

can sustain or even improve upon these outcomes.

Categories: Sleep and Sleep Disorders

Keyword 1: sleep disorders

Keyword 2: brain function

Keyword 3: neurostimulation

Correspondence: William D. S. Killgore, University of Arizona, killgore@arizona.edu

80 Processing Speed Mediates the Association between Executive Functioning and Adaptive Functioning Among Older Adults

Jordan R Hoffmeister¹, Scott Roye¹, Christopher Copeland¹, John Linck²

¹The University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA. ²Spectrum Health, Grand Rapids, MI, USA

Objective: Cognitive decline is expected in normative aging (Cabeza et al., 2018; Salthouse, 2019), which can lead to impairments in adaptive functioning (Yam et al., 2014). Several cognitive domains have been associated with adaptive functioning in older adult samples, including processing speed and executive functioning (e.g., Nguyen et al., 2019; Vaughn & Giovanello, 2010). A recent study examining a mixed clinical sample of older adults demonstrated that processing speed was more predictive of functional decline than other cognitive domains, including aspects of executive functioning (Roye et al., 2022). Therefore, this study attempts to build on previous findings by further examining the relationships between processing speed, adaptive functioning, and executive functioning. Specifically, it investigated the extent to which processing speed mediated the associations between executive functioning and adaptive functioning.

Participants and Methods: Participants (N = 239) were selected from a clinical database of neuropsychological evaluations. Inclusion criteria were age 60+ (M = 74.0, SD = 6.9) and completion of relevant study measures. Participants were majority White (93%) women (53.1%). Three cognitive diagnosis groups were coded: No Diagnosis (N = 82), Mild Neurocognitive Disorder (NCD; N = 78), and Major NCD (N = 79). The Texas Functional

Living Scale (TFLS) was used as a performance-based measure of adaptive functioning. Processing speed was measured using the Coding subtest from the Repeatable Battery for the Assessment of Neuropsychological Status. Executive functioning performance was quantified using part B of the Trail Making Test, Controlled Oral Word Association Test, and Similarities and Matrix Reasoning subtests from the WAIS-IV and WASI-II. Mediation models included age and years of education as covariates and indirect effects were assessed with bootstrapped confidence intervals (Hayes, 2020).

Results: Processing speed mediated all measures of executive functioning. The pattern was consistent for all executive functioning measures such that poorer executive functioning was associated with poorer processing speed, which was subsequently associated with poorer adaptive functioning. Direct effects were significant for all models ($ps < .03$), suggesting that executive functioning maintained unique associations with adaptive functioning. Follow-up analyses indicated no evidence for moderation of the mediation models based on diagnostic group.

Conclusions: These results highlight the importance of processing speed in understanding real-world implications of pathological and non-pathological cognitive aging. Processing speed mediated all relationships between executive functioning and adaptive functioning. There was no evidence for moderation of these effects, supporting generalizability regardless of neurocognitive disorder and etiologic subtype. Further investigation is warranted into the importance of processing speed in explaining associations of other cognitive domains with adaptive functioning.

Categories: Aging

Keyword 1: adaptive functioning

Keyword 2: everyday functioning

Keyword 3: aging disorders

Correspondence: Jordan R. Hoffmeister, MA The University of Oklahoma Health Sciences Center jordan-hoffmeister@ouhsc.edu

81 Assessment of Functional Capacity Interview (AFCI): A New Informant-

Report Measure to Detect Disability Risk in Older Adults

Nadia Pare^{1,2}, Crystal Quinn³, Caroline Nester³, Erica Aflagah², David Warren², Abigail Zatkalik², Janelle Beadle⁴, Laura Rabin³

¹Cogstate, New Haven, USA. ²UNMC, Omaha, NE, USA. ³Brooklyn College, Brooklyn, NY, USA. ⁴UNO, Omaha, NE, USA

Objective: Functional disability is a foreseeable consequence of neurodegenerative diseases affecting cognition, yet there are few validated instruments that assess functional capacity for use in pre-clinical and clinical dementia conditions. To our knowledge, the existing instruments do not comprehensively assess decision-making capacity across the numerous functional domains of daily life. We developed and evaluated the utility of an informant-report measure, the Assessment of Functional Capacity Interview (AFCI), within a sample of cognitively unimpaired and preclinical dementia groups.

Participants and Methods: Based on a comprehensive literature review, analysis of existing measures, and clinical experience, we generated >40 items consisting of open-ended questions assessing crucial aspects of daily functioning. These items were presented to 12 experts in the field of geriatrics and neuropsychology, through a graded approach (4 rounds of feedback and alterations), resulting in item modification or rejection, as well as addition of new items. The remaining items were piloted on three informants at the time of outpatient clinical evaluations, leading to further item refinement. The final version of the AFCI evaluated capacity across domains of financial affairs and management, medical affairs and healthcare management, home and personal safety, and social behaviors and community functioning. The AFCI contained 6 items per domain with response items that ranged from 0=no difficulty to 3=severe difficulty (scores ranged from 0 to 72).

Results: Participants (N = 58; Age_{mean} = 76; Education_{mean} = 16) were classified as cognitively unimpaired (CU, n = 17), subjective cognitive decline (SCD, n = 24), or mild cognitive impairment (MCI, n = 17) based on established criteria. All participants had a knowledgeable informant who completed the AFCI. We found statistically significant moderate to large correlations between the AFCI total score and

an informant report measure of cognitive functioning (Brief Informant Form of Neurobehavioral Symptomatology total score), $r(42) = .73$, $p < .001$, Test of Practical Judgment-informant total score $r(42) = .87$, $p < .001$, and Montreal Cognitive Assessment total score $r(41) = -.34$, $p = .027$. A Kruskal-Wallis H test revealed significant differences in AFCI total score between the three diagnostic groups, $H(2) = 12.30$, $p = .002$. Pairwise post-hoc analysis with Bonferroni correction showed a significant difference between CU and MCI ($p = .001$). The difference in AFCI total score between SCD and MCI was in the expected direction, but did not achieve statistical significance with correction, ($p = .068$). As expected, there was no statistically significant difference between CU and SCD ($p = .353$).

Conclusions: In this pilot sample (data collection is ongoing), the AFCI showed promise as a brief, clinically useful functional capacity instrument that is easily administered during a clinical interview or completed by knowledgeable informants. Results can help identify compromised decision-making in at-risk older adults to aid the prevention of common safety issues within this vulnerable population. Ongoing research will extend preliminary investigation of validity and further inform the utility of AFCI in both diagnostic and interventional contexts

Categories: MCI (Mild Cognitive Impairment)

Keyword 1: test development

Keyword 2: memory disorders

Keyword 3: aging disorders

Correspondence: Nadia Pare, Cogstate, npare@cogstate.com

5 min. break

11:40 - 11:45am

Friday, 3rd February, 2023

Plenary E: Learning from patients: people who have changed my way of thinking

Presenter: Barbara Wilson