

Negative beliefs about aging predict Alzheimer's disease

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Diagram of the brain of a person with Alzheimer's Disease. Credit: Wikipedia/public domain.

Newly published research led by the Yale School of Public Health demonstrates that individuals who hold negative beliefs about aging are more likely to have brain changes associated with Alzheimer's disease.

The study suggests that combatting negative beliefs about aging, such as elderly people are decrepit, could potentially offer a way to reduce the rapidly rising rate of Alzheimer's disease, a devastating neurodegenerative disorder that causes dementia in more than 5 million Americans.

The study led by Becca Levy, associate professor of [public health](#) and of psychology, is the first to link the brain changes related to Alzheimer's disease to a cultural-based psychosocial risk factor. The findings were published online Dec. 7 in the journal *Psychology and Aging*.

"We believe it is the stress generated by the negative beliefs about aging that individuals sometimes internalize from society that can result in pathological [brain changes](#)," said Levy. "Although the findings are concerning, it is encouraging to realize that these negative beliefs about aging can be mitigated and positive beliefs about aging can be reinforced, so that the adverse impact is not inevitable."

Study authors examined healthy, dementia-free subjects from the Baltimore Longitudinal Study of Aging, the nation's longest-running scientific study of aging. Based on MRIs, the researchers found that participants who held more negative beliefs about aging showed a greater decline in the volume of the hippocampus, a part of the brain crucial to memory. Reduced hippocampus volume is an indicator of Alzheimer's disease.

Then researchers used brain autopsies to examine two other indicators of Alzheimer's disease: amyloid plaques, which are protein clusters that build up between [brain cells](#); and [neurofibrillary tangles](#), which are twisted strands of protein that build up within brain cells. Participants holding more negative beliefs about aging had a significantly greater number of plaques and tangles. The [age](#) stereotypes were measured an average of 28 years before the plaques and tangles.

In both stages of the study, Levy and her colleagues adjusted for other known risk factors for Alzheimer's disease, including health and age.

Provided by Yale University

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