Aging gracefully: Study identifies factors for healthy memory at any age

University of Alberta study finds targets for promoting healthy memory aging, early intervention, and prevention for disease.

Katie Willis - 9 April 2019

University of Alberta neuroscientists have identified different factors for maintaining healthy memory and for avoiding memory decline in those over age 55, according to a new study. The results have implications for the prevention of Alzheimer's disease through targeted early intervention efforts.

Memory decline is one of the first signs of cognitive and neurodegenerative diseases, such as Alzheimer's disease. Understanding and designing interventions for memory decline is critical for efforts toward preventing or delaying these illnesses.

"We found different risk factors for stable memory and for rapidly declining memory," said Peggy McFall, lead author and research associate in the Department of Psychology. "It may be possible to use these factors to improve outcomes for older adults."

McFall, who conducted the study in collaboration with Professor Roger Dixon, used machine learning to analyze data from a longitudinal study based in Edmonton, Alberta.

The study found that adults with healthy memory were more likely to be female, educated, and engage in more social activities, such as hosting a dinner party, and novel cognitive activities, such as using a computer or learning a second language. For adults age 55 to 75, healthy memory was associated with lower heart rate, higher body mass index, more self-maintenance activities, and living companions. Adults over 75 had faster gait and fewer depressive symptoms.

Those with declining memory tended to engage in fewer new cognitive activities. Younger adults, age 55 to 75, younger, had higher heart rates, and engaged in fewer self-maintenance activities, while adults over age 75 had slower gait and engaged in fewer social activities.

"These modifiable risk and protective factors may be converted to potential intervention targets for the dual purpose of promoting healthy memory aging or preventing or delaying accelerated decline, impairment, and perhaps dementia," said McFall. For instance, clinicians might target specific groups with an intervention to increase new cognitive activities among men or improve mobility for those over age 75.

The paper, "Modifiable Risk Factors Discriminate Memory Trajectories in Non-Demented Precision Factors and Targets for Promoting Healthier Brain Aging and Preventing Dementia?" was published in *Journal of Alzheimer's Disease* (doi: 10.3233/JAD-180571).

Peggy McFall, research associate in the Department of Psychology, is lead author on a new study that identifies different factors for maintaining healthy memory for those over age 55. Photo courtesy of Cooper & O'Hara Photography.