

Cellular Phones Contribute to Dangerous Driving

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INTRODUCTION

Early traffic safety research was plagued by inconsistencies in terminology. For example, researchers variously used such terms as risky driving, road rage, and aggressive driving to describe similar phenomena, but without differentiation of distinct sub-concepts (Dula & Geller, 2003; James & Nahl, 2002). ‘Dangerous driving’ was eventually advanced as an inclusive term, with categories separating aggressive driving (acts with intent to harm, physically or psychologically), the experiencing of negative cognitions and emotions (e.g. anger, rumination, but without intention to harm another), and risk taking (e.g., driving while impaired, speeding) (Dula & Ballard, 2003; Dula & Geller 2003; Willemsen, Dula, Declercq, & Verhaeghe, 2008).

Distracted driving is a type of risky driving (other types include such things as speeding, red-light running, DWI), as it puts one at heightened risk for a crash, but does not involve intent to harm. Cellular (cell) phone use while driving is such a distraction, and like most distractions, it is preventable. This article addresses the risks of cell phone use on roadways and safety measures that might be taken to prevent such hazards. As cell phones have become virtually ubiquitous, their impact on traffic safety has become the subject of much research. Cell phone distractions now include texting, using Apps, watching videos,

surfing the Internet, and use of Global Positioning Systems (GPS), in addition to traditional voice-based conversation.

Dr. Yim (Yim, Kanafi, & Ygnance, 1991) at the University of California-Berkely, Dr. Donald Redelmeier, M. D. (Redelmeier & Tibshirani, 1997) at the University of Toronto, Dr. Valdimar Briem (Briem & Hedman, 1995) at the University of Lund-Sweden, and Dr. Karel A. Brookhuis (Brookhuis, De Vries, & De Waard, 1991) at Coventry University are among some of the most influential pioneering researchers in this field. Leaders in contemporary research include Dr. David L. Strayer and Dr. Frank A. Drews (Strayer & Drews, 2012) at the University of Utah, Dr. Gregory M. Fitch (Fitch, Soccolich, Guo, McClafferty, Fang, Olson, Perez, Hanowski, Hankey, & Dingus, 2014) at the Virginia Tech Transportation Institute (VTTI), and myriad researches working with the National Highway Traffic Safety Administration (NHTSA).

OVERVIEW

In the U.S. alone, motor vehicle crashes (MVCs) are the leading cause of death for people aged 11 to 27, resulting in 32,367 deaths and 2,217,000 injuries in 2011 (NHTSA, 2013a). Traffic safety researchers do not call these grim events ‘accidents’ because that term implies something caused

by uncontrollable factors, and most MVCs are preventable (Dula & Martin, 2013). One preventable cause of MVCs is distraction, where driver inattention contributes to between a low of 25% and potentially a high of 80% of MVCs (NHTSA, 2009; 2010). One type of distraction is cell phone use while driving.

Research suggests it is as dangerous to talk on a cellular (cell) phone while driving as it is to drive while intoxicated (Strayer, Drews, & Crouch, 2006). Yet, it has been estimated that at any given daytime moment, around 660,000 (about 5%) drivers in the United States are using cell phones (NHTSA, 2013c). A recent observational study found 8% of drivers were using electronic devices, and that almost half of these were actively texting (University of Washington, 2013). While all forms of cell phone use distractions are dangerous, use that requires one to look at their phones seems most dangerous.

A study by Fitch and colleagues at the Virginia Tech Transportation Institute (2013) found texting increased MVC/near-MVC risk by two-fold, and that activities associated with call completion (e.g., looking for phone, dialing), increased the risk three-fold. And, the risk seems to be well-known by the general public. Yet while 88.5% of drivers believe using cell phones poses a serious safety risk (Hamilton, Arnold, & Tefft, 2013), an AAA Foundation for Traffic Safety (2012) survey found 68.9% admitted to talking on a cell phone while driving at least once the previous month, and 31.9% did so regularly.

This is an increase of more than 10% from about a decade ago when Utter (2001) estimated that about 54% of drivers used cell phones while driving. Two years later this figure was reported at 60% (Royal, 2003). Dula (2010) asked undergraduate students to estimate how many times they used a cell phone while driving in the previous 2 weeks, and 81.5% admitted doing so at least once. Further, authors of a study of Fatality Analysis

Reporting System data concluded that rising texting volume from 2001 to 2007 accounted for more than 16,000 additional MVC deaths in that period (Wilson & Stimpson, 2010).

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CURRENT SCIENTIFIC KNOWLEDGE IN TRAFFIC SAFETY

Distraction occurs when a driver's attention is diverted from driving-relevant tasks, like monitoring the road and regularly checking mirrors. Driver inattention is a major contributor to MVCs. The Centers for Disease Control (CDC) states there are three primary types of distraction (2014). First, visual distractions include any diversion that prompts a driver to look somewhere other than the road. Second, manual distractions induce the driver to take their hands off of the wheel. Third, cognitive distractions divert the driver's thoughts away from driving. All three types can happen as a result of cell phone use while driving (CDC, 2014). The growing use of cell phones by drivers has sparked scientific inquiry, mainly focusing on the risks of driver inattention.

Research as far back as two decades indicated a relationship between cell phone use and traffic safety risk (e.g., Briem & Hedman, 1995; Brookhuis et al., 1991). Later studies greatly added to the literature, demonstrating the real dangers of hand-held and hands-free cell phone conversations while driving (Caird, Willness, Steel, & Scialfa, 2008). Rakauskas, Gugerty and Ward (2004) noted that research showed that with talking, the danger results not so much from the physical and visual effort needed to speak on a hand-held phone, so much as the mental effort needed to hold a conversation. Whereas an in-vehicle conversational partner is potentially watching the roadway and might react to a hazard and alert the driver (Drews, Pasupathi, & Strayer, 2008), this is not the case with a phone call partner.

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