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Behavioral Engagement, Brain Fitness, and Cognitive Functioning across the Lifespan: Clinical and Research Highlights

As we witness an historic global aging of the population, the public health issues surrounding age-related cognitive declines mount, especially in lieu of diseases and comorbidities that accentuate or accelerate such age-related declines. As clinicians and researchers, an understanding of these gradual age-related cognitive declines is helpful in educating patients and the population how to prevent or abate such declines by bolstering cognitive reserve across the lifespan, beginning from birth until death. In this keynote address, examples of behavioral engagement (e.g., physical activity, education, employment) and its association with sustained cognitive functioning in middle-aged and older adults are provided within the context of cognitive reserve and positive/negative neuroplasticity. Although still controversial, highlighted is the emerging role of brain fitness programs such as computerized brain training software that utilize specially designed exercises to target improvement in specific cognitive domains (e.g., speed of processing). Studied in a variety of clinical settings, such brain fitness programs are combined with other novel approaches, such as transcranial direct current stimulation, in an attempt to increase cognitive reserve and cognitive functioning. Examples from the gerontological, cancer, and HIV literatures are reviewed along with general recommendations for practice and research.

Biography

David E Vance is a Psychologist at the University of Alabama at Birmingham and is studying cognitive remediation and aging with HIV. He has +180 peer-reviewed publications. He received a White House invitation to attend the first forum on aging with HIV and has participated as an invited member of the USA National Institutes of Health Think Tank – Working Group on HIV and Aging. Recently, he was awarded a 2.8 million dollar grant from the USA National Institute of Mental Health titled, “An RCT of Speed of Processing Training in Middle-Aged and Older Adults with HIV.”

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