

Moral judgements in driving situations and their implications

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Extended Abstract

Introduction

Driving is governed by legislation that defines legal and illegal behaviour. However, beyond these legal regulations individuals often have their own perceptions and beliefs about the driving behaviours they consider appropriate or inappropriate in particular situations. These perceptions may encompass drivers' views about safety, courtesy, and their interpretation of legislation. These judgements of other drivers often have a moral dimension, where the behaviour of other drivers is judged as "right" or "wrong". This has implications for aggressive driving, for instance, when one driver seeks to "punish" another driver for their behaviour.

Soole et al. (2011) and Lennon and Watson (2011) have recently proposed a comprehensive model of driver aggression, illustrated in Figure 1.

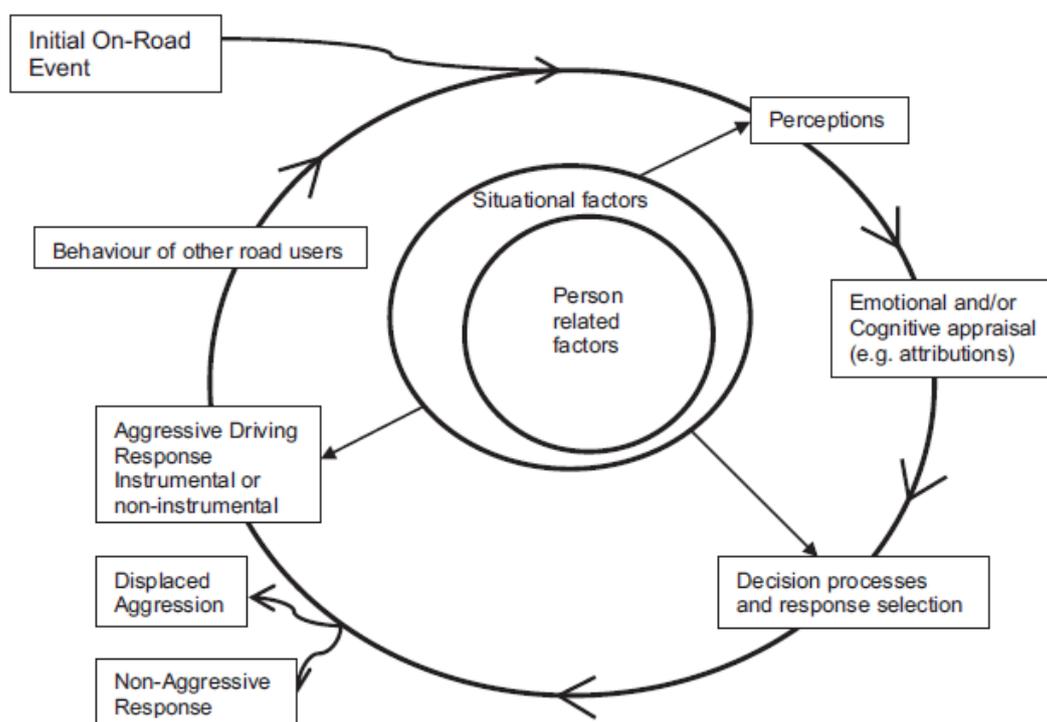


Figure 1. Cyclical model of driver aggression (Source: Lennon & Watson, 2011: 2202)

This cyclical model implies that a road user's behaviour and responses to others' behaviours are directly affected by person-related factors, such as decision processes and response selection. As such, a comprehensive understanding of the psychological factors influencing an individual's judgement and decision making process is crucial to understanding and preventing driver aggression.

Perspectives from research on moral judgement and reasoning, particularly those findings linked to exploring individual differences, have the potential to shed light on this issue, but have not been widely used in road safety research. We found one example of such research that explored the role of moral judgments in predicting driving behaviour in Brazilian students (Bianchi & Summala, 2002). Using one measure of morality, the Sociomoral Reflection Test they found no relationship to driver behaviour as measured by the Driver Behavior Questionnaire. They, however, relied solely on self-report and were not able to elicit any real behavioural outcomes. Moreover, they had only one, rather limited, measure of morality and moral judgment.

Driving simulators present an ideal means of placing drivers in a range of situations which elicit moral judgements without incurring risk to the driver. This extended abstract outlines a research project utilising the CARRS-Q Advanced Driving Simulator and a set of psychological assessment instruments to investigate risk and decision making in driving situations and their association with individual differences in moral judgement and reasoning. The preliminary results of the research will be reported at the conference. These results have implications for further understanding individual road-user behaviours and thus to help target training to appropriate groups of individuals.

Method

Participants

Adults (over 18 years) who hold a provisional or open car licence will be eligible for the study. Participants will be recruited from the QUT undergraduate psychology student pool and the general community. The presence of motion sickness or epilepsy will be an exclusion criterion for participation in the study. People with pre-existing neck and back conditions, migraine sufferers and pregnant women will be warned against participation and will do so at their own risk. Informed consent will be sought from all participants prior to their involvement in the study. Participants will be free to withdraw from the study at any time.

Materials

The experiment will be carried out in the advanced driving simulator at QUT Kelvin Grove. Participants will complete a demographic questionnaire, including questions surrounding driving and video game exposure. Six additional questionnaire measures will be completed to measure constructs related to judgement and decision making. These are the Judgemental Self Doubt Scale (Mirels, Greblon & Dean, 2002), the Ethics Position Questionnaire (Forsyth, 1980), the Interpersonal Reactivity Index (Davis, 1983), the General Risk Attitude Measure (Dohmen et al., 2011), the Domain-Specific Risk Taking (Adult) Scale (Blais & Weber, 2006), and the Cognitive Reflection Test (Frederick, 2005). These measures were selected because they have been used and validated in a range of moral judgment and decision making research, as well as spanning a range of individual difference characteristics.

Simulator scenarios

The simulator is programmed using SCANer®II software, using a road network developed for other research projects. The network is based on a combination of the actual road network in the inner city of Brisbane and a contrived road network designed to enable a range of interactions to be simulated. Scenarios in the simulation will involve interactions between the driver and other road users with varying degrees of potential risk and legal clarity. They will include an 'unlikely crash' incident and a 'certain crash' critical incident. In the 'unlikely crash' incident an oncoming car swerves into the driver's lane and there is plenty of space to avoid the oncoming car. In the 'certain crash' incident, a parked vehicle pulls out directly in front of the driver and oncoming vehicles at a speed which makes crash avoidance unlikely. There are also a number of other less critical incidents

in the scenarios, such as a pedestrian crossing with active pedestrians, the possibility to run a red light, and gap acceptance tasks which will also provide measures of risk taking.

Procedure

Participants will be tested individually by a research officer and a simulator technician in 1-1.5 hour sessions. Initially, participants will complete a booklet comprised of the aforementioned demographics and psychological measures. Following this, participants will complete a ten minute practice session in the advanced driving simulator in order to become accustomed to the inner city Brisbane driving simulation and to assess their motion sickness levels.

In addition to more standard driving tasks in the simulator (i.e. stopping at lights following signs, overtaking), the participant's judgements of other vehicles and themselves will be assessed following the two critical scenario incidents. The participants' judgements of their own responsibility, morality and blame as well as that of other involved driving parties will be assessed after a crash has occurred by a number of Likert scale questions.

Results

The preliminary results of the research will be reported at the conference. We predict that participants' levels of risk taking, empathy, judgmental self-doubt, cognitive reflection, and ethical orientations will be associated with their responses (both behavioural and self-reported judgments) to the critical driving incidents. We also expect to be able to identify/classify individuals at higher risk of risky and aggressive driving.

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