Perceived Job Insecurity and Health: The Michigan Recession and Recovery Study

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ABSTRACT

Objectives

We examined the association between perceived job insecurity and health with the Michigan Recession and Recovery Study, a sample representing working-aged adults in Southeast Michigan in late 2009/early 2010.

Methods

Employed respondents reported on perceived job insecurity (N = 442-443). We used logistic regression to compare the health of participants who perceived that they were very or fairly likely to lose their job or be laid off in the next 12 months and those who reported that job loss was not too likely or that they were planning to leave the labor force.

Results

Compared to secure workers, insecure workers were significantly more likely to meet criteria for major or minor depression (odds ratio [OR] = 7.27; 95% confidence interval [CI] = 3.12, 16.9) and to report a recent anxiety attack (OR = 3.52; CI = 1.47, 8.44), even after adjustment for their less advantaged sociodemographic characteristics, poorer prior health, and higher likelihood of recent unemployment.

Conclusions

Mental health consequences of the Great Recession may extend to workers who perceive job insecurity, even if they have avoided unemployment.

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INTRODUCTION

A growing literature has shown that individuals who believe they could lose their jobs have significantly poorer health than secure workers (1). A worker perceiving job insecurity may experience stress due to anticipation about the problems associated with a job loss, the mental strain of being in a powerless position, and ambiguity about the future (2, 3). Short term responses could be emotional (increasing anxiety), physiological (elevated heart rate, increased catecholamine secretion) or behavioral (substance use), while in the longer term, accumulation of these responses could result in more permanent and manifest adverse consequences for mental and physical health (3, 4). This research has become increasingly salient in the wake of the Great Recession that began in December 2007; historically high unemployment rates followed by an unusually slow and "jobless" economic recovery may have population health consequences.

However, many prior studies used data collected during typical business cycles or outside of the U.S.. The Great Recession involved historically high rates of unemployment and long term unemployment (5), so the predictors of perceived job insecurity or its association with health could differ from those found in previous research. Moreover, objective employment problems such as a recent unemployment spell could provide an important alternative explanation, because they could predict subsequent perceived job insecurity and poor health. While some prior studies found that perceived job insecurity was associated with health even after adjustment for actual job losses or unemployment (6, 7), the association requires further exploration

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In addition, it is important to consider the U.S. context specifically. While an association between perceived job insecurity and health has been found across multiple wealthy economies (8), much existing research is based on western European workers and may not generalize if the hardships associated with job losses are buffered differently by varying social welfare state policies (9). In Denmark, for example, employment laws are relatively weak compared to other European nations, but risk for workers is tempered by generous unemployment benefits lasting up to four years and job training and search assistance for those who lose their jobs (7). By contrast, some U.S. workers who lose jobs are not be eligible for the more limited unemployment benefits or retraining assistance offered, and those who lose jobs are likely to lose health insurance coverage and other benefits. This may increase the stressfulness and consequences of perceived job insecurity.

We use new data from a population-based sample of metropolitan Detroit adults collected from late 2009 to early 2010 to answer several questions: first, how much job insecurity was perceived by Southeastern Michigan residents, and what kinds of workers were most likely to perceive job insecurity? Second, was perceived job insecurity associated with self-rated health, depression, or anxiety attacks after adjusting for workers' sociodemographic characteristics? Third, were associations between perceived job insecurity and health accounted for by recent experiences of unemployment?

METHODS

Data

Data were collected in face-to-face interviews for the Michigan Recession and Recovery Study (MRRS), a stratified random sample of English-speaking adults aged 19 to 64 who lived in Southeastern Michigan (Macomb, Oakland, and Wayne counties). The study was fielded from

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October 2009 to March 2010 with an oversample of African Americans and includes mainly

African American and non-Hispanic white respondents, reflecting the local residential

composition. MRRS had 914 respondents, with a response rate of 82.8%. Analyses were

conducted using currently employed respondents (N = 519), because others were not asked about

job insecurity. We also omitted respondents younger than 25 years of age (N = 40), as

employment instability in the early career is expected, and omitted the self-employed (N=37), for

whom perceived job insecurity may operate differently. We present results based on five

multiply imputed datasets, created using standard imputation procedures with the software

IVEware (10).[1] Analyses use imputed values for all independent variables, but not for dependent

variables. One or two respondents were missing information on each health outcome, while

variations across imputations led to small differences in sample size across imputed datasets; the

final analytic sample ranges from 440 to 443 individuals.

Measures

Health. Self-rated health is measured using the typical item: "Would you say that your health in

general is excellent, very good, good, fair, or poor?" We used a common dichotomization so that

poor or fair health =1 while excellent, very good, or good health = 0. We used the Patient Health

Questionnaire (PHQ-9), a validated 9-item scale based on the diagnostic criteria for major

depressive disorder in the Diagnostic and Statistical Manual Fourth Edition (DSM-IV) (11).

Respondents were classified so that meeting criteria for major or minor depression = 1 and not

meeting criteria = 0. We also used an item that asked: "In the last 4 weeks, have you had an

anxiety attack – suddenly feeling fear or panic?" This measure of anxiety attack came from the

PHQ-brief instrument, a validated scale (12).

Pre-existing health problems could increase perceptions of job insecurity or select respondents into insecure jobs and also predict subsequent poor health. We generated a measure of chronic health conditions diagnosed at least three years before the interview. Respondents reported whether they had "ever been told by a doctor or health professional" that they had a specific condition, and their age at first diagnosis. Conditions included: heart attack; coronary heart disease, angina, or congestive heart failure; high blood pressure or hypertension; asthma; chronic lung disease such as bronchitis, emphysema or chronic obstructive pulmonary disease (COPD); diabetes or high blood sugar; arthritis or rheumatism; cancer or a malignant tumor; and "any other serious, chronic condition." We also created a parallel indicator of diagnosis with any emotional, nervous, or psychiatric problem at least three years before the interview.

Employment and job insecurity. Perceived insecurity was measured with a single item: "Thinking about the next 12 months, how likely do you think it is that you will lose your job or be laid off – very likely, fairly likely, not too likely, leaving the labor force?" We used a typical dichotomization so that 1 = very or fairly likely and 0 = not too likely or leaving the labor force. Respondents were asked: "Are you a regular or a temporary employee?" with responses coded so that 1 = temporary and 0 = regular. For each month in the 33 months before the interview, respondents reported whether they were working for pay, unemployed, or not in the labor force. We aggregated these monthly histories to create categories of unemployment experience: none, less than six months, and 6 or more months.

Other variables. In multivariate analyses, we include measures of the respondent's age, sex, race (African American versus other), educational attainment (bachelor's degree or more versus less), partnership status (married or cohabiting versus not), and parental responsibility (child under 18 in household or not). We also include a measure of the household's income-to-needs ratio in

2008 (income divided by the federal poverty line for that household size). We dichotomized the distribution to separate those with ratios of less than one – generally categorized as "poor" – or from one to two – considered "near poor" – from those with ratios of two or more.

Statistical Analyses

We assessed bivariate associations by estimating a series of logistic regression models predicting perceived job insecurity and examining p-values for the differences across categories of the predictor variable in question. We then estimated multivariate models predicting health outcomes with perceived job insecurity as the key predictor. Odds ratios were estimated at different levels of adjustment: (1) for age, sex, race, education, partnership status, presence of children, income to needs ratio and earlier physical or mental health problem, and (2) for all of the initial controls plus temporary employee status and recent unemployment experience. We used the general strategy of Rugulies and colleagues (13) to analyze whether any association between perceived job insecurity and health was accounted for by recent experiences of unemployment. We created a variable capturing their joint distribution; the reference category is (a) not insecure and no unemployment, with additional categories for (b) insecure but no unemployment, (c) not insecure but experienced unemployment, and (d) both insecure and experienced unemployment. We then re-estimated models using this as our key independent variable, under two scenarios: (1) one or more months of unemployment, and (2) 6 or more months.

Survey weights address non-response and make the MRRS representative of adults aged 19 to 64 living in the three-county area in Southeastern Michigan. Our analyses account for the complex sample survey design and selection of the analytic sample with survey estimation procedures in Stata/SE 11 (14). We use estimation procedures for multiply imputed data:

analyses are conducted separately for each of the five imputed datasets, estimates are collected, and Rubin's combination rules are applied to provide final results (15).

RESULTS

Table 1 presents descriptive characteristics stratified by perceived job insecurity status. Approximately 17.5% of the analytic sample perceived job insecurity, and individuals perceiving job insecurity were significantly less healthy, based on measures of fair/poor self-rated health (reported by 19.3% of insecure versus 7.1% of secure respondents), meeting criteria for major or minor depression (45.4% versus 8.4%), and reporting an anxiety attack in the past four weeks (30.0% versus 9.8%). Respondents perceiving job insecurity were also significantly more likely to report a diagnosis of a chronic physical condition at least three years ago and were more likely to be African American, less likely to have a bachelor's degree or more, more likely to be temporary employees and more likely to report 6 or more months of unemployment recently than secure respondents.

Table 2 shows the association between perceived job insecurity and health after adjustment for workers' characteristics. Insecure workers were significantly more likely to report fair or poor self-rated health, to meet criteria for major or minor depression, and to report an anxiety attack in the past four weeks after adjustment for sociodemographic characteristics and earlier health problems in Model 1. After further adjustment for temporary employee status and recent unemployment experiences, perceived job insecurity is only marginally significantly associated with fair/poor self-rated health (p<.10), but associations with depression and anxiety remain significant. Temporary employees are significantly more likely to report fair/poor self-rated health than regular employees, but we find no significant associations between recent unemployment and these health measures, probably because we have adjusted for some

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predictors and consequences of earlier unemployment (e.g., educational attainment and income-to-needs ratio), and respondents were all employed at the time of the interview.

Table 3 shows these associations when we address the joint distribution of perceived insecurity and recent unemployment. Model 3 considers whether the respondent reported any unemployment in the 33 months before interview; for this specification, 69.1% of respondents reported neither perceived job insecurity nor any unemployment, 11.9% reported only perceived job insecurity, 13.4% reported only one month or more of unemployment, and 5.6% reported both. Model 4 considers whether the respondent reported six or more months of unemployment in the 33 months preceding interview; in this alternative specification, 74.4% reported neither exposure, 13.9% reported only perceived job insecurity, 8.0% reported only at least six months of unemployment, and 3.7% reported both. Those reporting only perceived job insecurity or both perceived insecurity and unemployment are significantly more likely to meet criteria for major or minor depression in Models 3 and 4. Respondents who reported only perceived job insecurity or both exposures were significantly more likely to report an anxiety attack in Model 3, while in Model 4 those reporting only perceived job insecurity were more likely to report anxiety. The small numbers of individuals in some categories results in large confidence intervals, but the results presented here suggest that objective employment problems are not responsible for the association between perceived job insecurity and health.[2]

DISCUSSION

This study provides some of the first information on the amount and distribution of perceived job insecurity and its association with health in the wake of the Great Recession. In Southeastern Michigan in late 2009 or early 2010, nearly 18% of 25-64 year old workers were insecure. By way of comparison, Fullerton and Wallace (16) found that over the 1977 to 2002

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period an average of 11.2% of U.S. General Social Survey (GSS) respondents perceived job insecurity, suggesting that insecurity is elevated in the post-recession period. We also found that more disadvantaged workers – those with prior health problems, African American and less educated workers, temporary employees, and those with recent unemployment experience – were more likely to report that they were fairly or very likely to lose their jobs in the next year.

Perceived job insecurity was associated with significantly higher odds of reporting fair or poor self-rated health, meeting criteria for major or minor depression, and reporting an anxiety attack in the past year, even after adjustment for workers' sociodemographic characteristics and prior health problems. The association between perceived job insecurity and self-rated health was reduced after adjustment for temporary employee status and recent unemployment, but other associations remained significant. Our findings support past research that has found larger associations with mental health outcomes than physical health (1), though we used only one general measure of physical health.

We also found that perceived job insecurity was significantly associated with depression and anxiety even when we compared insecure respondents with no recent unemployment experience to their secure counterparts. We tested interactions between perceived insecurity and other predictors of health, but did not find that associations varied across different kinds of workers, although the MRRS sample is not large enough to provide exhaustive tests for moderating effects.

Strengths and Limitations

The MRRS represents three counties around Detroit, Michigan, a region with unique characteristics. A simple tabulation of GSS data for 2010 shows that among U.S. workers 25 to 64 who were not self-employed, 12.8% perceived job insecurity (17), so MRRS respondents

perceive higher than average levels of insecurity. This is not surprising, given the depth of the economic and employment hardship in the Detroit metropolitan area in recent years and the sociodemographic composition of its workers. In some ways, limiting the sample to this region also strengthens our results, because we are "controlling" on a similar set of local and environmental conditions, such as the nature of the labor market, which could otherwise underlie both perceived insecurity and poor health. Nonetheless, the generalizability of these findings to other regions should be considered.

There is some evidence that perceived severity of the consequences of a job loss, a different dimension of perceived insecurity, may be more strongly linked to health than the perceived likelihood of a loss (18). Because we used the most common indicator – the perceived likelihood of job loss – this study may underestimate associations with health. While we have used a variety of health measures common to research on job insecurity, and have chosen survey items designed for diagnostic screening where possible, we rely on self-reported data. Self-reported measures of health and perceived job insecurity coupled with cross sectional data mean that our findings could be caused by negative reporting styles among some respondents. However, prior prospective studies have shown an association between perceived insecurity and changes in health (3, 19-23), though these were conducted prior to the Great Recession.

Conclusions

We found that in the wake of the Great Recession, a representative sample of Southeast Michigan workers who perceived job insecurity were more likely than their secure counterparts to meet criteria for major or minor depression and to report a recent anxiety attack. Individuals who lost their jobs in the Great Recession may be the "tip of the iceberg" of a larger group of workers who think that their job may be terminated soon but haven't lost it yet. Perceived job

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insecurity is not a socially-visible event like unemployment, and those worried about job loss have limited possibilities for action because of uncertainty about whether job loss will occur. Labor market programs like unemployment insurance were not designed for the insecure worker. Developing appropriate interventions is important because the consequences of the Great Recession will be slow to recede, and perceived job insecurity may not wane for some time.

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ENDNOTES

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[1] Results were similar when we included younger and self-employed respondents and when we used the original, unimputed dataset (N = 408) and are available from the authors. Income values were missing for 31 respondents in the original dataset, but for 5 or fewer respondents for all other predictors.

[2] We also estimated a series of sensitivity analyses (available from authors). Ordinal logistic regression models predicting self-rated health as a five category measure and logistic regressions predicting meeting criteria for major depression only yielded results similar to those presented here. We assessed perceived job insecurity categorically and found the strongest associations with fair/poor self-rated health and anxiety among those who reported being "very" likely to lose their job; those "fairly" or "very" likely to lose their jobs showed significantly greater likelihood of meeting criteria for depression. Results were very similar when we estimated models with adjustment for smoking, body mass index, exercise frequency, furloughs, layoffs, or wage reductions in the past year, employment in the automobile industry and in the private versus public sector, tenure with the current employer and whether the respondent was searching for another job, for employer provided health insurance or retirement benefits and for net worth. Results were similar when we dropped temporary employees, except that we no longer observed an association between perceived job insecurity and fair/poor self-rated health.

Table 1.Participant Characteristics by Perceived Job Insecurity Status among Employed 25 to 64 Year Old Respondents, Michigan Recession and Recovery Study 2009-2010.

	Not Insecure	Insecure	p
% Fair/Poor Self-Rated Health	7.1%	19.3%	0.006
% Meets Criteria for Minor or Major Depression	8.4%	45.4%	<.001
% Anxiety Attack Past 4 Weeks	9.8%	30.0%	0.014
% Chronic physical condition diagnosed at least 3 years ago	35.1%	51.8%	0.008
% Mental condition diagnosed at least 3 years ago	7.0%	17.6%	0.116
Age in years	42.6 (0.63)	44.0 (0.90)	0.548
% Female	52.9%	53.4%	0.968
% African American	17.0%	26.0%	0.038
% Married or Cohabitating	73.5%	73.6%	0.984
% Has child under 18 in Household	52.5%	46.6%	0.502
% Bachelor's degree or more	39.0%	22.7%	0.019
% Income-to-needs ratio 2008 < 2	23.3%	24.5%	0.863
% Temporary employee	2.4%	10.7%	0.008
Recent unemployment			
% None	83.8%	67.9%	--
% < 6 months	6.5%	11.2%	0.085
% 6+ months	9.7%	20.9%	0.026
N	348-353	89-92	

Note: Means and percentages are weighted and based on combined estimates from five multiply imputed datasets. P values obtained from separate logistic regression models for each variable predicting perceived job insecurity.

Table 2. Associations Between Health Outcomes, Perceived Job Insecurity and Other Characteristics among Employed 25 to 64 Year Old Respondents, Michigan Recession and Recovery Study 2009-2010.

	Self-Rated Health Fair/Poor				Major/Minor Depression				Anxiety Attack			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Perceived Job Insecurity	2.84	(1.14, 7.05)	2.44	(0.99, 5.99)	7.93	(3.50, 18.0)	7.27	(3.12, 16.9)	3.49	(1.32, 9.26)	3.52	(1.47, 8.44)
Age in years	1.01	(0.99, 1.04)	1.01	(0.99, 1.04)	1.02	(0.98, 1.06)	1.02	(0.97, 1.06)	0.97	(0.91, 1.03)	0.97	(0.91, 1.04)
Female	0.84	(0.29, 2.42)	0.91	(0.32, 2.63)	1.18	(0.69, 2.03)	1.21	(0.71, 2.07)	4.05	(1.36, 12.1)	4.11	(1.39, 12.2)
African American	1.65	(0.64, 4.27)	1.71	(0.72, 4.06)	0.91	(0.28, 2.99)	0.86	(0.27, 2.74)	1.61	(0.64, 4.08)	1.63	(0.65, 4.12)
Married or cohabiting	0.56	(0.21, 1.44)	0.57	(0.22, 1.46)	1.06	(0.51, 2.19)	1.05	(0.50, 2.23)	0.96	(0.30, 3.07)	0.96	(0.29, 3.13)
Has Child under 18	2.48	(1.00, 6.14)	2.89	(1.09, 7.66)	1.16	(0.60, 2.26)	1.25	(0.63, 2.49)	1.45	(0.68, 3.07)	1.51	(0.69, 3.26)
Bachelor's Degree or more	0.74	(0.21, 2.60)	0.73	(0.21, 2.54)	0.52	(0.20, 1.35)	0.51	(0.20, 1.31)	0.28	(0.13, 0.63)	0.28	(0.13, 0.64)
Income to needs ratio <2	1.95	(0.78, 4.89)	1.63	(0.59, 4.47)	1.43	(0.61, 3.32)	1.33	(0.52, 3.40)	0.44	(0.15, 1.30)	0.41	(0.13, 1.31)
Earlier health Problem[a]	1.90	(0.99, 3.62)	1.96	(1.02, 3.78)	5.68	(2.27, 14.2)	5.71	(2.28, 14.3)	14.1	(7.14, 28.0)	15.6	(7.87, 31.1)
Temporary Employee			4.61	(1.28, 16.5)			2.66	(0.76, 9.33)			0.19	(0.02, 1.90)
Recent unemployment												
None			1.00				1.00				1.00	
<6 months			1.53	(0.64, 3.64)			0.79	(0.23, 2.65)			1.66	(0.42, 6.56)
6+ months			0.83	(0.33, 2.06)			1.50	(0.81, 2.76)			2.00	(0.48, 8.26)
F	5.00		5.38		11.50		9.19		13.51		23.86	
p	0.001		<.001		<.001		<.001		<.001		<.001	

Note: OR = odds ratio; CI = confidence interval.

a. For models of fair/poor self-rated health, represents diagnosis with chronic physical condition at least three years ago; for remaining models diagnosis with mental health condition at least three years ago is used.

Table 3. Associations Between Health Outcomes, Perceived Job Insecurity and Unemployment Experience Categories among Employed 25 to 64 Year Old Respondents, Michigan Recession and Recovery Study 2009-2010.

	Self-Rated Health Fair/Poor				Major/Minor Depression				Anxiety Attack			
	Model 3		Model 4		Model 3		Model 4		Model 3		Model 4	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Neither insecure nor unemployed	1.00		1.00		1.00		1.00		1.00		1.00	
Perceived Insecurity Only	2.44	(0.75, 7.91)	2.77	(0.99, 7.73)	9.65	(4.13, 22.5)	8.72	(4.39, 17.3)	2.71	(1.20, 6.11)	3.19	(1.44, 7.06)
Unemployment Only	1.05	(0.50, 2.19)	0.81	(0.31, 2.09)	1.96	(0.67, 5.79)	2.41	(0.81, 7.19)	1.38	(0.33, 5.85)	1.55	(0.23, 10.2)
Both	2.62	(0.91, 7.54)	2.77	(0.57, 13.4)	6.44	(1.74, 23.8)	9.51	(1.50, 60.4)	8.52	(1.71, 42.5)	5.20	(0.85, 31.9)
F	6.24		5.31		10.3		12.3		29.6		20.1	
p	<.001		<.001		<.001		<.001		<.001		<.001	

Note: CI = confidence interval; OR = odds ratio. All models adjust for age, sex, African American race, partnership status, presence of children in the household, educational attainment, income-to-needs ratio category, earlier health problem, and temporary employee status. In Model 3 unemployment indicates any months of unemployment in the 33 months before interview, while in Model 4 unemployment indicates 6 or more months of unemployment in the 33 months before interview.