

Training eye movement may reduce driver distraction

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More than 16 people are killed and more than 1,300 people are injured each day in crashes involving a distracted driver, a phenomenon that could be reduced with the right application of motion information and appropriate eye movements.

Two studies conducted at Vanderbilt University and published in the *Journal of Vision* found that these factors can be beneficial to teaching people how to track objects without getting distracted or confused.

"The question is how to get people to see more, respond faster and be able to avoid errors that come from losing track of targets," explains author Adriane Seiffert, assistant professor of the Department of Psychology, Vanderbilt University. "

In the first study, "Conflicting motion information impairs multiple object tracking," researchers used specialized displays to test specific hypotheses about how people use motion perception to track objects. The team of researchers expected that people would use both the speed and the direction of motion for accurate tracking. However, they found that people primarily used direction.

Participants in the second study, "Looking at the center of the targets helps multiple object tracking," were required to keep track of a subset of several identical [moving objects](#) in three different experiments. The first two experiments showed that participants commonly looked at the center of the group of the moving targets, while making repetitive

glances to specific targets, a strategy called center-target switching. The third experiment measured the tracking accuracy of two different strategies, center-target switching and target-looking. The accuracy was defined by the percentage of trials in which all targets were correctly identified.

According to Seiffert, the results revealed that people are better at keeping track of multiple objects when they gaze at the center of the group of targets. Looking at the center improved tracking performance compared to using the target-looking strategy.

"This may be counter-intuitive, because looking at each of the targets themselves may seem like the best strategy," said Seiffert. "This could have important repercussions for how people are trained to drive. A better understanding of how the pattern of [eye movements](#) can reduce errors in tracking could help develop strategies for reducing crash risks."

More information: www.journalofvision.org

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