

Optimism is associated with exceptional longevity in 2 epidemiologic cohorts of men and women

Lewina O. Lee, Peter James, Emily S. Zevon, Eric S. Kim, Claudia Trudel-Fitzgerald, Avron Spiro III, Francine Grodstein, and Laura D. Kubzansky

PNAS first published August 26, 2019 <https://doi.org/10.1073/pnas.1900712116>

This article requires a subscription to view the full text. If you have a subscription you may use the login form below to view the article. Access to this article can also be purchased.

Significance

Optimism is a psychological attribute characterized as the general expectation that good things will happen, or the belief that the future will be favorable because one can control important outcomes. Previous studies reported that more optimistic individuals are less likely to suffer from chronic diseases and die prematurely. Our results further suggest that optimism is specifically related to 11 to 15% longer life span, on average, and to greater odds of achieving “exceptional longevity,” that is, living to the age of 85 or beyond. These relations were independent of socioeconomic status, health conditions, depression, social integration, and health behaviors (e.g., smoking, diet, and alcohol use). Overall, findings suggest optimism may be an important psychosocial resource for extending life span in older adults.

Abstract

Most research on exceptional longevity has investigated biomedical factors associated with survival, but recent work suggests nonbiological factors are also important. Thus, we tested whether higher optimism was associated with longer life span and greater likelihood of exceptional longevity. Data are from 2 cohorts, women from the Nurses' Health Study (NHS) and men from the Veterans Affairs Normative Aging Study (NAS), with follow-up of 10 y (2004 to 2014) and 30 y (1986 to 2016), respectively. Optimism was assessed using the Life Orientation Test–Revised in NHS and the Revised Optimism–Pessimism Scale from the Minnesota Multiphasic Personality Inventory-2 in NAS. Exceptional longevity was defined as survival to age 85 or older. Primary analyses used accelerated failure time models to assess differences in life span associated with optimism; models adjusted for demographic confounders and health conditions, and subsequently considered the role of health behaviors. Further analyses used logistic regression to evaluate the likelihood of exceptional longevity. In both sexes, we found a dose-dependent association of higher optimism levels at baseline with increased longevity (P trend < 0.01). For example, adjusting for demographics and health conditions, women in the highest versus lowest optimism quartile had 14.9% (95% confidence interval, 11.9 to 18.0) longer life span. Findings were similar in men. Participants with highest versus lowest optimism levels had 1.5 (women) and 1.7 (men) greater odds of surviving to age 85; these relationships were maintained after adjusting for health behaviors. Given work indicating optimism is modifiable, these findings suggest optimism may provide a valuable target to test for strategies to promote longevity.