SIX FACTORS TO TRIGGER COGNITIVE DEVELOPMENT ACROSS THE LIFESPAN: A NEW THEORETICAL FRAMEWORK

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We present a novel theoretical life course framework (CALLA – Cognitive Agility across the Lifespan via Learning and Attention) that uses research from cognitive development (with infants and children) to inform cognitive aging. This framework posits that an increase in cognitive abilities (e.g., memory, attention, inhibition) during infancy and childhood is partially an outcome of a specific type of learning approach, which may be triggered by 6 critical factors (e.g., open-minded learning, scaffolding, growth mindset). Our framework suggests that one cause of healthy age-related cognitive decline (besides known causes, such as neurodegeneration) may be a decrease in these 6 factors. We hypothesize that these factors remain important throughout adulthood and can mitigate age-related cognitive decline in healthy adults. Our framework differs from current dominant frameworks that argue that cognitive abilities are separate “modules” that can be isolated and trained. Infant and child development research suggests that an outcome of acquiring new skills and knowledge is the development of cognitive abilities. Future studies will determine whether this is also the case in aging adulthood. This framework pushes the limits of current estimates of neuroplasticity and cognitive functioning in aging adults. By providing learners with maximally supportive environments we can expand cognitive performance beyond currently known limits.

AGE DIFFERENCES IN AFFECTIVE AND BIOLOGICAL CORRELATES OF MOMENTARY SOLITUDE

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Spending time alone constitutes a ubiquitous part of our everyday lives. As we get older, alone time increases. However, not much is known about age differences in the experience of spending time alone (momentary solitude). We examined relationships between momentary solitude, affect quality, and two hypothalamic-pituitary-adrenal axis activity markers (salivary cortisol; dehydroepiandrosterone sulfate [DHEAs]) to better understand the affective and biological correlates of momentary solitude across the adult lifespan. For this purpose, 185 adults aged 20 to 81 years (M age = 49 years, 51% female, 74% Caucasian) completed questionnaires on momentary solitude (alone vs. not alone) and current affect on a handheld device and provided concurrent saliva samples up to seven times a day for 10 consecutive days. Multilevel model results showed that, compared to being with others, momentary solitude was concurrently associated with reduced high arousal positive affect, increased low arousal positive affect, and increased low arousal negative affect. Age by solitude interactions indicate that greater age was associated with increased high arousal positive affect and reduced low arousal negative affect during momentary solitude. Furthermore, momentary solitude was associated with increased cortisol and DHEAs. With greater age, the association between momentary solitude and cortisol weakened and was not significant in adults aged 52 years and older. Findings suggest that momentary solitude can be a double-edged sword as evidenced by both positive and negative well-being implications. Importantly, greater age is linked to more favorable affective and biological correlates of momentary solitude.

SOCIOECONOMIC STATUS AND LONGLATIDUAL AGING PATTERNS ACROSS DOMAINS

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Socioeconomic status (SES) is associated with individual differences in physical, emotional, and cognitive functioning across the lifespan. Additionally, self-reported financial strain is associated with these outcomes above and beyond commonly used SES indicators based on education and occupation. To further understand the association of SES with individual aging patterns across multiple domains, the current study considered longitudinal change for physical, emotional, and cognitive functioning. The sample included 857 individuals between 50 and 87 years of age at baseline assessment from a Swedish aging cohort. Individual growth curve estimates with up to 27 years follow-up were used as indicators in a latent class analysis. Meaningful classes distinguished individuals based on level of functioning and change across age among physical, emotional, and cognitive traits. Notable aging classes included one with high functioning coupled with low depressive symptom patterns and a class characterized by low functioning coupled with high depressive symptom patterns. Compared to the high functioning class, the low functioning class had accelerated declines on verbal ability before age 75 and slower declines on spatial reasoning and grip strength after age 75. The effect of level of education, socioeconomic index (SEI; based on highest household occupation), and a measure of financial strain on individuals’ aging class membership was tested. Results indicate that a higher SEI and lower financial strain are associated with healthier, high functioning aging patterns across domains controlling for the effects of education. Socioeconomic factors may be acting as buffers against aging patterns characterized by low functioning in multiple domains.

EXPLORATORY SEARCH FOR HETEROGENEITY IN CHANGE ACROSS OLD AGE USING STRUCTURAL EQUATION MODEL TREES

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As previously examined using dynamic longitudinal models (Jacobucci, Grimm, & Zelinski, in preparation) to study the trajectory of both cognition and health in the Health and Retirement Study, change often takes on a nonlinear form. Studying change using structural equation models allows for individual differences in both intercepts and slopes, however, the assumption is made that the trajectory form is the same for everyone in the sample. Including demographic