



Which drivers are at risk? Factors that determine the profile of the reoffender driver

Jose-Luis Padilla, Pablo Doncel, Andres Gugliotta, Candida Castro*

CIMCYC: Mind, Brain & Behaviour Research Centre, University of Granada, Campus Cartuja, s/n 18071. Granada, Spain



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ABSTRACT

Finding appropriate assessment tools to predict recidivism is a difficult aim, which may lead to actions with unintended consequences. Aims don't have consequences. At times, the research has been used to justify penalising reoffenders with punitive measures rather than treating them with effective psychological interventions. This study aims to contribute to untangling and assessing the potential predictors of reoffender drivers. In this study, 296 drivers: 86 reoffenders (7 women and 79 men) and 206 non-reoffenders (105 women and 101 men) responded to a battery of assessment questionnaires in which they were asked for demographic data (i.e. gender and age), alcohol consumption habits, driving styles, general estimation of risk in everyday life, sensitivity to reward and punishment and anger while driving. The results provided a logistical regression model capable of predicting reoffending and explaining 34% of variability, successfully classifying 77.6% of participants. In this model, the best predictor of reoffending is higher consumption of alcohol (Alcohol Use Disorders, AUD), followed by incautious driving (since cautious driving style correlates negatively with reoffending) and to a lesser extent, infraestimation of recreational risk and a greater sensitivity to reward. Relying on results to predict recidivism could be important to plan better interventions to prevent it.

1. Introduction

Male drivers are overrepresented in the statistics on the relation between alcohol consumption and accident records. In Europe, the majority of road accidents occur on weekend nights, young drivers between 18 and 24 years being the protagonists, and driving under the influence of alcohol, drugs or fatigue (European Commission, 2016a, 2016b). Of those who die in traffic accidents, 76% are youths and men. The youngsters, between 15 and 24 years, make up 11% of the European population and are involved in 17% of all traffic accidents.

To better understand these “aberrant driving behaviours”, it is necessary to know which behaviours are most significant in the prediction of recidivism. The evidence obtained could improve prediction of behaviours and lead to the development of more effective intervention strategies. Previous literature documented relationships between some personality variables like “impulsivity”, “sensation seeking” and “fearlessness” with “deviant drivers” (Panayiotou, 2015). Alcohol consumption may correlate substantially with recklessness and impulsivity. However, could there be more variables that play a role in causing this deviant driving behaviour?

Analysing other relevant variables of interest based on their centrality and potential predictive role in aberrant driving behaviour is still

to be done. Therefore, in this work an analysis will be performed to compare offender and non-offender groups in alcohol consumption habits (i.e. exploring the exponential link between high alcohol consumption and accident involvement.); as well as in personality variables as general risk estimation in day-to-day life, sensitivity to punishment and reward or anger in driving. This research should contribute to drawing up a profile of the reoffender driver by analysing the role and weighting the predictive power of these variables.

In the U.S., many reoffender drivers present a high level of Alcohol Use Disorders (AUD; Wiczorek and Nochajski, 2005) and 40% of drivers injured in road accidents under the influence of alcohol have a previous history of offences for alcohol consumption (Lapham et al., 2000). In Spain, a similar pattern has been observed: 50% of drivers imprisoned for traffic offences show problematic alcohol consumption habits (Herraiz, 2009). In turn, 72% of reoffender drivers who have lost their driving license for adopting risky behaviour on the road (“losing all the available points of their demerit-type driving license”) presented, or had presented in the past, at least one diagnosis of addiction to some drug, in the majority of cases alcohol (Valero et al., 2017).

Drunk driving, driving over the speed limit and not fastening your seatbelt or wearing a helmet if driving a motorbike are factors that contribute time and again to the rising figures for accidents causing

* Corresponding author.

E-mail address: candida@ugr.es (C. Castro).

death and serious injury (ITF, Road Safety Annual Report, 2017). Buckley et al. (2016) argue that public policies should be redefined to find a new approach to correcting these behaviours, resulting in a reduction in accident figures.

A high proportion of the previous literature on reoffender drivers is focused on the study of the phenomenon known as “DUI” (Driving Under the Influence) (Nochajski and Stasiewicz, 2006), or “DWI” (Driving While Intoxicated) (Buckley et al., 2016). Educational programmes and traffic campaigns have tried to tackle this problem (Lapham et al., 2006), but have not succeeded in reducing the high incidence of reoffending among those drivers who break the law, especially in the case of offenders who drive under the influence of addictive substances (Ouimet et al., 2013).

To explore drivers’ involvement in crash accidents, their driving styles have been studied. Driving styles have been defined as: “The way individuals choose to drive or driving habits that have become established over a period of years. It includes choice of driving speed, threshold for overtaking, headway, and propensity to commit traffic violations (Elander et al., 1993, p. 279). A positive relation has been found between some maladaptive driving styles as reckless behaviour and a history of traffic offences (Taubman-Ben-Ari and Yehiel, 2012). In another study with data gathered in a real driving situation, “In-Vehicle Data Recorder (IVDR)”, Taubman-Ben-Ari et al. (2014), it was found that the frequency of occurrence of hazardous events correlated positively with reckless and aggressive driving styles. It has been seen that young people with scant driving experience tend to exceed the speed limit at the same time as underestimating the potential risk of driving situations and overestimating their skills as drivers (Deery, 1999; McKenna et al., 2006).

The underestimation of risk could be defined as behaviour with a probability of producing a harmful event that could affect different spheres of people’s lives (Burak, 1999; British Medical Association Guide, 1987). This propensity to risk may be stable or changeable according to context and situation (Weber and Hsee, 1998; Weber and Milliman, 1997). Discovering the differing nature of these behaviours, whether part of a general pattern of risk or not, will help in executing and raising awareness of prevention programmes focused on these most influential factors. Among specific behaviours considered risky one could include consumption of drugs and other behaviours that above certain thresholds of frequency and severity would constitute an addictive disorder (e.g. alcohol or illegal drugs or gambling), or control of impulses (e.g. addiction to the internet and videogames, compulsive buying, compulsive sex, or repeated binge eating). These last, but not substance use, involve a disturbance in the control of impulses and have been tentatively proposed as *behavioural addictions* (Blais and Weber, 2006).

Risk could also be related to other variables (Fyhri and Baker-Grøndahl, 2012) such as anger (Machin and Sankey, 2008; Dahlen and White, 2006; Zhang et al., 2015), or aggression (Ulleberg and Rundmo, 2003; Björklund, 2008). A relationship between insensitivity to punishment and reward and risk perception was also found by Cheng et al., 2015. However, previous research has also found that reoffender drivers, even if they had no problem identifying obstacles, did underestimate their risk in driving (Castro et al., 2014; Ventsislavova et al., 2016).

Previous attempts to assess “aberrant driving behavior” could have served more to punish reoffenders than to treat them (Cavaiola, 2013). Moreover, the efficacy of punishment to correct recidivism is questionable (Nagin and Pogarsky, 2001; DeMichele and Payne, 2013; Wieczorek, 2013). Also, in the process of screening for recidivism, false positives and negatives can be produced (Nadeau et al., 2016). For this reason, efforts to avoid these errors and succeed in distinguishing more exactly which offenders of those breaking the law for the first time are at risk of becoming repeat reoffenders should not be spared (Dugosh et al., 2013; Nochajski and Stasiewicz, 2006, for a review).

With regard to the possibility of modifying these poorly adapted

behaviours for safe driving, doubt has been cast on the efficacy of punishment. DeMichele and Payne (2013) exemplify this, saying that you wouldn’t use a hammer on the repeatedly reoffending drunk driver. The efficacy of punishment to correct recidivism is, according to the theory of persuasion, related to: the probability of being caught when you commit an offence (often the source dispensing the punishment is absent); the speed with which the punishment is applied (sanctions and their payment are not always contingent on commission of the offence); and the severity of the sanctions and previous convictions for driving offences (Nagin and Pogarsky, 2001; Wieczorek, 2013).

Several authors also affirm that drivers with a high sensitivity to punishment and a low sensitivity to reward tend to drive in accordance with the law, while those drivers with a low sensitivity to punishment and a high sensitivity to reward report breaking the traffic rules more often (Castella and Perez, 2004; Marti-Belda, 2015; Jongen et al., 2011). Constantinou et al., (2011) also found that sensitivity to reward correlates positively with violations of the traffic rules, measured by means of the DBQ (Driver Behaviour Questionnaire).

In addition, Anger is one of the emotions most related to hazard perception, affecting attention, decision-making, reasoning and information processing (Deffenbacher et al., 2003; Delhomme et al., 2012). Specifically, anger can be considered as the emotional component of driving aggression and it can also be related to more complex problems such as psychiatric disorders (Zinzow and Jeffirs, 2018). Not many studies examine the connection between risky and aggressive driving and psychopathic characteristics (Panayiotou, 2015). Impulsivity and aggressive behaviour control has an influence on the stress experienced by drivers (Dorantes-Argandar and Ferrero-Berlanga, 2016). It has been also observed that anger tends to increase the degree to which an uncertain situation is perceived as foreseeable, leading to a reduction in the hazard perception of an individual (Blanchette and Richards, 2010). Anger has been related to delinquent behaviour on the road, such as speeding or DUI (Deffenbacher et al., 1994; Delhomme et al., 2012; Berdoulat et al., 2013).

As the previous literature ascertaining the relationship between these topics has not been totally integrated, this research should contribute to discovering the profile of reoffender drivers by exploring the role and predictive power of these variables (i.e. alcohol consumption and personality variables) and their potential causative role in driving behaviour. In addition, an analysis will be performed to compare offender and non-offender groups in the variables measured.

2. Method

2.1. Participants

A total of 296 drivers were recruited. The sample of non-offender drivers consisted of 206 participants (49% female), with an age range between 18 and 81 years ($M = 46.27$, $SD = 17.26$). The sample of reoffender drivers consisted of 86 drivers (8.1% female), whose age range was between 19 and 65 years ($M = 36.69$, $SD = 11.95$). Table 1 shows descriptive statistics for the main sociodemographic variables in the study.

The participants were students and workers at the University of Granada (UGR) as well as students and clients of driving schools (Victoria and Genil), all in the city of Granada, Spain. Reoffender drivers recruited from these driving schools were undertaking courses of recovery of points lost on their license.

The criteria for inclusion as participants in this study were: a) being over 18 years b) possessing a Spanish driving license and c) having driven regularly (almost every day last year).

The sample of non-reoffenders was obtained from drivers who had not lost any points in the Demerit Penalty Point System. The sample of recidivists was recruited from those attending the courses to recover points lost in this Demerit Penalty Point System (Partial or Complete loss of points).

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