Accuracy score was significantly associated with Immediate Recall (r=0.32, p<0.01) on the learning/memory task and the Explanation scores were significantly associated with the Immediate Recall (r=0.36, p<0.01) and Delayed Recall scores (r=0.32, p<0.01) on the learning/memory task.

Conclusions: The current study presents an initial review of psychometric properties of a metamemory questionnaire for children ages 6 to 12 years old. Additionally, as hypothesized, these results suggest the MOM-10 performance is significantly positively associated with participants' age and immediate and delayed recall performance on a pictorial learning/memory task. These associations provide lines of evidence for convergent validity given the expected maturation of metamemory with both age and with improvements in actual memory performance. However, based on the low internal consistency of the accuracy scores, further refinement will be explored including possibly rephrasing questions from the current item set or perhaps excluding current items in future use of the scale.

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12 The Development of a Pediatric Metamemory Questionnaire and Scoring Procedure

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Objective: To create a standardized scoring procedure to evaluate open-ended responses as part of a novel questionnaire (Measure of Metamemory; MoM) designed to assess declarative metamemory in youth. Metamemory is an aspect of metacognition that is one's knowledge of the factors related to storage and retrieval of information (Flavell 1971; Kreutzer et al., 1975), and includes both declarative metamemory (i.e., one's knowledge about factors influencing memory) and procedural metamemory (i.e., one's understanding of their own memory performance).

Participants and Methods: Fourteen short vignettes related to memory were administered to 100 participants (age 6-12) with questions such as, "Two children hear a story they must remember. The first person is 5 years old. The second person is 12 years old. Who is most likely to remember it best?" After answering, they were then prompted to explain their answer (i.e., "Why?") and their responses were recorded verbatim. To develop standardized and objective criteria for each of the 14 open-ended responses, responses from a subsample of 20 youth were collectively examined by the study team and a scoring structure similar to open-ended items on common intelligence tests (e.g., WISC-V/WAIS-IV) was created. Two points (full credit) were awarded for complete and thorough understanding of memory processes related to the question; 1 point was given for partially accurate or incomplete understanding of the related memory process; and 0 points for an inability to correctly express an understanding of relevant memory concepts. This scoring guide was then applied independently by each of the six raters to an additional 25 participants (ages 6-12 mean age (SD)). To assess the interrater reliability of this 3-point ordinal scoring system, we examined both Fleiss' kappa and 2-way random-effects, single-rater, absolute agreement Intra-Class Correlations (ICC).

Results: Across the six independent raters, reliability coefficients for each of the 14 items ranged from (Fleiss') k =. 277 to .792 (ICC ranged from .481 to .880). Of these 14 items, the kappa value was classified (using interpretation rules for Cohen's kappa) as "substantial" for 10 items, "moderate" for 3 items, and "fair" for 1 item. Based on these lower inter-rater reliabilities, two items were subsequently removed from the measure to create the 12-item open-ended measure of metamemory, the MoM-12, with reliable scoring for youth as young as 6 years old.

Conclusions: A consensus process established a quantifiable scoring procedure to assess open-ended responses related to youth's knowledge of memory (e.g., metamemory). Reliability metrics identified acceptable interrater reliabilities in 12 of the 14 original items. Further examination of psychometric properties, including internal consistency and lines of evidence for validity is needed. The successful crafting of a scoring procedure is a first step

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