

Structural and functional neuro-anatomical correlates of memory for context across the adult lifespan.

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Research Abstract

Healthy aging is associated with increased difficulties in remembering spatial and temporal contextual details about past personal experience. Interestingly, not all healthy older adults exhibit context memory deficits. In our previous study 30% of older adults aged 60 -75 yrs performed as well as young adults on context memory tasks (high performers). Also, since these memory and brain changes are already present by the age of 60, this suggests that these

changes must emerge during middle age (40 -55 yrs). However little is known about the brain correlates of context memory in middle age. The proposed research program will use neuroimaging to measure task-related brain activity in healthy young, middle aged and older adults as they perform context memory tasks. We will also measure brain volumes and cortical thickness in these subjects. The middle aged adult sample will consist of equal numbers of adults with or without a family history of AD. The goal of this research program is to examine how age-associated changes in brain structure (volume/thickness) and function impact context memory performance across the adult lifespan. Specifically we will compare the structural and functional correlates of context memory in high versus low performing older and middle aged adults to understand the compensatory neural mechanisms that help maintain context memory as we age. By comparing middle aged adults to young adults we will determine: (1) when these deficits emerge, (2) what neural changes are associated with their emergence and (3) how having a family history of AD influences these observations. Results from the proposed study will help us identify neural changes associated with the initial emergence of memory deficits in middle age. Our results will also indicate if the emergence of these deficits, and their neural sequelae, are influenced by a family history of AD.

Further information available at:

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