

Adverse childhood experiences associated with worse cognitive function in community-dwelling older adults

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Childhood trauma can impact a person's life into adulthood. According to University of Maine research, adverse childhood experiences may

even have a negative impact on cognitive function as people age.

UMaine researchers assessed the intellectual abilities, verbal memory, visual memory and executive attention of participants ages 55 to 90 years old recruited as part of the Maine-Aging Behavior Learning Enrichment (M-ABLE) Study at UMaine. Self-report measures were also used to examine levels of depressive symptoms, self-efficacy and cognitive concerns. Finally, a questionnaire measured childhood experiences of abuse, neglect and household dysfunction. Over 56% of participants reported experiencing early life abuse or neglect.

The results show that [adverse childhood experiences](#) were negatively associated with annual income level and years of [education](#), but positively associated with depressive symptoms and self-reported cognitive concerns. Adverse childhood experiences were also a significant predictor of lower performance on measures of intellectual function and executive attention; however, these relationships were no longer significant after adjusting for years of education.

"In other words, the number of years of education accounted for the [significant relationship](#) between early life adversity and worse cognitive function," says Amy Halpin, first author of the study and a UMaine doctoral student in clinical psychology. "This means that more years of education may help mitigate the harmful impact of adverse childhood experiences. It is still unclear if there is a critical window in which this education should be completed, or if education at any point in life can promote better brain functioning in [older adults](#)."

Overall, the researchers suggested that a greater degree of childhood adversity may increase vulnerability for cognitive problems in late life by way of fewer years of early education, lower socioeconomic status and greater risk for mental health concerns.

"Although we cannot change the past, we can identify activities and behaviors that may help lessen the negative downstream effects of childhood adversity. Studying things that increase resiliency may help us to identify targets for interventions and encourage meaningful lifestyle changes for older adults at risk," Halpin says.

In particular, learning more about coping styles and [personality traits](#) may shed light on how individuals overcome early life adversity and identify psychosocial treatments that may reduce risk and help prevent cognitive decline in later life.

The study was published in the *Journal of the International Neuropsychological Society*. To the researchers' knowledge, the study is the first to comprehensively examine the effect of adverse childhood experiences on cognitive functions and risk of cognitive decline in independent community-dwelling older adults.

"Notably, mediation analyses suggested that the relationship between childhood adversity and lower cognitive performance was a result of less education. These findings have important implications for public health and programs that support continued education in those with adverse [childhood](#) backgrounds. Further, building self-efficacy may help to increase resilience and support learning in this population," says Rebecca MacAulay, co-author and principal investigator of the study, and assistant professor of psychology at UMaine.

MacAulay says longitudinal research is needed to better understand how these relationships change over time, and to be able to determine cause-and-effect relationships. It also will be important in developing interventions for older adults that support autonomy and learning, such as the Maine Understanding Sensory Integration and Cognition (MUSIC) Project that teaches music to older adults.

More information: Amy B. Halpin et al, Are Adverse Childhood Experiences Associated with Worse Cognitive Function in Older Adults?, *Journal of the International Neuropsychological Society* (2021). DOI: [10.1017/S1355617721001272](https://doi.org/10.1017/S1355617721001272)

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