

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

## Annals of Epidemiology

journal homepage: [www.annalsofepidemiology.org](http://www.annalsofepidemiology.org)

## Original article

## The association between hardship and self-rated health: does the choice of indicator matter?

Gillian L. Marshall, PhD <sup>a,\*</sup>, Reginald Tucker-Seeley, ScD <sup>b</sup><sup>a</sup> Assistant Professor, University of Washington, Tacoma, Social Work Program, Tacoma, WA<sup>b</sup> Edward L. Schneider Assistant Professor of Gerontology, Leonard Davis School of Gerontology, University of Southern California, Los Angeles, CA

## ARTICLE INFO

## Article history:

Received 7 June 2017

Accepted 24 March 2018

Available online xxx

## Keywords:

Gender differences

Hardship

Health

Measurement

Self-rated health

## ABSTRACT

**Purpose:** The purpose of this study was to investigate the association between four specific forms of hardship (difficulty paying bills, ongoing financial stress, medication reduction due to cost, and food insecurity) and self-rated health among older men and women.

**Methods:** Cross-sectional logistic regression analysis was conducted using the 2010 wave of the Health and Retirement Study Leave-Behind Questionnaire ( $N = 7619$ ) to determine the association between four hardship indicators and self-rated health. Hardship indicators (difficulty paying bills, ongoing financial stress, medication reduction due to cost, and food insecurity) were dichotomized (0 = no hardship, 1 = yes hardship) for this analysis.

**Results:** After adjusting for sociodemographic factors, participants reporting difficulty paying bills had an 1.8 higher odds of reporting poor self-rated health (95% confidence intervals [CI]: 1.57, 2.15) and those reporting taking less medication due to cost had a 2.5 times higher odds of poor self-rated health (95% CI: 1.97, 3.09) compared to those not reporting these hardships. When stratified by gender, and adjusting for sociodemographic factors, men who took less medication due to cost had a 1.93 higher odds of low self-rated health (95% CI: 1.39, 2.67) and women who took less medications due to cost had a 2.9 higher odds of reporting poor self-rated health (95% CI: 2.23, 2.70) compared to women not reporting these hardships.

**Conclusions:** Research in this area can provide greater conceptual and measurement clarity on the hardship experience and further elucidate the pathway between specific hardships and poor health outcomes to inform intervention development.

© 2018 Elsevier Inc. All rights reserved.

## Introduction

The association between socioeconomic status (SES) indicators such as education, income, and occupational status on health has been well established. For example, studies have shown that there is an association between low levels of SES and poor health outcomes [1]; and this association has been noted both at the individual level and the ecological level [2–6]. Yet, despite this well-established association, traditional measures of SES do not capture the differential experience of SES that results from the disparate demands on financial resources across households [7,8].

Therefore, many researchers have called for an expanded conceptualization and operationalization of SES to include other indicators such as wealth, debt, and hardship [9–12]. Measures of hardship have been suggested as useful indicators to identify those in need, as they provide insight into the relationship between household needs and available resources and actual living conditions [13–15]. However, there is no consensus on a definition or measurement of hardship [16,17]. Hardship can be experienced across several domains such as ability to pay bills, chronic financial stress, consumer debt, food hardship (often referred to as food insecurity), and medication need [18–20]. Forty-eight percent of older adults in the United States are at risk of experiencing some form of hardship [21]. Yet, few studies have highlighted the potential differential association across various domains of hardship (e.g., food insecurity, financial stress/hardship, medical debt) and health-related outcomes. At present, there is a lack of clarity around how to measure these constructs of financial well-being, and it is unclear

No financial disclosures were reported by the authors of this article.

\* Corresponding author. University of Washington, Social Work Program, 19000 Commerce Street, Tacoma, WA 98202.

E-mail address: [geegee@uw.edu](mailto:geegee@uw.edu) (G.L. Marshall).<https://doi.org/10.1016/j.annepidem.2018.03.013>

1047-2797/© 2018 Elsevier Inc. All rights reserved.

Please cite this article in press as: Marshall GL, Tucker-Seeley R, The association between hardship and self-rated health: does the choice of indicator matter?, Annals of Epidemiology (2018), <https://doi.org/10.1016/j.annepidem.2018.03.013>

which specific hardships are most important for intervention development.

### *Hardship and health*

Self-rated health has been found to be an important predictor of a person's overall health and well-being. It has also been shown to be correlated with several poor health outcomes such as functional ability [22], premature mortality [23,24], chronic conditions [25,26], and lower health care utilization [23]. Self-rated health has often been shown to be socioeconomically patterned, where those with lower SES are more likely to report poorer self-rated health [27]; therefore, it is not surprising that hardship has also been shown to be negatively associated with self-rated health [28–30]. However, given the inconsistent definitions and measurements of hardship used, it is difficult to compare across studies to better understand the influence that specific domains of hardship have on the self-reported health status of the population in general, and older adults in particular. Nevertheless, these studies indicate, across various samples, that indicators of hardship are robust correlates of health [30–34]; however, what remains understudied is whether within samples, various domains of hardship are differentially associated with health, especially among older adults.

### *Hardship and health by gender*

There are differences in health between men and women due to biological, social, and behavioral factors [35]; and various indicators of socioeconomic circumstances can differentially influence health across the life course [36]. More specifically, some studies have highlighted the differential association between hardship and health between men and women. European studies have shown that for women, hardship is a stronger predictor of poor health outcomes than traditional measures of SES [31,37]. Studies in the United States, using the Health and Retirement Study (HRS) have shown a similar pattern, with hardship predicting poor health outcomes stronger for women than for men, even after controlling for traditional measures of SES [38,39].

The aims for this study were to determine the differential association between a summed measure of hardship and health; the association between four individual indicators of hardship and health; and to determine the differential association between hardship and health for men and women. Our specific research questions were the following: (1) Is hardship associated with self-rated health? (2) Are specific indicators of hardship differentially associated with self-rated health? and (3) Does the association between specific indicators of hardship and self-rated health vary by gender?

## **Methods**

### *Data source and study sample*

The data used for this study were from the 2010 wave of the HRS [40], a nationally representative sample with a focus on the economic, health, demographics, and the retirement process of noninstitutionalized U.S. adults aged 50 years and older. Data for the HRS are collected biannually and has been collected since 1992. The HRS is a multistage area probability sample of U.S. households, with oversampling for African-Americans, Latinos, and Florida residents. Oversampling of Floridians in the HRS was based on a decision influenced by congress specifying that special attention must be given to area with both “high densities and numbers of older populations.” More detailed information on the HRS has been described elsewhere [40,41].

Beginning in 2004, HRS has collected psychosocial information about participant's life circumstances, subjective well-being, and lifestyle as part of a biennial wave from a rotating (random) 50% sample of the core panel who have completed the face-to-face interviews [42]. Questionnaires were left with respondents at the end of the interview and asked to mail them back to the study office. In addition to the public use HRS data files, we merged data from the RAND Center for the Study of Aging for respondent socioeconomic data. The analytic sample for this study included respondents who also completed the psychosocial leave-behind survey ( $N = 7619$ ).

### *Measures*

#### *Outcome variable*

Self-rated health was measured in the HRS using a single question: “In general, how would you say your health is: excellent, very good, good, fair, or poor?” [43] We dichotomized this variable into two categories: excellent/very good/good versus fair/poor.

#### *Independent variable*

Hardship variables were selected based on items in the HRS measuring hardship across three domains: (1) financial; (2) food; (3) medication need. These domains were selected based on previous recommendations for measures of hardship to assess consumption of essential goods and services [44,45]. Hardship was operationalized using four indicators: difficulty paying bills, ongoing financial strain, food insecurity, and medication need. Difficulty paying bills was measured using the following question: “How difficult is it for you/your family to meet monthly payments on your/your family's bills? Ongoing financial strain was measured by asking the respondent to “indicate whether or not financial strain is current or an ongoing problem that have lasted 12 months or longer.” Food insecurity was measured by asking “In the last 12 months, did you ever eat less than you felt you should because there was not enough money to buy food? Medication need was measured by asking “Have you ended up taking less medication than was prescribed for you because of cost? We coded responses (0 = no or not difficult, 1 = yes or difficult). In addition, the responses across these indicators were summed to create a hardship score. The hardship score was dichotomized as those who reported two or more hardships = hardship versus those who reported 1 or 0 = no hardship.

#### *Model covariates*

Demographic characteristics measured were gender (male or female), age categories (50–64, 65–74, 75–84, 85+ years), race (white, African-American, or Latino), marital status (married/partnered, separated/divorced/widowed, or single), and employment status (employed, unemployed or out of work-force). SES was measured as education (<12, 12, more than 12 years) and annual household income. All covariates were treated as confounders. These covariates were selected because previous studies have indicated that they are associated with financial hardship and self-rated health: age [46], gender [39], race [47,48], marital status [49,50] employment status [51], and SES [52].

#### *Statistical analyses*

Bivariate and multivariable statistical tests were performed. Logistic regression was used for the statistical analyses using STATA version 14.0 [53].

We estimated three nested models using a dichotomized hardship variable as the primary predictor. We also estimated

Download English Version:

<https://daneshyari.com/en/article/8753217>

Download Persian Version:

<https://daneshyari.com/article/8753217>

[Daneshyari.com](https://daneshyari.com)