

24 Associations Between Positive Psychological Factors and Neurocognitive Functioning in Older Adults

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Objective: Psychological wellness and strong cognitive skills are both important to successful aging. Although there are well-established relationships between psychiatric illness (e.g., depression, anxiety, PTSD) and cognitive dysfunction, few studies have focused on the relationships between positive psychological factors and neurocognitive function in older adults. Our goal was to explore associations between these two sets of measures in older adults.

Participants and Methods: Participants (n=111) were part of a longitudinal study of biopsychosocial functioning in independently living older adult residents of a Continuing Care Senior Housing Community. Participants were administered a cognitive screening test (Montreal Cognitive Assessment; MoCA), a comprehensive neuropsychological battery, and a set of published self-report scales measuring positive emotional and psychological function. Neuropsychological scores were appropriately normed, and composite scores were calculated for the following domains: language (Boston Naming Test, Delis-Kaplan Executive Function System [D-KEFS] Verbal Fluency), attention/working memory (Wechsler Adult Intelligence Scale-IV [WAIS-IV] Digit Span, D-KEFS Visual Scanning), learning and delayed recall (Brief Visuospatial Memory Test-Revised, Hopkins Verbal Learning Test-Revised), processing speed (WAIS-IV Coding, D-KEFS Trails Number and Letter Sequencing, D-KEFS Color-Word Interference Test Color and Word Naming), and executive function (D-KEFS Color-Word Inhibition and Inhibition/Switching, D-KEFS Letter/Number Switching). Self-Report scales included the Perceived Stress Scale, Center for Epidemiological Studies in Depression Scale, Emotional Support Scale, Connor-Davidson Resilience Scale, Coping

Humor and Self-Efficacy Scales, Personal Mastery Scale, Meaning in Life Scale, Self-Rated Successful Aging, Satisfaction with Life, Cognitive Failures Questionnaire, and Lifetime Orientation Test-Revised. Due to the large number of psychological functioning measures, dimension reduction was undertaken via principal component analysis, resulting in a two-factor solution. Bivariate Pearson correlations were then computed between the two factor scores and each neurocognitive variable.

Results: Factor 1 consisted of variables reflecting Positive Subjective Functioning. A higher score on Factor 1 (indicating higher self-rating of successful aging, fewer perceived cognitive failures, fewer reported depressive symptoms, less perceived stress/anxiety, more perceived emotional support, more satisfaction with life, more meaningfulness in life, and more search for meaning in life) was associated with better attention/working memory ($r=0.226$, $p=0.049$) and executive function ($r=0.242$, $p=0.035$). Factor 2 consisted of variables that reflected Positive Coping Skills. A higher score on Factor 2 (indicating more happiness, higher optimism, greater resilience, higher sense of personal mastery, more use of humor as a coping strategy, and greater coping self-efficacy) was associated with better performance on tests of language ($r=0.325$, $p=0.004$), learning ($r=0.313$, $p=0.006$) and delayed recall ($r=0.241$, $p=0.035$) of visual and verbal information, and better MoCA performance ($r=0.440$, $p<0.001$). Neither factor was associated with processing speed.

Conclusions: Higher levels of subjective functioning and positive outlook/coping skills were associated with better neuropsychological performance. Given that late life is a time of risk for cognitive decline, future research should consider the influence of positive psychological functioning on neurocognitive outcomes and vice versa, as these relationships may have neurobiological and therapeutic implications for overall function in later life.

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Keyword 1: cognitive functioning

Keyword 2: quality of life

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