towards developing a psychometrically sound measure (the MoM) to evaluate and study metamemory concepts objectively and reliably in youth.

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13 The Relationship Between Body Mass Index (BMI) and Cognitive Performance Among Overweight Adults

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Objective: While previous research has repeatedly indicated that greater BMI was associated with reduced cognitive performance, emerging literature on BMI and cognition in late life (age 65 and above) shows conflicting results. Recent studies (Luchsinger et al., 2013; Arvanitakis, Capuano, Bennett, & Barnes, 2018) have found that high BMI was associated with improved processing speed and verbal memory performance in older adults, but further research is needed to examine this relationship across additional aspects of cognition. The current study aims to build upon recent literature by exploring the relationship between BMI and four cognitive domains across the adult age span.
Participants and Methods: Adults between the ages of 25-84 (n=217) were recruited for the Loma Linda University Healthy Avocado Trial study. Participants had a mean age of 49.61 (SD=13.13), mean education of 14.66 years (SD=2.44), and a mean BMI of 33.87 (SD=5.48). Cognition was measured using a two-hour neurocognitive battery divided into four discrete domains: attention/working memory (Digit Span, Auditory Consonant Trigrams), processing speed (Trail Making Test Part A, Stroop Color, Stroop Word, Symbol Digit Modalities Test), executive function (FAS/Phonemic Fluency, Stroop Word-Color, Trail Making Test Part B), and learning/memory (Rey Auditory Verbal Learning Test [RAVLT], Brief Visuospatial Memory Test-Revised [BVMT-R]). Individual test scores were standardized around the sample means and standard deviations, and cognitive domain scores were calculated as an average of the relevant standardized scores; a global cognition score represents the average of tests across all four domains. Participants were divided into three age groups (25-40, 41-60, and 61-84). Correlational analyses were performed between BMI and cognitive domain scores within each age group, while controlling for age, sex, and education.
Results: No significant correlations were observed between BMI and any of the cognitive domains among adults aged 25-40 and 41-60. Among adults aged 61-84, a significant association was found between BMI and learning and memory (r=0.390, p=0.011). An examination of individual subtests within the domain revealed significant positive correlations between BMI and RAVLT short delay recall (r=0.338, p=0.029) and long delay recall (r=0.353, p=0.022), and between BMI and BVMT-R immediate- (r=0.351, p=0.023) and delayed recall (r=0.332, p=0.032). A trend for the association between BMI on global cognition was also observed in the oldest age group (r=0.275, p=0.078). No significant associations were observed between BMI and the domains of attention/working memory, processing speed, or executive function.
Conclusions: No significant associations were observed between BMI and cognitive performance among young- and middle-aged adults. However, among older adults aged 61-84, higher BMI was associated with higher scores on both verbal and nonverbal learning & memory. These findings support the 'obesity paradox,' suggesting that increased BMI may be protective for elderly adults. Multiple explanations for this relationship have been proposed, including the role of BMI in the body's inflammatory response system, as well as observations of dementia-related weight loss. Further research is needed to determine whether BMI has a protective benefit, or if it is simply a clinical marker of underlying disease.

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14 The Moderating Effects of Working Memory on Sex and Nonverbal Learning and Memory Among Elderly Adults

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Objective: Previous research evidences men, on average, perform better than women on nonverbal tasks. Conversely, literature evidences women, on average, perform better on memory tasks. Proposed explanations for this discrepancy include, increased parietal lobe volume to hormonal differences. Some research also suggests men have greater working memory (WM) abilities than women on tasks involving holding visual information. As such, it is possible more robust WM performance in men may translate to better performance on nonverbal tasks with an immediate and delayed visual memory component. The current study examined if WM performance moderates the relationship between sex and nonverbal learning and memory in a community clinic population of older adults referred for cognitive concerns.

Participants and Methods: Data was drawn from archival medical records of patients who underwent neuropsychological assessment in an outpatient, community clinic after being referred for cognitive concerns in the context of a variety of neurodegenerative and neurological conditions. Records of patients between the ages of 65 and 91 who completed the Brief Visuospatial Memory Test (BVMT-R) and WAIS-IV Digit Span (DS) were selected from the broader clinic sample of patients seen between 2019 and 2022. The total sample consisted of 302 older adults with a mean age of 75.11 (SD=6.06) and an average of 15.54 years of education (SD=2.51); 145 (48%) were women. Hierarchical regression analyses were used to examine the effects of sex, WM, and the interaction between sex and WM on BVMT learning and memory scores, while controlling for age and education. An independent samples t-test was also computed to examine sex differences on DS working memory scores.

Results: The optimal linear combination of sex, WM, and the interaction between sex and WM accounted for 24.7% of the variance in BVMT total learning scores ($F(5, 296)=20.79$, $p>0.05$). There were no significant main effects of sex or the interaction between sex and WM on nonverbal learning or nonverbal memory ($p>0.05$). However, a strong trend was observed for the effect of sex on nonverbal memory (B=-0.69, $t(5)=-1.91$, $p=0.057$). A main effect of WM on nonverbal learning (B=0.42, 95% CI [0.25,

0.59], $p<0.05$) and memory (B=0.21, 95% CI [0.12, 0.29], $p<0.05$) was observed. Sex differences on WM measures were not observed ($p>0.05$).

Conclusions: Significant main effects of sex on nonverbal learning and memory were not found, though strong trends were observed between sex and nonverbal memory performance. While the relationships between WM and nonverbal learning and memory were trending toward significance, the predicted sex differences on WM performance were not found. The trend toward significance observed between sex and nonverbal memory may be the "carryover" effect from ancillary spatial skills that prior research has shown to be more robust amongst men, including mental rotation and visual construction. Findings from the current study align with the BVMT-R technical manual, which reported no significant contribution from sex in any learning or recall scores within their normative sample.

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15 The Role of Race and Adverse Childhood Experiences on Predicting Cognitive Ability on the Montreal Cognitive Assessment (MoCA).

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Objective: Awareness of risk factors associated with any form of impairment is critical for formulating optimal prevention and treatment planning. Millions worldwide suffer from some form of cognitive impairment, with the highest rates amongst Black and Hispanic populations. The latter have also been found to achieve lower scores on standardized neurocognitive testing than other racial/ethnic groups. Understanding the socio-demographic risk factors that lead to this discrepancy in neurocognitive functioning across racial groups is crucial. Adverse