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The law isn't everything: The impact of legal and non-legal sanctions on motorists' drink driving behaviors

Q2 James Freeman, ^{a,*} E. Szogi, ^a V. Truelove, ^a E. Vingilis ^b

^a Centre for Accident Research and Road Safety—Queensland (CARRS-Q), Queensland University of Technology (QUT), K Block, 130 Victoria Park Road, Kelvin Grove 4059, Australia
^b Centre for Studies in Family Medicine, Schulich School of Medicine and Dentistry, Western University, 800 Commissioners Road East, London, ON N6C 2V5, Canada

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ABSTRACT

Introduction: The effectiveness of drink driving countermeasures (such as sanctions) to deter motorists from 18 driving over the legal limit is extremely important when considering the impact the offending behavior has on 19 the community. However, questions remain regarding the extent that both legal and non-legal factors influence 20 drink driving behaviors. This is of particular concern given that both factors are widely used as either sanctioning 21 outcomes or in media campaigns designed to deter drivers (e.g., highlighting the physical risk of crashing). 22 Method: This paper reports on an examination of 1,253 Queensland motorists' perceptions of legal and non- 23 legal drink driving sanctions and the corresponding deterrent impact of such perceptions on self-reported 24 offending behavior. Participants volunteered to complete either an online or paper version of the questionnaire. 25 Results: Encouragingly, quantitative analysis of the data revealed that participants' perceptions of both legal 26 sanctions (e.g., certainty, severity and swiftness) as well as non-legal sanctions (e.g., fear of social, internal or phys- 27 ical harm) were relatively high, with perceptual certainty being the highest. Despite this, a key theme to emerge 28 from the study was that approximately 25% of the sample admitted to drink driving at some point in time. 29 Multivariate analyses revealed six significant predictors of drink driving, being: males, younger drivers, lower per- 30 ceptions of the severity of sanctions, and less concern about the social, internal, and physical harms associated with 31 the offense. However, a closer examination of the data revealed that the combined deterrence model was not very 32 accurate at predicting drink driving behaviors (e.g., 21% of variance). Practical applications: A range of non-legal 33 deterrent factors have the potential to reduce the prevalence of drink driving although further research is required 34 to determine how much exposure is required to produce a strong effect. 35

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45 1. Introduction

46 Drink driving continues to be a serious road safety concern despite significant efforts to address the problem (Davey & Freeman, 2011: 47 Owens & Boorman, 2011; Terer & Brown, 2014). While alcohol-related 48crash fatality rates have decreased by approximately 35% over the past 49 5024 years (Faulks, Irwin, Watson, & Sheehan, 2010), drink driving contributes to approximately 30% of road crash fatalities and 9% of injuries 51in Australia (Terer & Brown, 2014). Not surprisingly, most fatal crashes 5253associated with blood alcohol concentration (BAC) are above levels of .05% (Single & Rohl, 1997). In addition to the emotional cost of fatalities, 54each fatality in Australia costs \$2.6 million while \$266,000 is spent on 5556hospitalizations (Bureau of Infrastructure, Transport and Regional 57Economics (BITRE), 2009). The gravity of the drink driving problem 58now is evidenced through the implementation of several countermea-59sures, including apprehension based techniques such as random breath

Corresponding author.
E-mail addresses: je.freeman@qut.edu.au (J. Freeman), e.szogi@conect.qut.edu.au

(E. Szogi), verity.truelove@connect.qut.edu.au (V. Truelove), evingili@uwo.ca (E. Vingilis).

tests (RBTs); mass media campaigns (e.g., Join the Drive to Save Lives); 60 traditional legal sanctions (e.g., fines and license disqualification); and 61 education programs. Most of these countermeasures are underpinned 62 by Classical Deterrence Theory, primarily involving the threat of legal 63 sanctions, and thus, the application of license disqualification periods 64 coupled with monetary fines remains a core approach to reduce drink 65 driving in many motorized countries. 66

1.1. Classical deterrence theory

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Classical Deterrence Theory was originally developed in the 18th cen-68 tury by two utilitarian philosophers, Jeremy Bentham and Cesare Beccaria 69 (Babor et al., 2003). The theory proposes that offending behavior is in-70 versely associated with increased perceptions of the certainty of getting 71 caught (e.g., certainty of apprehension), the impact of the punishment 72 (e.g., severity of punishment), and the timeliness in administering the associated punishment after being apprehended (e.g., swiftness of punish-74 ment; Akers & Sellers, 2009; Davey & Freeman, 2011; Freeman & 75 Watson, 2009; Homel, 1988; Taxman & Piquero, 1998). This form of 76 deterrence is known as *general deterrence*, which aims to influence the 77

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largest proportion of the motoring population and is thus largely depen-78 79 dent on how well legal sanctions and penalties are publicized and the efficiency and intensity of the law enforcement (Elvik & Christensen, 2007; 80 81 Fildes & Lee, 1993; Taxman & Piquero, 1998; Vingilis & Salutin, 1980). In contrast, specific deterrence focuses on deterring apprehended drivers 82 from further offending as a result of receiving a certain, severe, and 83 swift punishment (Homel, 1988). Despite a large amount of research ded-84 85 icated to examining the effectiveness of deterrent-based measures, the 86 evidence regarding the impact of the approach is mixed (briefly reviewed 87 below).

88 1.2. Certainty of apprehension

89 Researchers have proposed that the certainty of apprehension is the most salient deterrent force within Classical Deterrence Theory (Homel, 90 1988; Nagin & Pogarsky, 2001; Piquero & Paternoster, 1998), which is 91 reflected in the tremendous effort directed towards promoting high 92 93 levels of perceived apprehension certainty via random breath testing (RBT). In fact, an earlier review of the effectiveness of RBT in the state 94 of Queensland (Australia) demonstrated that higher levels of RBT 95 activity directly reduce both the frequency of drink driving apprehen-96 97 sions as well as alcohol-related crashes (Watson et al., 2005). Perceptual 98 deterrence-based research (which focuses on how individuals perceive and react to the threat of sanctions) has demonstrated a similar effect, as 99 Freeman and Watson (2009) found that the certainty of apprehension 100 by police was a significant negative predictor of drink driving among a 101 sample of 780 Queensland motorists, including recidivist and one first 102103 offenders. Freeman and Watson (2006) reported a similar finding among a group of recidivist offenders and (more broadly) research 104 that has focused on street racing has found that certain and severe sanc-105tions can deter risky driving behaviors (Meirambayeva et al., 2014). In 106 107contrast, an opposing body of research has failed to illuminate strong 108perceptual deterrent effects. For example, Baum (1999) found that the 109perceived certainty of detection was not a significant deterrent when the effects of RBTs were examined on a sample of 420 Queensland of-110 fenders. Livingstone (2011) also reported that a range of personal 111 (e.g., favorable attitudes) and environmental factors (e.g., avoiding de-112 tection) were significant predictors of self-reported drink driving, rather 113 than perceptions of apprehension certainty. A similar finding was made 114 with the earlier seminal work of Homel (1988) who failed to find a clear 115significant relationship with drink driving behavior when examining 116 the introductory impact of RBT in New South Wales (Australia). 117

118 1.3. Severity of punishment

Research regarding the deterrent effects of the severity of punish-119120ment also remains mixed. Currently within Australia, heavy penalties (e.g., license disqualification periods and monetary fines) are attached 121 to drink driving offenses, including high range Blood Alcohol Content 122(BAC) offenses and some hard core repeat offenders. While the relation-123ship between severe penalties and reduced likelihood of offending 124 125makes intuitive sense, perceptual studies into the deterrent effect of 126penalty severity have found little relationship between perceived severity and self-reported offending behaviors (Homel, 1988; Livingstone, 1272011; Mann, Vingilis, Gavin, Adlaf, & Anglin, 1991; Piquero & 128Pogarsky, 2002; Weatherburn & Moffatt, 2011; Yu, 2000). For example, 04 130Homel (1988) found that a group of 185 New South Wales motorists did not reduce their drink driving behavior over a 3-month period despite 131 the perceived increase of the drink driving penalty. Weatherburn and 132Moffatt (2011) also failed to find a significant effect between increasing 133 fines and self-reported drink driving behavior. Researchers have pro-134posed that such inconsistent findings may be due to the fact that sanc-135tions must be perceived as costly to the offender for it to be effective, 136 which is a subjective judgment and will vary from person to person 137 (Grasmick & Bryjak, 1980). Additionally, a significant bivariate relation-138 139 ship may exist between perceived certainty and severity (Grasmick & Bryjak, 1980; Weatherburn & Moffatt, 2011), as severe penalties will 140 have little impact if the likelihood of apprehension is considered to 141 only be a theoretical threat. In regards to the latter, researchers have 142 noted that the likelihood of actually being apprehended for drink driv-143 ing remains unlikely in a number of jurisdictions (Homel, Carseldine, 144 & Kearns, 1988; Voas, 1982).

1.4. Swiftness of punishment

The deterrent effects of the swiftness of punishment are critical 147 given that models of learning and experimental psychology demon- 148 strate that the time between stimulus and response is vital for learning 149 new behaviors (Nagin & Pogarsky, 2001). More specifically, punishment 150 has been proposed to be most effective if immediately applied after 151 offending. While some researchers have historically suggested that pen-152 alties are rarely swiftly administered, especially when it is dependent 153 upon a court process (Babor et al., 2003; Davey & Freeman, 2011; 154 Nagin & Pogarsky, 2001), immediate administrative license and vehicle 155 impoundment legislation provides opportunities for the quick applica-156 tion of sanctions (Voas & DeYoung, 2002). In support of the hypothesis 157 that swift application of sanctions is needed, Yu and Wilford (1995) 158 found that if a penalty for driving offenses was not administered within 159 6 months after the offense, convicted offenders were likely to re-offend. 160 In fact, an Australian study that reviewed 29,204 drink driving offenders 161 found that the highest rate of re-offending was between the apprehen- 162 sion and sentencing date e.g., pre-license disqualification period 163 (Watson et al., under review). A review of vehicle impoundment, im- Q5 mobilization and forfeiture for repeat drink driving offenders in the 165 United States (in a number of states) revealed a number of positive ef- 166 fects, including significant reductions in recidivism rates (Voas & Q6 DeYoung, 2002). However, questions remain as to whether motorists 168 actually consider the application of sanctions to be swift, particularly 169 in jurisdictions that have not enacted immediate license suspension 170 legislation. 171

Collectively, the impact of Classical Deterrence Theory constructs 172 upon self-reported drink driving behavior remains somewhat mixed, 173 and there have been limited recent studies that have collectively examined all three constructs. This is surprising given the reliance on the 175 threat of legal sanctions to improve road safety. However, perceptual 176 deterrence-based research has not only been restricted to legal sanctions, but also has examined the impact of non-legal forces. 178

1.5. Non-legal sanctions

Researchers have long considered the impact of non-legal sanctions 180 on offending behaviors, as it is widely acknowledged that offending be-181 haviors do not occur within a social vacuum (Berger & Snortum, 1986; 182 Freeman, Tysoe, Armstrong, Truelove, & Szogi, 2015; Sherman, 1993; 183 Vingilis, 1985). Rather, a range of competing theories involving legal Q7 and non-legal sanctions arose during the 1970s and 1980s when 185 scientific efforts to understand such mechanisms were most intense 186 (Andenaes, 1974; Cornish & Clarke, 1986; Gibbs, 1975, Homel, 1988; 187 Mann & Vingilis, 1985; Ross, 1984; Williams & Hawkins, 1986; Q8 Zimring & Hawkins, 1973).

Within the Australian context, Homel (1988) offered one of the most 190 prominent expansions of Classical Deterrence Theory whereby he pro-191 posed that the fear of social sanctions (e.g., peer disapproval/stigma), in-192 ternal loss (e.g., feeling shame, guilt or embarrassment), and physical 193 loss (e.g., bodily injury/fear of hurting someone) can deter offending behavior. More specifically, social loss operates on the basis that social attitudes and behaviors can influence a person's behavior through social reinforcement or punishment (Akers, 1990; Homel, 1988). Internal loss is thought to arise as a result of violating internal norms that can inguilt which can promote compliance with the law (Homel, 1988; Nagin & Pogarsky, 2001). Physical loss involves fearing 200

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