Cell phone users drive like old folks

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Elderly also drive worse when chatting, but not as bad as expected
If you have been stuck in traffic behind a motorist yakking on a cellular phone, a new University of Utah study will sound familiar: When young motorists talk on cell phones, they drive like elderly people, moving and reacting more slowly and increasing their risk of accidents. "If you put a 20-year-old driver behind the wheel with a cell phone, their reaction times are the same as a 70-year-old driver who is not using a cell phone. It's like instantly aging a large number of drivers," says David Strayer, a University of Utah psychology professor and principal author of the study. Frank Drews, as assistant professor of psychology and study co-author, adds: "If you want to act old really fast, then talk on a cell phone while driving."

The new study by Strayer and Drews was published in this winter's issue of Human Factors, the quarterly journal of the Human Factors and Ergonomics Society.

The study found that when 18- to 25-year-olds were placed in a driving simulator and talked on a cellular phone, they reacted to brake lights from a car in front of them as slowly as 65- to 74-year-olds who were not using a cell phone.

The elderly drivers, meanwhile, became even slower to react to brake lights when they spoke on a cell phone. But the good news for elderly drivers was that their driving skills did not become as bad as had been predicted by earlier research showing that older people performing multiple tasks suffer additional impairment due to aging.

The study found that drivers who talked on cell phones – regardless of whether they were young or old – were 18 percent slower in hitting their brakes than drivers who didn't use cell phones. The drivers chatting on cell phones also had a 12 percent greater following distance – an effort to compensate for paying less attention to road conditions – and took 17 percent longer to regain the speed they lost when they braked.

In addition, "there was also a twofold increase in the number of [simulated] rear-end collisions when drivers were conversing on cell phones," the study says.

Driving to Distraction: How the New Study was Performed

Strayer and his colleagues are widely known for their 2001 study showing that hands-free cell phones are just as distracting as hand-held cell phones, and for a 2003 study showing that the reason is "inattention blindness," in which motorists can look directly at road conditions but not really see them because they are distracted by a cell phone conversation. The research has called into question legislative efforts by various states to ban motorists from using handheld but not hands-free cell phones.

The same researchers also gained publicity for another study, which was presented at a scientific meeting in 2003, showing that motorists who talk on cell phones are more impaired than drunken drivers with blood alcohol levels exceeding 0.08.

The new study included 20 older adults (ages 65 to 74, with average age 70) and 20 younger adults (ages 18 to 25, with average age 20). All of them had normal vision and a valid driver's license. Preliminary tests showed older people were slower to process information, as was

expected.

Then the psychologists had the young and older study participants "drive" in a high-tech driving simulator. Participants in the simulator used dashboard instruments, steering wheel and brake and gas pedals from a Ford Crown Victoria sedan, surrounded by three screens showing freeway scenes and traffic, including a "pace car" that intermittently hit its brakes 32 times as it appeared to drive in front of study participants. If a participant failed to hit their own brakes, they eventually would rear-end the pace car.

Each participant drove four simulated 10-mile freeway trips lasting about 10 minutes each, talking on a cell phone with a research assistant during half the trips and driving without talking the other half. Only hands-free phones were used to eliminate any possible distraction from manipulating a hand-held cell phone.

Thirty times each second, the simulator measured the participants' driving speed, following distance and – if applicable – how long it took them to hit the brakes and how long it took them to regain speed. Those factors "have been shown to affect the likelihood and severity of rear-end collisions," Strayer and Drews wrote.

The Findings: Age and Cell Phone Use Impair Drivers

The study found that:

-- Compared with young drivers, older drivers were slower to hit the brakes when needed, tended to hit the brakes twice, took longer to regain speed and had a greater following distance. This was true when young and old participants drove with or without cell phones.

-- Compared with drivers who did not talk on cell phones, those who

used a cell phone while driving were slower to hit the brakes, had a longer following distance and took longer to regain speed . This was true of both young and old drivers. "Once drivers on cell phones hit the brakes, it takes them longer to get back into the normal flow of traffic," Strayer says. "The net result is they are impeding the overall flow of traffic."

-- When young drivers used cell phones, the reaction time in hitting the brakes slowed to match that of elderly drivers who did not talk on cell phones, namely, an average of 912 milliseconds, or a bit more than nine-tenths of a second. When not talking on cell phones, young motorists hit the brakes within an average of 780 milliseconds, or almost eight-tenths of a second. The difference may seem small, but represents a 17 percent slower reaction time. Strayer says other studies have shown that much of a decrease in reaction time increases both the likelihood and severity of accidents.

-- When elderly drivers used cell phones, their reaction times got worse, but not as bad as had been expected. Previous research "suggested older people should have been really messed up if you put them on a cell phone because, not only are they slower overall due to age, but there's a difficulty dividing attention that should make using a cell phone much more difficult for them than for young people," Strayer said. Yet the study "suggests older adults do not suffer a significantly greater penalty for talking on a cell phone while driving than do their younger counterparts," Strayer and Drews wrote.

That may be because older adults have more experience driving and take fewer risks, and those in the study may have been healthier than other seniors, Strayer says.

Crashing While Talking

Federal statistics show that the most accident-prone drivers are the young and old, with fatal accident rates high during teenage years, then declining until age 30 and staying relatively level until age 60, when accident rates climb again as age increases.

Six participants in the new study rear-ended the pace car while driving the simulator. Four accidents (one older adult and three younger adults) happened while the participants talked on cell phones. Two did not (one older adult and one younger adult).

There were too few collisions for statistical analysis. But Strayer notes that twice as many accidents happened to motorists on cell phones compared with motorists who were not talking. And young drivers were in collisions twice as often as elderly drivers.

"Older drivers were slightly less likely to get into accidents than younger drivers," Strayer says. "Why? They tend to have a greater following distance. Their reactions are impaired, but they are driving so cautiously they were less likely to smash into somebody," although in real life, "older drivers are significantly more likely to be rear-ended" because of their slow speed.

When Strayer and Drews combined the new accident data with simulated driving accidents in their earlier studies, they counted 12 rear-end collisions among 121 study participants. Ten of the collisions happened when motorists were talking on cell phones.

That is statistically significant and provides "clear evidence that drivers using a cell phone were more likely to be involved in a collision than when these same drivers were not using a cell phone," the psychologists wrote.