

# Stress affects older adults more than young adults

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Life can be stressful, whether you're an individual watching the stock market crash or a commuter stuck in traffic. A new study, forthcoming in the journal *Psychological Science*, examines how stress affects decision-making and finds that older adults alter their behavior more than young adults when under stress — particularly in situations involving risk.

"People haven't looked at how stress affects decision making, even though so many of our decisions are made under stress," explained Mara Mather of USC Davis School of Gerontology, lead author of the study. "There's very little information about this whole topic, and, when you get to age differences, there's even less."

Mather and her colleagues Marissa Gorlick, of the USC Emotion and Cognition Lab, and Nichole Kryla-Lighthall, a USC doctoral student, exposed young adults (18 to 33) and older adults (65 to 89) to a stressful event, in this case, holding a hand in ice-cold water for three minutes.

Participants were then asked to play a driving game correlating to a real-life situation in which taking a small amount of risk is common: whether to go for it on a yellow light. Participants started at a green light, and points were awarded for every second spent driving during a yellow, but lost if the light turned red while driving. The length of time for the yellow lights was determined randomly.

In other words, Mather explained, participants had to decide to take

some risk — driving during a yellow light — to score any points at all.

"This is the way life is, quite often. To make more money in your investments, you have to take risk. To end up dating someone, you have to take the risk of going up and saying hello," Mather said. "When there's a potential payoff, most of the time you have to take some risk."

In the control group, which was not exposed to ice-cold water, older adults were actually better drivers than younger adults, the researchers found, scoring higher on the game.

However, in the stressed group, older adults were not only more cautious but were also jerkier drivers, braking and restarting almost three times as much as their calmer peers.

The differences in the effects of stress were consistent even when the researchers accounted for gender, level of education, mood and health self-ratings.

"The everyday commute can be stressful: someone cuts you off, you're late already. Are you more likely to try and take a risk than if you weren't stressed out?" Mather asks. "Our results indicate that stress changes older adults' strategies."

The exposure to ice-cold water caused a rise in levels of the hormone cortisol, measured in saliva. Cortisol levels increased significantly (and about the amount) among stressed younger and older adults, but did not change significantly from pre-test levels for the control group, which was not exposed to ice-cold water.

As Mather explained: "The brain regions that are involved in and activated by stress overlap quite a lot with the brain regions that are involved in decision making and, in particular, in decisions about risk."

Source: University of Southern California

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