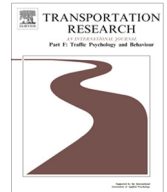




ELSEVIER

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Transportation Research Part F

journal homepage: www.elsevier.com/locate/trf

The exceptionists of Chinese roads: The effect of road situations and ethical positions on driver aggression



Xinyu Du, Yue Shen, Ruosong Chang, Jinfei Ma*

School of Psychology, Liaoning Normal University, Dalian 116029, China

ARTICLE INFO

Article history:

Received 30 January 2018

Received in revised form 11 June 2018

Accepted 10 July 2018

Keywords:

Driving scenarios

Ethics

Driver aggression

Responsibility

China

ABSTRACT

The purpose of this study was to systematically investigate the factors that influence driver aggression by using a combination of attribution theory, planned behavior theory, and general aggression theory. Using the principle of convenience to select our sample size, we asked 308 Chinese drivers from Dalian to fill out a questionnaire. They ranged in age from 21 to 65 years ($n = 297$). Inspired by the Propensity for Angry Driving Scale (PADS) and the Driving Anger Scale (DAS), we formulated six scenarios involving collision risk and six scenarios involving obstacles. We also evaluated subjects' cognitive assessments, experienced anger, and tendency toward aggressive driving behavior for each scenario. Subjects also completed the Aggression Questionnaire and the Ethical Position Questionnaire (EPQ). The EPQ divided participants into four categories: situationists (with high idealism and high relativism), absolutists (with high idealism and low relativism), subjectivists (with low idealism and high relativism), and exceptionists (with low idealism and low relativism). A path analysis of the structural equation model showed that attributive tendency, along with responsibility inference, and anger as mediator variables, collectively affected aggressive driving behavior. An analysis of variance showed that drivers were more likely to attribute an internal cause to the infringing behavior of instigating drivers and the level of responsibility inference was higher for dangerous situations than obstructive situations. Within the context of Chinese culture, subjectivists have a stronger tendency towards internal attribution and responsibility inference, and exceptionists, at the other extreme, have the lowest tendency towards internal attribution and responsibility inference. Drivers who held exceptionist ethical positions had a higher level of aggression. The results contribute to a comprehensive understanding of the psychological mechanisms behind aggressive behavior and suggest that road safety can be promoted by upholding road fairness through strict and just laws, which encourage drivers to suppress their feelings of anger and aggressive tendencies using rational cognition methods.

© 2018 Elsevier Ltd. All rights reserved.

1. Introduction

According to a survey conducted by the U.S. Transportation Safety Foundation, 78% of respondents see aggressive driving as a serious traffic safety issue, yet 22–26% of respondents have recently exhibited aggressive driving behavior such as tailgating a car in front of them or forcing other drivers to increase their speed. More than 55% of fatal accidents were caused by

* Corresponding author.

E-mail address: majinfei666@126.com (J. Ma).

at least one driver exhibiting latent aggressive road behavior (AAA Foundation for Traffic Safety, 2009). Results from a survey by Mann et al. (2007) showed that the risk of collision was doubled for drivers who self-reported having exhibited aggressive behavior. According to the dose-response model, the more serious the aggressive behavior a driver exhibits, the higher the chances are that there will be an accident (Wickens, Mann, Ialomiteanu, & Stoduto, 2016). In China, aggressive driving has already become a popular topic and concerning social issue (Ge et al., 2016; Li, Yao, Jiang, & Li, 2014; Transportation Research Institute & China-Sweden Traffic Safety Research Center, 2015; Zhang & Chan, 2016).

Wickens, Mann, and Wiesenthal (2013) define aggressive driving behavior as violations of highway traffic laws (e.g., tailgating, reckless driving) and less serious anger expressions (e.g., swearing, obscene gestures) that are assumed to result from hostility directed toward another motorist. Some driver aggressions are of an illegal nature (they have elements of intimidation and assault). These behaviors are not caused by an unintentional misjudgment or inattentiveness, but rather are an anomalous driving behavior with hostile motives (see Reason, Manstead, Stradling, Baxter, & Campbell, 1990).

Many studies have differentiated between risky and aggressive driving. The main difference is that people sometimes engage in risky driving might for the pursuit of sensory stimulation (such as street racing) or in order to arrive at their destinations faster (such as speeding). In contrast, aggressive driving is usually defined as behavior that the driver undertakes during the process of driving in order to cause physical or mental harm to another driver (see Dula & Geller, 2003 for a theoretical distinction between risky and aggressive driving).

Wickens, Wiesenthal, Flora, and Flett (2011) were the first to take Weiner's social behavior attribution model (2006) and extend it to the field of traffic psychology. They used structural equation modeling to systematically analyze driver attribution, responsibility inference, and emotions against aggressive behaviors. The results of their study show that the more strongly the cause was attributed to something internal, controllable, or intentional (for example, respondents' belief that incidents involving dangerous altercations were due to the personal characteristics of the other driver, that it was within his or her ability to control, and that he or she intentionally let it happen), the stronger the responsibility inference. Responsibility inference is a mediating factor of attributive tendency that affects emotions and behavioral tendencies. The stronger the responsibility inference, the stronger the respondent's feelings of anger and aggressive intentions.

A study by Wickens et al. (2011) also found that drivers do not always translate their intentions into actions. Between drivers' anger, their aggressive intentions, and their aggressive behavior are other variables that play a role. Planned behavior theory suggests that human behavior is affected by both a person's characteristics and attitude (Ajzen, 1988). Specifically, Ajzen (1991) has argued that behavior is motivated by intentions, which in turn are formed by attitudes, subjective norms, and perceived behavioral control. Parker, Lajunen, and Stradling (1998) found the attitude of a subject toward an aggressive driving scenario and their personal characteristics to be predictors of aggressive behavior. Subsequent studies have shown that drivers' infringing behavior toward other careless drivers can arise from an attitude of moral disapproval and from a moral obligation similar to that of a vigilante, prompting them to take steps to teach the careless driver a lesson with the intention of correcting his or her bad behavior (Gidron, Slor, Toderas, Herz, & Friedman, 2015; Lajunen & Parker, 2001; Lennon & Watson, 2011).

Recently, the general aggression model has indicated that the situation and a driver's personality traits have a mutual effect on cognitive processing and emotional response, together influencing behavioral tendencies (Anderson & Bushman, 2002; Swann, Lennon, & Cleary, 2017). Negative driving situations that cause people to feel moral disapproval include being tail-gated, being cut off, being forced to stop, being blocked in the passing lane by a slow driver, being hit from the side, running red lights, failure to signal, and being blocked from changing lanes (Britt & Garrity, 2006; Wickens et al., 2011). Lennon and Watson (2011) argue that even more infuriating than these general negative driving situations are negative driving situations in which the driver him or herself is placed in danger. Thus, we hypothesize that when drivers are placed in road situations of varying levels of danger, there will be differences in their attributive tendencies, responsibility inferences, feelings of anger, and manifestations of aggressive driving behavior (Hypothesis 1).

However, being angry does not necessarily directly trigger aggressive driving. In addition to emotional variables, individual personality traits are also important variables that affect behavior in planned behavior theory and general aggression model (Bumgarner, Webb, & Dula, 2016; Emo, Matthews, & Funke, 2016; Przepiorka, Blachnio, & Wiesenthal, 2014; Wickens, Wiesenthal, & Roseborough, 2015). Among personality traits, trait anger and trait aggression are the two most widely studied (Bailey, Lennon, & Watson, 2016; Ellison-Potter, Bell, & Deffenbacher, 2001; Lajunen & Parker, 2001; Lennon, Watson, Arlidge, & Fraine, 2011). Drivers who have a high propensity for anger in provocative driving situations are more confident in their assessment of the provocative driver's aggressive intent, which reinforces their own anger and aggressive intentions (Blankenship, Nesbit, & Murray, 2013; Nesbit & Conger, 2012; Rowden et al., 2016).

Recently, researchers have paid more attention to the effect of a driver's social character on aggressive behavior. The results reported by Bailey et al. (2016) show that drivers with different ethical positions exhibit different amounts of anger and aggressive behavior when placed in negative driving situations. Among them, situationists are the angriest and subjectivists exhibit the most aggressive behavior. Drivers with different ethical positions may also have different attributive tendencies, responsibility inferences, levels of feelings of anger, and tendencies towards aggression during dangerous or obstructed driving situations (Hypothesis 2).

In this study, we combine the general aggression model and explore the collective effects of ethical positions and factors in the road situation (dangerous situations and obstructed situations) on driver cognition factors (attributive tendency and responsibility inferences) and feelings of anger. Furthermore, we explain the psychological mechanisms behind aggressive driving behavior. We attempted to demonstrate that internal attributive tendencies in drivers, through the mediating factors

Download English Version:

<https://daneshyari.com/en/article/7257712>

Download Persian Version:

<https://daneshyari.com/article/7257712>

[Daneshyari.com](https://daneshyari.com)