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Histories of Perceived Job Insecurity and Psychological Distress Among Older U.S. Adults*

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Abstract

Changes in the labor market and employment contracts over the past several decades and a recent global recession have increased the salience of perceived job insecurity as a risk factor for poor mental health. We use 25 years of prospective data from the Americans' Changing Lives study to examine long-term histories of perceived job insecurity and their link to psychological distress. We build on the prior literature by using a much longer window of exposure and accounting for involuntary job losses over the lengthy observation period. We find that persistent perceived job insecurity is strongly and significantly associated with greater psychological distress among U.S. workers in the latter part of their careers. Moreover, considering histories of exposure reveals more nuance in the sociodemographic characteristics and employment interruptions that predict persistent or intermittent insecurity and that identify contemporary older workers at particular risk.

Introduction

In recent decades the labor market conditions of wealthy economies have shifted toward greater precariousness for a growing number of workers, marked by layoffs, firm closures, offshoring of previously stable and well-paying middle-income jobs, and a rise in nonstandard employment contracts (Benach, Vives, Amable, Vanroelen, Tarafa, and Muntaner 2014; Kalleberg 2009). These changes have fueled concern about workers' job security (Berntson and Marklund 2007; Pruijt and Dérogée 2010), and about the consequences of job security for population health, as perceived job insecurity has been linked with poorer mental health in a variety of social contexts (e.g., Burgard, Brand, and House 2009; Kim, Muntaner, Vahid Shahidi, Vives, Vanroelen, and Benach 2012; Sverke, Hellgren, and Näswall 2002).

Perceived job insecurity – defined broadly as the perception of being threatened by job loss or an overall concern about the continued existence of the job in the future – has been called one of the key psychosocial risks in the contemporary workplace (De Witte, Vander Elst, and

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De Cuyper 2015). It is distinct from objective employment insecurity, often operationalized as involuntary job loss, because perceived job insecurity does not entail a loss of wages or of other material or social benefits attached to employment. Nonetheless, perceived insecurity can generate stressful anticipation of these losses, compounded by uncertainty about whether and when an employment interruption might occur. With prolonged uncertainty and concern, over time perceived job insecurity can develop into a chronic stressor.

While perceived job insecurity has been recognized as an important chronic stressor, the evidence linking it to poorer mental well-being still suffers from some important limitations. Some studies have measured insecurity at multiple interview points, verifying that perceived insecurity is a chronic stressor that can persist over several years, and finding that persistent perceived insecurity generally shows a stronger association with poor mental health than intermittent insecurity. However, we still know very little about whether perceived job insecurity persists over the longer term, as prior studies have only measured exposures over a few years. We also know little about the predictors of longer-term histories of perceived job insecurity, or whether they are associated with differential risk for poor mental health, even net of these predictors. Moreover, as conversations shift to discussions of the optimal length of employment for aging populations with increasing life expectancies (Fisher, Ryan, and Sonnega 2015), it is important to better understand the career experiences of older workers who may be expected to stay at work longer. Older workers face specific risks for and consequences of perceived job insecurity (Fournier, Zimmermann, and Gauthier 2011; Glavin 2015), and their histories of exposure may have shaped their diverging health and ability to remain productively employed.

In the present study, we analyze a sample of workers from the American's Changing Lives (ACL) study, a nationally-representative study of U.S. adults that was initiated in 1986, with data collected in up to four more interviews until 2011. All ACL respondents were 50 years old or older by their 2011 interview, allowing us to focus on the mental health of older workers. We use exposures reported in 1986, 1989 and 2011 to construct long-term histories of perceived job insecurity and use them to assess: (1) how much persistence or change in perceived job insecurity is reported over 25 years by contemporary older U.S. workers, (2) the predictors of histories of perceived job insecurity, (3) whether histories of perceived job insecurity predict psychological distress, net of other predictors, and after adjusting for involuntary job losses over the same period, and (4) whether long-term histories provide further nuance, as compared to using only contemporaneous measures of perceived insecurity at the final interview.

Background

Perceived job insecurity and mental health

Researchers in the social and health sciences have long been interested in paid employment, as working for pay is a central social role and a major time use that exposes individuals to a range of health-relevant benefits and stressors (Pavalko, Elder Jr, and Clipp 1993). Early social stress researchers noted the importance of employment when they focused on the health consequences of negative life events, primarily job loss. More recent research on social stressors has shown that chronic strains collectively exert an even greater impact on

mental well-being than do negative life events (Turner, Wheaton, and Lloyd 1995), and that perceived job insecurity is a critical ongoing employment-related stressor for contemporary workers (De Witte, Vander Elst, and De Cuyper 2015).

Several theoretical explanations link perceived job insecurity to mental health through a chronic stress pathway. Jahoda's (1982) latent deprivation model suggests that perceived job insecurity is stressful because it threatens the satisfaction of fundamental needs fulfilled by employment, including earning an income, establishing a status in society and a network of social contacts outside the household, structuring time and providing opportunities for personal growth. Appraisal Theory explains poorer health among the job insecure by considering two stages: first, appraisal of the potential loss of these employment-linked resources as stressful and threatening, and second, evaluation of their own resources as inadequate to cope with such a loss (Lazarus and Folkman 1984). In a related approach, Warr (2007) argues that job stressors that involve unpredictability and lack of control – like perceived job insecurity – are among the most threatening for well-being, because unpredictability frustrates attempts to react adequately when it is not clear whether action is needed, and lack of control implies powerlessness in the face of conditions over which the worker often has little influence. Ross and Mirowsky (1990) also identify a low sense of control as an important predictor of depression. Taken together, each of these perspectives implicates perceived job insecurity as a potentially serious chronic stressor and risk factor for poor mental health.

Empirical evidence has supported these theorized associations. Earlier studies that measured perceptions of insecurity and mental well-being at the same interview found an association (Sverke, Hellgren, and Näswall 2002), but the cross-sectional design of the studies made it difficult to evaluate whether perceived job insecurity operated as a chronic strain. Moreover, cross-sectional evidence could not reveal whether perceived insecurity led to poorer mental health, or if the reverse association was more important, as psychologically distressed employees might be more likely to perceive that their job is insecure. More recent studies using prospective data have verified an association running from perceived job insecurity to subsequent poorer mental health (e.g., De Witte, Pienaar, and De Cuyper 2016; Kim and Knesebeck 2015), but a better understanding of the chronicity of perceived job insecurity has demanded measurement of exposure at multiple time points.

A small set of studies that have used measurements of perceived insecurity at more than one point in time have shown that persistent or increasing insecurity is more strongly linked to mental health problems than resolved insecurity (Burchell 2011; Burgard, Brand, and House 2009; Ferrie, Shipley, Stansfeld, and Marmot 2002; Glavin 2015; Heaney, Israel, and House 1994; Magnusson Hanson, Chungkham, Ferrie, and Sverke 2015; Swaen, Bültmann, Kant, and van Amelsvoort 2004). For example, using two measures of perceived job insecurity collected three years apart, Burgard and colleagues (2009) found that persistent job insecurity, rather than recent or resolved job insecurity, was a significant predictor of depressive symptoms in a nationally-representative sample of U.S. adults from the 1980s. Using two measures of perceived job insecurity collected two years apart in the mid-2000s United States, Glavin (2015) found that persistent job insecurity, but not recent or resolved job insecurity, was associated with psychological distress at follow-up, and that workers in

their mid-thirties or older faced greater health penalties. Studies like these support the conceptualization of perceived job insecurity as a chronic stressor that potentially can persist for years, and show that a history of persistent job insecurity – as opposed to intermittent insecurity – is a stronger predictor of poor mental health. However, past studies generally have used only two measures of insecurity collected a couple of years apart, so we know little about how the persistence of perceived job insecurity across longer periods might be associated with psychological distress.

Putting Perceived Job Insecurity in the Context of the Work Life Course

Sociologists have long emphasized the importance of taking a long-term view of lives and careers when considering how social roles and stressors might influence later life outcomes. The life course perspective emphasizes the ways that trajectories of role occupancy, most centrally in the roles of worker, parent, and spouse, vary across individuals in terms of the presence and ordering of roles, the duration of time spent in them, and the timing and frequency with which people transition between them (Dannefer 2003). A life course perspective also suggests that timing matters; perceived insecurity may be particularly stressful in midlife or toward retirement, as instability early in the career is more normative and occurs when younger adults generally have fewer responsibilities for the care of others (Glavin 2015). Older workers also may experience distress given their unique circumstances, such as age discrimination from employers, or perceptions that health problems that become more prevalent later in life endanger their ability to keep their jobs.

Applied to employment, a life course perspective suggests the importance of capturing the timing of changes in exposure and the duration of exposure to perceived job insecurity across the career, and the growing evidence for the salience of persistent exposure suggests the need for an even wider observation window. Few adults have employment situations that remain static throughout their working lives. Even among those who remain stably employed, perceptions of strain may fluctuate over time due to personal, workplace-level or macroeconomic changes (Pavalko, Elder Jr, and Clipp 1993). This means that older workers who feel similarly secure or insecure about their jobs today may have had very different experiences decades ago, and in ways that still could differentiate their current health.

While the importance of considering work life histories of exposure has long been understood, data capturing histories of perceived employment stressors is difficult to obtain, such that further research is needed that considers how perceived psychosocial stressors at work are experienced over longer career spells (House, Strecher, Metzner, and Robbins 1986). Alternative means of obtaining these histories have been explored; for example, studies have used prospectively-collected data on respondents' occupation titles over the career and linked these to average levels of psychosocial stressors for that particular occupation using data from the Dictionary of Occupational Titles, then cumulated exposures and estimated their impact on health (Amick, McDonough, Chang, Rogers, Pieper, and Duncan 2002; Fletcher, Sindelar, and Yamaguchi 2011). However, average perceived job insecurity associated with a given occupational title may not accurately reflect any worker's own perceptions at a given point in time, or as they shift over the career. Comparing reports of subjective perceptions of job insecurity collected earlier in the career to those collected

more recently would allow more accurate characterization of histories of perceived insecurity. As such, our first aim is to use uniquely long-running prospective data from the American's Changing Lives Study to assess how much persistence or change in perceived job insecurity is reported over 25 years by contemporary older U.S. workers.

Correlates and Consequences of Histories of Perceived Job Insecurity

Stress researchers are interested in the social factors that predict exposure to stressors and their consequences for health (Thoits 2010), and we pursue both of these lines of inquiry. Our second aim is to assess the predictors of histories of persistence or change in perceived job insecurity. Sociologists have noted the importance of gender, race/ethnicity, and socioeconomic status when exploring differential exposure to stress and the ways this generates health disparities along these dimensions. With regard to the way these characteristics predict perceived job insecurity, the existing evidence is strongest for a protective effect of educational attainment (Hellgren and Sverke 2003). Findings are much more mixed for gender as a predictor, with some studies finding that women report greater insecurity (Emberland and Rundmo 2010; Mauno and Kinnunen 2002), and others reporting no association (Berntson, Näswall, and Sverke 2010; Roskies and Louis-Guerin 1990), possibly because they consider adults from a range of societies that vary in their gendered norms and labor force participation. Very few studies have considered race as a predictor, presumably because many have been conducted using samples from European or other non-U.S. societies with more homogenous populations or different histories of ethnicity as a dimension of difference and opportunity. Applying these prior findings to the U.S. case, we expect that more educated adults should report less perceived insecurity and be less likely to experience persistent insecurity, while non-white respondents will report more insecurity, even net of their educational attainment, due to lingering historical legacy of discrimination in the U.S. workplace. It is less clear what to expect in terms of gender difference, but it is possible that men will report greater perceived job insecurity than women because of the macroeconomic trends they have faced over their careers, most centrally the loss of jobs in many male-dominated occupations in production industries.

Our third aim is to assess whether histories of perceived job insecurity predict psychological distress, net of the predictors considered above, and after adjusting for involuntary job losses over the same period. Most prior studies of perceived job insecurity have not adjusted for the stressful life event of involuntary job loss. This is a limitation because job loss has been linked repeatedly to poorer mental health (Brand 2015), and could also shape perceptions of job insecurity. Failing to account for job losses could thus yield a stronger association between perceived insecurity and distress than is warranted. The few studies that have accounted for job loss have found that an independent association remains between perceived insecurity and mental health in most cases. Two studies of U.S. adults found a persisting association between chronic perceived job insecurity and depressive symptoms when adjusting involuntary job losses over follow-up, one using data from 1986-1989 (Burgard, Brand, and House 2009) and the other from 2005-2007 (Glavin 2015). A study of older workers drawn from the Health and Retirement study found that links between subjective expectation of job loss and depressive symptoms were robust to adjustment for actual job displacements over two year intervals spanning 1992 to 2006, but only among

those 55 and older (Mandal, Ayyagari, and Gallo 2011). Our study will extend considerably the period of observation of both perceived job insecurity and involuntary job losses to explore the robustness of past findings. Based on earlier research, we expect that persistent exposure across the career will be most strongly associated with psychological distress, but it is possible that recent or new exposure to perceived job insecurity is just as salient for older workers as is a history of insecurity to which they may have become accustomed. We also expect that while adjusting for job losses may reduce the magnitude of the association, there will remain a significant association between perceived insecurity and psychological distress. Our final aim is to assess whether these much longer-term histories provide further nuance, as compared to using only contemporaneous measures of perceived insecurity at the final interview.

Data and Methods

Data

The Americans' Changing Lives (ACL) study is a stratified, multi-stage probability sample of US adults aged 25 years or older, with African Americans and people aged 60 and older oversampled at twice the rate of others (House, Lantz, and Herd 2005). Spanning 25 years through 2011, the ACL has gathered five waves of data. Baseline face-to-face interviews that lasted approximately 90 minutes were conducted with 3617 men and women, with response rates totaling 70 percent for households and 68 percent for individuals. Subsequent waves of data collection occurred in 1989 (representing 83 percent of survivors), 1994 (83 percent of survivors), 2001/2002 (76 to 80 percent of survivors), and 2011 (81 percent of survivors).

All five waves of data were used in the analyses reported here. At each wave, respondents reported on their current psychological distress symptoms, employment status, and recent job losses. In 1986, 1989, and 2011, respondents provided information on their perceived job insecurity. The analytic sample ($N = 433$) included respondents who were employed (working, temporarily laid off, or on unpaid family leave) and responded to the job insecurity questions at baseline, wave 2, and wave 5. The respondents who were employed at a given wave but did not answer the questions about job insecurity, refused, or reported that they “did not know,” and those who did not respond to questions about psychological distress were not part of the analytic sample. These restrictions involved 24 respondents at wave 1, 5 respondents at wave 2, and 14 respondents at wave 5.

Measures

Psychological distress—Psychological distress symptoms at baseline and wave 5 were measured with the 11-item Center for Epidemiologic Studies Depression Scale (CES-D). Respondents were asked to determine during the past week how often “I felt depressed,” “I felt that everything I did was an effort,” “My sleep was restless,” “I was happy,” “I felt lonely,” “People were unfriendly,” “I enjoyed life,” “I did not feel like eating. My appetite was poor,” “I felt sad,” “I felt that people disliked me,” and “I could not get ‘going.’” For each of these symptoms, they selected “never or hardly ever” (coded 1), “some of the time” (coded 2) or “most of the time” (coded 3). The baseline indicator of psychological distress

was used to adjust for existing levels of mental distress preceding the longer-term history of perceived job insecurity.

Perceived job insecurity—Respondents were asked “How likely is it that during the next couple of years you will involuntarily lose your main job?” A dichotomous measure was created to follow the convention of prior studies by coding the answer choices “not at all likely” and “not too likely” as 0 and “somewhat likely” and “very likely” as 1. To create histories of perceived job insecurity, we used data from the 1986, 1989, and 2011 surveys. Respondents were assigned to one of four categories: never insecure respondents did not report insecurity in any of the three waves; early insecure respondents reported job insecurity in 1986 and/or 1989, but not in 2011; recently insecure respondents reported insecurity only in 2011; and persistently insecure respondents reported insecurity in 1986 and/or 1989 and again in 2011. We would have preferred to create more detailed measures capturing heterogeneous patterns of exposure at the 1986 and 1989 interviews, but the relatively low prevalence of perceived insecurity yielded several groups that were too small for multivariable analysis. We prioritized measurement of the longest possible history of insecurity in keeping with the contributions of this analysis.

Involuntary job loss—Using information from across follow up, we created measures of “pre-recession job loss,” and “post-recession job loss.” At each survey interview, respondents were asked if they had lost a job involuntarily, either since the last interview, or in the past three years (at the baseline interview). To account for potentially unique impacts of the Great Recession, we coded “pre-recession job loss” as 1 if a respondent reported a job loss at any time before December 2007 (the start date of the Great Recession according to the National Bureau of Economic Research) and 0 otherwise. A respondent who involuntarily lost a job for the first time after December 2007 was coded as having a “post-recession job loss.”

Other measures—We also used measures of the respondent's age in years, gender, race (Non-Hispanic White, Non-Hispanic Black, and other), educational attainment (less than high school, high school degree, and some college), and household income. For household income, we used a midpoint dollar value for 1986 household income. Income was scaled per \$1000, with the following categories reported: 2.5, 7.5, 12.5, 17.5, 22.5, 27.5, 35, 50, 70, and 110. To adjust for existing levels of neuroticism in 1986 that might have affected reporting of perceived insecurity and/or psychological distress, we used a standardized index of the mean of five items: “Would you call yourself a nervous person?” “Are you a worrier?” “Does your mood often go up and down?” “Do you often feel fed-up?” and “Would you call yourself tense or high-strung?”

Lastly, we adjusted for perceived employability insecurity, because it may differentiate the impact of perceptions of likely job loss, using an item from 2011 that asked, “If you were to lose your main job, what do you think your chances would be of finding another job that paid about the same?” Answers of “very good” and “good” were coded as 0 and “fair” and “poor” were coded as 1.

Methods

We assessed bivariate associations by examining the differences in characteristics between those with and without job insecurity in 2011, as well as by job insecurity histories (never insecure, early insecure, recent insecure, and persistently insecure). We present p -values for tests of differences across the groups derived from multinomial logistic regression models predicting the insecurity history variables with the focal characteristic as the sole predictor. We then estimated multivariable models predicting psychological distress, with perceived job insecurity as the focal predictor. OLS regression models were estimated separately for models using job insecurity in 2011 and job insecurity history as the focal predictor. We adjusted for the respondent's age, sex, race, educational attainment, household income, neuroticism and psychological distress all at baseline as well as perceived employability insecurity in 2011 (Model 2), and whether they had lost a job before or since the start of the Great Recession (Model 3). We estimated predicted psychological distress scores across categories of perceived insecurity, using Model 3 and holding all other covariates at their sample means. In descriptive and multivariable analyses, we used survey weights from wave 5 (2011) to adjust for the original ACL sample design and loss of follow-up due to death or attrition. All analyses accounted for complex sample survey design and were conducted using survey estimation procedures in Stata/SE 14.0.

Results

Perceived job insecurity histories and their predictors

Tables 1 and 2 address our initial research aims, showing how much perceived insecurity was reported at the end of follow up in 2011 (Table 1) and how much persistence or change in perceived job insecurity was reported over 25 years (Table 2), as well as the characteristics of older U.S. workers that were associated with perceiving job insecurity. Comparison of Table 1 and Table 2 reveals whether the substantive findings depend on whether we consider only contemporary reports or use our more novel longer-term histories of perceived insecurity. Table 1 presents percentages or means and standard deviations for the analytic sample overall in the first column, and stratified by perceived job insecurity status in 2011.

Considering the analytic sample overall in the first column, Table 1 shows that among ACL respondents who were still employed 25 years after their initial interview, their average age at baseline was about 34, 57% were male, 82% were white and only about 6% had less than a high school education, with about 56% completing high school or some college and 37% having completed a bachelor's degree or more. The average household income at baseline was nearly \$39,000 in 1986 dollars, and about 57% of the sample reported perceived employability insecurity in 2011. The average CES-D score at the follow-up interview in 2011 was 1.22, lower than the average value of 1.35 at baseline in 1986. Almost 34% of respondents reported at least one involuntary job loss before the Great Recession, with 6% reporting their first job loss over follow up after the start of the recession.

The next set of columns in Table 1 shows that 104 of the 433 respondents in the analytic sample perceived job insecurity in 2011, or 21.5% (shown at top of column). Comparison of

the insecure with the secure sample shows that Black respondents were significantly over-represented among the insecure in 2011 (i.e., Black respondents made up about 14% of the job loss insecure in 2011, but only 6% of those who were not insecure). Less-educated respondents were also over-represented among the job insecure in 2011, as 18% had less than a high school education, compared to about 3% of their secure peers. Respondents who reported employability insecurity in 2011 were also significantly over-represented among the job insecure, with 73% reporting employability insecurity compared to 53% of those who were not insecure. Those who perceived job insecurity in 2011 had marginally significantly higher neuroticism scores than their secure counterparts. Psychological distress in 2011 was significantly higher among respondents who were job insecure in that same year, as were baseline CES-D scores.

Comparison across the more detailed categories of job insecurity histories in Table 2 shows that about 8% were persistently insecure over the quarter century of observation, while 16% were insecure only in the late 1980s, and another 13% were newly insecure in 2011. The persistently insecure (shown in the final column) were marginally-significantly more likely to be male than those who were never insecure. The persistently and recently insecure were significantly more likely to be Non-Hispanic Black than those who were never insecure, and the persistently insecure were more likely to be Hispanic or of another race. The persistently and recently insecure were significantly less educated than the never insecure, with a larger fraction of respondents who had less than a high school education. However, it is also important to note that 31 to 41% of respondents in all job insecurity history groups had at least a bachelor's degree, so relatively well-educated respondents were not immune. The persistently job insecure were significantly more likely to perceive employability insecurity in 2011, and the recent job insecure were marginally-significantly more likely to report employability insecurity in the final follow-up interview. Respondents who were insecure only early in the study and those who were persistently insecure had significantly lower household incomes at baseline compared to the never insecure, and higher neuroticism scores and psychological distress at baseline. Psychological distress scores in 2011 were significantly higher among the persistently insecure and those who had recently become insecure. Finally, those who reported persistent insecurity were significantly more likely to report having involuntarily lost a job before the Great Recession than the never insecure, and those who were insecure only early in the study were marginally more likely to have experienced a pre-recession job loss. Some of these group differences were only evident when considering the more detailed histories of insecurity in Table 2, including the marginally greater risk for men of persistent insecurity and the significantly greater risk of persistent insecurity for Hispanic or other race individuals, and the lower incomes and more frequent experience of earlier job loss among the recently and persistently insecure.

Are perceived job insecurity histories associated with psychological distress?

Turning now to our third research aim, we assess whether perceived job insecurity predicts psychological distress among older U.S. workers. Table 3 displays results from ordinary least squares regression models predicting psychological distress in 2011, with results from models using the more detailed instability histories presented in Table 4. We display coefficients with standard errors in parentheses.

Table 3 shows that perceived job insecurity in 2011 is a significant predictor of psychological distress in 2011, and that this association holds after adjustment for age, gender, race, educational attainment, household income, neuroticism and baseline distress in Model 2, though the difference declines in magnitude from about 0.18 to 0.13. The magnitude of the difference is almost unchanged after adjusting for pre- and post-recession job losses in Model 3, and remains statistically significant.

Table 4 shows that respondents who were recently or persistently insecure reported significantly higher psychological distress than the never insecure. After adjustment for age, gender, race, educational attainment, household income, perceived employability insecurity, neuroticism, and baseline psychological distress in Model 2, the gap between the recently insecure and never insecure declined and was no longer statistically significant. After adjusting for involuntary job losses in Model 3, differences between job insecurity groups remained similar to those in Model 2.

To more clearly show the magnitude of these differences and the additional nuance provided by histories of exposure, we predicted psychological distress scores across categories of perceived insecurity, holding all other covariates at their sample means. Figure 1 displays these predicted values based on Model 2 in Table 3, for perceived insecurity in 2011, while Figure 2 displays them for our more detailed categories of insecurity history, based on Model 2 in Table 4. We chose to use Model 2 results because Wald tests revealed that the addition of objective job loss measures did not improve models from either table. Inspection of these figures reveals distress scores of about 1.32 compared to 1.19 when comparing respondents only based on having or not having recent insecurity. Figure 2 shows that the persistently insecure are clearly most distressed, with scores of 1.43, with the recently insecure showing a much smaller gap compared to the never insecure (1.26 versus 1.19, respectively).

To assess the robustness of our results, we explored a range of sensitivity analyses. We tested for possible gender interactions with perceived insecurity, since other research has found gender differences in the association between stressful working conditions and health, but none were statistically significant at conventional levels. To address the non-normality of the CES-D score, we estimated two alternative sets of models that use a dichotomous outcome with (1) a cut-off of 6-symptoms, or (2) a cutoff of 11 points. The 6-symptom cut-point considered any participant with a report of “some of the time” or “most of the time” on six of the 11 symptoms as experiencing mild or significant distress/depressive symptomatology. The 11-point cutoff indicator followed a similar approach to the 16-point cutoff for the full CES-D-20 and 10-point cutoff for the shortened CES-D-10. Results were consistent with those presented here, but as there is no commonly-used cut-point for the 11-item CES-D, we present results using the continuous measure. We also explored additional predictors, including self-rated health, count of chronic health conditions, immigrant status, and hours of caregiving, but none of these substantively changed our results.

Discussion

In this study, we set out to examine the correlates and consequences of histories of perceived job insecurity among contemporary older U.S. workers. We addressed limitations of prior studies by taking a very long-term view of exposure histories and accounting for involuntary job losses over the long follow-up period. The longer-term view of job insecurity histories allowed us to examine more closely how very persistent – as opposed to episodic – employment concerns represent a chronic stress for individuals over the course of a career. While prior studies have observed spans of a few years, we provide novel descriptive evidence that some workers labor under this stressor for decades. Our long-term perceived insecurity histories that considered persistent, resolving, and emerging insecurity identified more specific risk groups, as compared to when we considered perceived insecurity only at the end of follow up. In particular, we found that detailed histories of perceived job insecurity were more strongly shaped by gender, race, household income and involuntary job losses than was apparent when considering recent insecurity only.

We then asked whether perceived insecurity predicted psychological distress, and whether longer-term histories of perceived insecurity yielded results different from those obtained when using only a more recent report. We found that persistent perceived job insecurity was a substantial and significant predictor even after adjusting for a wide range of other characteristics, including job losses prior to or after the Great Recession. These findings are more nuanced than those obtained when we considered only insecurity in 2011, which could not reveal the sharp contrast between persistently insecure workers and those who only more recently became insecure. Before adjustment, those who recently became insecure also showed higher depressive symptoms, but this difference was of smaller magnitude and was accounted for by their sociodemographic characteristics. These differences provide further support for the value of measuring exposure multiple times for the same worker, though it may not be necessary to follow them for 25 years, given that our findings are consistent with those from studies with much shorter follow up times (Burgard, Brand, and House 2009; Ferrie, Shipley, Stansfeld, and Marmot 2002; Glavin 2015; Magnusson Hanson, Chungkham, Ferrie, and Sverke 2015).

Our analysis contributes further by incorporating exposure information from before and after the Great Recession. It may be useful to consider longer-term histories of perceived job insecurity when assessing how workers respond to acute macroeconomic shocks like the recent recession. Those with a history of perceived insecurity may react more strongly than workers who have generally felt secure, or conversely, those who previously have not borne the strain of perceived insecurity may react to the widespread threat of job loss more strongly because they feel even less prepared to cope with uncertainty or a job loss. Other studies have shown that older workers have faced unique challenges to their mental health in the wake of the Great Recession (McInerney and Mellor 2012), but there have been few studies of perceived job insecurity to date from data collected after the recession (though see Burgard, Kalousova, and Seefeldt 2012; Lam, Fan, and Moen 2014; Modrek, Hamad, and Cullen 2014), and little evidence for older U.S. workers in particular. We find that after accounting for a host of other predictors, those who were insecure both prior to and following the recent recession remained at greatest risk. However, future research is needed

to assess whether other aspects of working conditions or perceived stability are inflected by macroeconomic shocks in ways particularly salient for older workers.

This study builds on previous research by showing that persistent perceived insecurity has a stronger impact on poorer mental health than episodic insecurity, when considering both early- and late-career insecurity. By showing that perceived job insecurity persists for some workers over very long portions of their career and leads to significantly greater psychological distress, our findings provide further evidence for the salience of chronic employment stress over the life course. However, additional research is needed to improve theoretical understanding of the kinds of workers who persistently report insecurity over such long spans, and the pathways that keep it linked to psychological distress. We know relatively little about this group, beyond their sociodemographic disadvantages – our results suggest greater likelihood for persistent perceived insecurity among racial/ethnic minorities, those with low educational attainment and income and those with higher neuroticism scores at baseline. Respondents in this group were also more likely to have had job losses in the 1980s and 1990s, perhaps reinforcing their perceived insecurity. However, there may be other unmeasured events or characteristics that have led them to remain for decades in what they perceived to be insecure employment arrangements.

Future studies should draw on life course research to explore whether these workers are similar to others whose persistent economic strain over the life course puts them at greater risk of a range of health problems, or whether there are other factors in the workplace environment that might be amenable to intervention, to remove some of the uncertainty and potentially reduce their health disadvantage. It may also be useful to consider research designs that highlight resilient individuals and study their characteristics, resources, and environments, by using matching strategies, in-depth interviews, and more detailed measurement of perceived stressors and individual's responses to these.

Our results should be considered in light of some important limitations. We observe here ACL respondents who have survived over 25 years of follow up and remain in the labor force across the entire period. Those perceiving the greatest labor market insecurity, and/or those with the poorest mental health, may have been lost to follow up or may have retired early, most likely making our estimates conservative. However, in models not shown here, we predicted status at follow-up (employed [reference], unemployed, retired, attrited, or deceased) and found that after adjusting for other covariates in our multivariable models, there was no independent association between these statuses and perceived insecurity at wave 1 or wave 2. Nonetheless, results are most applicable to contemporary older U.S. workers who remained employed over a long period of observation. Since we focus on older workers and do not have a comparison group of younger workers, it is not clear how generalizable these findings are to workers across the life course, but it seems reasonable to assume that they are particularly applicable to older workers. A small analytic sample – the product of following adults for such a long period and the natural course of age-based retirements – limits our ability to explore additional predictors, such as occupational characteristics, or a range of potential moderators of the associations reported here. We also are limited in the amount of detail we can include in these histories of exposure, as discussed above, and by a single item measure of perceived job insecurity, though it is one very

frequently used in prior studies. There are also many unmeasured factors that could be influencing our results, some specific to the very particular time period covered here (Lam, Fan, and Moen 2014). Using a within-person design mitigates some concern, as all of these workers were observed over the same period of follow up, but results might differ if workers were observed over a long period of economic growth, for example.

Even given these limitations, however, our findings suggest the value of taking a longer-term view of perceived job insecurity and focusing especially on those who are persistently insecure, as doing so better concentrates attention on the much poorer outcomes of those remaining in chronically stressful employment arrangements. Moreover, the results reiterate that the potential health burden of perceived insecurity is broader than that of job loss, because even in serious recessions like the recent one, most workers remain employed, even if precariously.

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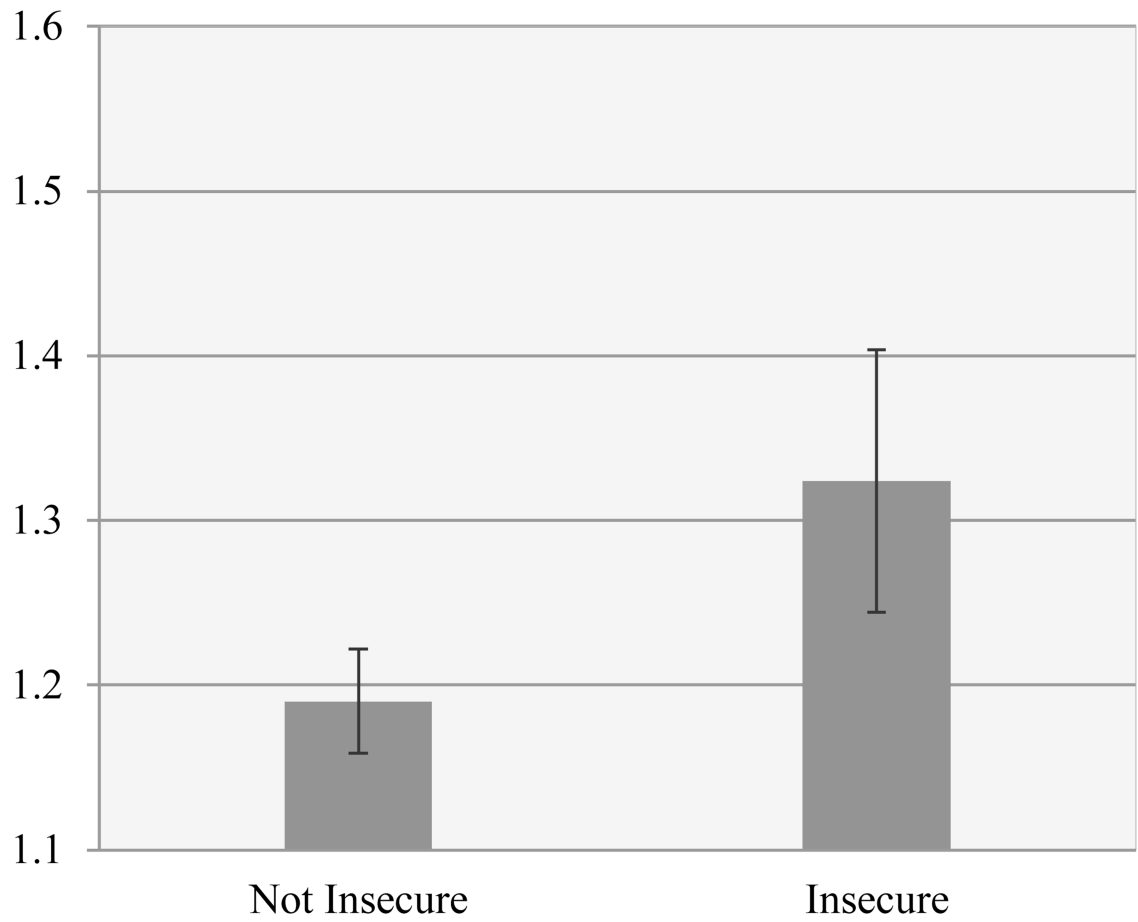


Figure 1. Predicted values of perceived job insecurity in 2011 (predicted values based on estimates from Model 2, Table 3)

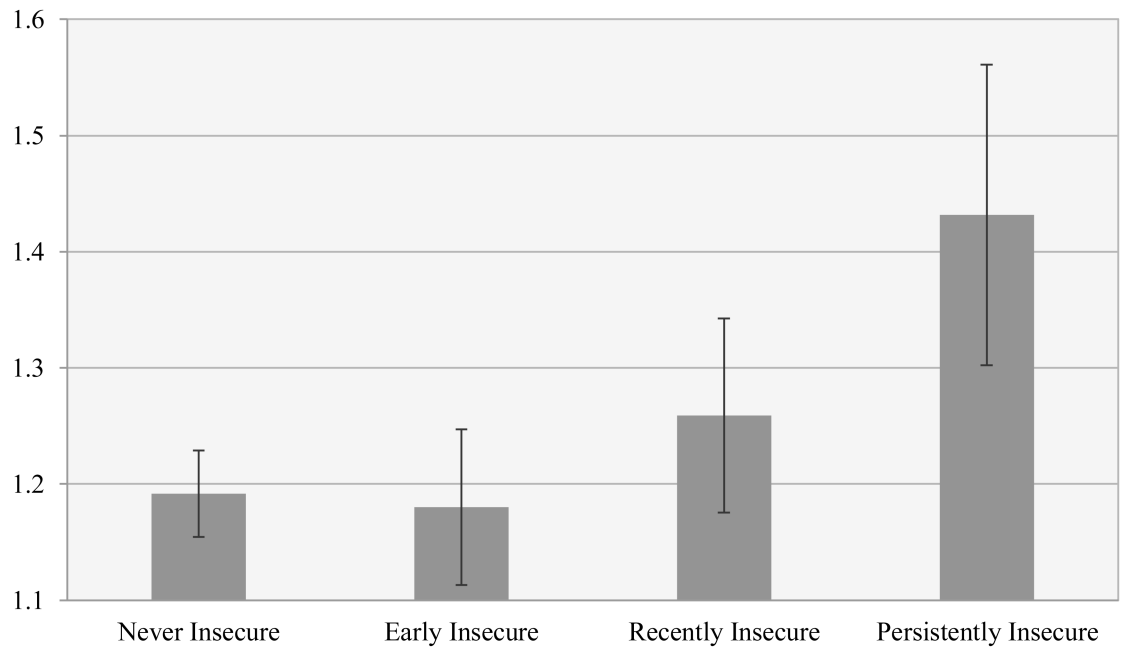


Figure 2. Predicted values of perceived job insecurity histories (predicted values based on estimates from Model 2, Table 4)

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Table 1
Descriptive statistics overall and by 2011 perceived job insecurity

	Perceived Job Insecurity in 2011			<i>p</i>
	Overall	Not Insecure (78.5%)	Insecure (21.5%)	
	Mean / % (S.D.)	Mean / % (S.D.)	Mean / % (S.D.)	
Age in 1986	33.84 (6.36)	33.74 (6.31)	34.19 (6.51)	0.606
Male	57.32%	57.22%	57.68%	0.945
Race				
Non-Hispanic White	82.40%	84.31%	75.41%	
Non-Hispanic Black	7.45%	5.80%	13.50%	0.007
Other	10.15%	9.89%	11.09%	0.584
Education in 1986				
Less than High School	6.42%	3.23%	18.08%	0.001
HS/Some College	56.46%	58.16%	50.27%	
Bachelor's or More	37.11%	38.61%	31.65%	0.872
HH Income in 1986 (thousands of dollars)	38.94 (22.29)	40.02 (21.62)	34.96 (24.35)	0.195
Employability Insecurity in 2011	57.45%	53.19%	72.98%	0.002
Neuroticism in 1986	-0.11 (0.81)	-0.14 (0.79)	0.03 (0.86)	0.094
CES-D Score				
1986	1.35 (0.28)	1.34 (0.27)	1.41 (0.31)	0.045
2011	1.22 (0.25)	1.18 (0.21)	1.36 (0.33)	<0.001
Pre-Recession				
Involuntary Job Loss	34.43%	32.23%	42.21%	0.108
Post-Recession				
Involuntary Job Loss	6.34%	6.74%	4.88%	0.627
N	433	329	104	

Note: Figures are weighted using wave 5 weights; column total Ns are unweighted. *p*-values for tests of difference across the groups are derived from multinomial logistic regressions estimated separately for each predictor.

Table 2
Descriptive statistics overall and by categories of perceived job insecurity

	Overall	History of Perceived Job Insecurity					
		Never Insecure (62.37%)	Early Insecure (16.13%)	Recent Insecure (13.03%)	Persistently Insecure (8.46%)		
	Mean / % (S.D.)	Mean / % (S.D.)	Mean / % (S.D.)	Mean / % (S.D.)	Mean / % (S.D.)	Mean / % (S.D.)	P
Age in 1986	33.84 (6.36)	33.75 (6.23)	33.72 (6.60)	33.69 (6.52)	34.96 (6.37)	34.96 (6.37)	0.383
Male	57.32%	57.61%	55.70%	48.03%	72.54%	72.54%	0.099
Race							
Non-Hispanic White	82.40%	85.67%	79.04%	81.48%	66.05%	66.05%	
Non-Hispanic Black	7.45%	5.50%	6.94%	13.00%	14.27%	14.27%	0.019
Other	10.15%	8.83%	14.02%	5.52%	19.68%	19.68%	0.023
Education in 1986							
Less than High School	6.42%	3.53%	2.08%	14.87%	23.03%	23.03%	0.007
HS/Some College	56.46%	55.94%	66.74%	52.74%	46.46%	46.46%	
Bachelor's or More	37.11%	40.53%	31.18%	32.39%	30.51%	30.51%	0.863
HH Income in 1986 (thousands of dollars)	38.94 (22.29)	42.09 (21.85)	32.04 (18.72)	39.79 (28.29)	27.53 (15.61)	27.53 (15.61)	0.024
Employability Insecurity in 2011	57.45%	53.63%	51.49%	67.60%	81.26%	81.26%	0.006
Neuroticism in 1986	-0.11 (0.81)	-0.21 (0.74)	0.11 (0.93)	-0.15 (0.87)	0.30 (0.77)	0.30 (0.77)	0.002
CES-D Score							
1986	1.35 (0.28)	1.30 (0.26)	1.47 (0.29)	1.36 (0.32)	1.48 (0.27)	1.48 (0.27)	<0.001
2011	1.22 (0.25)	1.17 (0.20)	1.20 (0.23)	1.27 (0.30)	1.49 (0.32)	1.49 (0.32)	<0.001
Pre-Recession							
Involuntary Job Loss	34.43%	29.41%	43.48%	31.23%	59.12%	59.12%	0.001
Post-Recession							
Involuntary Job Loss	6.34%	7.48%	3.81%	3.41%	7.15%	7.15%	0.962
N	433	256	73	68	36	36	

Note: Figures are weighted using wave 5 weights; column total Ns are unweighted. *p*-values for tests of difference across the groups are derived from multinomial logistic regressions estimated separately for each predictor.

Table 3
Coefficients from models predicting depressive symptoms in 2011, considering perceived job insecurity in 2011

	Model 1 Coef. (S.E.)	Model 2 Coef. (S.E.)	Model 3 Coef. (S.E.)
Perceived Job Insecurity in 2011^a	0.177 (0.041) ***	0.134 (0.040) **	0.130 (0.040) **
Controls			
Age in 1986		0.000 (0.002)	0.001 (0.002)
Male ^b		-0.013 (0.027)	-0.015 (0.027)
Non-Hispanic Black ^c		0.023 (0.044)	0.028 (0.043)
Hispanic or Other		0.030 (0.059)	0.038 (0.060)
Less than High School ^d		0.092 (0.059)	0.082 (0.059)
Bachelor's Degree or More		0.037 (0.027)	0.032 (0.027)
HH Income in 1986		-0.000 (0.001)	-0.000 (0.001)
Employability Insecurity in 2011		0.044 (0.023) [†]	0.052 (0.023) *
Neuroticism in 1986		0.057 (0.018) **	0.057 (0.018) **
CES-D Score in 1986		0.155 (0.046) **	0.151 (0.047) **
Pre-Recession Involuntary Job Loss			0.043 (0.030)
Post-Recession Involuntary Job Loss			0.103 (0.057) [†]

Note: N=433 for all models. Models estimated using wave 5 weights.

[†]
p < 0.1,

*
p < 0.05,

**
p < 0.01,

p < 0.001

^a Reference group is No Job Loss Insecurity.

^b Reference group is Female.

^c Reference group is Non-Hispanic White.

^d Reference group is HS or Some College.

Table 4
Coefficients from models predicting depressive symptoms in 2011, considering perceived job insecurity histories

	Model 1 Coef. (S.E.)	Model 2 Coef. (S.E.)	Model 3 Coef. (S.E.)
Perceived Job Insecurity Histories			
Early Insecure ^a	0.028 (0.040)	-0.012 (0.040)	-0.014 (0.039)
Recently Insecure	0.094 (0.043) *	0.067 (0.046)	0.070 (0.047)
Persistently Insecure	0.320 (0.068) ***	0.240 (0.066) ***	0.228 (0.064) **
Controls			
Age in 1986		0.000 (0.002)	0.001 (0.002)
Male ^b		-0.023 (0.026)	-0.024 (0.026)
Non-Hispanic Black ^c		0.021 (0.044)	0.026 (0.044)
Hispanic or Other		0.018 (0.058)	0.026 (0.059)
Less than High School ^d		0.082 (0.057)	0.075 (0.056)
Bachelor's Degree or More		0.033 (0.027)	0.030 (0.027)
HH Income in 1986		-0.000 (0.001)	-0.000 (0.001)
Employability Insecurity in 2011		0.041 (0.024) [†]	0.048 (0.023) *
Neuroticism in 1986		0.053 (0.017) **	0.054 (0.017) **
CES-D Score in 1986		0.151 (0.043) **	0.148 (0.045) **
Pre-Recession Involuntary Job Loss			0.034 (0.029)
Post-Recession Involuntary Job Loss			0.088 (0.052) [†]

Note: N=433 for all models. Models estimated using wave 5 weights.

[†] p < 0.1,

* p < 0.05,

** p < 0.01,

*** p < 0.001

^aReference group is Never Insecure.

^bReference group is Female.

^cReference group is Non-Hispanic White.

^dReference group is HS or Some College.