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# Predicting self-reported drink driving among middle-aged women



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#### ABSTRACT

A substantial and sustained increase in the proportion of drink drivers that is female is observed in many parts of the motorised world. Given this trend, a better understanding of the factors that influence drink driving among women is needed. The current study investigated drink driving among middle-aged women, a relatively under-researched group of female drink drivers. A total of 781 women (age; M=51.36, SD=4.29 years) completed a cross-sectional survey measuring a number of alcohol beliefs and drink driving. Among the included alcohol beliefs, viewing alcohol as a form of social enhancement as well as higher perceived heavy episodic drinking among same-aged women and greater acceptability toward this consumption pattern significantly increased the likelihood of self-reported drink driving. However, after adjusting for harmful consumption patterns, only alcohol as form of social enhancement remained significant. These results indicate that middle-aged women who engage in harmful alcohol consumption are more likely to drink drive, but also that the social aspect of drinking is a risk factor. Targeting both harmful consumption patterns as well as alcohol beliefs that are held by middle-aged women may reduce the incidence of drink driving in this group.

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#### 1. Introduction

The absolute numbers and/or the proportion of drink drivers that is women are increasing in several European countries as well as in Australia and USA (Armstrong et al., 2014; Ministry of Justice, n.d.; Statistics Denmark, n.d.; The Swedish National Council for Crime Prevention [BRÅ], n.d.; Tsai et al., 2010). These findings have been observed in statistics collected over several decades as well as in the latest available data. While men are still more likely to drink drive overall, these trends mean that drink driving is increasingly becoming a female problem. Several proposed explanations for women's increasing participation in drink driving has been put forward, including increased road exposure, alcohol consumption, and risk taking behavior as well as changing attitudes toward women's alcohol use in general (Beuret et al., 2014; Robertson et al., 2011; Romano et al., 2008). However, research aimed at understanding drink driving from a uniquely female perspective is still in its infancy. In particular, there has been a dearth of research investigating drink driving among middle-aged and older women.

Drink driving rate among middle-aged women show some variation across countries. In Sweden, for instance, 2015 statistics show that drink driving prevalence peaks in middle-age among

#### 1.1. Understanding drink driving

Drink driving is more common among both young and older drivers with problematic alcohol use. For instance, drink driving

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both men and women (BRÅ, n.d.). Conversely, UK survey data and jurisdictional driving apprehension data from Australia show that drink driving occurs more often among younger than older drivers (Armstrong, 2013; Beuret et al., 2014); around 19% of all female drink drivers are aged 40-49 years in both these countries. In comparison, women aged 18-29 and 17-29 years make up 27% and 47% of apprehended drivers in the UK and in Australia, respectively. However, statistics also show that the increase that has been observed in female drink driving is occurring among middle-aged drivers as well as among younger drivers (BRÅ, n.d.). Police drink driving apprehension data from the Australian state of Queensland (Queensland Police Service, 2012) suggest a more rapid than average increase in drink driving in the age groups 40-49 and 50 years+.2 Compared to an increase of 7.79% for all drivers over an 11 year period, the female proportion of drink drivers in these age groups has increased 9.41 and 10.67%, respectively.

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<sup>&</sup>lt;sup>1</sup> Trends accessed from 1995 to 2015.

<sup>&</sup>lt;sup>2</sup> This dataset contained information for all drivers who were apprehended with an illegal BAC as part of the Queensland Roadside Breath Testing (RBT) legislative framework from 1 January 2000 to 31 December 2011 (see Armstrong et al., 2014 for an overview).

is around 8–20 times more likely among drivers that regularly engaged in heavy episodic drinking (HED) compared to those that do not (Flowers et al., 2008; Naimi et al., 2003).<sup>3</sup> Alcohol use problem indicators such as the Alcohol Use Disorder Identification Test (AUDIT) (Babor et al., 2001) and the CAGE (Ewing, 1984) have also been linked to increased drink driving propensity (Bertelli and Richardson, 2007; Wells-Parker et al., 1998).

While problem drinking influences drink driving for all cohorts of drivers, the alcohol beliefs that influence consumption, and potentially drink driving as a consequence, are likely be different across different demographic groups (Heath, 1995). As such, an understanding of these beliefs could offer important insights into the drink driving risk factors that are unique to middle-aged women. One type of alcohol beliefs that differ between older and younger people is alcohol norms; previous research has shown that alcohol norms are more stringent for women than for men, with some research indicating that this is particularly true for middle-aged and older women (Allamani et al., 2000; Van Wersch and Walker, 2009). As such, alcohol norms are a group of alcohol beliefs that may serve as a protective factor against drink driving in middle-age. Several types of norms have previously been linked to consumption patterns, such as personally held acceptability of consumption (injunctive norms), perceived acceptability of others toward consumption (perceived injunctive norms) and the perceived typical consumption of others (perceived descriptive norms) (Berkowitz, 2004).

In addition to alcohol norms, beliefs regarding the meaning and role of alcohol may also distinguish younger from older women. Qualitative research has shown that among young people, alcohol is more often understood as an intoxicant through which a state of bodily pleasure can be ascertained. Intoxication and drunkenness, for some young people, becomes an activity and a goal in of itself (Fry, 2011; Measham and Brain, 2005). As women grow older, the role and meaning of alcohol often changes and become more focused on taste, relaxation, and delineation between work and rest than heavy intoxication (Lyons et al., 2014). As with alcohol norms, the shifting nature of alcohol's role and meaning with age is likely to influence how alcohol is used. By extension, these beliefs may therefore prove to be important factors in explaining drink driving propensity, either directly or indirectly through their link to consumption patterns.

While examinations of drink driving among middle-aged women have been sparse, a recent interview study of convicted female drink drivers found that the reasons for drinking before driving were different for young women, mothers of young children, and older women (Robertson et al., 2013). This study found that participants with young children often had been drinking to cope with depression or isolation and older women to cope with negative life-events such as divorce or parental death, young women's drinking had commonly taken place at parties and as a response to social pressure and a desire to fit in. Studies such as this point to the disparate influences on the alcohol use behind drink driving and highlight the need to continue research in this area to better understand drink driving among middle-aged women.

#### 1.2. The current study

The main aim of the present study was to examine drink driving in a sample of middle-aged (45–59 years) women residing in Australia. Specifically, the study investigated the relationship between the role and meaning of alcohol, alcohol norms,

harmful alcohol use, and self-reported drink driving prevalence using a cross-sectional survey design.

#### 2. Method

#### 2.1. Participants

The sample for this research was drawn from a larger survey study conducted in 2014 (Watling, Armstrong, & Davey, manuscript under review). This larger study investigating the link between alcohol beliefs and harmful alcohol use among middle-aged women who were current drinkers (at least one drink in the past 30 days). Participants were recruited through a national media release and were offered a chance to win an AUD50 gift voucher after filling in the survey online. A total of 1035 participants were recruited. Among these, 202 participants who had missing values driving status or drink driving propensity were removed. A further 52 participants who indicated that they were not currently drivers (one hour or more per week) were also removed from the data set resulting in a final sample of 718 women. The age range of participant in this subsample was 45-59 years with a mean age of 51.42 years (SD = 4.31). Just over half of the sample (55.01%) worked full-time, around a quarter (26.70%) worked part-time, and 5.21% were engaged in domestic work (stay at home mothers or carers). The remaining participants were studying, unemployed, or retired. The majority (76.57%) of participants was in a relationship (either de-facto/married or in a relationship but not living together). Almost 4/5 (78.97%) of the sample had attained a university degree and the median monthly household income bracket was AUD 4001-6000. The majority of the sample (98.57%) had a current drivers' licence and the women drove, on average, 8.60 h (SD = 7.34, Mdn = 7.0, range = 1-60) per week.

#### 2.2. Measures

#### 2.2.1. Demographics and control variables

Participants completed a number of demographic questions regarding age, relationship status, employment, socio economic status (SES), drivers' licence status, and average hours of weekly driving. SES was defined and measured as monthly income bracket (AUD 0–2000 to AUD 18,000+) and highest completed level of education (primary school, high school, or university).

#### 2.2.2. Alcohol beliefs

Norms toward two drinking patterns, HED and Moderate but Frequent Drinking (MFD) were measured. As outlined above, HED has previously been linked to drink driving. However, HED typically decreases with age among women, while MFD becomes more common (Australian Institute of Health and Welfare, 2014).<sup>4</sup> As such, it was considered of relevance to measure norms around MFD as well as HED.

In total, five items measured alcohol norms. HED Actual Injunctive and HED Perceived Injunctive norms were measured by asking participants to respond to the following question; "How acceptable is it for women your age to drink a bottle wine or equivalent on a single occasion?" Participants were asked to state what they thought (i.e., actual injunctive norms) and what the "average Australian person" would think (i.e., perceived injunctive norms). To measures MFD Actual Injunctive and MFD Perceived Injunctive norms, participants were then asked to respond to the item "How acceptable is if for women your age to drink moderately (e.g., one or two glasses of wine) most days of the week?" Again, the respondents indicated

<sup>&</sup>lt;sup>3</sup> HED (binge drinking) was defined as  $\geq$ 5 drinks for men and  $\geq$ 4 drinks for women by Flowers et al. and as  $\geq$ 5 drinks for both men and women by Naimi et al.

<sup>&</sup>lt;sup>4</sup> HED (defined as ≥5 standard drinks) show an overall decreases with age (online Table 4.5) while consumption frequency increases (online Table 4.6).

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