TITLE: The Relationship between Working Memory and Standard Memory Assessment for Older Adults

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Introduction: While many neuropsychological batteries measure the constructs of working memory and verbal memory separately, there is limited research exploring whether challenges in working memory are associated with verbal memory assessment. One previous study attempting to assess this relationship evaluated word list learning and utilized the Digit span and Arithmetic subtests from the WAIS-IV to measure working memory, and found a weak relationship between these constructs. The Digit Span and Arithmetic subtests of the WAIS-IV, however, primarily evaluate working memory for numerical information.

Purpose: The purpose of this study was to determine whether a unique verbal test of working memory will better evaluate the relationship between working memory and memory for verbal information. Specifically, we observed how performance on Understanding Directions, a verbal test that assesses working memory, listening skills and lexical skills, was related to performance on two commonly used memory tests: memory for stories and list learning.

Method: 16 older adults (age >60) were included in this analysis. Participants were administered the CVLT-II and Story Recall from the WMLS-R. The WMLS-R subtest Understanding Directions, which required participants to review a picture with various objects, listen to a series of directions and point to the requested objects, was selected as the verbal working memory measure for analysis.

Results: Participants who performed well on the verbal working memory test performed better on story recall ($p<.05$) and total list learning ($p<.01$). Also, individuals who displayed greater amounts of serial clustering and recency effects performed significantly poorer on the verbal working memory test ($p<.05$).

Conclusion: The results of this study suggest that the verbal working memory test is strongly associated with the ability to remember complex stories and even more strongly with the ability to learn lists. Specific to list learning, poor verbal working memory was associated with reliance on a less effective learning strategy (serial clustering) and a tendency to recall the last words presented on the list.