

Investigation of the Protective Effect of Social Connections on the Neurobiological Underpinnings of Memory in Aging

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Memory failures such as forgetting to go to an appointment, taking medication, or the name of an acquaintance represent a major health concern in aging. Older adults typically think of age-related declines in memory to be an inevitable part of aging, and their reports of memory difficulties are linked to risk for future cognitive decline. However, both younger and older adults who report having richer social connections (i.e., a greater number of or higher quality social relationships with others) exhibit better memory performance. Importantly, social connections afford conversational partners the opportunity to practice the retrieval of memories for past events. Retrieval practice itself is known to support memory, and joint remembering confers downstream benefits for individual memory performance. Therefore, the opportunity to engage in joint remembering may serve as a key mechanism linking social connectedness and memory. Another series of studies show that individuals with richer social connections also exhibit higher levels of protective brain factors than individuals with impoverished social connections. These findings raise the possibility that social connectedness confers a protective influence on the neurocognitive underpinnings of memory and social behavior in old age.

The aim of the proposed research is to characterize relationships between an individual's richness of social connections, memory performance in a social context, and protective brain factors in neural regions known to support social behaviors and memory performance in older adults. By integrating these factors together in a single study, we aim to identify the protective role that social connections may confer for memory maintenance in old age and the neurocognitive brain factors that are implicated for social connectedness and memory in aging. These data will inform translational approaches for improving memory performance through joint remembering in the context of aging. Funding support from the OVPR seed grant will provide proof of concept for this hypothesis with evidence of a working relationship among the three key personnel who bring the necessary expertise to carry out the project.