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52 Association Between COVID-19 Coping Strategies and Cognitive Function in Older Adults

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Objective: Cognitive function may underlie the use of more adaptive as compared to maladaptive coping strategies to manage pandemic-related stress in older adults. As the composition of coping strategies varies with context, we investigated the factor structure of 14 established coping strategies. We then aimed to determine whether specific coping strategies were associated with cognitive function.
Participants and Methods: 141 adults aged 50-90 years old completed the study via Zoom. The National Alzheimer's Coordinating Center T-Cog battery assessed cognitive function. The Brief Cope, adapted to evaluate COVID-19, measured 14 specific coping strategies.
Results: Based on our factor analyses, Avoidant (e.g., denial and substance use) and Approach (e.g., planning, instrumental and emotional support systems) coping composite scores were formed. Regression analyses, adjusted for age and education, indicated that 12.9% of the variance in the use of Avoidance coping strategies was explained by worse performance on measures of episodic memory, executive attention/processing speed, working memory, and verbal fluency. A closer examination indicated that verbal fluency was not a statistically significant contributor to the model. 9.1% of the variance in Approach coping strategies was related to cognitive function with working memory and verbal fluency being statistically significant contributors to the model.
Conclusions: Older adults with better performance on higher-order cognitive testing may utilize more effective coping strategies in older adults. These results have implications for attenuating pandemic-related stress and warrant developing brief interventions to help facilitate problem-solving and reduce emotional distress in those with lower cognitive resources.

Categories: Aging
Keyword 1: cognitive functioning
Keyword 2: executive functions
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53 2-Back Performance Does Not Differ Between Cognitive Training Groups in Older Adults Without Dementia

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Objective: Cognitive training is a non-pharmacological intervention aimed at improving cognitive function across a single or multiple domains. Although the underlying mechanisms of cognitive training and transfer effects are not well-characterized, cognitive training has been thought to facilitate neural plasticity to enhance cognitive performance. Indeed, the Scaffolding Theory of Aging and Cognition (STAC) proposes that cognitive training may enhance the ability to engage in compensatory scaffolding to meet task demands and maintain cognitive performance. We therefore evaluated the effects of cognitive training on working memory performance in older adults without dementia. This study will help begin to elucidate non-pharmacological intervention effects on compensatory scaffolding in older adults.
Participants and Methods: 48 participants were recruited for a Phase III randomized clinical trial (Augmenting Cognitive Training in Older Adults [ACT]; NIH R01AG054077) conducted at the University of Florida and University of Arizona. Participants across sites were randomly assigned to complete cognitive training (n=25) or an education training control condition (n=23). Cognitive training and the education training control condition were each completed during 60 sessions over 12 weeks for 40 hours total. The education training control condition involved viewing educational videos

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produced by the National Geographic Channel. Cognitive training was completed using the Posit Science Brain HQ training program, which included 8 cognitive training paradigms targeting attention/processing speed and working memory. All participants also completed demographic questionnaires, cognitive testing, and an fMRI 2-back task at baseline and at 12-weeks following cognitive training.
Results: Repeated measures analysis of covariance (ANCOVA), adjusted for training adherence, transcranial direct current stimulation (tDCS) condition, age, sex, years of education, and Wechsler Test of Adult Reading (WTAR) raw score, revealed a significant 2-back by training group interaction ($F[1,40]=6.201$, $p=.017$, $\eta^2=.134$). Examination of simple main effects revealed baseline differences in 2-back performance ($F[1,40]=.568$, $p=.455$, $\eta^2=.014$). After controlling for baseline performance, training group differences in 2-back performance was no longer statistically significant ($F[1,40]=1.382$, $p=.247$, $\eta^2=.034$).
Conclusions: After adjusting for baseline performance differences, there were no significant training group differences in 2-back performance, suggesting that the randomization was not sufficient to ensure adequate distribution of participants across groups. Results may indicate that cognitive training alone is not sufficient for significant improvement in working memory performance on a near transfer task. Additional improvement may occur with the next phase of this clinical trial, such that tDCS augments the effects of cognitive training and results in enhanced compensatory scaffolding even within this high performing cohort. Limitations of the study include a highly educated sample with higher literacy levels and the small sample size was not powered for transfer effects analysis. Future analyses will include evaluation of the combined intervention effects of a cognitive training and tDCS on n-back performance in a larger sample of older adults without dementia.

Categories: Aging
Keyword 1: working memory
Keyword 2: aging (normal)
Keyword 3: neurocognition
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54 The Relationship between Error-Monitoring and Measures of Real-World Awareness and Everyday Function

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Objective: Aging older adults and individuals with mild cognitive impairment (MCI) experience changes in ability to self-monitor errors. Difficulties with accurate self-monitoring of errors can negatively impact everyday functioning. Without proper error recognition, individuals will continue to make mistakes and not implement compensatory strategies to prevent future errors. A modified Sustained Attention to Response Task (SART; Robertson et al., 1997) has previously been used to assess self-monitoring by the number of errors individuals were able to recognize. The current study sought to examine the relationship of this laboratory-based error-awareness task with everyday functional abilities as assessed by informants and with real-world error-monitoring. We hypothesized that self-monitoring would be significantly related to real-world error-monitoring and everyday functional abilities.
Participants and Methods: 135 community-dwelling participants (110 healthy older adults (HOA) and 25 individuals with MCI) were included from a larger parent study (mean age = 67.73, SD = 8.89). A modified SART was used to measure error-monitoring and create a self-monitoring variable by dividing accurately recognized errors by the total number of errors. Participants also completed simple and complex everyday tasks of daily living (e.g., making lemonade, cooking oatmeal, cleaning, filling medication pillbox) in a university campus apartment. Examiners coded both number of errors committed and self-corrections that were made during task completion. To examine real world error awareness, total self-correct errors were divided by the total number of errors. Knowledgeable informants (KI) completed the Everyday Cognition (ECog) scale, where they rated the participant on domains of memory, language, spatial abilities, planning, organization, and divided attention, to capture changes in everyday function. Pearson correlations were used to examine the

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