

Older adults nearly twice as likely to have memories affected by distractions

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Brain graphic courtesy of ThinkStockPhotos.com.

Older people are nearly twice as likely as their younger counterparts to have their memory and cognitive processes impaired by environmental distractions (such as irrelevant speech or written words presented along with target stimuli), according to a new study from psychologists at Rice University and Johns Hopkins University School of Medicine. Whereas

other studies had found that older adults are distracted by memories of prior similar events, this was the first study to convincingly demonstrate across several tasks an impairment from environmental distractions.

"Cognitive Declines in Healthy Aging: Evidence from Multiple Aspects of Interference Resolution" appeared in a recent edition of *Psychology and Aging*. The study supported previous research that showed [memory accuracy](#) and the speed of cognitive processing declines with age. It also revealed that [older people](#) were at least twice as likely as younger to have irrelevant memories intrude during [memory recall](#) and also showed twice as much slowing in cognitive processing in the presence of distracting information in the environment.

The study included 102 people between the ages of 18 and 32 (average age of 21) and 60 people between the ages of 64 and 82 (average age of 71) who participated in a series of [memory](#) and cognitive tasks.

For example, when the participants were tested on remembering lists of words, individuals in the young test group remembered words on the list with an average accuracy of 81 percent; in comparison, the old test group's accuracy was only 67 percent. When irrelevant words were introduced that were to be ignored, the young test group's accuracy dropped to 74 percent, but the accuracy of the old test group's performance dropped to 46 percent.

"Almost any type of memory test administered reveals a decline in memory from the age of 25 on," said Randi Martin, the Elma W. Schneider Professor of Psychology at Rice and the study's co-author. "However, this is the first study to convincingly demonstrate the impact of environmental interference on processing having a greater impact on older than younger adults."

Martin hopes that the research will encourage further research of how

the brain is affected by environmental [distractions](#).

"From our perspective of studying neuroplasticity (the brain's ability to reorganize itself after traumatic injury or neurological disorders) and testing patients with brain damage, this research is very important," Martin said. "The tests used in this study are important tools in determining how the brain is affected by environmental interference, which is critical information in treating neurological disorders, including stroke and traumatic brain injuries."

Provided by Rice University

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