EXAMINING THE RELATIONSHIP BETWEEN COGNITIVE FUNCTIONING AND SUBJECTIVE WELL-BEING ACROSS AGE

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Higher levels of subjective well-being (SWB) are associated with myriad of positive outcomes, including better physical health. Several variables have been shown to predict SWB, including cognitive functioning. The relationship between aspects of SWB (positive affect, negative affect, and life satisfaction) and cognition were examined in participants (N = 5, 125) between the ages of 18- 99 years from the Virginia Cognitive Aging Project (VCAP). Participants completed a battery of cognitive tasks, including tests of verbal episodic memory, processing speed, reasoning, spatial visualization, and vocabulary. Cross-sectional analyses were conducted using structural equation modeling, using full information maximum likelihood estimation. In the models, the five latent cognitive constructs simultaneously predicted each of the SWB outcome variables separately. Age, education, gender, and self-rated health were included as covariates. Results show that reasoning was a significant unique predictor of negative affect (-.30), vocabulary was a significant unique predictor of positive affect (-.21), and spatial visualization was a significant unique predictor of life satisfaction (.21). Age moderation was examined by dividing the sample into three age groups (younger, middle-aged, and older). There was some evidence of age moderation. Namely, spatial visualization was a significant unique predictor of life satisfaction in the younger sample only. Reasoning and processing speed predicted negative affect in the younger group, whereas only reasoning predicted negative affect in the older group. In conclusion, in a large community-based sample spanning adulthood, there is evidence that cognition predicts aspects of SWB but there is variation across SWB outcome variables, and across age.

DOES CHANGE IN COGSTATE MONTHLY COGNITIVE MONITORING OF OLDER ADULTS TRACK WITH 2-YEAR CHANGE IN GLOBAL COGNITION?

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CogState is a repeatable, accessible online cognitive testing suite with evidence of low practice effects that could be used as a monitoring tool to detect cognitive decline early. We compared participants' change in CogState to change in the Telephone Interview for Cognitive Status (TICS). Participants (N = 41, age M = 75.5, 66% female) completed monthly CogState and two TICS assessments over two years. Reaction time on a psychomotor speed task, attention task, and working memory task, and accuracy on a memory task were assessed. A TICS difference score was calculated to measure change. Standardized scores were used. Covariates were age, sex, and education. Paired t-tests indicated that participants performed worse on the TICS the second time, p = .02, Cohen's d = 0.39, but better on their last working memory task, p = .007, Cohen's d = 0.45, and their last memory task, p = .001, Cohen's d = 0.56. Growth curve models indicated CogState memory and working memory scores improved over time, ps < .05, by 0.17 SD accuracy units and 0.16 SD speed units, respectively. There were no significant TICS difference score by time interactions, indicating that changes in CogState were not related to change in TICS. CogState monthly repeat assessment did not track with change in the TICS, indicating that participants may become more proficient in task performance with repeated testing even while global cognition worsens. Despite prior evidence of low practice effects, less frequent assessment may still be warranted to avoid losing sensitivity to change.

EFFECTS OF MINDFUL FELDENKRAIS EXERCISES AND STRENGTH TRAINING ON COGNITIVE EXECUTIVE FUNCTION IN OLDER ADULTS

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Decline in cognitive function associated with aging is one of the greatest concerns of older adults and often leads to significant burden for individuals, families, and the health care system. This 3-arm randomized controlled trial (RCT) responds to the urgent need to identify strategies which can enhance and/or maintain cognitive vitality in older adults. The study is funded by the National Institute on Aging, and aims to examine the effects of both the mind-body exercise Feldenkrais and strength training on cognitive executive function in independent living older adults (N=90) age 65 to 85. Participants of the first wave (n=45) were randomized to a (1) Feldenkrais group, (2) strength training and (3) no-intervention control group. Intervention groups met twice a week for 12 weeks. Cognitive and physical performance measures of the NIH-Toolbox were used at baseline, post-intervention and at a 3-month follow-up. Results of changes in cognitive executive functions within and across groups will be presented. The findings will suggest if such interventions would be a viable low-cost option for older adults to maintain cognitive vitality and thereby impact the development of programs and guidelines for combatting decline in cognitive function.

COGNITIVE FUNCTIONING AMONG BREAST CANCER SURVIVORS AND NON-CANCER PARTICIPANTS: EVIDENCE FOR SIMILARITIES

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Breast cancer survivors may experience accelerated decline in cognitive functioning compared to same-aged peers with no cancer history (Small et al., 2015). Survivors may show important differences in mean-level performance or variability in cognitive functioning compared to those without a history of cancer (Yao et al., 2016). This study compared ambulatory cognitive functioning in a sample of breast cancer survivors and an age-matched community sample without a history of cancer

(n_cancer=47, n_non-cancer=105, age range: 40-64 years, M=52.13 years). Participants completed three cognitive tasks measuring working memory, executive functioning, and processing speed up to five times per day for 14 days. Results indicated no mean-level differences in cognitive performance on the three tasks between cancer survivors and those without cancer history (p's>.05). Unexpectedly, women without cancer history showed more variability than survivors on working memory but not on the other two tasks. Across both groups, those without a college education performed worse on executive functioning (B=-0.05, SE=0.03, p<.05) and working memory (B=0.94, SE=0.36, p<.05) compared to those that completed college. Additionally, older age was associated with slower processing speed (B=31.67, SE=7.44, p<.001). In sum, this study did not find mean-level group differences in cognitive functioning between cancer survivors and age-matched women without a history of cancer. Contrary to hypotheses, those without a history of cancer were more variable on working memory. Results suggested similarities in cognitive functioning in the two samples and that education and age are important predictors of cognitive functioning independent of cancer history.

EXPLORING THE WITHIN-PERSON COUPLING RELATIONSHIP BETWEEN BLOOD PRESSURE AND COGNITION IN OLDER AFRICAN AMERICANS

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We examined the within-person relationship between systolic blood pressure (SBP) and cognition and whether this association is moderated by hypertension status and stress level. Analysis was conducted on 50 (39 women and 11 men) community-dwelling African Americans ranging in age from 50 to 80 years (M = 65.40, SD = 8.53). Participants' blood pressure and cognition (i.e., executive function, memory, perceptual speed, inductive reasoning, constructional praxis, and language) was assessed on 8 different occasions over a 2-week time period. Stress was measured at baseline using the Elderly Life Stress Inventory. Findings show on days systolic blood pressure increased above an individual's average level, their memory performance also tended to improve on that day. A significant 3-way interaction was further observed; such that on occasions when an individual's systolic blood pressure was above his or her personal average, their executive functioning performance (i.e., Letter Fluency test) was significantly better, particularly for participants who on average had a high SBP (or were hypertensive) and reported a history of high stress. These results suggest that higher levels of blood pressure are related to better cognitive performance among middle age to older African Americans. These counterintuitive findings may be attributed to the inclusion of a selective sample of resilient African Americans who have survived despite having adverse health conditions. This association may also arise from stress induced high effort coping, which is needed to perform well on cognitive tasks but also increases blood pressure.

CHANGES IN COGNITIVE FUNCTION AMONG SENIOR AMERICANS: TRENDS AND DIFFERENCES BY RACE

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Improvements in health and increase in life expectancy have contributed to the increasing proportion of older population over the past century. It is estimated that by 2050, the number of older adults with cognitive impairments in the United States will increase by 2.5-4 fold, while age-specific rates remain constant. This paper uses data from 10 waves (1996-2014) of the Health and Retirement Study (N= 33213) to crystalize the trends in cognitive function changes and cognitive impairment rates in a nationally representative sample of older adults. OLS and logistic regressions are used to estimate the trends and determine the contribution of sociodemographic variables to decreasing trends in the prevalence of cognitive impairment over time. Results show that with the increase of age, the cognitive function of older adults decline in all races, after adjustment for age, gender, education, and other sociodemographic factors. Also, the annual decline rate of cognitive function is larger for African Americans and Hispanic Americans, while smaller for white and other races. A further investigation of the possibility of cognitive impairment reveals a different scenario: as individual ages, the Hispanic are the least likely to suffer from cognitive impairment, followed by the white, other and black. Improvements in educational level contribute to declines in cognitive impairment across all races, particular the Hispanic Americans. Race-specific findings suggest that future research need to take into account the racial diversity and possibly cultural influences when examining the cognitive functions of older adults.

PURPOSE IN LIFE PROTECTS AGAINST COGNITIVE DECLINE AMONG OLDER ADULTS

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Objective: This study examined whether having a sense of purpose in life protects against cognitive decline among older adults and whether purpose in life moderates the relationship between selected risk factors (age, sex, and race/ethnicity) and cognitive abilities. Methods: This was a longitudinal analysis of existing secondary data of adults (N = 11,557) aged 50 or older using the 2006 –2012 waves of the Health and Retirement Study. The study measured purpose in life, cognitive functioning score, and various covariates. Results: Growth curve modeling revealed that, after adjusting for covariates, purpose in life was positively associated with participants' total cognition scores. Purpose in life significantly moderated the relationship between age and race/ethnicity and cognitive decline. Further, purpose in life was a protective factor against cognitive decline for those who were older and black. There was no significant interaction between purpose in life and sex. Conclusion: Having a purposeful life protects against cognitive decline in older adults, and the associations varied by age and race/ethnicity, but not