

Youth's use of technology drives home need for evolution in distracted walking, bicycling and driving policies

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More than one-third of children ages 12-17 own smartphones, and transportation-related injuries are the leading cause of fatalities among children ages 5-24.

With more young people using smartphones and other technology than

ever before, a new study from the University of Alabama at Birmingham helps to underscore the importance of continued work toward developing policies and interventions to reduce distracted behaviors.

A growing body of [research](#) shows that mobile technology use impairs youth safety across the three major modes of transportation: walking, bicycling and driving.

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According to a team from UAB's Department of Psychology in the College of Arts and Sciences, these statistics are what make this a particularly pressing issue, and one worth careful evaluation to discover potential solutions.

"We know that distracted behaviors in youth are a major safety risk," said Despina Stavrinos, Ph.D., assistant professor of psychology and director of UAB's Translational Research for Injury Prevention laboratory. "Gaps in research up until now make it difficult to tell how the danger changes as children develop, and use newer technologies, such as augmented reality smartphone games. That's where we wanted to focus our attention."

The researchers' analysis investigated 41 studies: 35 studies looking at distracted driving in youth up to age 25, five studies on distracted walking among youth pedestrians, and one study on distracted bicycling in youth ages 16-25.

They found that distractions exerted a small to medium detrimental effect on children's [crash risk](#) as pedestrians or drivers.

The study on bicycling found that riders use compensatory strategies, such as slowing down or stopping, when using [mobile technology](#). That study did not examine crash risk.

"Distraction occurs in four domains—visual, when your eyes are off the road; cognitive, when your mind is off the road; manual, when your hands are off the wheel; and aural, when your listening is off the road," said David Schwebel, Ph.D., university professor and director of the UAB Youth Safety lab. "Because there is not much research on manual and aural distraction, we focused mostly on visual and cognitive processes."

From that research, the team found that texting, which takes both the eyes and the mind off the road, was particularly dangerous for both pedestrians and drivers.

In several of the studies they analyzed, texting significantly slowed driver and pedestrian response times. Research on driving speeds had more varied results; three studies found that speeds were significantly slower when drivers were engaged in visually demanding tasks, while two studies noted short increases in speed during visual phone interactions.

For both youth drivers and pedestrians, interacting with phones created a larger threat to safety than talking on the phone.

The team noted research gaps that need to be addressed in the future, providing an even clearer analysis of the situation.

"There have been only a few studies of distracted child bicycling, for instance, and no published research on texting and pedestrian safety in young children," Schwebel said. "We could also benefit from research on the effects of manual and aural distractions on [youth](#) safety."

Another important gap is the tendency of studies to include participants from different age groups and experience levels.

"That makes it difficult to examine developmental differences and determine how experience affects [safety](#), for instance," Stavrinou said.

Research on new forms of distraction, including taking selfies, playing augmented reality smartphone games such as Pokemon Go, and posting to Snapchat and other social media sites, is also lacking.

"As technology continues to change, and change rapidly, we as researchers must also adapt," Stavrinou said. "Addressing these gaps we've identified could have important implications on developing better policies and interventions to reduce distracted behaviors, and ultimately save lives."

Provided by University of Alabama at Birmingham

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