connectivity is associated with verbal and visuospatial memory abilities in later life.

Participants and Methods: 330 healthy older adults between 65 and 89 years old (mean age = 71.6 ± 5.2) were recruited at the University of Florida (n = 222) and the University of Arizona (n = 108). Participants underwent resting-state fMRI and completed verbal memory (Hopkins Verbal Learning Test – Revised [HVLT-R]) and visuospatial memory (Brief Visuospatial Memory Test – Revised [BVMT-R]) measures. Immediate (total) and delayed recall scores on the HVLT-R and BVMT-R were calculated using each test manual's scoring criteria. Learning ratios on the HVLT-R and BVMT-R were quantified by dividing the number of stimuli (verbal or visuospatial) learned between the first and third trials by the number of stimuli not recalled after the first learning trial. CONN Toolbox was used to extract average within-network connectivity values for CON, FPCN, and DMN. Hierarchical regressions were conducted, controlling for sex, race, ethnicity, years of education, number of invalid scans, and scanner site.

Results: Greater CON connectivity was significantly associated with better HVLT-R immediate (total) recall (β = 0.16, p = 0.01), HVLT-R learning ratio (β = 0.16, p = 0.01), BVMT-R immediate (total) recall (β = 0.14, p = 0.02), and BVMT-R delayed recall performance (β = 0.15, p = 0.01). Greater FPCN connectivity was associated with better BVMT-R learning ratio (β = 0.13, p = 0.04). HVLT-R delayed recall performance was not associated with connectivity in any network, and DMN connectivity was not significantly related to any measure.

Conclusions: Connectivity within CON demonstrated a robust relationship with different components of memory function as well across verbal and visuospatial domains. In contrast, FPCN only evidenced a relationship with visuospatial learning, and DMN was not significantly associated with memory measures. These data suggest that CON may be a valuable target in longitudinal studies of age-related memory changes, but also a possible target in future non-invasive interventions to attenuate memory decline in older adults.

Categories: Memory Functions/Amnesia
Keyword 1: neuroimaging: functional connectivity
Keyword 2: memory: normal
Keyword 3: learning

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10 Subtyping Serial Position Score Profiles to Investigate the Nature of Memory Impairment in Homeless and Precariously Housed Persons

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Objective: Cognitive dysfunction is prominent in homeless and precariously housed persons, and memory dysfunction is the most pervasive domain. The presence of multimorbid physical and mental illness suggests that several underlying mechanisms of memory impairment may be at play. The serial position phenomenon describes the tendency to best recall the beginning (primacy effect) and last (recency effect) words on a supra-span wordlist. Recency recall engages executive and working-memory systems, whereas primacy recall depends on long-term memory. This study investigates memory dysfunction in a homeless and precariously housed sample by identifying and characterizing unique subtypes of serial position profiles on a test of verbal memory.

Participants and Methods: Data were used from a 20-year study of homeless and precariously housed adults recruited from an impoverished neighbourhood in Vancouver, Canada. Participants were sub-grouped according to their serial position profile on the Hopkins Verbal Learning Test-Revised using a latent profile analysis (LPA; n = 411). Paired samples t-tests were conducted to determine differences in percent recall from each word-list region within classes. Linear regression analyses were used to examine between-class differences in mean serial position scores and other cognitive measures (memory, attention,

processing speed, cognitive control). Covariates included age, sex, and education.

Results: LPA identified two profiles characterized by (1) reduced primacy relative to recency (RP; n = 150); and (2) reduced recency relative to primacy (RR; n = 261). Pairwise comparisons within the RP class showed that recency was better than primacy (p < .001, d = .66) and middle recall (p < .001, d = .52), with no difference between primacy and middle recall (p = .68, d = .04). All pairwise comparisons differed within the RR class (primacy > middle recall: p < .001, d = 1.85; primacy > recency recall: p < .001, d = 1.32; middle > recency recall: p < .05, d = .132). The RP class had worse performance on measures of total immediate (β = .47, p < .001) and delayed verbal recall (β = .32, p < .001); processing speed (β = .20, p < .001); and cognitive control (β = .22, p < .001). The RR class made more repetition errors (β = .25, p < .001).

Conclusions: These findings support substantial heterogeneity in memory functioning in homeless and precariously housed individuals. The RP profile was characterized by poorer cognitive functioning across several domains, which suggests multiple contributions to memory impairment, including dysfunction of long-term memory circuitry. The RR profile with their higher number of repetition errors, may experience difficulties with self-monitoring in verbal learning. Subsequent studies will explore the neurobiological underpinnings of these subgroups to further characterize profiles and identify targets for cognitive intervention.

Categories: Memory Functions/Amnesia
Keyword 1: learning
Keyword 2: memory disorders
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11 The Psychometric Characteristics of a Novel Metamemory Questionnaire for Children

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Objective: Metamemory is a component of metacognition that includes both the knowledge of factors that affect memory (i.e., declarative metamemory) and knowledge and application of factors in one's own learning and recall performance (i.e., procedural metamemory; Kreutzer et al., 1975). Previous researchers have examined children's metamemory through interviews and found that metamemory abilities are positively associated with age and performance on memory measures (see Godfrey et al., 2022 for review). However, there is not yet a standardized measure to evaluate children's metamemory. The current study aimed to examine the psychometric characteristics of a declarative metamemory questionnaire, the Measure of Metamemory (MoM-10), for children ages 6-12 years old. Based on previous research, we hypothesized that performance on the MoM-10 would not be associated with sex but would be positively associated with age and learning and memory performance.

Participants and Methods: A total of 75 English-speaking typically developing children between the ages of 6 to 12 years old were recruited for the current study (M age=9.1+1.92; females 49%). Participants completed the MoM-10 which assessed declarative metamemory via 10 multiple choice questions (accuracy score of 0 or 1 points per question) and required participants to provide an explanation for their multiple-choice answer (explanation score of 0, 1, or 2 points per question). The metamemory questionnaire provided two outcome variables: an Accuracy score of 10 possible points, and an Explanation score of 20 possible points. Additionally, participants completed a 3-trial pictorial learning/memory task which provided an Immediate Recall score and Delayed Recall score.

Results: As hypothesized, there were no sex differences on the MoM-10 Accuracy scores (t(73)=0.71, p=0.48) or Explanation scores (t(73)=-73, p=0.47). Consistent with our hypothesis, age was significantly associated with Accuracy (r=0.31, p<0.01) and Explanation scores (r=0.79, p<0.001). Internal consistency of the MOM-10 was moderate for the Explanation score (Cronbach's alpha=0.68) and low for the Accuracy score (KR-20=0.54). Lastly, after controlling for age, participants' MoM-10