sample) or even the 5th percentile (21%) in the natural distribution of change scores. However, only 3.2% of normals had more than two declines in test performance below the 10th percentile, and less than 1% of the sample at more than one change score at the 5th percentile. This suggests that individuals who exhibit more multivariate changes in performance than these standards are likely experiencing an abnormal rate of cognitive decline. Our findings provide a preliminary quick-reference approach to identifying clinically significant cognitive change. Future studies will explore additional batteries and examine multivariate frequencies of change in clinical populations.

Categories: Aging
Keyword 1: aging (normal)
Keyword 2: neuropsychological assessment
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30 Exploring the Differential Importance of Modifiable Fitness Variables on Cognitive Performance in Older Adults

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Objective: To identify the relative contributions and importance of modifiable fitness and demographic variables to cognitive performance in a cohort of healthy older adults.
Participants and Methods: Metrics of modifiable fitness (gait speed, respiratory function, grip strength, and body mass index (BMI)) and cognition (executive function, episodic memory, and processing speed) were assessed in 619 older adults from the Health and Retirement Study 2016 wave (mean age = 74.9, sd = 6.9; mean education = 13.4 years, sd = 2.6; 42% female). General linear models were employed to assess the contribution of modifiable fitness variables in predicting three domains of cognition: executive function, episodic memory, and processing speed. Demographics (age, sex, education, time between appointments, and a chronic disease score) were entered as covariates for each

model. Relative importance metrics were computed for all variables in each model using Lindeman, Merenda, and Gold (lmg) analysis, a technique which decomposes a given model's explained variance to describe the average contribution of each predictor variable, independent of its position in the linear model.
Results: When all variables were entered into the general linear model, demographic and modifiable fitness variables explained 35%, 24%, and 26% of the variance in executive function, episodic memory, and processing speed, respectively (all three models were significant, $p < 0.001$). Age, education, respiratory function, and walking speed had higher relative importance values (all lmgs > 1.8) compared to BMI, grip strength, and other covariates in all three models (all lmgs < 1.3). Gender was also relatively important in the executive function (lmg = 4.2) and episodic memory models (lmg = 5.0). Of the modifiable fitness variables, walking speed and respiratory function had the greatest lmg values (5.8 and 6.4 respectively) in the executive function model, similar to demographic variables age (lmg = 6.0) and education (lmg = 8.9). When demographic variables were entered as covariates, modifiable fitness variables collectively accounted for an additional 9.7%, 6.3%, and 6.0% variance in the executive function, episodic memory, and processing speed models respectively (all three models were significant, $p < 0.001$).
Conclusions: Our findings indicate that walking speed and respiratory function are of similar importance compared to "traditional" demographic variables such as age and education in predicting cognitive performance in a cohort of healthy older adults. Moreover, modifiable fitness variables accounted for unique variance in executive function, episodic memory, and processing speed after accounting for age and education. Modifiable fitness variables explained the most unique variance in executive function. These results extend the current literature by demonstrating that modifiable fitness variables, even when assessed with brief and relatively coarse measures of physical performance, may be useful in predicting cognitive function. Moreover, the results highlight the need to assess metrics of cognitive reserve, such as education, as well as modifiable fitness variables and their respective roles in accounting for cognitive performance. The data further suggest that relative contributions of physical performance

metrics may vary by cognitive domain in healthy older adults.

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31 Understanding Health Beliefs and Health Behaviors in Older Adults at Risk for Alzheimer's Disease

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Objective: Given the aging population, there are significant public health benefits to delaying the onset of Alzheimer's disease (AD) in individuals at risk. However, adherence to health behaviors (e.g., diet, exercise, sleep hygiene) is low in the general population. The Health Belief Model proposes that beliefs such as perceived threat of disease, perceived benefits and barriers to behavior change, and cues to action are mediators of behavior change. The aim of this study was to gain additional information on current health behaviors and beliefs for individuals at risk for developing AD. This information can then be used to inform behavioral interventions and individualized strategies to improve health behaviors that may reduce AD risk or delay symptom onset.
Participants and Methods: Surveys were sent to the Rhode Island AD Prevention Registry, which is enriched for at-risk, cognitively normal adults (i.e., majority with a family history and/or an APOE e4 allele). A total of 177 individuals participated in this study. Participants were 68% female; 93% Caucasian and non-Hispanic; mean age of 69.2; 74% with family history of dementia; 40% with subjective memory decline. The survey included measures from the Science of Behavior Change (SoBC) Research Network to measure specific health belief factors, including individual AD risk, perceived future time remaining in one's life, generalized self-efficacy, deferment of gratification, consideration of future consequences as well as dementia risk awareness and a total risk score for dementia calculated from a combination demographic, health and lifestyle behaviors.
Results: Participants who were older had higher scores for dementia risk (r=0.78), lower future time perspective (r=-0.33), and lower generalized self-efficacy (r=-0.31) (all at p<0.001). Higher education correlated with higher consideration of future consequences (r=-.31, p<0.001) and lower overall dementia risk score (r=-0.23, p=0.006). Of all scales examined, only generalized self-efficacy had a significant linear relationship to both frequency (r^2=0.06) and duration (r^2=0.08) of weekly physical activity (p<0.001). Total dementia risk score also had significant linear relationships (r^2=0.19) with future time perspective (p<0.001) and generalized self-efficacy (p=0.48).
Conclusions: Overall, individuals who rated themselves higher in self-efficacy were more likely to exercise more frequently and for a longer duration. Individuals who had lower overall risk for dementia due to both demographic and behavioral factors were more likely to endorse higher self-efficacy and more perceived time remaining in their lives. Increasing self-efficacy and targeting perceived future time limitations may be key areas to increase motivation and participation in behavioral strategies to reduce AD risk. Developing individual profiles based on these scales may further allow for individually tailored intervention opportunities.

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33 The Impact of Context on Memory for Short Stories Among Older and Younger Adults

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Objective: On traditional pattern separation tasks, older adults perform worse than younger adults when identifying similar objects but