method, showing that increased adherence to combined behavioral interventions is associated with an increase in participant's quality of life, self-efficacy, and better mood. Thus, commitment to behavioral intervention completion in aMCI participants is related to overall participant adjustment.

Categories: MCI (Mild Cognitive Impairment)
Keyword 1: mild cognitive impairment
Keyword 2: quality of life
Correspondence: Ambar Perez Lao University of Florida aperezlao@ufl.edu

75 The Association Between Cognitive Function and Older Adults Performance on a Naturalistic Cooking Task in the Home Environment

Angela Hickman[1,2], Carolyn Pagán[1], Catherine Luna[1], Maureen Schmitter-Edgecombe[1]
[1]Washington State University, Pullman, USA. [2]California State University, Fresno, Fresno, USA

Objective: Cognitive impairment can affect an individual's ability to perform routine tasks. In this study, we investigate how cognitive abilities relate to the accuracy and efficiency of performance on a naturalistic cooking task completed in older adults' home environments. We hypothesized a positive association between task accuracy and global cognitive status, and task efficiency and executive functioning. We further hypothesized a negative association between omission errors and immediate and delayed memory recall.
Participants and Methods: Fourteen community-dwelling older adults (Age, M = 73.92 years; Female = 9; Education, M = 16.38 years) along the continuum from normal aging to mild dementia completed a "Cooking Task" in their home environment. Specifically, participants were instructed to fry or scramble an egg, prepare slice of toast with jelly, serve side of sliced apple, pour glass of water, bring prepared items to table, and clean dishes used. Participants received ingredients necessary for task completion and a task list to reference. The task efficiency score (range 0-6) was based on multi-tasking and organizational skills (e.g., beginning the egg task early in session, plating items as prepared). Overall accuracy was computed by identifying error types (e.g., inefficiencies, substitutions, omissions, and subtasks attempted) and scaling accuracy (range 1-5) for each subtask, then summing all six subtask accuracy scores to get overall accuracy (range 6-30). Participants also completed a range of neuropsychological assessments, which included the Telephone Interview for Cognitive Status, Letter and Category Fluency from the Delis-Kaplan Executive Function System, and immediate and delayed recall measures from the Repeatable Battery for the Assessment of Neuropsychological Status. Due to the small sample size, findings are preliminary, and scatterplots were evaluated for outliers that might influence findings.
Results: Consistent with hypotheses, as overall accuracy on the Cooking Task increased so did performance on the global cognitive measure (TICS: $r = 0.61$, $p = 0.02$). Lower rates of omission errors were also associated with better performance on both immediate ($r = -0.75$, $p < 0.01$) and delayed ($r = -0.55$, $p = 0.04$) recall indices. However, these findings were not specific, as overall accuracy also significantly correlated with the memory indices and verbal fluency measures ($ps < 0.05$). Additionally, lower rates of omission errors significantly correlated with performance on the TICS and the D-KEFS Letter Fluency ($ps < 0.05$). Contrary to our hypothesis, no significant associations were found between cooking task efficiency and executive functioning (D-KEFS subtests). There were also no significant correlations between cooking task efficiency and global cognitive status or memory.
Conclusions: The present study supported our hypotheses that better overall task accuracy is associated with higher cognitive status and lower rates of omission errors correlate with better immediate and delayed recall abilities. However, the findings were not specific to these domains of functioning but rather suggest that clinical assessments measuring a range of cognitive abilities are related to the accuracy of daily task performance and omission errors on routine daily tasks. Future research will explore the validity of the efficiency measure.

Categories: MCI (Mild Cognitive Impairment)
Keyword 1: ecological validity
Keyword 2: cognitive functioning
Keyword 3: everyday functioning

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Correspondence: Angela Hickman, Washington State University and California State University, Fresno, angela.hickman@wsu.edu

76 Baseline Frontoparietal Gray Matter Volume Predicts Executive Function Performance at 24-Months in Early and Late Mild Cognitive Impairment

Ann J. Lee, Scott Hayes
Department of Psychology, The Ohio State University, Columbus, Ohio, USA

Objective: To examine the relationships between baseline gray matter volumes, diagnostic status, and executive function performance at 24-month follow-up, and the relative importance of predictors of executive function in a cohort of non-demented older adults.
Participants and Methods: The study sample included 147 participants from the Alzheimer's Disease Neuroimaging Initiative (mean age = 70.6, SD = 6.4; mean education = 17 years, SD = 2.4). At baseline, 49 participants were diagnosed as cognitively normal (CN), 60 as early mild cognitive impairment (EMCI), and 38 as late mild cognitive impairment (LMCI). Magnetic resonance imaging (MRI) data were collected at baseline. A composite score of executive function and FreeSurfer-derived gray matter regions-of-interest (ROI; whole brain, superior frontal gyrus, middle frontal gyrus, inferior frontal gyrus, orbitofrontal cortex, anterior cingulate cortex, superior parietal lobule, inferior parietal lobule, hippocampus) were examined. Hierarchical linear regression models were employed to assess whether brain volume predicted executive function at 24-month follow-up and interaction effects between baseline ROI volume and diagnostic status. Age, gender, education, Mini-Mental State Examination scores, and APOE-e4 allele status were included as control variables in each model. Relative importance metrics, which quantifies an individual regressor's contribution to a multiple regression model, were computed using the Lindemen, Merenda, and Gold (lmg) method to assess the relative contribution of each variable in predicting executive function performance.
Results: Across all participants, baseline gray matter ROI volume accounted for a significant amount of variance in executive function at 24-months after accounting for control variables. Specifically, anterior cingulate cortex and superior parietal lobule accounted for an additional 7% and 6% of variance in executive function at 24-months. Significant brain region X diagnostic status interaction effects were observed in executive function performance at 24-months. Relative importance metrics within each group indicated that age is the most important predictor of executive function at 24-months for CN, anterior cingulate cortex is most important for EMCI, and Mini-Mental Examination score is most important for LMCI.
Conclusions: Our findings implicate frontoparietal gray matter regions as significant predictors of executive function performance at 24-months, and that this relationship is moderated by diagnostic status. Our results indicate that the value of specific variables to predict executive function performance varies based on diagnostic status. Specifically, anterior cingulate cortex was a significant predictor of executive function performance across all participants and was the most important variable in predicting performance in the earliest stage of mild cognitive impairment. These results support previous studies examining gray matter correlates of executive function and extend the literature by exploring predictors of executive function in early and late stages of mild cognitive impairment.

Categories: MCI (Mild Cognitive Impairment)
Keyword 1: executive functions
Keyword 2: mild cognitive impairment
Keyword 3: neuroimaging: structural
Correspondence: Ann J. Lee Department of Psychology, The Ohio State University lee.9951@buckeyemail.osu.edu

77 Differentiating Amnestic Versus Non-Amnestic Mild Cognitive Impairment Using the NIH Toolbox Cognition Battery

Cameron K Perrin, Amanda Cook Maher, Allyson Gregoire, Jonathan Reader, Arijit Bhaumik, Benjamin M Hampstead, Bruno Giordani
Michigan Medicine, Ann Arbor, MI, USA

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