

# MOUNTAIN-PLAINS CONSORTIUM

RESEARCH BRIEF | MPC 17-322 (project 407) | March 2017

## Cell Phone Use Diminishes Self-Awareness of the Adverse Effects of Cell Phone Use on Driving



### the **ISSUE**

When people drive, they frequently engage in secondary tasks such as eating and grooming. One of the most common and dangerous activities behind the wheel is talking or texting on a cell phone. More than 100 million motorists in the United States are estimated to use cell phones while they drive. This is a major public safety issue because of the heightened crash risk associated with cell phone use. Most users actually believe they can drive safely while using a cell phone; and when it comes to driving safely while distracted, they regard themselves to be more capable than others. Our findings indicate that this overconfidence is one of the strongest predictors of drivers' usage of cell phones behind the wheel.

An important reason why drivers may be overconfident about their ability to drive safely while distracted and why people more generally overestimate their ability to multi-task effectively is diminished monitoring. Drivers generally monitor their performance to ensure they are driving safely. However, when they are distracted by the mechanics of using a phone and their conversations, they may be less cognizant of the errors they are making and how badly they are driving.

### the **RESEARCH**

The study examined the effects of multi-tasking on self-monitoring of driving performance and driver overconfidence. Participants drove in a simulator while either talking or not talking on a hands-free cell phone. Their driving errors and their awareness of their driving errors was recorded. Measures were also taken of their confidence in their ability to drive safely while distracted.



A University Transportation Center sponsored by the U.S. Department of Transportation serving the Mountain-Plains Region. Consortium members:

Colorado State University  
North Dakota State University  
South Dakota State University

University of Colorado Denver  
University of Denver  
University of Utah

Utah State University  
University of Wyoming



### Lead Investigator(s)

David Sanbonmatsu  
sanbonmatsu@psych.utah.edu

David Strayer  
david.strayer@utah.edu  
University of Utah

### Project Title

Cell Phone Use Diminishes  
Self-Awareness of the Adverse  
Effects of Cell Phone Use on  
Driving

### Co-Investigator(s)

Francesco Biondi  
Arwen Behrends  
Shannon Moore

### Research Assistant(s)

Shazia Ahmad  
Erica Armstrong  
Jennifer Buttrick  
Daniel Cosentino  
Laura Creamer  
Ciera Figge  
Brooke Rowley  
Tarra Sliwa  
Jennifer Web

### Sponsors | Partners

AAA Foundation for Traffic  
Safety

USDOT, Research and  
Innovative Technology  
Administration

## the FINDINGS

Distracted driving contributed to greater driving errors and a reduced awareness of driving errors. Thus, talking on a cell phone not only diminished the safeness of participants' driving, it diminished their awareness of the safeness of their driving. Driver confidence was unrelated to driving performance when participants talked on a cell phone.

## the IMPACT

Cell phone use not only impaired the safeness of participants' driving in our study, it impaired their awareness of the safeness of their driving. The driving safety assessments and memory of driving errors of participants who talked on a cell phone were almost wholly uncorrelated (or correlated in the wrong direction) with the actual errors they made. When drivers are talking on a cell phone, they are often unaware of the inconsistencies in their speed, their weaving across lanes, and their near misses with other vehicles. As a consequence, they may persist in believing that they can safely talk or text on a cell phone behind the wheel.

These findings should contribute to a better understanding of the costs of distracted driving and the contributors to driver overconfidence and lead to possible strategies and technologies to reduce the incidence of distracted driving.

For more information on this project, download the entire report at <http://www.ugpti.org/resources/reports/details.php?id=868>

For more information or additional copies, visit the Web site at [www.mountain-plains.org](http://www.mountain-plains.org), call (701) 231-7938 or write to Mountain-Plains Consortium, Upper Great Plains Transportation Institute, North Dakota State University, Dept. 2880, PO Box 6050, Fargo, ND 58108-6050.



This publication was produced by the Mountain-Plains Consortium at North Dakota State University. The contents of this brief reflect the views of the authors, who are responsible for facts and the accuracy of the information presented herein. This document is disseminated under the program management of the USDOT, Office of Research and Innovative Technology Administration in the interest of information exchange. The U.S. Government assumes no liability for the contents or use thereof.



NDSU does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable. Direct inquiries to Vice Provost for Title IX/ADA Coordinator, Old Main 201, NDSU Main Campus, 701-231-7708, [ndsueoaa.ndsu.edu](http://ndsueoaa.ndsu.edu).