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**Objective:** Cognitive reserve has been linked to functional ability, and depression has been shown to be associated with more functional impairment in older adults. While cognitive reserve and depression are associated and have each been shown to impact functional impairment, the independent impact of cognitive reserve on functional ability after accounting for depressive symptoms has not been explored. For the purpose of this study, years of education served as a proxy for cognitive reserve, which is consistent with the literature. It was predicted that higher levels of education would be associated with better functional ability regardless of age and severity of depressive symptoms.

**Participants and Methods:** Participants (ages 55 to 90) were drawn from the Alzheimer's Disease Neuroimaging Initiative (N=3407); participants with major depression were not included. Subsyndromal depressive symptoms were measured using the Geriatric Depression Scale (GDS < 6) and functional impairment was assessed using the Functional Activities questionnaire. A three-stage hierarchical regression was conducted with functional ability as the dependent variable.

**Results:** Age, entered at stage one of the regression model, was a significant predictor ( $F(1,1427) = 49.75, p < .001$ ) and accounted for 3.4% of the variance in functional ability. Adding depressive symptoms to the regression model led to a significant increase in variance explained ( $F(1,1426) = 64.57, p < .001$ ), accounting for an additional 4.2% of the variance in functional ability. Adding years of education to the regression model explained an additional 1.4% of variance in functional ability and this increase in variance explained was significant ( $F(1,1425) = 22.53, p < .001$ ).

**Conclusions:** Cognitive reserve (operationalized as higher levels of education) was associated with higher functional ability even after accounting for age and depressive symptoms.

**Categories:** Aging

**Keyword 1:** activities of daily living

**Keyword 2:** cognitive reserve

**Keyword 3:** depression

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## 68 Associations between within-domain intraindividual variability and functional abilities in cognitively healthy older adults

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**Objective:** Cognitive performance, particularly in the domains of memory and executive functioning (EF), have been shown in previous research to predict decline in everyday functioning in older adults. The goal-control model posits that episodic memory difficulties cause weak or decaying task goals that lead to the omission of every day task steps (low accomplishment). EF difficulties preclude control over the execution of task goals that lead to inefficient and error-prone performance (high errors). Intraindividual variability (IIV) in neuropsychological test performance has been proposed as a noninvasive early marker of dementia and has utility in cognitively healthy older adults. In this study we examined cross-sectional relations between within-domain IIV in memory and attention/EF with performance of everyday tasks in the lab. We expected greater memory IIV to be associated with task accomplishment (goal decay), and greater attention/EF IIV to be associated with errors (poor control over goals).

**Participants and Methods:** 40 cognitively normal (CN) older adult (65+) participants (M age=71.44, SD=10.62; 73.8% women; 85.7% White; M education=18.55, SD=8.38) completed the Naturalistic Action Test (NAT), requiring completion of standardized, everyday tasks (i.e., breakfast, lunch) and scored for accomplishment of steps and various errors (micro-errors - misreach to distractor object, extra actions; overt -sequence, perseverative behaviors, etc.; motor errors). Within-domain IIV measures were calculated for 6 memory measures (HVLt-R, BVMT-R) and 6 attention/EF measures (Digit Span, Trail Making Test, Salthouse Letter/Pattern Comparison). First, raw scores for each test were z-transformed, then the

intraindividual standard deviation of all z-scores was calculated. Bivariate Spearman's rank-order correlations were used to examine associations between NAT performance and within-domain IIV, as well as mean performance. Linear regressions were used to examine the associations of IIV score with NAT scores, adjusting for age, sex, and mean cognitive performance.

**Results:** Among CN participants, higher memory IIV was significantly associated with lower NAT accomplishment ( $r=-.329$ ,  $p=.038$ ), and better mean memory performance was significantly associated with fewer errors (micro-errors  $r=-.509$ ,  $p=.003$ ; overt  $r=-.438$ ,  $p=.012$ ; motor errors  $r=-.463$ ,  $p=.008$ ). Regression models revealed that memory IIV, after controlling for mean memory performance, age, and sex, did not significantly predict NAT performance. High attention/EF IIV was significantly associated with more errors (overt  $r=.377$ ,  $p=.016$ ), whereas mean attention/EF performance was not significantly correlated with any NAT measures. Attention/executive function IIV significantly predicted errors (micro-errors  $B=4.15$ ,  $p=.03$ ; Overall model:  $R^2=0.285$ ,  $F(4, 24)=2.393$ ,  $p=.079$ ; overt  $B=.562$ ,  $p=.032$ ; Overall model:  $R^2=0.371$ ,  $F(4, 24)=3.543$ ,  $p=.021$ ) after adjusting for mean attention/executive function performance, age, and sex.

**Conclusions:** Consistent with the goal-control model framework, greater variability in memory was associated with lower task accomplishment, whereas greater variability in attention/EF was associated with more errors. However, only attention/EF IIV predicted NAT performance, specifically errors (micro-errors, overt errors), after adjusting for age, sex, and mean attention/EF performance. Within-domain IIV can be used to predict mild functional difficulties in cognitively healthy older adults. Future research should examine within-domain IIV in a larger sample with more diversity to maximize generalizability, and in a longitudinal design to evaluate within-domain IIV predictive validity for cognitive/functional impairment.

**Categories:** Aging

**Keyword 1:** aging (normal)

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## 69 Evaluation of Ethnoracial Differences in Self- and Study-Partner Reported Subjective Cognitive Decline

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**Objective:** 1) Evaluate the association of self- and study-partner report of subjective cognitive decline (SCD) to objective cognitive performance across ethnoracial groups. 2) Evaluate the concordance of self- and study partner report of SCD across ethnoracial groups. **Participants and Methods:** Participants were 5241 non-Hispanic White (NHW), 267 non-Hispanic Black (NHB), 225 Hispanic, and 228 Asian participants screened for the A4 study (N=5961). Participants completed the Preclinical Alzheimer Cognitive Composite (PACC), and self- and study partner-report of SCD using the Cognitive Function Index (CFI). Analysis of variance was used to assess difference in key variables by ethnoracial group. Regression analyses were conducted to evaluate the association of SCD and objective performance by ethnoracial group, and the association between self- and study partner report of SCD by ethnoracial group.

**Results:** Asian participants reported the highest mean CFI relative to all other groups, while NHW reported the lowest ( $F(3,5957)=41.93$ ,  $p<.001$ ). Asian and NHW participants had higher PACC scores relative to NHB and Hispanic participants ( $F(3,5957)=41.93$ ,  $p<.001$ ). Regression analyses revealed higher CFI was associated with lower PACC score across groups, and this association was strongest in the Asian sample relative to other groups ( $F(10, 5897)=40.49$ ,  $p<.001$ ,  $R^2=.06$ ). Evaluation of study partner characteristics suggested NHB participants had the highest proportion on non-spousal study partners relative to other groups. Regression analyses revealed no differences in the association of self- and study partner report of SCD across ethnoracial groups ( $F(10, 5859)=132.9$ ,  $p<.001$ ,  $R^2=0.18$ ).

**Conclusions:** Results suggest that that SCD is associated with objective cognitive performance across racial groups, although the strength of this association appears to vary in this sample.