



Research Fact Sheet

Research project: Investigating the Impact of Distracted Driving among Different Socio-Demographic Groups

What's the issue? Distracted drivers are involved in about 9% of all crash fatalities, accounting for 3,166 deaths, including 497 pedestrians, in 2017. With the prevalence of cell phones and their various uses, these numbers may rise. Therefore, more in-depth knowledge of accepted safe driving behaviors is needed. Previous studies examined the detrimental impact of distracted driving on safety; however, the effect of different types of distraction accompanied by different road classes has not been investigated.

What did the research discover? Using surveys and a driving simulator, this study found:

- Among participants, the most common distractive activities while driving are Entering an address in GPS, Eating/Drinking, Hands-Free Calling, Texting, and Hand-held calling, respectively.
- Participants decreased their speed in the presence of all distractions on all types of roads.
 - The highest speed reduction happened on the local road when taking on/off clothing (50%), voice command texting (33%), and texting (29%).
 - In general, speed reduction was the highest on the local road.
- Participants applied the brakes more often and more forcefully when distracted.
- Steering velocity increased on the freeway for all distractions and in eating/drinking distractions on all roads.
- Offset from the center of the lane increased dramatically when taking on/off clothing and eating/drinking, especially on the freeway (about 70%).
- There was a slight difference in lateral performance, such as speed, throttle, brake, steering velocity, and lane changing while passing billboards.
- Content and visibility of the billboard significantly affected gaze fixation duration. Female participants had lower gaze fixation duration than their male counterparts. Male participants had higher gaze fixations on the road, compared to female participants, i.e., being less distracted.
- Texting has the highest percentage of eyes off the road.
- Text messages with a higher cognitive load demanding a response have a 24% higher fixation duration and frequency and increase the distraction time by 14%.
- Some 36.5% of the participants stated that the driving simulator experience encouraged them to reduce cell phone use while driving.
- After driving, 51.8% expressed doubt about their ability to use cell phones freely and not make any driving mistakes; 26% had stated they were doubtful in a survey given before they drove the simulator.

How can I implement this? Not using cell phones or any other smart devices or engaging in activities while driving is the primary solution, and these results suggest a full ban on cell phone usage, not just hand-held devices. Transportation safety policymakers may need to make some regulations regarding clothing and eating/drinking. Social awareness is another key solution. Public events, showcases, and advertisements to exhibit technological innovations regarding distracted driving, fatality statistics and crash experiences could reduce distracted driving.

Learn more:

https://www.morgan.edu/school_of_engineering/research_centers/urban_mobility_and_equity_center/research/completed_research/distracted_driving.html