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# Following slower drivers: Lead driver status moderates driver's anger and behavioural responses and exonerates culpability



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#### ABSTRACT

Two experiments investigated the effects of lead-driver status on the anger-experienced and aggression-expressed in traffic scenarios in which the lead drivers' actions were determined by an event obviously beyond, or within, their control. Experiment I contrasted reactions to lead-cars bearing Learner driver markings (Low Status) or similar unmarked cars (Control), while Experiment II contrasted reactions to Ambulances (High Status) or otherwise identical generic work vans (Control), Reported anger, heart-rate and behaviour were measured while drivers drove. When the lead vehicle slowed or changed course because of the actions of another road user, drivers were reliably more angered when slowed by a learner driver than an unmarked sedan. Drivers reported less anger when slowed by an Ambulance, than by a work van, when there was no apparent cause for the lead-vehicle slowing. Driver behaviour also differed according to lead-vehicle status. Drivers allowed greater headway between themselves and a slower ambulance, but drove closer to the work-van, and followed Learner drivers at a dangerously close distance, leaving greater headway behind a similar, unmarked car. Reliable differences in subjective anger ratings and behaviour suggest that anger experienced and expressed depends not just on the actions of the perpetrator but on the perceived status of that perpetrator. Higher status vehicles appear to be forgiven their indiscretions more readily even when there are no extenuating circumstances, whilst lower status drivers are likely to be blamed more readily for circumstances beyond their control.

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#### 1. Introduction

There is a growing body of evidence that suggests individuals use status assessments to regulate emotions and behaviour (Allan & Gilbert, 2002; Conway, Di Fazio, & Mayman, 1999; Lively & Powell, 2006; Lovaglia & Houser, 1996). Status is denoted by prestige or social position, ranking in professional settings or perceived skill supremacy. It can also be determined by control over rewards or punishments within a specific group. Higher status group members are more likely to display their anger overtly and aggressively towards lower status group members (Allan & Gilbert, 2002; Lively & Powell, 2006). Lower status group members, in contrast, tend to avoid direct expressions of anger and are more likely to suppress (Allan & Gilbert, 2002) or displace their anger onto members of equal or lower status (Sloan, 2004). In these regards, anger is measured as a transient emotional state (Lively & Powell, 2006; Sloan, 2004).

Self-report studies have shown that it is not that anger differs according to status, per se, but skill differences coupled with the situational structure of the group allows certain members to behave aggressively (e.g.: Allan & Gilbert, 2002;

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Ridgeway & Johnson, 1990). Thus, higher status members are not only more likely to consider lower status members to be less skilled and to blame them for negative situations (Ridgeway & Johnson, 1990) they face less retribution when they react aggressively to this anger. Conversely, lower status members are more likely to blame themselves for performance based failures (Ridgeway & Johnson, 1990) but are restricted from aggressively expressing any anger towards higher status members. For those of lesser status, the cost of aggressive reaction is too high and could result in alienation from peers or loss of group membership.

The aggression-expression problem is exacerbated by the fact that each group has its own a set of social rules or "norms" which dictate what behaviours are and are not appropriate for its members (Hochschild, 1979; Lively & Powell, 2006). In more intimate environments, such as within family units, aggression is a less accepted form of anger expression. When surveyed, higher status family members report more constructive methods of anger expression, such as talking through problems or projecting anger-expression elsewhere (Lively & Powell, 2006). The same individuals, however, in higher-status positions in the work-place report more aggressive, outward displays of anger (Lively & Powell, 2006; Stets & Tsushmina, 2001). Thus, aggressive expressions of anger appear predominant in groups with less personal associations and where there is a lack of apparent retribution.

There is some evidence to suggest this is the case in the driving environment, where social rules and the risk of retribution for aggressive reactions are less obvious. As far back as the late 1960s Doob and Gross (1968) examined driver aggression (operationalised as latency and duration of horn-honking) as a response to the status of a stationary vehicle failing to drive-off at a green traffic light signal. They found that drivers were quicker to sound their horn when the impeding driver was in a lower status vehicle, an old, inexpensive model, than when the obstruction was from a high status vehicle, a current, expensive model. McGarva and Steiner (2000) also investigated the effects of other vehicle status on driver aggression using socioeconomic vehicle characteristics to manipulate status. They had confederates in either a low status or high status vehicle, again denoted by age and expense, pull up behind stationary drivers waiting at a stop sign. Confederates provoked the participant driver by sounding their horn, making hostile facial expressions and hand gestures and subsequently employing an aggressive overtaking manoeuvre. They found that drivers had faster acceleration after provocation from a driver in a low status vehicle.

Whilst these studies overcome methodological issues relating to self-report methodology, their observational nature limits the conclusions that can be drawn from them. Affect was not measured in either study, making it unclear whether driver aggressions were an expression of status-related anger or were instrumental in nature. Aggressive responses were also only observed in relation to the immediate provocation. Stephens and Groeger (2011) have found evidence to suggest that angerbased aggression, in the form of faster, more erratic speeds, can continue sometime after the original provocation has occurred. Thus, examining the duration of the effect would have provided some evidence of the nature of the original aggression; for example, whether aggression was instrumental or aggressive. Studies performed in real traffic conditions also suffer from the problem that researchers are unable to control for extraneous situational variables. As such the density of traffic, presence of passengers as well as other high or low status vehicles and average types of other-road users (for example, commuters or mothers with small children) will also vary within the studies.

A further limitation is that existing studies into status in driving rely on vehicle model and make to denote status. Thus, the relative status between observed driver and confederate will fluctuate across participants and in some cases imply that the observed drivers are themselves of equal or higher status than the high status confederate vehicles. Classifying status according to socio-economic characteristics of the vehicle also assumes that younger drivers, who are less likely to be driving newer more expensive vehicles, will be of lower status and thus less prone to anger and aggression toward other road users. However, younger drivers of lower socioeconomic status are at more risk of traffic accidents (Chen et al., 2010). Younger drivers in general are over-represented in accident statistics (Wells, Tong, Sexton, Grayson, & Jones, 2008), more prone to anger and more aggressive toward other road users than older drivers (Deffenbacher, Deffenbacher, Lynch, & Richards, 2003; Deffenbacher, Lynch, Oetting, & Yingling, 2001). It is therefore important to re-evaluate status in driving contexts drawing upon definitions provided in other social contexts.

One status characteristic specific to driving is level of skill. In non-driving contexts, greater skills are associated with higher professional and social ranking (Weiss & Fershtman, 1998). In driving, assessments of relative skill are important in how drivers evaluate and respond to driving situations (McKenna, 1993). Most drivers consider themselves to be far more skilled than Learner drivers (Groeger & Grande, 1996). In particular, younger drivers, with little driving experience self-report higher levels of skill than novice drivers (see Stephens, 2008). Thus, learner drivers represent low social ranking or low status road users. In contrast, professional drivers are seen as better than most drivers on the road (see Waylen, Horswill, Alexander, & McKenna, 2004). Professional drivers involved in emergency services have both high skill and professional prestige and thus fit within the definition of high status vehicles.

#### 1.1. The present research

The primary purpose of the work reported below was to investigate, in a controlled simulated environment and across two experiments, the extent to which anger and behaviour resulting from being impeded is influenced by the status of the perpetrator and culpability of their actions. Previous work by Stephens and Groeger (2009, 2011) and Stephens, Trawley, Madigan, and Groeger (2013), has shown that driver anger can be manipulated using follow tasks where the participant's progress is impeded by a lead vehicle. Berkowitz and Harmon-Jones (2004) suggest anger over goal impediment is

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