

Video-based 'threat appeals' may lead to less texting and driving

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A new study from researchers at Penn State Hazleton and the National Institute for Occupational Safety and Health found that video-based “threat appeals” reduced the impulsive decision-making associated with texting and driving and may be a promising strategy for reducing texting and driving in the future. Credit: iStock

Every year, motor vehicle crashes caused by distracted driving kill thousands of people, injure hundreds of thousands, and cost billions of dollars; and yet many drivers continue to text and drive, even though they know it's dangerous.

Now, a new study from researchers at Penn State Hazleton and the National Institute for Occupational Safety and Health (NIOSH) finds that video-based "threat appeals" reduce the impulsive decision-making associated with texting and driving and may be a promising strategy for reducing texting and driving in the future. The overall purpose of the study was to help find effective ways to combat the public health challenge of texting while driving.

Yusuke Hayashi, associate professor of psychology at Penn State Hazleton and lead author of the research paper, said that a "threat appeal" is a message that tries to raise the threat of danger and harm and discourage risky behavior.

It doesn't have to graphically or explicitly depict a crash or its consequences, said Hayashi. "It doesn't have to be scary. It doesn't have to show a crash."

But to be effective, Hayashi added, a threat appeal has to appeal to the emotions and has to get people thinking about distracted driving and its consequences. While many current and past anti-texting public-service announcements (PSAs) focus on the drivers' fear of their own possible death, Hayashi said the new study shows that threat appeals that create a feeling of "anticipated regret" (of killing or injuring someone else), rather than the fear of causing harm to oneself, are also effective.

The study's focus on anticipated regret is a new aspect of research in this area, Hayashi said.

In the study, 100 Penn State Hazleton students were split into a 49-member experimental group and a 51-member control group. The first group watched a 60-second video-based threat appeal that aired on an ABC-affiliated TV station in Georgia. It shows a young woman responding to a text while driving, and swerving into the other lane into the path of an incoming vehicle driven by a mother who's accompanied by her two small children. Time freezes and the two drivers exit their cars and have a conversation, which makes it clear the crash is inevitable. Time starts again and the collision occurs, followed by a message on the screen not to text and drive.

The second group watched a different 60-second video, a car commercial featuring actor Matthew McConaughey, which showed the actor in a vehicle, stopped in the middle of a road that's blocked by a large bull. There's no explicit threat of danger in the video, no depiction of texting and driving, no negative consequences. That's precisely why the control video was chosen—it functioned just as a placebo (a dummy pill) would in the test of a new drug, said Hayashi.

After viewing the videos, both groups completed a computer-based survey that assessed their willingness to delay texting and driving for 30 seconds, five minutes, 15 minutes, 30 minutes, an hour, and two hours—the degree of impulsive decision-making of texting while driving.

The study shows that participants in the control group were approximately 50 percent more likely to make the impulsive decision to text and drive than the participants in the experimental group—the ones who saw the [threat](#) appeal.

The study's findings are timely and relevant, because distracted driving remains a big problem in Pennsylvania and across the nation, despite legislation designed to reduce it. In April the Philadelphia Inquirer

reported that while New Jersey is cracking down on distracted driving, Pennsylvania efforts are lagging behind. Pennsylvania reported a 5 percent drop in tickets written for distracted driving in 2018. While the number of such tickets has more than doubled since 2014, the Inquirer reported, last year only 4,793 distracted-driving citations were written.

The theoretical foundation of the study was [behavioral economics](#), an interdisciplinary area that applies the principles of economics and psychology to study how people make decisions, said Hayashi. The economic concept relevant to the study is "discounted present value": the value of texting two hours from now is perceived to be smaller (i.e., discounted) than the value of [texting](#) right now, Hayashi said—just as \$100 a month from now is perceived to have less value than \$100 right now.

The paper appeared on March 7 in *PLOS ONE*, a journal that publishes multidisciplinary research in more than 200 subject areas across science, engineering, medicine and the related social sciences and humanities.

More information: Yusuke Hayashi et al. Threat appeals reduce impulsive decision making associated with texting while driving: A behavioral economic approach, *PLOS ONE* (2019). [DOI: 10.1371/journal.pone.0213453](#)

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