005; Freeman and Watson, 2009). Davey et al. (2005) have shown that university students who expressed more favourable attitudes towards drink-driving were more likely to drink-drive themselves. Likewise Freeman and Watson (2009) have shown that participants who did not view drink-driving as a serious offence were also more likely to engage in the behaviour.

The decision to engage in drink-drive behaviour is complex and likely a result of many interrelated factors (Bingham et al., 2007). A driver's attitude towards the behaviour is certainly a key component of the decision making process, as is the propensity to engage in high-risk behaviours. High-risk drinking and personal alcohol consumption patterns are other critical factors which may influence the likelihood to drink-drive and is an area of research which warrants further investigation. A greater understanding of how this behaviour, and attitudes towards the behaviour, varies as a function of alcohol consumption is a critical next step. The purpose of this paper is to therefore examine the relationships between alcohol consumption patterns and attitudes towards drink-driving. We consider these relationships across drivers who self-report drinkdriving and those who do not. Specifically, three main research questions are addressed. These are: i) what are the alcohol consumption patterns and drink-driving behaviours of our sample?; ii) is there a relationship between alcohol consumption patterns and drink-driving?; and, iii) do attitudes towards drink-driving also differ as a function of alcohol consumption patterns and drink driving behaviour?

2. Methods

2.1. Survey procedures and participants

Members of the Ipsos Social Research Institute's online panel were invited to complete an online survey, which examined selfreported driving behaviours and attitudes towards road safety countermeasures. This survey was developed by the Transport Accident Commission (TAC), Victoria in conjunction with the Monash University Accident Research Centre (MUARC). A stratified sampling procedure was used to ensure that the age, gender and jurisdiction of participants was representative of the Australian adult population (see Stephens and Fitzharris, 2016 for further details). This involved setting predetermined recruitment targets for gender and age across each location which were based on 2011 census data reported by the Australian Bureau of Statistics. Recruitment continued until these targets were met. The age and gender distribution of the current sample were broadly similar to those reported by the Australian Bureau of Statistics (2014). The survey was delivered across two Phases.

2.1.1. Phase 1: TAC community engagement and social acceptability survey

A total of 5544 participants completed Phase 1 and provided demographic information that detailed their age, gender, education level, work status, and postcode. The remaining questions relevant to this paper assessed social attitudes towards drink-driving and enforcement strategies. Participants were asked to judge another person's drink-driving when they had a Blood Alcohol Content (BAC) level of 0.06 (0.05 is the legal limit for fully licensed drivers in Australia) on a 7-point scale, (1 = very unacceptable, 4 = neither, 7 = very acceptable). Participants also reported how many of their friends and family drive when they are over the legal BAC limit (1 = all of them, 3 = some of them, 6 = none of them) and how often this occurs (1 = all the time, 3 = around half of the time, 5 = none of the time); a 'do not know' option was also provided.

In addition to answering questions about other people's drinking and drink-drive behaviours, participants' attitudes towards their own drink-drive behaviours were explored. Participants were asked to consider what would worry them the *most* if they drove over the legal BAC and were able to select three responses from the following list; having a crash, injuring/killing yourself, injuring/killing someone else, getting stopped by the police or a speed camera, being fined or losing your licence, getting demerit points on your licence, going to prison, other, or nothing would worry me. Participants also responded to questions which asked to what extent they agreed that there is a high risk of being involved in a crash when drink-driving and whether they drink and drive if they think they will get away with it. These responses were provided on a 5-point scale (1 = strongly disagree, 3 = neither, 5 = strongly agree), a 'do not know' option was also provided.

Participant attitudes towards drink-driving deterrence measures were also assessed. Participants were requested to answer a number of questions on 5-point scale (1=strongly disagree, 3=neither, 5=strongly agree), a 'do not know' option was also provided. Participants were asked to rate their level of agreement with the following statements i) if I were to drink and drive in the next week, I would have a high chance of getting caught, ii) the legal BAC should be lowered to 0.02 for all full licence holders, iii) drivers should have a legal BAC of 0.00 until they turn 25, and iv) the fines, demerit points and legal penalties of drink-driving are too light. Participants were provided with the option to receive a second

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