

Loneliness associated with increased risk of dementia in older adults

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Figure 2. Ten-Year Cumulative Incidence of Dementia by Loneliness Status

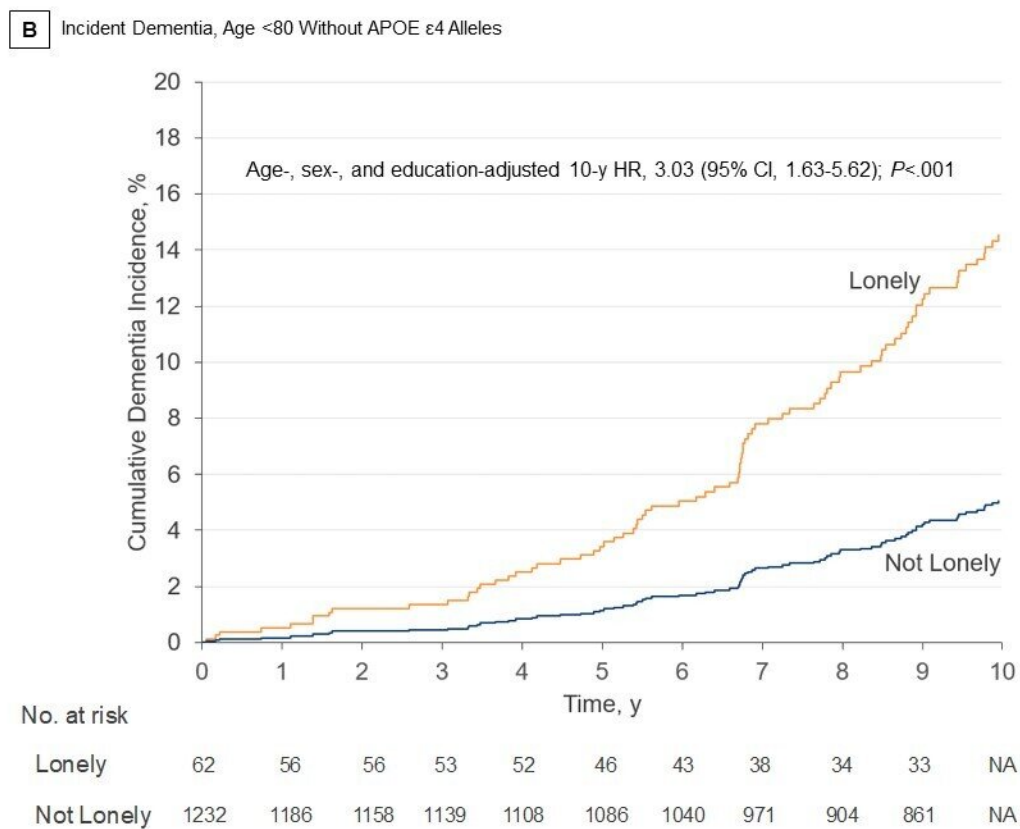


Chart showing incident of dementia for adults under age 80 without APOE ε4 allele, a genetic risk factor for Alzheimer's disease. Credit: NYU Langone Health

As social isolation in the United States has been increasing among older adults, a new study shows a notable link between loneliness and dementia risk, and one that is most striking for Americans who represent a large part of the population.

In the study publishing February 7 in *Neurology*, the medical journal of the American Academy of Neurology, researchers found a three-fold increase in risk of subsequent dementia among lonely Americans younger than 80 years old who would otherwise be expected to have a relatively low risk based on age and genetic risk factors. The study also found that [loneliness](#) was associated with poorer executive function (i.e., a group of cognitive processes including decision-making, planning, cognitive flexibility, and control of attention) and changes in the brain that indicate vulnerability to Alzheimer's disease and related dementias (ADRD).

"This study emphasizes the importance of loneliness and issues of social connection in addressing our risk of developing dementia as we age," says lead investigator Joel Salinas, MD, MBA, MSc, the Lulu P. and David J. Levidow Assistant Professor of Neurology at NYU Grossman School of Medicine and member of the Department of Neurology's Center for Cognitive Neurology. "Acknowledging signs of loneliness in yourself and others, building and maintaining supportive relationships, providing much-needed support for the people in our lives who are feeling lonely—these are important for everyone. But they're especially important as we age to increase the chances that we'll delay or perhaps even prevent [cognitive decline](#)."

Dementia affects more than 6.2 million adults in the United States, according to a 2021 [special report](#) by the Alzheimer's Association. Since the beginning of the coronavirus pandemic, feelings of loneliness have affected an estimated 46 million Americans, and more frequent feelings of loneliness were found in adults aged 60 and older.

"This study is a reminder that, if we want to prioritize brain health, we can't ignore the role of psychosocial factors like loneliness and the social environments we live in day-to-day," says Dr. Salinas. "Sometimes, the best way to take care of ourselves and the people we love is simply to regularly reach out and check in—to acknowledge and be acknowledged."

Dr. Salinas adds, "We can share with each other when we're feeling lonely, appreciate with each other how loneliness is common, and accept that giving and asking for support can be hard. Fortunately, loneliness can be cured. And although we might need to be vulnerable and creative in figuring out new ways to connect, chances are that even the smallest gesture will have been worth it."

How the Study Was Conducted

Using retrospective data of the population-based Framingham Study (FS), researchers reviewed 2,308 participants who were dementia-free at baseline, with an average age of 73. Neuropsychological measures and MRI brain scans were obtained at examination and participants were asked how often they felt lonely along with other depressive symptoms, such as restless sleep or poor appetite. Participants were also assessed for the presence of a genetic risk factor for Alzheimer's disease called the APOE ϵ 4 allele. Overall, 144 of the 2,308 participants reported feeling lonely three or more days in the past week.

The study population was assessed over a decade for dementia using rigorous clinical methods, and 329 of the 2,308 participants were subsequently diagnosed with the disease. Among the 144 lonely participants, 31 developed dementia. While there was no significant association between loneliness and dementia in participants aged 80 years or older, younger participants aged 60 to 79 who were lonely were more than twice as likely to develop [dementia](#). Loneliness was associated

with three-fold increased risk among younger participants who did not carry the APOE ε4 allele.

Researchers concluded that the tripling in risk was possibly related to associations between loneliness and early cognitive and neuroanatomical markers of ADRD vulnerability, raising potential population health implications for observed trends in loneliness. Additional findings showed that loneliness was related with poorer executive function, lower total cerebral volume, and greater white-matter injury, which are indicators of vulnerability for cognitive decline.

In addition to Dr. Salinas, researchers from the Boston University School of Public Health, Boston University School of Medicine, University of California Davis, and the Biggs Institute for Alzheimer's and Neurodegenerative Diseases at the University of Texas Health Sciences Center San Antonio were also involved in the study.

More information: Association of Loneliness With 10-Year Dementia Risk and Early Markers of Vulnerability for Neurocognitive Decline, *Neurology* (2022). [DOI: 10.1212/WNL.0000000000200039](https://doi.org/10.1212/WNL.0000000000200039)

Provided by NYU Langone Health

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