

New research warns against Wi-Fi in cars

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Plans to provide high-speed Internet access in vehicles, announced last month by Canadian telecommunications company Rogers Communications and American provider Sprint Corporation, could do with some sobering second-thought, says a researcher in the Department of Psychology at the University of Toronto.

"Because of the potential for [driver distraction](#), safety should be of great concern," said Professor Ian Spence, author of a new study on the impact of auditory distractions on visual attention. "Many people assume that talking to a voice-operated device will be as safe as using a hands-free cell phone, but neither activity is safe."

Spence and a team of researchers asked subjects to perform an attentional visual field test in which they repeatedly identified the random location of an object in visual clutter displayed on a computer monitor. Poor performance on the test is known to be a good predictor of unsafe driving. Subjects performed the test while carrying out a range of listening and/or speaking tasks or in silence.

An example of an easy task was listening to recordings of news items, much like listening to a car radio. More difficult tasks required subjects to answer simple yes-no questions while performing the [visual test](#). Subjects answered by either speaking out loud in some experimental conditions, or merely thinking of the answer in others. The most-demanding questions required subjects to take the last letter of a presented word (e.g. apple) and speak another word beginning with that letter (e.g. elephant).

Subjects who completed the test of [visual attention](#) coupled with the listening/speaking tasks were as accurate as those who completed the visual test in silence. However, they responded much more slowly as the difficulty increased – as much as one second slower with the most demanding tasks.

"It did not matter whether the subject spoke the answer aloud or simply thought about the answer," said Spence. "It was the thinking, not speaking, that caused them to slow down."

Spence said the practical consequences are clear.

"At 50 kilometres per hour, a car travels 13.9 metres in one second. A driver who brakes one second earlier than another driver to avoid a collision, will either prevent it completely or be traveling more slowly when it occurs, lowering the probability of severe injury or fatality. A delay in braking by as much as one second presents a significant threat to safe driving and casts doubt on the belief that hands-free voice-controlled devices reduce driver distraction."

More information: The study "How speech modifies visual attention" appears in the September/October issue of *Applied Cognitive Psychology*.

Provided by University of Toronto

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