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Cognitive Ability, Not Age, Predicts Risky Decisions

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(PhysOrg.com) -- Just because your mother has turned 85, you shouldn't assume you'll have to take over her financial matters. She may be just as good or better than you at making quick, sound, money-making decisions, according to researchers at Duke University.

"It's not age, it's cognition that makes the difference in decision-making," said Scott Huettel, Ph.D., Associate Professor of psychology and neuroscience and director of the Duke Center for Neuroeconomic Studies. He recently led a laboratory study in which participants could gain or lose money based on their decisions.

"Once we accounted for cognitive abilities like memory and processing speed, age had nothing to do with predicting whether an individual would make the best economic decisions on the tasks we assigned," Huettel said.

The study was published in the *Psychology and Aging* journal, published by the American Psychological Association.

Duke researchers assigned a variety of economic tasks that required different types of risky decisions, so that participants could gain or lose real money. They also tested subjects' cognitive abilities - including both how fast they could process new information and how well they could remember that information. They worked with 54 older adults between 66 and 76 years of age and 58 younger adults between 18 and 35 years of age. .

The researchers used path analysis, a statistical method of finding cause-and-effect relationships, to determine whether age affected the economic decisions directly or whether it had indirect effects, such as age influencing memory, which in turn influenced decisions.

"The standard perspective is that age itself causes people to make more risky, lower-quality decisions - independent of the cognitive changes associated with age," said Huettel, who is also with the Duke-UNC Brain Imaging and Analysis Center. "But that isn't what we found."

The path analyses showed that age-related effects were apparently linked to individual differences in processing speed and memory. When those variables were included in the analysis, age was no longer a significant predictor of decision quality, Huettel said.

On a bell curve of performance, there was overlap between the younger and older groups. Many of the older subjects, aged 66 to 76, made similar decisions to many of the younger subjects (aged 18 to 35). "The stereotype of all older adults becoming more risk-averse is simply wrong," Huettel said.

"Some of the older subjects we studied were able to make better decisions than younger subjects who scored lower on tests of their cognitive abilities," Huettel said. "If I took 20 younger adults and 20 older adults, all of whom were above average on these measures, then on average, you could not tell them apart based on decisions. On the whole, it is true, more older people process slowly and has poorer memory. But there are also older people who do as well as younger people."

Huettel said that the findings suggest strategies to assist people, such as allowing more time for decisions, or presenting data in certain ways to assist people in making decisions.

"Decision scaffolding is the concept that you can give people structure for decision-making that helps them," Huettel said. "We should try to identify ways in which to present information to older adults that gives them scaffolding to make the best choices. If we can reduce the demand on memory or the need to process information very quickly that would be a great benefit to older adults and may push them toward making the same economically beneficial decisions as younger adults."

In reality, younger adults more often work to obtain credit cards with lower interest rates and lower interest rates on mortgages, for example. Huettel said that using surveys that track real-world behavior might help to identify who would benefit from getting information in one manner versus another.

"Some younger adults, too, may benefit from getting their information in a slow, methodical way, while others may not," Huettel said. "We may be able to predict that based on cognition." Self-recognition is important, too, so that if someone knows they process things well over time, they might ask for more time to make a decision rather than making an impulsive decision on the spot, he added.

Provided by Duke University Medical Center