

in memory and speed in the Total-AD meta-ROI (memory:  $p = .03$ ; speed:  $p = .04$ ), and in the regional ROIs, such as LCL (memory:  $p = .03$ ; speed:  $p = .04$ ), C/P (memory:  $p = .02$ , speed:  $p = .05$ ) and MTL (memory:  $p = .05$ , speed:  $p = .02$ ), with large effect sizes ( $f^2$ ) ( $>.40$ ) for memory and medium effect sizes for speed ( $.20-.25$ ). There were no associations between [18F]MK-6240 SUVR and reasoning change.

**Conclusions:** Our finding reinforces the notion that pathological tau in areas of early accumulation influence changes in cognitive domains known to be affected in AD even in cognitively normal individuals. The novel contribution of this work is the relevance of tau accumulation beyond episodic memory, as we observed its association with speed preceding decline. The fact reasoning decline is commonly observed in normal aging, but here not associated with tau suggest the specificity of the tau-cognition associations. Our results should be considered with caution due to the modest sample size.

**Categories:** Aging

**Keyword 1:** cognitive course

**Keyword 2:** aging (normal)

**Keyword 3:** dementia - Alzheimer's disease

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## 64 Validity and Stability of Objective Measures of Subtle Functional Difficulties in Older Adults

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**Objective:** Self-reported mild functional difficulties are one of the most salient predictors of future cognitive decline in older adults. However, few measures of objective assessment of mild functional difficulties are available. This study explored the validity and stability of novel, performance-based measures of subtle functional difficulties in older adults without dementia using an objective and standardized test, called the Naturalistic Action

Test (NAT), which has been used for people with dementia.

**Participants and Methods:** 40 older adults (Healthy Controls (HC), Mild Cognitive Impairment (MCI)) completed the NAT at baseline and again after one-month. The NAT requires participants to make a breakfast and a lunch using objects presented on a table. Standard cognitive tests (memory, language, etc.) also were administered at baseline only and were used to compute intraindividual cognitive variability (IIV), a sensitive measure of cognitive ability level. NAT scores reflecting micro-errors and completion time were obtained from video recordings. Micro-errors are inefficient actions that include misreaching toward the wrong object and moving objects around the table without a clear purpose. Validity of the NAT measures was evaluated in correlations with IIV, and the stability of NAT performance was evaluated using within-sample t-tests and correlations between measures at baseline and one-month.

**Results:** In the full sample ( $N = 40$ ), greater micro errors were significantly correlated with greater IIV at baseline ( $r = .512$ ,  $p < .001$ ) and one month followup ( $r = .327$ ,  $p = .039$ ). Among HC, paired t tests showed that there were no significant differences in micro-errors over one month; however, completion time was significantly slower at baseline ( $Md = 16.06$ ,  $SD = 24$ ;  $t(32) = 3.76$ ,  $p < .001$ ). MCI participants showed a significant decrease in micro-errors ( $M = 3.86$ ,  $SD = 4.4$ ;  $t(6) = 2.33$ ,  $p = .029$ ), but no difference in completion time. Among HC and MCI, micro errors ( $r = .506$ ,  $p < .001$ ), and completion time ( $r = .899$ ,  $p < .001$ ) were significantly correlated across time points.

**Conclusions:** Results show promise for novel NAT measures (time, micro-errors) as valid, objective indicators of subtle cognitive difficulties that affect everyday function. Analyses of stability of scores over time showed evidence of practice effects over time, which along with predictive validity, should be explored in future work.

**Categories:** Aging

**Keyword 1:** everyday functioning

**Keyword 2:** dementia - Alzheimer's disease

**Keyword 3:** neuropsychological assessment

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