The Big Five factors, sensation seeking, and driving anger in the prediction of unsafe driving

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Abstract

Despite a wealth of literature supporting the utility of trait driving anger, sensation seeking, and the Big Five personality factors in predicting unsafe driving behavior and crash-related outcomes, these predictors have been studied in isolation. The present study investigated the utility of combining these variables in the prediction of self-reported driving anger expression and the frequency of aggressive and risky driving behaviors. Three hundred and fifteen college students completed measures of driving anger, sensation seeking, Big Five personality factors, unsafe driving behavior, and driving anger expression. Hierarchical regressions controlling respondent age, gender, and average weekly miles driven supported the predictive utility of driving anger, sensation seeking, emotional stability, agreeableness, and openness to experience. Results supported the use of multiple predictors in the study of unsafe driving and demonstrated that different combinations of predictors are needed to explain different aspects of driving behavior.

Keywords: Aggressive driving; Personality; Anger; Sensation seeking

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1. Introduction

Automobile accidents and traffic fatalities represent a serious social and public health problem in the United States. According to the National Highway Traffic Safety Administration (NHTSA, 2004), there were 42,643 fatalities among the 6,328,000 vehicular accidents reported by police in 2003. Based on 2000 data, such accidents are the leading cause of death for people between 2 and 33 and have an estimated economic cost (i.e., travel delay, productivity losses, cost to employers, legal and court costs, property damage, emergency services, medical costs, rehabilitation costs, and insurance administration) of $230.6 billion (NHTSA, 2002).

Given that human factors explain significantly more variability in accident rates than vehicular or roadway factors (Evans, 1991; United States General Accounting Office, 2003), it is not surprising that social science research has focused on the relationships among various human factors and unsafe driving. Of the many personality constructs that have been studied as potential predictors of unsafe driving, the Big Five personality factors, sensation seeking, and trait driving anger have received the most support to date.

Research on the Five Factor Model (FFM) supports the utility of extraversion, neuroticism, and conscientiousness in predicting driving-related outcomes and behavior. First, extraversion has been associated with motor vehicle accidents, traffic fatalities, traffic violations, and driving under the influence (Eysenck, 1970; Fine, 1963; Lajunen, 2001; Renner & Anderle, 2000; Smith & Kirkham, 1981; Martin & Boomsma, 1989). Next, neuroticism is related to vehicular accidents, fatalities, aggression while driving, and dislike of driving (Kirkcaldy & Furnham, 2000; Matthews, Dorn, & Glendon, 1991). In addition, conscientiousness is inversely related to at-fault crashes, total crashes, and moving violation tickets (Arthur & Doverspike, 2001; Arthur & Graziano, 1996). The predictive utility of agreeableness and openness is less clear, as many studies have failed to find relationships with driving outcomes or behavior (e.g., Miles & Johnson, 2003). Exceptions include a study by Cellar, Nelson, and Yorke (2000) which found that agreeableness was inversely related to traffic citations and Arthur and Graziano’s (1996) finding that openness was related to at-fault accidents.

In addition to the broader constructs that comprise the FFM, several studies have focused on the role of sensation seeking in driving outcomes and behavior. According to Zuckerman (1994), sensation seeking is “a trait defined by the seeking of varied, novel, complex, and intense sensations and experiences and the willingness to take physical, social, legal, and financial risks for the sake of such experiences” (p. 27). As a result, those high in sensation seeking are assumed to engage in reckless driving to provide the type of stimulation that they find pleasurable. High sensation seeking is related to traffic accidents, moving citations, driving while intoxicated, speeding, not wearing seatbelts, passing in no-passing zones, and a variety of other unsafe driving behaviors (Arnett, 1990; Arnett, Offer, & Fine, 1997; Donovan, Queisser, Salzberg, & Umlauf, 1985; Jonah, 1997; Jonah, Thiessen, & Au-Yeung, 2001; Trimpop & Kirkcaldy, 1997).

Another construct that has emerged as a viable predictor of unsafe driving is trait driving anger. Defined as the propensity to become angry while driving (i.e., a context-specific version of trait anger), driving anger is generally measured with the Driving Anger Scale (DAS; Deffenbacher, Oetting, & Lynch, 1994). Several studies have found that high DAS scores are associated with motor vehicle accidents, aggressive driving, traffic violations, intensity of state anger while driving, anger-related damage to vehicles, and less frequent use of seatbelts (Blanchard, Barton,
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