

## Introduction

The Great Recession of 2007-2009 was the deepest and longest economic downturn since World War II. It had widespread potential to impact the health and well-being of Americans.

Many U.S. adults experienced a mix of hardships including job insecurity, unemployment, and increased debt.

Some individuals may have been more vulnerable to the strains of the economic recession than others. Low education workers, for example, experienced disproportionate losses.

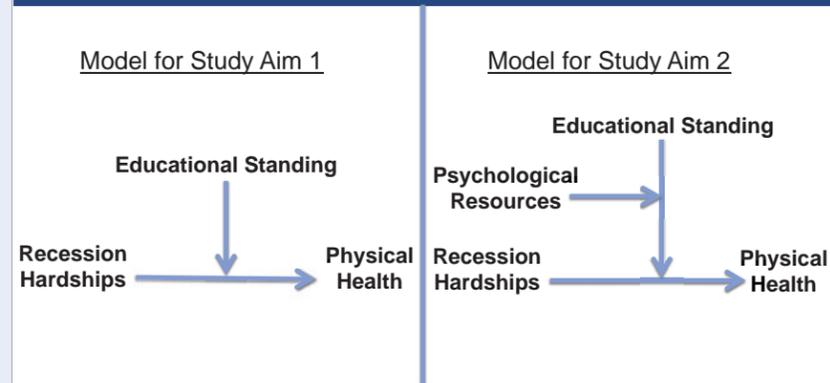
Psychological factors (purpose in life, conscientiousness, and sense of control) may provide resources to protect against negative health impacts of economic hardship.

Few studies have addressed the role of pre-existing vulnerabilities, or the role of psychological resources in the context of the Great Recession.

## Study Aims

- 1) To investigate links between self-reported recession hardships and health, with emphasis on pre-existing vulnerability, defined in terms of low educational standing.
- 2) To examine the interplay of psychological resources with recession hardships and educational standing in predicting multiple aspects of physical health.

## Method



Sample: 1,275 adults (ages 25-54) from the Midlife in the United States Study (MIDUS) who completed phone interviews and a self-administered questionnaire in years 2011-2014.

Measures:

**Recession hardships** - (18 item checklist). Participants responded "yes" if they had experienced any of these hardships since the start of the recession in August, 2008.

**Educational standing** - highest grade of school or year of college completed ranging from no schooling to professional degree.

**Psychological resources** - self-report measures of purpose in life, conscientiousness, and sense of control.

**Physical health** - self-rated physical health, chronic conditions (e.g., diabetes, heart disease), acute symptoms (e.g., headaches, backaches) and waist circumference.

Analysis: Hierarchical regression models tested relationships between recession hardships and physical health. Educational standing and psychological resources were tested as moderators of the health impacts of the recession.

## Results

Table 1: Descriptive Statistics of Sample	Mean (SD) or %	Range
<b>Socio-Demographics</b>		
Age	41.0 (8.4)	25-54
Percent Female	55.0%	
Percent White	82.0%	
Percent Married	65.0%	
<b>Education</b>		
High school or less	19.8%	
Some College	29.7%	
College or higher	50.6%	
<b>Physical Health</b>		
Chronic Conditions	1.5 (1.9)	0-16.0
Number of Acute Symptoms/Week	2.5 (1.0)	1.0-6.0
Self-Rated Physical Health (Poor to Excellent)	3.6 (1.1)	1.0-5.0
Waist Circumference	37.5 (7.3)	16.0-88.0
<b>Psychological Factors</b>		
Sense of control	5.4 (1.0)	1.4-7.0
Purpose in life	38.2 (7.1)	13.0-49.0
Conscientiousness	3.4 (0.5)	1.4-4.0
Recession Hardships	3.1 (2.8)	0-14

### Results for Aim 1:

Respondents who reported more recession hardships experienced worse overall physical health.

Education was a significant moderator of recession and health relationships for chronic conditions and waist circumference (Figure 1).

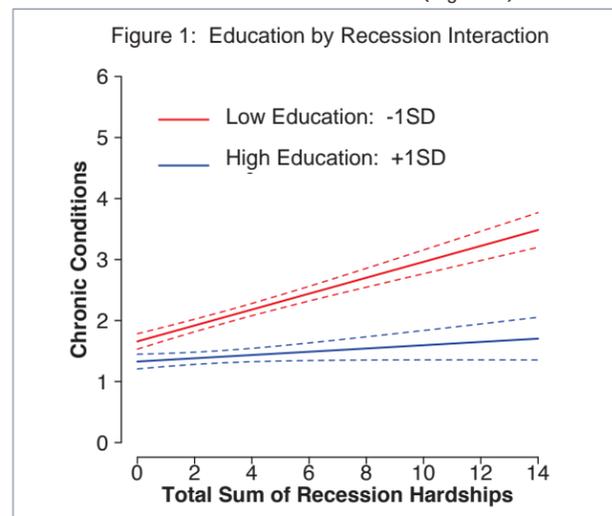


Figure 1. Significant 2-way interaction between educational status and recession hardships for chronic conditions.

RED lines show model predictions for low education (1 SD below the mean) and BLUE lines show model predictions for high education (1SD above the mean).

Confidence intervals (+/- 1 standard error of point estimates from GLM-) are provided to indicate precision of point estimates across the observed range of number of recession hardships reported (0-14).

## Results Continued

### Results for Aim 2:

Tests of 3-way interaction between educational standing, recession hardship and psychological resources to predict health outcome were significant.

Figure 2: Conscientiousness by Education by Recession Interaction

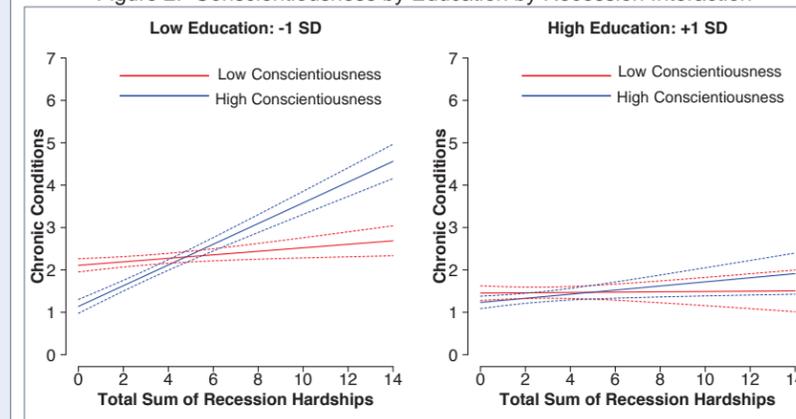


Figure 2. Significant 3-way interaction between conscientiousness, educational standing and recession hardships for chronic conditions.

Simple two-way interactions are graphed separately by low education (left panel) and high education (right panel).

RED lines represent model predictions low conscientiousness (1 SD above the mean) and BLUE lines represent model predictions by high conscientiousness (1SD below the mean). Confidence interval bands are +/- 1 standard error of point estimates from GLM (dotted lines).

## Conclusions

### Aim 1: Pre-existing vulnerability to health impacts of Great Recession

Low educational standing was a key vulnerability factor

- Lower educated adults reported more recession hardships compared to their higher educated counterparts
- Lower educated adults were more likely to show heightened chronic conditions and larger waist circumference in the face of high recession hardship.

### Aim 2: Moderating effects of psychological resources

Psychological resources interacted with educational standing and recession hardship in important and unexpected ways

- Among those with low educational standing, the protective benefits of psychological resources were *undermined* under conditions of high recession hardship.
- Psychological resources, such as conscientiousness, thus became *vulnerabilities*, supporting prior theories linking economic disadvantage to "disablement" of psychological resources.

These findings have relevance for the development of economic and health policies geared towards vulnerable individuals.

Future work needs to track the longitudinal impact of recession hardships and examine biomarkers as mechanisms linking Recession hardship to poor health