Transportation Research Part F xxx (2014) xxx–xxx

Contents lists available at ScienceDirect

Transportation Research Part F

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

The culture of distracted driving: Evidence from a public opinion survey in Iowa

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ARTICLE INFO

Article history:
Available online xxxx

Keywords:
Safety culture
Distracted driving
Cell phone use
Survey
Structural equation modeling

ABSTRACT

Traffic safety culture does not merely focus on risky behaviors and their consequences, but also on change in social norms, values, and beliefs. Past research has recommended establishing a comprehensive program to shape a safer traffic safety culture in the United States. In 2011, a cell phone and landline survey regarding traffic safety culture was disseminated across the state of Iowa. The survey gauged opinions from 1088 participants on driving experience, covering a wide range of traffic safety topics including law enforcement, driver education program, various driving behaviors, and attitudes toward traffic safety policies and programs.

A descriptive analysis of the responses revealed a need for an in-depth study of the current culture related to distracted driving in Iowa. A Structural Equation Model (SEM) was estimated to define the relationship among individual characteristics (participants' socio-economic and demographic characteristics), experience, and attitudes towards distracted driving (mainly cell phone use). Four latent variables: *distractibility* (DB), *self-reported distracted driving behavior* (SDDB), *personal acceptability of distracted driving* (PADD), and *prediction of possible crashes* (PPC) *caused by distraction* were constructed to represent the culture around distracted driving. The SEM estimation results suggested that participants' distracted driving attitudes, experiences, and behaviors were highly correlated. In addition, it also suggested that participants' characteristics (primarily age and household income) strongly influenced their experiences and behaviors related to distracted driving. The results of this paper can be useful for developing interventions designed for target groups of drivers (primarily younger and high-income drivers) in a bid to transform the culture around distracted driving.

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1. Introduction

Motor vehicle traffic crashes are considered one of the most serious threats to public health in the United States (US) and internationally (World Health Organization, 2013). Various strategies have been widely used to reduce traffic fatalities in the US, primarily focusing on risky driving behaviors and their consequences. For instance, education programs are implemented to train safe driving behaviors; enforcement is implemented to deter risky driving behaviors; and better designs of roads and vehicles are developed to prevent crashes and protect drivers from injuries (Lonero, 2007; Ward, Linkenbach, Keller, & Otto,

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http://dx.doi.org/10.1016/j.trf.2014.01.002
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Please cite this article in press as: Li, W., et al. The culture of distracted driving: Evidence from a public opinion survey in Iowa. *Transportation Research Part F* (2014), http://dx.doi.org/10.1016/j.trf.2014.01.002

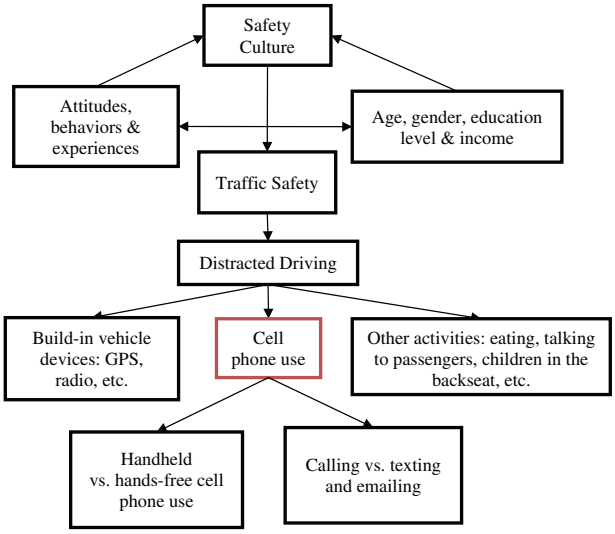

Fig. 1. Research framework.

2010). With the unremitting effort of the US government and state agencies towards reducing traffic crashes, as well as the recent economic downturn, the number of fatalities dropped to around 32,000 in 2011. Furthermore, the overall fatality rate has continuously declined over the past several years (National Highway Traffic Safety Administration, 2012).

However, this trend does not necessarily apply to all types of crashes. The distracted driving-related fatalities in the US increased from 10.9% to 15.8% between 1999 and 2008[1]; and specifically, the number of fatalities increased from 2005 to 2008 by 28.4% (Wilson & Stimpson, 2010). In 2011, approximately 11% of fatal crashes involving young drivers (under 20 years old) were reported as distracted driving-related, 21% of which were distracted by the use of cell phones (National Highway Traffic Safety Administration, 2013). Distracted driving is defined as any activity that could divert a driver's attention away from driving, and those activities can greatly increase the risk of driving error and crash involvement (Lee, Young, & Regan, 2009). Activities that can cause distractions while driving include eating, talking to passengers, adjusting the radio, using cell phones to place a call, and texting. It is hard to detect whether a driver is engaged in these distracting activities; and also, with the wide range of these activities, the frequency of distracted driving is much higher than other dangerous driving behaviors, such as drinking and driving. According to the 2012 Traffic Safety Culture Index conducted by the AAA Foundation for Traffic Safety (2013), over 67% of Americans indicated that distracted driving has become a greater problem today compared to 3 years ago, and also ranked distracted driving high in the list of safety concerns including aggressive drivers, drinking and driving, and others.

Previous research has argued that the problem of distracted driving may be more difficult to tackle than drinking and driving, as distracted driving behavior is social and rewarding (Atchley, Hadlocka, & Lane, 2012). As Vernon F. Betkey, Jr., the Governors Highway Safety Association (GHSA) Chairman stated, "*we need to develop a traffic safety culture that does not condone driving while distracted much like we have done with drunk driving*" (Governors Highway Safety Association, 2010). Transforming the current traffic safety culture around distracted driving could be one of the solutions to reducing the crashes caused by these activities. While there is no common, tangible definition of a safety culture (Cox & Flin, 1998; Pidgeon, 1998; Mearns & Flin, 1999; Wiegmann, Zhang, Thadenl, Sharma, & Mitchell, 2002; Zhang, Wiegmann, Thaden, Sharma, & Mitchell, 2002), there is consensus that traffic safety culture does not merely focus on risky behaviors and their consequences, but also on change in social norms, values, and beliefs. Past research (Johnston, 2009; McNeely & Gifford, 2007; Wundersitz, Hutchinson, & Woolley, 2010) has recommended establishing a comprehensive program involving many different aspects of society to shape a safer traffic safety culture in the US.

Zero tolerance of distracted driving behavior and better safety consciousness are considered the ultimate goals of achieving a better (safety) culture of distracted driving in the US. Towards these goals, this paper investigates the culture of distracted driving and, in specific, the culture of cell-phone use while driving. Cell phone (both hand-held and hands-free) use and texting have been argued as more dangerous than other distracting activities (eating, talking to passengers, adjusting the radio, or other) (Mayhew, Robertson, Brown, & Vanlaar, 2013). As shown in the research framework presented in Fig. 1, this paper examines how the underlying distracted driving-related behaviors, experiences, and attitudes are related; and how gender, age, income, and education influence them. To construct the culture of distracted driving (cell phone use), Structural Equation Modeling (SEM) techniques were applied based on a recent public opinion survey in Iowa. Statewide, a

[1] Note that the sharp increase in distracted driving-related fatalities during the period could be also due to changes in police crash reports, traffic records as well as the definition of distracted-driving fatalities.

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