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Original Research

An increase in economic adversity is associated with poorer self-reported physical and mental health

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Abstract

Background: Numerous studies document the inverse relationship between socioeconomic status and health. The recent economic recession provides an opportunity to examine the relationship between temporal declines in financial status and health outcomes.

Methods: We assessed the association of financial decline with health indicators at the individual level with data from 733 adult participants in a countywide survey conducted in Spring 2009. We included general health and mental health items from the Behavioral Risk Factor Surveillance System (BRFSS), Brief Symptom Inventory (BSI-18) depression subscale, and Perceived Stress Scale. Analysis was conducted in 2011.

Results: The degree to which an individual's financial situation declined over the past year was associated with worse self-reported general and mental health, increased number of days that poor general and mental health interfered with daily activities in the past month, as well as higher levels of self-reported stress and depressive symptoms. These relationships were independent of education, income, age, gender, and minority status.

Conclusion: Our results indicate that a decline in financial status is associated with a decline in self-reported physical and mental health quality independent of traditional demographic and socioeconomic indicators.

INTRODUCTION

Socioeconomic status (SES) indicators are inversely associated with physical and mental health outcomes, [1-3] both when examining poverty in relation to wealth and when comparing individuals within SES boundaries [1]. Perceptions of economic deprivation appear to be relative [4-6], as individuals experience decreased health when comparing themselves to those just above them, even within high SES groups [1]. The recent global economic recession provides an opportunity to examine the relationship between an individual's physical and mental health outcomes and relative declines in economic status.

Few studies have focused on individual-level data and general declines in mental and physical health status in association with the most recent economic recession [7]. Macro-level studies of health utilization do not account for the full burden of the recession on health status, as they miss individuals who have experienced a decrease in mental health status, but have not sought out treatment or who do not have the resources to seek out care [7]. Unemployment and job insecurity are associated with adverse individual health outcomes [8-12], although these studies leave out retired individuals and do not account for economic hardships despite continued employment.

METHODS

Participants

We assessed the association of economic decline with health indicators at the individual level with data from 733 adult participants in a countywide survey conducted in spring 2009. Households in each residential Census Tract were randomly selected and sampled in Genesee County, Michigan. Professional survey staff conducted telephone interviews. The response rate was 25%.

Outcome measures

The survey included general and mental health items taken from the Behavioral Risk Factor Surveillance System (BRFSS; self-reported general health, number of days that poor health interfered with daily activities, self-reported mental health, number of days that poor mental health interfered with daily activities), Brief Symptom Inventory (BSI-18) depression subscale [13], and Cohen et al.'s Perceived Stress Scale [14] (see Table 1). Respondents were asked the extent to which they agreed with the following statement: "My financial situation is much worse this year than it was"

Table 1.Study relevant characteristics of participants (N = 733)

Age (y, SD)	55 ±16
Race	
White	64%
Non-White	36%
Sex	
Women	75%
Men	25%
Education	
Less than High School	11%
High School	32%
Technical school	4%
Some college	22%
Associate's	10%
Bachelor's	12%
Master's or higher	10%
Annual income range	
< $10K	26%
$10-15K	2%
$15-20K	19%
$20-35K	17%
$35-50K	1%
$50-75K	1%
Proportion unemployed	
Women	14%
Men	14%
General health	
Poor	12%
Fair	23%
Good	28%
Very good	25%
Excellent	12%
Mental or emotional health	
Poor	4%
Fair	13%
Good	25%
Very good	32%
Excellent	27%
Days of poor health	5.1±9.6
Days of poor mental or emotional health	2.5±6.5
Stress scale	2.8±1.1
Depressive symptoms scale	2.1±1.1
	M±SD

in the previous year." Other financial health items were: "I have trouble sleeping because of my financial problems;" "I am concerned because I cannot afford adequate health insurance;" "I often worry about my financial situation;" "I do not know how I will be able to support myself in the next 12 months;" and "How difficult is it for you to live on your total household income right now?

Covariates

Participants reported their age in years (analyzed continuously), sex, race (converted into White and non-White), and educational attainment (converted into years of education). Respondents revealed income levels through a series of questions.

Statistical analysis

Analysis was conducted in 2011. Separate stepwise linear regressions were used to predict each health outcome for the 733 participants with complete data. Income, education, age, sex, race, and financial decline were allowed to enter as predictors. We replicated these analyses using a 6-item Financial Health scale (Cronbach $\alpha = .836$) in place of the one item financial decline measure.

RESULTS

Higher income was associated with better status across all health outcomes and was the strongest predictor of health outcomes in most cases (see Table 2). The second strongest predictor was the increase in economic hardship since the previous year, which predicted adverse health outcomes across all domains. Age was the strongest predictor of stress. Older age was associated with better status across all mental health outcomes. Individuals with higher levels of education reported better overall health and better mental or emotional health. Women reported more stress than men. The 6-item Financial Health scale improved predictions substantially and matched or exceeded the explanatory power of income (See Table 3). Income no longer predicted stress, age and education no longer predicted mental health, and age no longer predicted days of poor mental health when the Financial Health scale was included. Age did become a significant predictor of days of poor physical health. In post-hoc analyses, we found that being unemployed had an additional independent association with the number of days that poor health interfered with daily activities. The relationship with an increase in economic hardship remained significant and unemployment was not related to other outcome variables. Younger individuals were more likely to be unemployed than older participants.

DISCUSSION

Our results indicate that a decline in financial status is associated with a decline in self-reported physical and

mental health quality independent of traditional demographic and socioeconomic indicators. The recession was global in scope, yet its impact was demonstrable at much smaller geographic levels. These effects were observed in a community that had extensive experience with declining economic conditions in addition to the effects of the acute economic crisis. These results concur with previous research examining individual health outcomes in conditions of economic strain such as unemployment or job insecurity, which produced trends of declining physical health and elevated levels of anxiety and depression [15].

Table 2. Beta values for significant predictors of health outcomes across regressions

Outcome	Income	Financial Decline	Age	Education	Sex	Adjusted R^2
General health	.309***	-.097**		.134***		.178
Poor health days	-.288***	.092**				.110
Mental health	.307***	-.109***	.070*	.089*		.155
Poor mental health days	-.247***	.129***	-.089**			.093
Stress	-.253***	.230***	-.300***		.072*	.234
Depressive Symptoms	-.333***	.160***	-.134***			.169

Note: * indicates p < .05, ** indicates p < .01, *** indicates p < .001.

Table 3. Beta values for significant predictors using 6-item financial health scale

Outcome	Income	Financial Health	Age	Education	Sex	Adjusted R^2
General health	.228***	-.229**		.129***		.212
Poor health days	-.198***	.231**	.078*			.134
Mental health	.251***	-.252***		.		.183
Poor mental health days	-.138***	.289***				.137
Stress		.545***	-.210***		.084**	.387
Depressive Symptoms	-.197***	.376***	-.086***			.259

Note: * indicates p < .05, ** indicates p < .01, *** indicates p < .001.

This study was limited to cross-sectional data in one community, whereas panel studies may provide stronger evidence of these patterns. The survey had a response rate of 25% and was limited to individuals with landline phones. Administering the survey using a variety of methods such as cell phones and paper surveys at central locations may have increased the breadth and depth of the survey by including populations that may be less likely to have landline phones. We intentionally added emphasis to the degree of economic decline, "My financial situation is much worse...," as we expected that the vast majority of respondents would agree or strongly agree with an item worded more neutrally. Adding emphasis to the item was expected to increase the variation in responses. A single item was used to assess financial decline. When the financial decline item was combined with five other items to create a Financial Health scale, greater proportions of the variances in health and mental health outcomes were explained. Financial Health was overall the strongest predictor, followed by income, which demonstrates the importance of financial situation in explaining health patterns in this population. Financial questions were asked after health questions, thereby reducing the likelihood of influence by demand characteristics.

The awareness that individuals experiencing financial decline may be at greater risk for adversity in both mental and physical health may be beneficial to those seeking to improve community health, especially in a period of economic uncertainty. This knowledge may encourage policymakers to consider increased funding for community mental health programs, which often lack resources and support. This is particularly important during times of economic hardship, as agencies that typically fund mental health services are more likely to be experiencing budgetary hardships themselves.

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