

UTC Project Information	
Project Title	MPC-525 – Does Cell Phone Use Impair Learning and Improvement in Driving Performance?
University	University of Utah
Principal Investigator	David Sanbonmatsu David Strayer
PI Contact Information	<p>David Sanbonmatsu Professor Department of Psychology University of Utah Phone: (801) 581-8505 Email: sanbonmatsu@psych.utah.edu</p> <p>David Strayer Professor Department of Psychology University of Utah Phone: (801) 581-5037 Email: david.strayer@utah.edu</p>
Funding Agencies	USDOT, Research and Innovative Technology Administration
Agency ID or Contract Number	DTRT13-G-UTC38
Project Cost	\$113,354
Start and End Dates	September 30, 2013 to September 30, 2018
Project Duration	September 30, 2013 to September 30, 2018
Brief Description of Research Project	<p>Research at our Center for the Prevention of Distracted Driving has demonstrated that cell phone use not only diminishes the safeness of driving (e.g., Strayer & Drews, 2007; Strayer, Drews, & Johnston, 2003), it diminishes drivers' awareness of the safeness of their driving. In a study funded by the Mountain-Plains Consortium, talking on a cell phone diminished participants' cognizance of their driving errors and performance (Sanbonmatsu, Strayer, Biondi, Behrends, & Moore, 2015). Participants' estimations of their errors and self-assessments of their driving safety were highly correlated with their actual driving errors when they were not distracted but largely uncorrelated when they talked on a cell phone. The findings suggest that motorists may be overconfident about their ability to drive safely while distracted (Sanbonmatsu, Strayer, Medeiros-Ward, Behrends, & Watson, 2015) and persist in using</p>

	<p>cell phones because they are unaware of the adverse effects of multi-tasking on their driving.</p> <p>We hypothesized that the diminished situational awareness resulting from cell phone use may affect the ability of individuals to improve the safeness of their performance. Motorists normally learn the challenging and hazardous features of the roads they frequent and the errors they make in driving. However, when drivers engage in cellular communication, their monitoring of their driving and the travel environment is obstructed. As a consequence, they may be more likely to repeat their mistakes in the future. We devoted the summer and fall of 2017 to developing a study to test this hypothesis. However, we were unable to design an experiment that could demonstrate diminished learning of the driving environment because of lowered monitoring and awareness. Because a second line of research (below) appeared to be more promising, we decided to shut down the originally proposed study.</p> <p>We conducted a study to investigate the factors affecting the monitoring of driving and driving safety with our remaining MPC support. Participants drove on a simulator course while discussing emotional topics or daily routines. Participants' driving performance and their perceptions of their driving errors, safety, and performance were recorded. Measures were also taken of the importance of driving safely on the simulator.</p> <p>Driving safety was strongly associated with greater awareness of driving performance. In addition, participants who were more motivated to perform well made fewer errors and were more aware of the safeness of their driving. When people are motivated, they drive more safely and monitor their driving more closely. Unexpectedly, the discussion of emotional topics had no effect on driving or driving self-awareness.</p> <p>The findings indicate that unsafe driving and a lack of awareness of the unsafeness of driving go hand in hand. People who are driving badly tend to be unaware they are driving badly.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>The study contributes to the field of transportation safety by furthering our understanding of the important determinants of driving safety and performance. The study demonstrates that unsafe driving is associated with limited monitoring and awareness of the unsafeness of driving. Driving self-awareness and driving safety were greater when the importance of driving safely was high. The lack of cognizance of unsafe driving may contribute to the continuation or even worsening of poor driving.</p>

	<p>These findings are highly relevant to driver training programs. It will be important for new drivers to learn the impact of emotions on driving safety and the limited monitoring and awareness associated with unsafe driving.</p> <p>More generally, the paper contributes to psychological science by increasing our knowledge of the dynamics of human performance.</p> <p>We plan on writing up the findings and submitting them for publication this year.</p>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>In terms of educational benefits, one of our graduate students received support and training in experimentation and data analysis. A small cadre of undergraduates gained valuable research experience through their assistance with the data collection. The two undergraduate assistants who were most involved in the project are members of underrepresented groups in science. Finally, students serving as participants learned about behavioral research and driving safety.</p>
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project Website 	<p>https://www.ugpti.org/resources/reports/details.php?id=965</p>