Mobile Media Use, Multitasking and Distractibility

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ABSTRACT

Portable media devices are ubiquitous and their use has become a core component of many people’s daily experience, but to what effect? In this paper, the authors review research on the ways in which media use and multitasking relate to distraction, distractibility and impulsivity. They review recent research on the effects of media multitasking on driving, walking, work, and academic performance. The authors discuss earlier research concerning the nature of media’s impact on attention and review cognitive and neuropsychological findings on the effects of divided attention. Research provides clear evidence that mobile media use is distracting, with consequences for safety, efficiency and learning. Greater use of media is correlated with higher levels of trait impulsivity and distractibility, but the direction of causality has not been established. Individuals may become more skilled at media multitasking over time, but intervention is currently required to improve the safe and effective use of mobile media.

Keywords: Distracted Driving, Distractibility, Distraction, Divided Attention, Electronic Media, Impulsivity, Media, Mobile Media, Multitasking

INTRODUCTION

In 2006, New York Times columnist Thomas Friedman described the modern era as “the age of distraction” because of the widespread use of the variety of media then available. Since that time there has been an explosion of mobile computing devices that allow and encourage us to stay connected and online wherever and whenever we like. By 2012, 88% of adults in the U.S. owned cell phones, and 53% of those were smartphones (Smith, 2012). The use of media devices has become a core part of many people’s daily experience. In a study on the everyday experiences of self-control and its failure, the impulse to use media was hardest for people to resist, more difficult than resisting unwanted urges for eating, alcohol, and sex (Hofmann, Baumeister, Förster, & Vohs, 2012).

In this paper, we examine how multitasking with media affects users’ performance in different domains (e.g., driving, walking, work, and academic pursuits). We then review research that addresses the question of why media multitasking is related to distraction, distractibility and impulsivity. We examine historical research on media and distractibility and review cognitive

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and neuropsychological research on the effects of divided attention. Finally, we explore how high levels of media multitasking might alter our general responses to experience in ways that are marked by changes in distractibility and impulsivity.

**THE DISTRACTING EFFECTS OF MULTITASKING WITH MOBILE MEDIA**

**Driving**

There is perhaps no domain in which the potential distracting effects of multitasking with mobile media are more dramatically or more immediately felt than multitasking with mobile devices while driving a moving vehicle. Youth of “driving age” and adults are much more likely than not to have a cell phone or other portable media device (Roberts & Foehr, 2008) with 75% of teens, 93% of young adults (Lenhart, Purcell, Smith, & Zickuhr, 2010) and 88% of all adults (Smith, 2012) in the U.S. owning cell phones. The National Highway Traffic Safety Administration (NHTSA, 2010) reported that 20% of all traffic accidents and 16% of traffic related deaths involved driver distraction in the year 2009. Of these, 995 deaths (18% of fatal distracted driving deaths) and 24,000 traffic accidents were reportedly related to cell phone multitasking distractions (NHTSA, 2010). These data do not specify the type of multitasking activity in which the drivers were engaged (e.g., phone conversations, texting, emailing). However, naturalistic studies of driving have demonstrated that nearly 80% of automobile accidents and 65% of near-crashes are due to some form of driver distraction, the most common distraction being wireless device use (Dingus et al., 2006; Klauer, Dingus, Neale, Sudweeks, & Ramsey, 2006).

The usage numbers for wireless technologies are striking and help to demonstrate their ubiquity across contexts. For example, according to the Cellular Telecommunications Industry Association (CTIA, 2011), consumers in the United States recorded 2.29 trillion minutes of wireless use and sent 2.3 trillion text messages in the year ending 2011. In a recent national survey (Tison, Chaudhary, & Cosgrove, 2011) nearly half (49%) of young adults aged 21 to 24 years and about 18% of all drivers reported that they have texted or emailed on their mobile devices while driving. In a separate study, 26% of driving age teens reported that they have texted while driving and nearly half (48%) reported that they have ridden in cars with texting drivers (Madden & Lenhart, 2009). About 40% of adults (Tison et al., 2011) and over half (52%) of driving age teens who are cell phone owners reported that they have held conversations on their phones while driving (Madden & Lenhart, 2009). The vast majority of drivers (77%) reported that they have answered their phone while driving and continued driving (Tison et al., 2011) and 60% reported that they “sometimes” or “all the time” talk on a cell phone while driving (Taylor, 2011), a number that increases to 73% for those under age 35.

About 40% of American teens reported that they have been a passenger in a car in which a driver (sometimes a parent or other adult) was operating dangerously due to cell phone use (Madden & Lenhart, 2009). Nevertheless, most drivers (61% of those age 24 years and under; 50% of those age 35 or older) reported believing that their personal use of mobile devices during phone calls, texting or emailing while driving does not negatively impact their driving performance (Tison et al., 2011). The results of experimental and other systematic studies of driving and distraction tell a different story. For example, naturalistic driving studies (e.g., Klauer et al., 2006) have gathered data from drivers who agreed to have their driving habits recorded and studied by using installed video cameras and other data recording devices during normal daily driving for extended time periods. These studies of car and commercial truck driving have demonstrated that multitasking involving wireless device activities such as dialing, texting, typing, and reading while driving are particularly risky (Dingus, Hanowski, & Klauer, 2011). For example, text messaging
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