

Department of Psychiatry - Neuropsychology Section, University of Michigan, Ann Arbor, MI; Michigan Alzheimer's Disease Research Center, Ann Arbor, MI. rahmanam@umich.edu

9 Predictive Ability of the Performance Assessment of Self-Care Skills (PASS) in a Sample of Predominantly Low-Income, Community Dwelling, African American Older Adults

Ashlyn Runk¹, Meryl A Butters², Andrea Rosso³, Tamara Dubowitz⁴, Wendy Troxel⁴, Juleen Rodakowski⁵, Tiffany L. Gary-Webb³, Ann Haas⁴, Bonnie Ghosh-Dastidar⁴, Andrea M Weinstein²

¹Louisiana State University, Department of Psychology, Baton Rouge, LA, USA. ²University of Pittsburgh, School of Medicine, Department of Psychiatry, Pittsburgh, PA, USA. ³University of Pittsburgh, School of Public Health, Department of Epidemiology, Pittsburgh, PA, USA. ⁴RAND Corporation, Pittsburgh, PA, USA. ⁵University of Pittsburgh, School of Health and Rehabilitation Sciences, Department of Occupational Therapy, Pittsburgh, PA, USA

Objective: Mild decline in independent functioning is a core diagnostic criterion for Mild Cognitive Impairment. Performance-based assessments have been considered the gold standard to identify subtle deficits in functioning. Existing assessments were largely designed using demographically homogenous samples (white, highly educated, middle class) and often assume tasks are performed similarly across populations. The current study aimed to validate the utility of the Performance Assessment of Self-Care Skills (PASS) in determining cognitive status in a sample of predominantly African American, low-income older adults.

Participants and Methods: Cognition and functional capacity were measured in n=245 older participants (aged 50+ years) who were recruited from a larger community study located in Pittsburgh, PA. Cognitive status was defined by a mean split on the Modified Mini Mental Status Examination (3MS) score (84/100). Participants above the cutoff were classified as unlikely cognitive impairment (UCI) and those below classified as potential cognitive impairment (PCI). Functional capacity was

assessed using the number of cues provided on three PASS subtasks: shopping, medication management, and critical information retrieval (higher score = worse functioning). Self-reported cognitive and functional decline was assessed via the Everyday Cognition (ECog) questionnaire (higher score = greater decline). Generalized linear models compared performance scores between groups adjusting for literacy (WRAT3), age, and education. Receiver operating characteristic curve (ROC) analyses were run for select functional performance scores to assess their predictive ability in discriminating between PCI and UCI. **Results:** Compared to the UCI group (N = 179), the PCI group (N = 66) was older (68 vs. 65 years, $p = 0.05$), less educated (11 years vs. 12 years, $p < 0.01$), had lower WRAT3 z-scores (0.19 vs. -0.55, $p < .01$), and required more cues on the shopping (4.33 vs. 8.54, $p < 0.01$) and medication management PASS subtasks (2.74 vs. 6.56, $p < .01$). Both groups reported elevated levels of subjective cognitive complaints on the ECog (1.46 vs. 1.56, $p = .09$) and performed similarly on the critical information retrieval PASS subtask (0.25 vs 0.54, $p = .06$). When discerning between UCI and PCI groups, the PASS Shopping subtask had an optimal cut-off score of 4, sensitivity of 0.86, specificity of 0.47, positive predictive value (PPV) of 0.37, and area under the curve (AUC) of 0.71. PASS Medication Management had an optimal cut-off score of 3, sensitivity of 0.77, specificity of 0.56, PPV of 0.39, and AUC of 0.74.

Conclusions: Subjective functional decline and performance on the critical information retrieval subtask were not associated with cognitive groups. PASS shopping and medication management had moderately high AUCs, suggesting they can reliably distinguish between groups. However, both tasks also exhibited low PPVs, low levels of specificity, and high levels of sensitivity, making them strong "rule-out" tests but poor "rule-in" tests in this sample. Because accurate assessment of functioning is useful for MCI and critical to dementia diagnosis, it is imperative we understand how these tasks function across different populations. Future work should 1) validate measures of functional ability across different populations and 2) develop population-appropriate assessments for use in clinical and research settings.

Categories: Dementia (Alzheimer's Disease)

Keyword 1: everyday functioning

Keyword 2: activities of daily living

Keyword 3: dementia - Alzheimer's disease

Correspondence: Ashlyn Runk, Louisiana State University, arunk1@lsu.edu

10 Semantic Memory as a Predictor of Future Memory Decline

Blair Honsey, Carlos Rodriguez, Maegan Hatfield-Eldred, Heshan Fernando
Spectrum Health Medical Group, Grand Rapids, Michigan, USA

Objective: To determine if the degree of split between phonemic verbal fluency and semantic verbal fluency at initial visit is predictive of decline in memory performance between initial evaluation and follow-up.

Participants and Methods: Data from a retrospective multidisciplinary memory clinic database at Spectrum Health was utilized. We examined data from 90 participants who had both an initial and follow-up evaluation completed (initial age = 77.1 ± 4.7 years, follow-up age = 78.4 ± 4.7 years, education = 13.9 ± 3.1 years, race = 91% White, 7% Black, & 2% Hispanic, sex = 61% female, time between evaluations = 15.2 ± 9.9 months). Patients who returned for follow-up did not meet criteria for dementia at time one. Split between phonemic and semantic fluency, termed the semantic-phonological delta (SPD) was measured at the initial evaluation by subtracting the Controlled Oral Word Association Test (COWAT; FAS) T-score from the Animal Naming Test (ANT) T-score. Change in memory score was defined in two ways: 1) subtracting the follow-up evaluation Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) List Recognition Score (RBANS percentiles were converted to a scaled score) from the initial evaluation List Recognition Score (List Recognition Delta), and 2) computing the difference in the RBANS Delayed Memory Index Standard Score between the initial evaluation and the follow-up evaluation (RBANS Memory Delta).

Results: Average semantic fluency T scores were ($M = 40.3$, $SD = 12.3$) and phonemic fluency T scores were ($M = 42.7$, $SD = 10.3$) at initial evaluation. Bivariate correlations were used to determine the relationship between the clinical variables. SPD was significantly

correlated with List Recognition Delta, $r(88) = .23$, $p = .026$, with greater discrepancies in verbal fluency scores associated with higher level of decline in List Recognition at follow-up. By comparison, Semantic Fluency performance itself at initial evaluation was not significantly correlated with List Recognition Delta, $r(88) = .17$, $p = .097$. The correlation between SPD and the RBANS Memory Delta was also not significant, $r(88) = .14$, $p = .166$. At follow-up evaluation, 39% of the sample received a diagnosis of Alzheimer's disease. Of those diagnosed with Alzheimer's disease, 66% had a negative SPD split at time one, performing worse on semantic fluency compared to phonemic fluency.

Conclusions: SPD is a better predictor of decline in RBANS List Recognition performance between evaluations than semantic fluency alone, with a larger negative SPD score (worse semantic fluency performance compared to phonemic fluency) at initial evaluation predicting decline in List Recognition performance at follow-up evaluation. SPD at initial evaluation was not significantly correlated with change in RBANS Delayed Memory Index score between evaluations. This may be because there are some patients who are similarly impaired in both semantic and phonemic verbal fluency at initial evaluation who later demonstrate progressive decline in memory retrieval due to hippocampal-sparing etiologies (e.g., vascular dementia). Overall, these findings are consistent with previous work suggesting that declines in the semantic memory system precede declines in episodic memory retention in conditions such as Alzheimer's disease.

Categories: Dementia (Alzheimer's Disease)

Keyword 1: memory disorders

Keyword 2: fluency

Keyword 3: dementia - Alzheimer's disease

Correspondence: Blair Honsey, Spectrum Health Medical Group,
Blair.Honsey@spectrumhealth.org

11 Evaluating a Comprehensive Care Management Program for Dementia: Three Years into the Care Ecosystem Program.

Carolina Pereira, Beth Arredondo, Robert J. Sawyer