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Older adults make smarter decisions that lead to long-term gains, study shows

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Many people believe getting older means losing a mental edge, leading to poor decision-making, but a new study from psychologists at The University of Texas at Austin and Texas A&M University suggests older adults are far better at making choices that lead to long-term gain.

The study, co-authored by University of Texas at Austin psychologist Todd Maddox, found older adults, at least 60 years old, are better at strategizing their decisions than those in their late teens and early 20s, who tend to focus on instant gratification.

Findings from the study, led by Darrell Worthy, professor of psychology at Texas A&M University, will be published in Psychological Science. Collaborators on the study include University of Texas psychologists David Schnyer, Jennifer Pacheco and Marissa Gorlick.

Contradicting negative stereotypes of age and reasoning ability, the results show that the wisdom that comes with age can allow people to make better decisions under some conditions. Maddox says the study gives insight into the decision-making process, which will help researchers learn more about the effects of aging in the brain.

"Broadly, these results suggest that younger adults may behave more impulsively, favoring immediate gains, while older adults are better at considering the long-term ramifications of their actions," Maddox says.

As part of the study, 28 older adults and 28 younger counterparts

performed decision-making tasks, in which they only needed to consider immediate rewards to earn points. In this experiment, the younger adults were more efficient at selecting the options that yielded the best short-term rewards.

However, in a second experiment, the older participants outperformed the younger group in choosing options that resulted in long-term gains, such as strategically storing the most amount of oxygen in "oxygen accumulators" on an imaginary space mission in Mars. In this portion of the study, 52 older adults (ages 67-82) and 51 younger adults (ages 20-26) performed decision-making tasks in which the choices they made influenced future rewards.

As part of the experiment, the researchers created a test with two oxygen extraction systems on Mars. The rewards depended on the respondents' previous choices. The respondents had to choose from two options: the "increasing option," which increased rewards in future trials, and the "decreasing option," which decreased future rewards but offered a larger immediate reward. In each permutation of the experiment, the older participants outperformed the younger group by figuring out which option led to the most long-term cumulative rewards.

"We found that younger adults performed equivalently in the experiment, but older adults were more adept at adjusting their strategy to fit the goals of the task," Maddox says.

The researchers suggest these results provide insight into how people use their brains as they age. When making choices, younger people use the ventral striatum, a region of the brain associated with habit formation and immediate rewards. As this declines with age, the psychologists theorize that people compensate by using their prefrontal cortex, an area of the brain that controls rational and deliberate thoughts.

To test this theory, Maddox and his team of researchers are conducting a neuroimaging study to determine which parts of the brain respond to immediate gratification and long-term rewards while the participants engage in decision-making tasks. Collaborators on this study include Worthy, Jeannette Mumford, psychology research assistant at The University of Texas at Austin, and Russell Poldrack, professor of psychology and neurobiology and director of the Imaging Research Center at The University of Texas at Austin.

Provided by University of Texas at Austin

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