



# Anger amongst New Zealand drivers

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## Abstract

This research investigated the types of situations that cause drivers to become angry while driving. The Driver Anger Scale [Deffenbacher, J. L., Oetting, E. R., & Lynch, R. S. (1994). Development of a driver anger scale. *Psychological Reports*, 74, 83–91] was used to investigate driver anger amongst 861 drivers. The resultant data were factor analysed, producing four categories of anger provoking situations; progress impeded, risky driving, hostile gestures and discourteous driving. Overall levels of driver anger were higher than equivalent research in the UK, but appeared to be lower than that found in America. In line with overseas research, female drivers reported more anger overall and in two of the four categories of driver anger (risky driving and hostile gestures). There were also regional differences, with the drivers from the main urban areas reporting more anger than those from the secondary urban areas. Reported anger declined with age for all categories of anger provoking situations. Those drivers reporting a higher level of driving anger across all potential anger inducing situations tended to be; female, younger, from a main urban area, report a higher annual mileage, be less experienced (in terms of years driving) and prefer a higher speed. The overall level of driver anger was not related to crash involvement, and neither were any of the four categories of driver anger.

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## 1. Introduction

Recent research and media reports appear to indicate that incidents of angry drivers and road rage are becoming more common (Oliver, 2003; Parker, Lajunen, & Stradling, 1998; Pepper, 2003; Vest, Cohen, & Tharp, 1997). Oliver (2003), for example, cites research which found 87% of young drivers had been victims of road rage at least once, with 71% admitting they had been guilty of road rage themselves. Although road rage is the most extreme expression of driver anger and is relatively rare, to experience anger while driving is much more common. For example, using a diary approach to study driver anger, Underwood, Chapman, Wright, and Crundall (1999) reported that during a 2 week period, 85% of the 100 drivers studied experienced anger whilst driving.

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Driving anger has been defined as a situation specific form of trait anger (Deffenbacher, Oetting, & Lynch, 1994). Drivers who are high on trait anger; are more likely to become angry, are angered by a wider range of situations, and experience more intense anger than those low in trait anger. Furthermore, research has found that drivers with elevated levels of anger engage more often in aggressive and unsafe driving (Dahlen, Martin, Ragan, & Kuhlman, 2005; Deffenbacher, Lynch, Oetting, & Yingling, 2001; Deffenbacher et al., 1994; Lajunen, Parker, & Stradling, 1998; Underwood et al., 1999). For example, Underwood et al. (1999) found a strong link between driver anger and subsequent near accidents. In support of this, Deffenbacher et al. (2001) found that although driver anger was not directly correlated with crash involvement, it was correlated with crash related conditions; such as loss of concentration, loss of vehicular control, and near accidents.

One important question is what sort of situations provoke anger amongst drivers. The driving anger scale (DAS) is one approach for measuring trait driving anger. The original DAS questionnaire was developed in the United States by Deffenbacher et al. (1994) and contains 33 potentially anger provoking situations (e.g. someone is driving too slowly in the passing lane, holding up traffic). Participants are asked to read each of the 33 statements and to rate, on a five point scale (1 = Not at all, 5 = Very much), how angry each situation would make them feel. Cluster analysis of the 33-item scale produced six subscales; hostile gestures, illegal driving, police presence, slow driving, discourtesy, and traffic obstructions.

The DAS was subsequently used to measure driver anger in the UK (Lajunen et al., 1998). Lajunen et al. (1998) found a number of the original items did not evoke anger amongst UK drivers. The main difference between the US and UK results was that the situations without other motorists involved (e.g. you hit a deep pothole) evoked very little anger amongst the British drivers (Lajunen et al., 1998). With the removal of non-anger evoking situations, a 27-item UK version of the DAS was produced. Factor analysis of their data produced three factors, which were labelled: “progress impeded”, “direct hostility”, and “reckless driving” (Lajunen et al., 1998). The “direct hostility” subscale contained the same items as the factor labelled by Deffenbacher et al. (1994) as “hostile gestures”, while the “reckless driving” subscale consisted of a combination of items originally classified as illegal driving and discourteous driving. The “progress impeded” subscale consisted of a combination of items originally categorised as “slow driving” and “discourteous driving”.

The dissimilar findings made in the UK research raise some doubts as to whether all 33 situations would provoke anger amongst New Zealand drivers, and also the factor structure of the DAS. Therefore, this research investigated how much of a problem driver anger is in New Zealand and the situations which cause New Zealand drivers to experience anger. The factor structure of the DAS was also investigated, in order to develop an appropriate set of items for a New Zealand version of the scale. Furthermore, the data were tested for relationships between driver anger, demographics, descriptive variables and crash involvement.

## 2. Method

### 2.1. Materials

The data reported in this article were collected as a part of a larger survey of driving behaviour. The questionnaire measured a number of variables, including; age, gender, preferred driving speed, annual mileage, crash history over the previous 5 years and driver anger. Driver anger was measured using the original 33-item version of the driver anger scale (DAS) (Deffenbacher et al., 1994). Participants were instructed to imagine the situations happening to them and to rate the amount of anger elicited by each. Ratings were made on a five point likert scale which ranged from 1 = Not at all to 5 = Very much.

### 2.2. Participants

Participants were surveyed in two main urban areas (Wellington and Auckland) and two secondary urban areas (Palmerston North and Hastings). The main/secondary urban categorisation has previously been used to classify urban centres in New Zealand (Charlton, Newman, Luther, Alley, & Baas, 2002). Participants were drivers who had driven at least once in the last six months. In total, 1705 questionnaires were distributed and 861 responses were received, giving a response rate of 50.5%.

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