

UI STUDY FINDS SIGNIFICANT SHIFTS OCCURRING IN DISTRACTED TEEN DRIVING

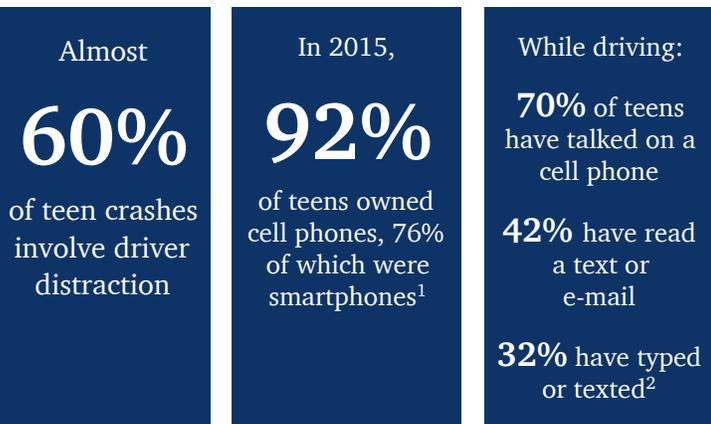
Teens crash at a much higher rate than adults, with distractions found as a factor in nearly six out of ten moderate-to-severe teen driver crashes. In the largest naturalistic study of teen driver crashes to date, vehicle safety researchers at the University of Iowa analyzed thousands of naturalistic driving video and audio clips to identify the types of crashes teens are most frequently involved in, along with the distractions or activities competing for their attention. The results showed significant shifts in certain distracted driving behaviors, including increases in rear-end crashes associated with teens operating/looking at cell phones. New technologies like automatic emergency braking will help reduce or prevent these crashes in the future.

THE PROBLEM OF DISTRACTED TEEN DRIVING

Proportionally more than any other age group, teens involved in fatal crashes are reported to have been distracted at the time of the crash. Distractions vary widely, with the most prevalent behaviors including attending to passengers, cell phone use, and attending to something inside the vehicle. Inexperience, overconfidence, social pressures, a tendency to underestimate risk, and more frequent engagement in risky behavior are just a few of the factors confronting teen drivers today.

Determining what activities teens are engaging in before a crash occurs is not a simple task. Previous research has largely relied on survey and crash data. However, while helpful, this information has many limitations, as surveys relying on self-reporting and police reports are limited to officer, driver, passenger, or witness accounts. Naturalistic data, on the other hand, provides researchers with an unbiased view inside the vehicle during the critical seconds leading up to a crash.

In this new study, researchers with the University of Iowa used in-vehicle video recorders to supply naturalistic data, providing them with invaluable information regarding the behavioral and environmental factors present in a crash. With the analysis of these videos, researchers sought to identify the types of crashes teens are most frequently involved in, as well as the distractions or competing activities. The results show changes in the ways cell phones are used, from talking to texting, with trends suggesting further research be conducted.



KEY FINDINGS:



Increase in rear-end crashes, corresponding with national data trends



Significant change in the way cell phones are being used, with a shift from talking to operating/looking at phones



Increases in:

- Average time a driver's eyes were off the forward road
- Duration of longest glances away
- Reaction time
- Percentage of rear-end crashes in which the driver had no reaction prior to crash



Significant reduction in both road departure and loss of control crashes



Significant increase in passenger seatbelt use

METHODOLOGY:

More than **2,200** } videos analyzed of moderate-to-severe in-vehicle collisions between 2007 and 2015

6 seconds } critical time leading up to a crash in which videos were analyzed to determine teen driver and passenger behaviors

DISTRACTING BEHAVIORS

In general, results maintained that, over time, an average of nearly 60% of all crashes contained some type of potentially distracting behavior in the six critical seconds leading up to a crash. And while the proportions fluctuated, researchers found that the most common distractions found in past studies remained the most common: drivers attending to passengers, cell phone use, and attending inside the vehicle.

CELL PHONES

Results did not show a significant increase in cell phone use over the period of the study. However, researchers did find a significant change in the *way* phones were being used. Among crashes involving any type of cell phone use, the prevalence of operating/looking at a cell phone increased significantly compared to talking/listening.

12.5% to 25%

Increase in rear-end crashes in which the driver had no reaction prior to the crash

Specifically among rear-end crashes, researchers found an increase in the time drivers' eyes were off the road, durations of longest glances away, reaction times, and the percent of rear-end crashes in which the driver had no reaction prior to the crash. In contrast, there was a significant reduction in the proportion of road departure crashes while drivers used a cell phone, potentially suggesting that more drivers are choosing to check messages or text at times they perceive to be safer.

“As our appetite for mobile information continues to increase, we need to continue examining driving behaviors so that we can better educate drivers, inform policy makers, and aid in the design of vehicle technologies and safety systems.”

- Cher Carney, UI Vehicle Safety Researcher

THE CASE FOR FUTURE RESEARCH

Of particular importance is the significantly steady increase in rear-end crashes involving teen drivers. Rear-end crashes are most often caused by following too closely and/or responding late due to inattention or distraction. While it is possible teens have started following closer, it is more likely that distraction has led to an increase in eyes off the road and slower reaction times, resulting in an increase in the proportion of rear-end crashes.

While causality cannot be inferred in this study, the resulting trends suggest that more research be conducted in the area of cell phone use with specific regard to how and when teens are choosing to engage in this behavior, whether it is truly causing an increase in rear-end crashes, and whether existing technologies can be effective in mitigating these crashes.

HOW DO WE REDUCE THESE CRASHES?

Teen crashes are an important public health issue—the number one cause of death for teens is driving or riding in a car with teen passengers. While talking about distraction and other teen passengers is critical for all parents, electronics restrictions and teen passenger limits are key areas for states to consider. According to Daniel McGehee, the study's principal investigator, “Parents should keep in mind that their own distracting behaviors are modeled by their kids. So avoid texting and talking while driving.”

Another key area is crash avoidance technologies. New vehicles now have automatic emergency braking, lane departure warning, and other systems that help drivers minimize the severity or prevent crashes altogether. Visit the University of Iowa and National Safety Council's website MyCarDoesWhat.org to learn about these exciting new technologies that are available today on many new cars.

MyCar DoesWhat.org
Know More. Drive Safer.

This study was sponsored by the AAA Foundation for Traffic Safety, a not-for-profit, publicly supported charitable research and education organization dedicated to saving lives by preventing traffic crashes and reducing injuries

¹Lenhart, A., Duggan, M., Perrin, A., Stepler, R., Rainie, H., & Parker, K. *Teens, social media & technology overview 2015.*

²AAA Foundation for Traffic Safety. *2015 Traffic Safety Culture Index. Washington, DC: AAA Foundation for Traffic Safety.*

MORE INFORMATION

For more information contact, Dr. Daniel V. McGehee, project PI, (319) 335-6819 or Daniel-McGehee@uiowa.edu