

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

Categories: Memory Functions/Amnesia

Keyword 1: metamemory

Keyword 2: psychometrics

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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 [BVM-T-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 BVM-T-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.

Categories: Memory Functions/Amnesia

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