

Research Paper

Unemployment, disability and life expectancy in the United States: A life course study

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Abstract

Background: Unemployment may be associated with health through factors including stress, depression, unhealthy behaviors, reduced health care, and loss of social networks. Little is known about associations of total lifetime unemployment with disability and life expectancy.

Hypothesis: People with high unemployment (\geq the median) will live shorter lives with more disability than those with less unemployment.

Methods: Data were nationally representative of African Americans and non-Hispanic whites, from the Panel Study of Income Dynamics (37 waves 1968–2011, $n = 7,970$, mean work years = 24.7). Seven waves (1999–2011, 58,268 person-years) measured disability in activities of daily living. We estimated monthly probabilities of disability and death associated with unemployment using multinomial logistic Markov models adjusted for age, sex, race/ethnicity, education, health status at baseline and throughout work life, and social support. We used the probabilities to create large populations with microsimulation, each individual having known monthly disability status, age 40 to death. We analyzed the populations to measure outcomes.

Results: Respectively for African American and white women and African American and white men, life expectancies (with 95% confidence intervals) from age 40 with low unemployment were ages: 77.1 (75.0–78.3), 80.6 (78.4–81.4), 71.4 (69.6–72.5), and 76.9 (74.9–77.9). Corresponding high unemployment results were: 73.7 (71.7–75.0), 77.5 (75.1–78.0), 68.4 (66.8–69.0), and 73.7 (71.5–74.3). The percentage of life disabled from age 40 was greater with high unemployment for the same groups, by 23.9%, 21.0%, 21.3%, and 21.1% (all $p < 0.01$).

Conclusions: High lifetime unemployment may be associated with a larger proportion of later life with disability and lower life expectancy. © 2016 Elsevier Inc. All rights reserved.

Keywords: Active life expectancy; African Americans; Disability; Health disparities; Unemployment

Many Americans experience unemployment. The United States Department of Labor defines being unemployed as not having a job, having actively looked for work in the past month, and being currently available for work.¹ At any time during the 2008–2013 recession more than twelve million Americans were unemployed, at least five million

for six months or more.² Even with economic recovery, 8.7 million are unemployed, nearly a third at least six months.² Globalization, changing technology, contract labor, and outsourcing may increase unemployment.³ There is evidence that unemployment is associated with declining health.^{4–7} However, studies of associations between

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Portions of preliminary results of this study were presented as a peer reviewed poster at the annual meetings of the Gerontological Society of America, Washington, DC, November 5–9, 2014, titled, “Associations between Unemployment and Active Life Expectancy: Four Decades of Panel Survey Evidence.”

The data used for this study are available from the Panel Study of Income Dynamics, <http://simba.isr.umich.edu/data/data.aspx>.

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unemployment duration and health have been limited to small geographic areas,^{8–10} brief periods,^{11,12} or heart attack.¹³ Little is known about associations of unemployment with active life expectancy, a central public health indicator that measures life expectancy and the proportions of later life with and without disability.^{14–16} We examined those associations.

Pathways linking unemployment with health

Researchers often attribute poor health associated with unemployment to stress.^{4,5,8,17} Research has suggested associations between unemployment and arthritis,⁷ dementia,⁷ depression,^{5,11,18–21} heart attack,¹³ heart disease,^{13,22} hypertension,²³ obesity,²⁴ stroke,¹² high cortisol and inflammation,^{25,26} poorer self-rated health,^{7,22} and suicide.⁵ Arthritis, dementia, depression, heart disease, obesity, and stroke have been linked with higher risks of impairments in activities of daily living (ADLs).²⁷ Results of two studies suggest that job loss may be associated with ADL impairment.^{11,28}

Unemployment may reduce self-efficacy, leading to poorer decisions about health, behaviors, and medical care.²⁹ Some people who lose their jobs may become less physically active, increase use of alcohol or tobacco,^{4,5,8,17,30,31} pay less attention to nutrition,^{8,24} or abuse drugs,^{24,31} although some research suggests that health behaviors may actually improve with unemployment.³² People who are unemployed may be less likely to control diabetes, heart disease, and lung conditions.³³ Unemployment affects social networks, roles, and relationships.^{8,17} Social isolation and relationship stress are associated with diseases linked with disability.³⁴ Unemployment can disrupt the sequence of life events such as establishing a career and retiring.^{21,35} Such disruptions have been associated with poorer health and increased mortality.²¹

A quantitative meta-analysis used 42 studies from throughout the world to examine the association of unemployment with mortality.³² Based on studies that adjusted for age and other covariates, unemployment was associated with a 78% higher mortality risk for men, 37% for women.³² Other studies have found 44% higher mortality following job loss from a plant closure,³⁶ and that mortality risk following job loss varied with macroeconomic conditions.⁹ Two studies examined such associations in the United States. One found 50%–100% higher mortality in the year after job loss among Pennsylvania workers with high seniority, with continuing risk even after 20 years.¹⁰ Another associated each 1% increase in county unemployment with a 6% increase in mortality for working age men.⁶

Many studies suggest that unemployment may follow disability, or that pre-existing health conditions or unhealthy behaviors increase the risks of both unemployment and later disability.³² Many of those studies are limited to cross-sectional data, providing limited information about which comes first, the risk factors or unemployment.³² However, the meta-analysis described above concluded that pre-existing behaviors and health conditions accounted for

some of the observed association between unemployment and mortality,³² so it is essential for studies in this area to control for health status before the period when unemployment is measured.¹⁸ The meta-analysis also found that pathways following unemployment were more strongly associated with mortality risk than the factors that preceded unemployment.³²

Unemployment and health for African Americans and whites

There is substantial evidence of disparities in health, disability, and life expectancy between African Americans and non-Hispanic whites (hereafter referred to as whites).^{25,37–43} If unemployment is differently associated with health for these groups, unemployment may be associated with those disparities. Hypotheses regarding unemployment and health for African Americans and whites include “double jeopardy,” more health consequences for African Americans due to social and economic disparities, and “reverse double jeopardy,” more negative health consequences for whites due to greater losses of income and job prestige.²² Limited empirical research has examined these hypotheses.²²

Study contributions and hypotheses

We modeled the association of unemployment with the joint dynamics of disability and death, the active life expectancy analysis, using panel survey data that followed individuals for 43 years. We hypothesized that people with high lifetime unemployment would have shorter lives with more disability than those with less unemployment. We controlled for health prior to the period when we measured unemployment, and also during that period. We controlled for educational attainment, which is associated with risks of unemployment, disability, and death,^{12,20,22,38} and for social support from spouses or partners, which may moderate risks of disability and death.^{8,18,22,44}

Limited evidence and conflicting theories about associations of unemployment with disability and life expectancy for African Americans and whites did not support a separate hypothesis regarding those associations. However, given the health disparities affecting African Americans and evidence that unemployment may be importantly associated with health, we believed it was useful to provide separate active life expectancy estimates for those groups.

To further address the possibility that health problems or disability may precede unemployment, we also examined associations of participants' reports of health problems that made it difficult to work with later unemployment. We refer to that portion of the study as the work disability analysis.

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