

Cohort study

Older adults reporting social isolation or loneliness show poorer cognitive function 4 years later

John T Cacioppo, Stephanie Cacioppo

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Center for Cognitive and Social Neuroscience, University of Chicago, Chicago, Illinois, USA

Correspondence to:

Dr John T Cacioppo

Center for Cognitive and Social Neuroscience, University of Chicago, 5848 S University Avenue, Chicago, IL 60637, USA; cacioppo@uchicago.edu

Commentary on: **Shankar A, Hamer M, McMunn A, et al.** Social isolation and loneliness: relationships with cognitive function during 4 years of follow-up in the English Longitudinal Study of Ageing. *Psychosom Med* 2013;**75**:161–70.

Implications for practice and research

- Population ageing is expected to produce a dramatic increase in the number of individuals with dementia.
- Patients' social isolation and loneliness are potentially modifiable risk factors for poor cognitive functioning.
- Attention to a patient's social environment may help preserve cognitive functioning in at-risk older adults.

Context

With the dramatic increase in life expectancy in developed countries, it has become important to identify factors that may mitigate the rising prevalence of cognitive dementia. The social environment in which older adults live has been linked to dementia, but the specific features of the social environment that are predictive have been elusive. Shankar and colleagues investigated the extent to which social isolation and perceived social isolation (loneliness) were predictive of declines in cognitive functioning.

Methods

A longitudinal health survey in which participants aged 50 years and above were tested, including follow-up questionnaires every 2 years over a period of 4 years, was conducted in England in the early 2000s. From 2004 to 2005 (wave 2), a baseline, including the first measure of loneliness, was introduced along with a test of short-term and long-term memory and executive function. A total of 8630 of the initial 8688 volunteers completed all the questions in the survey. In 2008–2009 (wave 4), 6034 of these participants (69%) had completed the follow-up. Demographic data (ie, wealth as a measure of socioeconomic status, cardiovascular disease (CVD), employment status, smoking, diabetes, physical activity and depression) were obtained in the 2004–2005 baseline and served as covariates in the regression analysis to determine the association between social isolation and loneliness and performance on each of the three cognitive tasks.

Findings

At baseline, 13.1% of the participants reported depression, 1.7% loneliness and 4.8% isolation. Loneliness and isolation were both positively associated with a series of covariates, such as depression, CVD, smoking and diagnosed

diabetes. Higher scores of loneliness and isolation were also associated with poorer cognitive function. After 4 years, the mean scores of cognition were significantly lower than at baseline, although the mean differences were small. After adjusting for covariates, loneliness and isolation were associated with poor memory among those low in education, and isolation was associated with poorer cognitive performance at follow-up.

Commentary

Loneliness has previously been related to various aspects of cognition, including cognitive decline and the onset of dementia in the elderly.¹ There are several differences between prior studies and the present study, however, so it is useful to explain this discrepancy.

First, both experimental and longitudinal research indicates that loneliness increases depressive symptomatology.¹ Consistent with this research, Shankar and colleagues reported that loneliness (but not isolation) was moderately correlated with their measure of depression. If loneliness were to alter cognitive functioning through its effects on depression or through a different but correlated mechanism, the inclusion of depression as a covariate in the initial analyses may mask the true association between loneliness and cognition.

Second, prior population-based studies of cognitive decline and dementia in older adults, including the Health and Retirement Study,² the Cardiovascular Health Study,³ the Framingham Study⁴ and the Sacramento Area Latino Study on Aging,⁵ specified the minimum requirements for the diagnosis of dementia as a cognitive impairment in at least two domains reflecting a decline from prior levels, and sufficient severity to affect daily functions. By contrast, Shankar and colleagues did not aggregate results across cognitive tasks or measure the effects on daily functions, but instead separately analysed the scores of participants on each of the three specific cognitive tasks.

Third, most prior studies investigated changes in cognition over periods of time at least twice as long as examined by Shankar and colleagues. The extent to which the small mean changes in performance over 4 years reflect age-related cognitive declines or dementia is uncertain. The authors raise important questions about the relevance, importance and practical implications of social isolation and loneliness on cognitive function in older adults, but the answers to these questions must await future research.

Competing interests None.

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