

Study finds driving speed affected when a driver's mind 'wanders'

September 28 2017, by Matt Shipman



A recent study from North Carolina State University finds that driving speed fluctuates more when a driver's mind wanders from focusing on the act of driving -- and that the outside environment influences how often a driver's mind wanders. The study was conducted using the driving simulator pictured here. Credit: Jing Feng, NC State University

Research from North Carolina State University finds that driving speed fluctuates more when a driver's mind wanders from focusing on the act of driving - and that the outside environment influences how often a driver's mind wanders.

"As autonomous and semi-autonomous technologies take over some driving tasks, drivers are likely to experience increased boredom because they will have less to do, which makes it important to understand what contributes to 'mind wandering' for drivers, and how that affects [driver performance](#)," says Michal Geden, a Ph.D. candidate at NC State and the lead author of a paper on the work. Mind wandering is thinking about anything other than driving.

"This study tells us that mind wandering affects how variable the driving speed is when people drive, which has safety implications," Geden says. "It also tells us that perceptual load affects mind wandering."

Perceptual load refers to the amount of information in the environment that the driver needs to process. For example, driving in a sparsely-populated desert environment offers a lower perceptual load than driving in a busy, urban area.

For this study, researchers conducted an experiment with 40 drivers using a driving simulator. During low perceptual load conditions, drivers reported that their minds were wandering 50 percent of the time. But during high perceptual load conditions, drivers reported mind wandering only 41 percent of the time.

And during times that [drivers](#) reported mind wandering, the researchers saw increased variability in driving speed.

"There is a great deal of research on external distractions, such as talking on your phone while driving," says Jing Feng, an assistant professor of

psychology at NC State and corresponding author of the paper.

"However, not much work has been done on allowing one's mind to wander while driving. As technologies take over more driving tasks, we may become more likely to let our minds wander. We should know what that might mean for vehicle safety, and this study is one step in that direction."

The paper, "The impacts of perceptual load and driving duration on [mind](#) wandering in driving," is published in the journal *Transportation Research Part F*.

More information: Michael Geden et al, The impacts of perceptual load and driving duration on mind wandering in driving, *Transportation Research Part F: Traffic Psychology and Behaviour* (2017). [DOI: 10.1016/j.trf.2017.07.004](#)

Provided by North Carolina State University

Citation: Study finds driving speed affected when a driver's mind 'wanders' (2017, September 28) retrieved 12 May 2024 from <https://phys.org/news/2017-09-affected-driver-mind.html>

| |
|--|
| <p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p> |
|--|