The Effect of Inequality on the Association between Involuntary

Job Loss and Depressive Symptoms

(DRAFT)

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Abstract

Involuntary job loss is a national concern given current economic situations. Although socioeconomic status (SES) has been to shown to be associated with susceptibility to job loss as well as with health, the ways in which SES may moderate the job loss-health association remain largely unexplored. Using data from 1,510 participants in the Americans' Changing Lives (ACL) study, we estimate interactions between job loss and five aspects of SES—education, income, occupational prestige, wealth, and homeownership—for depressive symptoms. We find evidence to indicate that the effect of job loss on mental health depends on educational attainment and occupational prestige, although in opposite directions. Higher education and lower prestige appear to buffer the health impacts of job loss. These results have a number of implications for understanding the role of larger inequality in shaping the health effects of job loss.

Introduction

Involuntary job loss is neither a trivial nor an isolated phenomenon, particularly in the current economic climate. Indeed, evidence suggests the most recent recession yielded substantially more job losses than previous downturns (Kelter, 2009). The consequences will likely not be ephemeral: laid-off workers may have difficulty finding a job and, once re-employed, may receive lower wages (Farber, 2005; Jacobson, LaLonde & Sullivan, 1993) and face different career trajectories (Brand, 2006). Additionally, decades of epidemiological research indicates that this experience negatively affects the health of displaced workers. Studies have demonstrated that job losers have higher depressive symptoms and greater risk of chronic conditions than stably employed workers (Catalano & Dooley, 1983; Gallo et al., 2004; Kasl, Gore, & Cobb, 1975; Kasl & Jones, 2000). While the existence of a health penalty related to job loss has been investigated and, aside from limited questions about selection bias, has been fairly accepted, the ways in which preexisting inequalities may affect this relationship have not been studied in great detail.

Most of the existing literature describes the overall social patterning of job loss itself finding that individuals of lower social standing—those with less education, fewer assets, less income, and jobs of lower prestige—are more likely to experience involuntary job displacement than their more advantaged peers (Burgard, Brand, & House, 2007; Kasl & Jones, 2000). Research has not, however, addressed the social patterning of health responses to the event. A substantial number of higher socioeconomic status (SES) persons have also faced sudden unemployment. Our goal in this investigation is therefore to assess whether depressive symptoms following job loss differ according to several measures of socioeconomic advantage. Teasing apart individual measures can illustrate the ways in which social status differences persist in the

face of an acute stressful event, which may reflect broader patterns of inequality and health status in the current economic clime.

Conceptualizing job loss as both a stressful event (Pearlin et al., 2005) and a "socioeconomic shock" (Strully, 2009a), we are motivated by and build upon several lines of research that have explored related questions. A limited body of work has noted differential vulnerabilities to stress responses (McLeod & Kessler, 1990; Turner, Wheaton, & Lloyd, 1995), significant additive effects of sociodemographic characteristics on the health consequences of job loss (e.g, Burgard et al., 2007), and interactions between education and reemployment status (Turner, 1995). Moreover, existing literature supports a theorized biological pathway between employment separation and depression (Hammen, 2005). This project explores data from a prospective longitudinal cohort to examine whether inequality moderates the job loss-mental health association—that is, whether various aspects of SES interact with involuntary job loss to lessen or exacerbate post-displacement depressive symptoms.

Social Inequality

Inequality is often captured by SES, a multidimensional concept that represents various aspects of social status and class, and which is typically measured by education, occupation, income, and wealth. These indicators affect access to various goods or positions that confer advantage directly or via perceived societal value (Hauser & Warren, 1997; Lynch & Kaplan, 2000), and correspond to a Weberian account of social differentiation (Liberatos, Link, & Kelsey, 1988).

Max Weber (1922/1978) distinguished class, which refers to an economic differentiation between persons, from status, which refers to access to life chances that stemming from position within society (e.g., prestige). Although there have been some questions about this distinction

and its modern relevance, there is conceptual and empirical support for it (Chan and Goldthorpe, 2007). Income and wealth both capture aspects of Weber's class domain given their economic underpinnings. Income is a flow measure and is more volatile, whereas wealth captures an individual's accumulated assets. While income and wealth are predominantly related to control of economic resources, they also confer power, esteem, and other aspects of status. Education, on the other hand, provides persons with access to life position and increases standing; it thus captures status. Finally, although occupation does bestow certain economic advantages in addition to labor dynamics (i.e., class), it is often measured by occupational prestige, which captures how others view a given occupation and the standing of its members (i.e., status) (Haug, 1977). These distinctions are often difficult to tease apart, but remain conceptually important given their different potential effect on the health consequences of job loss.

Job Loss and Health

Social scientists and epidemiologists have repeatedly found an association between involuntary job loss and various negative health outcomes. They have explored this relationship in a variety of populations and across a number of health outcomes, including physical health outcomes (Dooley, Fielding, & Levi, 1996; Gallo et al., 2004; Kasl & Cobb, 1980), self- rated health (Burgard et al., 2007; Turner, 1995), and depressive symptoms (Burgard et al., 2007; Dooley, Catalano, & Wilson, 1994; Gallo et al., 2000; Hamilton et al., 1990). Despite the wealth of literature exploring the job loss-health relationship, many conceptual issues and questions about the overall patterning of health outcomes remain.

The largest question concerns the direction of causality between involuntary job displacement and poor health. The most common argument is that those who experience job loss are already less healthy than those who do not; precarious health situations thus lead to their

terminations. Proponents of this view argue that if those with worse health are more likely to experience job loss, then these differences may explain part of the negative health effects (e.g., Mastekaasa, 1996; McDonough & Amick, 2001).

As a result, a number of studies have examined the health effects of factory closures to estimate the effect of job loss, as business closures are unrelated to individual employees' health. The results of such investigations are mixed, as some researchers estimate an adverse health effect of job loss (Kasl, Gore, & Cobb, 1975), while others do not (Salm, 2009). While factory closing studies do not have the problem of reverse causality, their generalizability to other types of job loss is limited, as the circumstances of such factory closings differ from those of other cases of involuntary termination. Additionally, these questions raise a more methodological issue: if the data are primary, the mere perception of job loss, which affects health (Burgard, Brand, & House, 2009), may confound the job loss-negative health relationship. Although the causality of job loss for poor health is still debated in some, particularly, economic circles (Goldney, 1997), robust associations are nonetheless found throughout the social science literature. Indeed, studies investigating involuntary job loss beyond factory closings have also demonstrated that selection bias cannot fully explain the association with negative health outcomes (e.g., Kessler, House, and Turner, 1987).

Pathways

Several scholars (e.g., Pearlin et al., 2005) have conceptualized job loss as a stress-precipitating event. As is the case with other causes of stress, job loss-precipitated stress can manifest itself in a range of health outcomes. Mental health outcomes are perhaps the most commonly recognized, as many of the psychosocial and financial effects of job loss have direct psychological consequences (Dooley & Catalano, 1988; Kasl et al., 1975; Pearlin, 2005; Price,

Choi, & Vinokur., 2002). Throughout the past several decades, researchers have examined the connection between stress (and stressful life events) and depression (Hammen, 2005; Kessler, 1997). Although there are some methodological and theoretic criticisms, it appears that there is a strong, positive association between stress and depression. Specifically, stressed persons are more likely to develop depressive symptoms than their less stressed peers, even when accounting for potential selection effects. (See Hammen, 2005 for an overview.)

The loss of occupation may also initiate interpersonal and familial conflict (BromanHamilton & Hoffman, 2001; Pearlin et al., 2005), provoke a perceived loss of control (Price et al., 2002), and necessitate drawing on financial savings (Pearlin et al., 1981). The first two consequences fall into the domain of "self-concept" (Turner, 1995). This category includes both identity and self-worth. For example, with job loss, displaced workers' socially approved roles are eliminated and their social worth is depreciated (Scholzman & Verba, 1979). Higher social resources may have a buffering effect for self-concept, as individuals with greater social resources upon which to draw. Nonetheless, displaced workers may also lose more of that social capital through loss of social position. For the third consequence of job loss *qua* stressor, financial strain, the availability of funds may shape the effect. Persons with greater financial resources may be able to use them to cushion the short-term economic effects of job loss.

A second, although related, body of literature posits differential vulnerabilities to stress on a more physiological level. "Social stratification" (House & Mortimer, 1990) and "social status" (Aneshensel, 1992; Kessler & Cleary, 1980) may pattern responses to stressors and the stress response. These findings also reflect other researchers' finding that SES and stress are inversely related (Kaplan & Keil, 1993; Lynch, Kaplan, & Salonen, 1997; McLeod & Kessler, 1990). Although the mechanism for this association is the subject of inquiry, there are some

possibilities. For example, job loss has also been linked to other stressors. Kessler, House, and Turner (1987) estimate that other stressors present at the time of job loss may moderate the health effects of job loss. They found that the absence of other stressful events could moderate unemployment's negative health effects. Given that persons of lower SES face additional stressors throughout their life (Lynch & Kaplan, 2000), this contributes to a differential stress experience for those of lower social standing.

Additionally, social inequalities persist even after a socioeconomic shock. Employment severance changes some of the primary components of individual-level SES but does not bring all displaced workers to a common lower SES. For example, it does not level job losers' educational attainment or immediately equalize their wealth. The persistence of such differences can also shape the effect of job loss, either directly or indirectly. Directly, affected persons may draw on their accumulated assets or social resources to protect them in the face of job displacement. Or they may face additional challenges given the more marked change in socioeconomic position. Indirectly, SES affects future job prospects, as individuals with higher education levels are more likely to have higher incomes and occupational status than those with lower educational attainment (Blau & Duncan, 1967; Featherman & Hauser, 1978).

Together, these theoretical and empirical accounts provide the foundation for understanding how existing inequality may affect the emotional and physiological effects of job loss. They posit a differential vulnerability to acute stressors, whereby higher status persons are less vulnerable to external stressors compared to persons of lower standing. Beyond the theoretical and conceptual support for this project, there is also empirical evidence that indicates that inequality may affect the job loss-health association.

A small set of studies have examined various aspects of this research question, although incompletely. For example, Artazcoz and colleagues (2004) examined the interactions between gender and social class for the mental health of the unemployed. They found that social class did significantly modify the relationship, reporting a particularly strong negative relationship between unemployment and poor mental health for women who previously worked in non-manual jobs and for men who worked in manual jobs. The authors argue that family (and social) roles and financial strain may help to explain this finding. While this suggests that inequality significantly moderates the relationship between job loss and negative health outcomes, there are two noteworthy limitations. First, this sample is not necessarily generalizable to the American labor force, given differences between the United States and Spain and their labor dynamics. Second, Artazcoz and colleagues examine unemployed workers, not just those who recently obtained this status via involuntary job loss, raising the possibility of reverse causality.

Burgard, Brand, and House (2007) also examined the health effect of involuntary job loss using data from the Americans' Changing Lives (ACL) study along with the Wisconsin Longitudinal Study (WLS). They estimated the additive (but not interactive) effects of occupation, income, and education, and had mixed findings. For self-rated health in the ACL sample and depressive symptoms in the WLS sample, they found that education had a significant effect until controlling for baseline health; for all other models, it remained significant even with this adjustment. Occupation standing significantly affected depressive symptoms in the ACL sample and self- rated health in the WLS sample, but income was not significant in any model. This finding suggests that different components of SES may have different effects on the health consequences of job loss. Nonetheless, Burgard and colleagues did not include any interaction terms.

Turner (1995) investigated the interactions of education with post-displacement employment status (presently reemployed, not reemployed), rather than with job loss, itself. Turner found that education significantly interacted with unemployment for depression only for those still unemployed at follow-up; he did not find currently reemployed by job loss to be significant. Based on a number of subsequent analyses, he concluded that unemployment's financial strain affected persons of lower education while a perceived loss in standing and control affected persons with higher educational attainment. Therefore, he noted a differential effect of job loss based on preexisting social differences. Despite its numerous strengths, his account only included one measure of SES, which is conceptually limiting, and examined the moderating effect on a different arrow in the causal milieu. Along with other work examining the role of inequality and differential vulnerability to stressors, this study nonetheless provides evidence for some variation in the vulnerability to job loss's health consequences.

Potential roles of four components of SES

With this evidence as a backdrop, it is necessary to consider the potential effect of the different aspects of SES. Each of the indicators reflects a different aspect of overall social position (for a detailed discussion, see Braveman et al., 2005; Liberatos et al., 1988; Lynch & Kaplan, 2000). Thus, some components may have an effect in one direction, while others may have no effect or, perhaps, an opposite effect.

Income. Income is the measure of SES most directly related to a person's access to material conditions (Adler and Newman, 2005; Lynch and Kaplan, 2000). Earnings provide economic advantages and are empirically associated with psychosocial and social conditions (Wilkinson, 1996). Thus, social capital and social connectedness, as other direct psychosocial benefits, may buffer the health effects of job loss. Nonetheless, income is a relatively volatile

measure (Williams and Collins, 1995), especially if only measured at one point. Thus, its effect on the health consequences of involuntary job loss may be the most difficult of the inequality indicators to predict.

Education. Psychosocial benefits to higher educational attainment are perhaps clearer than those for income. Persons with higher levels of education tend to have more social support and report more control over their lives than those with lower levels (Berkman, 1995; Ross & Wu, 1995). Additionally, there is evidence to indicate that both social support (Aneshensel & Stone, 1982) and sense of control (Aneshensel, 1992; Ross & Mirowsky, 1999) buffer the effects of stressors. While job loss is considered a socioeconomic shock, education is a stock that is completed early in life and has cumulative life advantages that carry throughout (Mirowsky & Ross, 2003). Since educational attainment remains unchanged in the face of job loss, high levels of education might be protective in cases of involuntary job loss.

Occupational prestige. A third indicator of SES, occupation, may also shape the job loss-health association. While being employed in an absolute sense matters, all those who experience job loss, by definition, are employed then face a period of unemployment. Another aspect of occupation that matters for SES concerns actual job duties—what a person actually does in her daily life. Since we are concerned with relative social standing, however,the aspect of occupation of present interest is occupation prestige, which captures the stature and esteem of the occupation in which a person works. For example, one common way to measure this concept, the Siegel occupational prestige index, was constructed by compiling data from opinion surveys (Siegel, 1971 cited in Hauser & Warren, 1997; Liberatos et al., 1988). Thus, the score captures the desirability—or prestige—of the profession, not just the material benefit it confers. This additional dimension is a fundamental component of the SES component's conceptual grounding

(Liberatos et al., 1988; Lynch & Kaplan, 2000).

Given that the loss of a job in a prestigious occupation results in the loss of external power and prestige and may lead to potential "status inconsistency" if there is no loss of internal self worth, those with more prestigious jobs prior to job loss may suffer greater depressive symptoms. On the other hand, higher current occupation status is associated better future job prospects (Blau & Duncan, 1967; Featherman & Hauser, 1978), which could buffer some of the psychological stress of job loss.

Wealth. The fourth commonly measured indicator of SES, wealth, captures accumulated economic resources, including financial investments and home ownership (Pollack et al., 2007). Just as social support provides emotional reserves, wealth provides material reserves. In the presence of a socioeconomic shock, wealthy persons can draw on accrued assets to afford necessities (e.g., food, housing, medical care) that can provide both material and psychological benefits that may buffer stress (Brenner, 1991). Additionally, like occupational prestige, wealth provides a rough indication of power over others (Brenner, 1991; Hauser & Warren, 1997).

Data and Methods

Our data are taken from the Americans' Changing Lives (ACL) study. The ACL is a longitudinal cohort composed of a multistage stratified area probability sample of adults aged 25 and older, in which Blacks and those aged 60 and older are oversampled. Although weights are available, we do not use them, as our sample differs from the original ACL sample with respect to a number of important characteristics. Four waves of data have been collected: 1986 (baseline; n= 3617) 1989, 1994, and 2001/2002. 83%, 83%, and 76-80%, of baseline survivors responded in the later waves, respectively. During each interview, respondents reported demographic characteristics, employment status, job loss occurrence, depressive symptoms, and life events

since the last interview. Additional information about the design and implementation of the ACL is presented elsewhere (House, Lantz & Herd, 2005).

For the present analysis, we use data only for those respondents who reported employment during any of the first three waves (1986, 1989, 1994), completed at least two consecutive interviews, and were not missing data on any of the primary variables or covariates for those waves. In order to reduce the threat from reverse causality and to provide the healthiest (i.e., non-selected) sample, we only included respondents who did not report a cardiovascular event, stroke, or diagnosis of hypertension. Such restrictions leave a sample of 1,510 persons.

The characteristics of this sample are presented in Table 1. As expected, those who involuntarily lost their jobs (17.30% of the sample) differ from those who did not with respect to a number of sociodemographic characteristics. Displaced workers are younger, less likely to be married (although if they are, their spouses are more likely to be working) and are less wealthy (in terms of assets and homeownership). Such sociodemographic differences reflect both age effects and the aforementioned patterning in job losses themselves. Additionally, job losers report more depressive symptoms in the next wave compared to those who did not experience job loss.

[Table 1 goes about here]

Measures

Dependent variable. We examine respondents' depressive symptoms with an 11-item subset of the 20-item Center for Epidemiological Studies Depression Scale (CES-D). This 11-point scale has been shown to be valid (Kohout et al., 1993). Scores were standardized to the 1986 ACL score distribution (values for the present sample: -1.16 – 4.47). To account for baseline differences, we control for the depressive symptoms score from the previous wave.

Socioeconomic status. Given their independent contribution to socioeconomic status, individual indicators of SES are examined independently, rather than through a composite measure or SES index. Following convention, we use variables that capture four key aspects of SES:, income, education, occupational status, and wealth. Educational attainment is measured by years of schooling completed (continuous). Income is measured by logged annual household earnings, as the ACL does not ask respondents for their individual income separately from that of a spouse. Occupational status is measured by Siegel occupational prestige scores (Siegel, 1971), which are constructed using the 1970 Census occupation and industry codes. We divided scores by 100 to aid in interpreting effect size. Two variables are used to describe wealth: a categorical measure of financial assets (<$50,000, $\geq$ $50,000) and dichotomous homeownership variable (owns home, does not own home).

Given the interrelatedness of SES indicators, we examined whether the various indicators were collinear. The strongest observed correlation was between occupational status and education (r = .562, p < .001), followed by occupational status and income (r = .433, p <.001) and income and education (r = .428, p <.001). Based on these estimates, we do not believe that multicollinearity presents analytic challenges in our sample, particularly in light of the conceptual reasons for including all of the aspects of SES.

Involuntary job loss. The primary exposure of interest is involuntary job loss, which is retrospectively reported at ACL waves 2, 3, and 4 (1989, 1994, 2002) with regard to the preceding survey interval. At each wave, participants are asked, "Have you involuntarily lost a job for reasons other than retirement since [last interview]?" As the time intervals are uneven, job loss is reported from zero to eight years after its occurrence. For example, job loss in 1990 (between Waves 2 and 3) would be reported at Wave 3 (1994), a four-year interval, whereas job

loss in 1995 would be reported at Wave 3 (2002), an eight-year interval. For our analyses, the involuntary job loss exposure variable is dichotomized (involuntary job loss, no job loss).

In order to isolate truly involuntary job losses from health-related losses (which participants may consider to be involuntary when responding to the ACL question), we exclude cases where job loss follows a major self-reported major health event. For Waves 2 and 3, the month and year of job loss and "serious" or "life-threatening" health events are recorded in the survey, as are the month and year of job loss. For Wave 4, only the year is noted. If the health event occurred before or during the month (for Wave 4, year) of job loss, then it is not coded to be an involuntary displacement.

Additional control variables. To address potential confounding from certain sociodemographic characteristics and to isolate the individual-level components of SES, our models control for the effects of age, race/ethnicity (white, non-white), sex, marital status (married, not married), years married, spouse employment status (employed, not employed), spouse educational attainment, and number of dependents.

Analytic Strategies

To estimate the overall relationship between job loss, SES, and health outcomes, controlling for a number of key covariates, we use generalized estimating equations (GEE). GEE models account for the longitudinal nature of the ACL data (i.e., correct for intra-subject correlation due to repeated measurements taken from the same individuals) and provide estimates of population-averaged effects. Based on comparison of model fit statistics, we specify an exchangeable working correlation structure. All models are estimated using Stata statistical software (version 11.0).

We estimate three regression specifications. The first model (Model 1) describes the overall relationship between job loss, SES, and depressive symptoms, controlling for a number of key covariates. In Model 2, we add interaction terms between involuntary job loss and each of the four components of SES in order to estimate whether these might moderate the job loss-health relationship. In Model 3, we control for unemployment among job losers, as unemployment may affect respondents' depressive symptoms (Mossakowski, 2009). Unemployment status, which proxies lack of reemployment, was ascertained by evaluating employment status at the survey wave following the job loss. We control for the time between ACL waves in all models. For interpreting effect size, it is important to note that the 11-item CES-D scale was standardized to the scores of the 1986 ACL population. Scores ranged from -1.16 to 4.47 in our sample, with higher scores indicating more depressive symptoms.

Results

[Table 2 goes about here]

Table 2 shows results for the GEE models for 2,150 observed spells for the 1,510 respondents in the sample. Model 1 examines the overall relationship between depression, job loss, and SES status.. Job loss is positively associated with follow-up depressive symptoms. Of the SES indicators, educational attainment and income are significantly associated with a lower depression score, indicating fewer depressive symptoms for those who are more advantaged with respect to these characteristics.

In Model 2, we allow the association of job loss and depression to differ by SES status. Here we find significant interactions for job loss and occupational prestige and job loss and educational attainment. Interestingly, we find that higher occupational prestige heightens vulnerability to depressive symptoms post-involuntary job loss, while education dampens the

association between job loss and depression symptoms.. No other interaction terms are significant in this model and the three way interaction of income, education, and job loss is also not significant (results not shown).

In Model 3, we control for unemployment at the wave following displacement. Unemployment status is significantly associated with depressive symptoms, with unemployed individuals having more depressive symptoms than employed workers. The inclusion of this additional variable does not appreciably change the estimated coefficients on any of the interaction terms.

Discussion/Conclusion

A number of studies have investigated the link between involuntary job loss and psychological health outcomes as well as between health and inequality. We build upon those literatures and explore one way in which SES may affect the health impact of job loss. Our results suggest that social standing prior to the event moderates the psychological health consequences of involuntary job loss; pre-existing inequality affects the consequences of major socioeconomic shocks. However, the relationship between social position and health is nuanced. The effect of job loss only depends on two indicators of SES, namely educational attainment and occupational prestige. Other measured indicators--pre-layoff income, accumulated wealth, and homeownership--were not found to have a marginal moderating effect. Thus SES matters but only in certain respects. And even when SES interacts with involuntary job loss, it does not do so in a uniform direction. Higher levels of education protect against job loss's effect on the depression, whereas higher occupation prestige exacerbates the depressive effect.

Differences between the indicators and their levels of malleability may explain these findings. The psychosocial benefits and future job prospects conferred by higher levels of

education could partially explain why we found a depression-buffering effect for that indicator. As noted before, some hypothesize that one possible mechanism through which job loss affects health is via perceived loss of control (Price et al., 2002). However, persons with higher levels of education tend to have more sense of control over their lives (Ross & Wu, 1995), which could potentially buffer the impact of job loss for this group. Furthermore, neither this protective effect of education nor the status associated with a given level of schooling are disrupted by the event; job loss cannot reduce a person's educational attainment. It does, however, affect whether a person holds a position within a high-prestige occupation. Indeed, those who hold jobs in more prestigious occupations may have "farther to fall" in the face of involuntary job loss resulting in a greater loss of power and prestige compared to those with lower status jobs. The loss of a job in an occupation with a high Siegel score is the loss of a greater amount power or prestige within society than the loss of one in a less prestigious occupation. In other words, these individuals face what some job loss scholars have labeled "reverse double jeopardy" (Strully, 2009b).

These two significant indicators relate to Weberian status or to access to life chances that stems from one's position within society (e.g., families, background), as well as prestige within one's community. In contrast, the components of SES that did not moderate the association between job loss and depression (income, wealth, and homeownership) relate to class and control over financial resources (Liberatos, Link, & Kelsey, 1988).

This latter category may be less important in shaping the relationship between job loss and negative health due to the nature of the mechanisms linking the two. Our findings support arguments that the nonmaterial pathways have a stronger effect than material ones. This account is congruent with those that describe job loss as causing psychosocial stress (e.g., Pearlin et al., 2005), not only financial strain. Such psychosocial mechanisms and their related "self-concept"

consequences (described above) tend to deal with the available status resources of an individual. For example, the ways in which self-worth, interpersonal conflict, and sense of control could be modified by stock or flow material goods are not clear. There is strong evidence, however, to indicate that sense of control, which is related to status, buffers the effects of stress (Aneshensel, 1992; Ross & Mirowsky, 1999).

More broadly, our results indicate that the distinction between prestige and economic control may be important for understanding how socioeconomic inequality affects the relationship between a major event and health. Turner (1995) notes that "counterbalancing" forces may affect the estimates of differential vulnerability to the health consequences of job loss. That is, given the material and nonmaterial consequences of job loss, the effect of SES may operate in both directions. Turner was unable to rule out this effect in interpreting his own findings. Our results provide evidence for such counterbalancing by indicating that high education and low occupational prestige buffer while other indicators have little effect-- SES does not have a homogenous effect. "High SES" contains counteracting forces. Exploratory analyses (not presented) provide additional evidence. They indicate that the wealth-related indicators were significant for those with lower financial resources, hinting that material-related stress may play a larger role for this group. Therefore, these findings highlight the complexity and heterogeneity of social standing, echoing other researchers (e.g., Braveman et al., 2005), who argue that the use of a single SES indicator may not adequately capture all meaningful aspects of the latent concept.

Despite their congruence with larger accounts of job loss, SES, and health, some of our findings may be explained, at least in part, by methodological and measurement limitations. For example, the involuntariness of job loss is self-reported; it is difficult to distinguish truly

involuntary job losses from at-fault and health-related separations. Persons may consider unexpected and uncontrollable events (e.g., heart attacks, major life changes) as involuntarily leading to their job loss. To account for this measurement issue, we excluded cases where an acute health shock precedes job loss to be involuntary losses. Such adjustments have been made in similar studies (e.g., Burgard et al., 2007). Even with this correction, however, health selection may still affect the results. Underlying health issues not captured by the health questions might still contribute to the job loss and increase in reported depressive symptoms. However, sensitivity analyses with various lags between the health event and job loss indicated that more and less conservative methods offer results that differ in effect size but not substantively in terms of interpretation.

Other measurement issues potentially limit our findings. Given long periods between waves, some of the depressive symptoms related to job loss may have dissipated after the event, and are thus not measurable at follow-up. Depressive symptoms may also be affected by more proximal life events and experiences than by a job lost years before the assessment. Due to the ACL study's design, the time between job loss and measured health is anywhere from days to several years. This variation, however, is not accounted for in our models. Similarly, there is some time between the measurement of baseline SES and severance of employment. As a result, we cannot be certain that the baseline Siegel score actually corresponds to the job that was lost. Nevertheless, due to a degree of serial correlation between jobs in a relatively short term (Featherman & Hauser, 1978; Hauser & Warren, 1997), our measure serves as a reasonable proxy.

Our findings must be considered in light of other aspects of the relationship between SES, job loss, and health. Job loss is not immune to other aspects of social inequality; although a

discrete event, it is influenced by social and economic forces that pattern both employment and job loss (Kasl & Jones, 2000). Job loss, itself, is not a completely random event. Similar research indicates that social standing and educational attainment may affect job loss risk. Beyond patterning who experiences job loss, various aspects of SES are also associated with benefits associated with jobs and re-employment prospects. In the longer-term, job loss may exacerbate inequalities: for years afterwards, job loss and unemployment have a lasting health impact (Wadsworth, Montgomery & Bartley, 1999). Understanding these other aspects of the job loss-SES relationship is thus also important.

Additionally, SES is an individual, family, neighborhood, and aggregate measure, and it is often extremely difficult to disentangle these various levels. Some aspects of SES correspond to the individual herself while others are tied up with family status. We include a mix of household (income, wealth) and individual (education, occupational prestige) level variables (although these categorizations are still ambiguous at best). Household economic resources are often pooled and individual members can draw on these collective resources. Similarly, one's own status is partly determined by spouse's education and occupation status. Thus, we include such household controls in our models but ambiguities concerning level of SES remain. Furthermore, we do not account for life course effects (e.g., childhood SES), the role of neighborhood, or other such effects by which inequality may shape health. These other factors may also affect the ways in which social standing modifies the job loss- health relationship; therefore, these unmeasured factors may affect the nature of the observed relationship in unobserved ways.

Given the magnitude of current economic problems and their differences from those of earlier previous economic contractions, there is a need for more health research examining the

economic factors that affect health (Bambra, 2010). Although the existence of a relationship between involuntary job loss and negative health outcomes is evident from previous studies, many of this association's features are not yet fully explored. Understanding this relationship and the impact of differential vulnerability to stress and the health effects of stressful events can inform interventions to prevent the health events and their accompanying economic burden. Those who face less stability in their employment history face less favorable wages (Fuller, 2008), but may also face additional health penalties.

In this study, we investigated the potential moderating effect of SES on depressive symptoms among involuntary job losers. We highlight one area in which differences between adults of high and low social standing change when populations experience external shocks, such as involuntary job displacement--how inequality shapes major life events. Our findings do not indicate that higher SES prior to job loss is uniformly associated with fewer depressive symptoms, but they do indicate that SES does shape the relationship in interesting ways. Persons with status tied to their educational attainment fair better than their less educated peers, while those with more status tied to their occupation fall farther than their lower status peers. Thus, we offer another piece of evidence that difficult economic times may exacerbate health inequities.

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TABLES

Table 1. Demographic Characteristics and Percentages/Means for Primary Variables by Experience of Involuntary Job Loss, ACL Data (N = 1,510)[a]

Characteristic	Experienced Involuntary Job Loss [b]		P[c]
	No (N = 1,248)	Yes (N = 261)	
Age (years) [d]	45.72 (13.91)	37.74 (10.26)	<.001
Male (%)	45.56	49.43	.254
White (%)	64.45	60.15	.189
Education (years)	12.78 (2.87)	12.87 (2.69)	.624
Married (%)[e]	61.81	54.41	.026
Marital duration (years) [e]	21.88 (14.13)	15.58 (10.81)	<.001
Spouse education (years) [e]	12.56 (3.03)	12.72 (2.48)	.512
Spouse employed (%)[e]	67.06	76.29	.004
Income (dollars) [e]	31,551 (23,559)	29,119 (21,839)	.125
Income (logged)			
Occupation prestige (Siegel score)	406.5 (144.8)	402.4 (143.2)	.638
Assets (≥$50,000) [d]	23.54	10.34	<.001
Own Home (%)[d]	68.45	56.32	<.001
Number of dependents	.93 (1.12)	1.26(1.28)	< .001
Other stressful life event (%) [e,f]	61.97	64.75	.399
Dependent Variables			
Depressive symptoms [f,h]	-.34 (.82)	-.16 (.99)	.017
Stress-related health event (%)[e]	7.61	10.73	.094

[a] Table values are mean (SD) for continuous variables

[b] Involuntary job loss reported at Wave 2, 3, or 4. . Voluntary separation and health-related job loss (see later note) are not included in this category

[c] P-value is for t-test (continuous variables) or χ^2 test (categorical variables)

[d] At Wave 1(1986)

[e] At any wave

[f] At Wave 4 (2001/2002)

[g] Other stressful events include death of a spouse, parent, child or friend, divorce, robbery, or attack.

[h] Standardized 11-item CES-D score, interview after reported job loss

Table 2. Modifying Effects of SES on the Relationship between Job Loss and Depressive Symptoms, Coefficients (and Standard Errors) using Generalized Estimating Equations, ACL Data (N = 1,510)

| | Depressive Symptoms (Standardized 11-Item CES-D Score) | | | | | |
| | Model 1 | | Model 2 | | Model 3 | |
Characteristic	Coef. (SE)	p	Coef. (SE)	p	Coef. (SE)	P
Intercept	1.244 (.288)	<.001	1.259 (.299)	<.001	1.234 (.299)	<.001
Job loss (JL)	.144 (.066)	.030	.540 (.824)	.512	.358 (.823)	.663
Education	-.017 (.008)	.038	-.013 (.009)	.181	-.012 (.009)	.160
Education x JL	---	---	-.073 (.029)	.012	-.073 (.029)	.012
Occupational prestige[a]	-.014 (.015)	.344	-.024 (.016)	.127	-.023 (.016)	.137
Occupational prestige x JL	---	---	.143 (.062)	.021	.154 (.062)	.014
Income (logged)	-.075 (.029)	.010	-.076 (.030)	.012	-.074 (.030)	.014
Income x JL	---	---	-.021 (.098)	.835	-.008 (.098)	.935
Assets ≥ $50,000	-.034 (.048)	.483	-.035 (.049)	.473	-.042 (.049)	.395
Assets x JL	---	---	.231 (.213)	.278	.146 (.217)	.501
Own home	.013 (.043)	.769	-.010 (.045)	.824	-.003 (.045)	.940
Own home x JL	---	---	.247 (.146)	.091	.174 (.147)	.235
Age	-.004 (.002)	.045	-.004 (.002)	.034	-.004 (.002)	.046
Male	.009 (.035)	.797	.009 (.035)	.805	.005 (.035)	.880
White	-.076 (.038)	.045	-.072 (.038)	.059	-.071 (.038)	.062
Married	-.325 (.126)	.010	-.324 (.126)	.010	-.333 (.126)	.008
Marital duration	.003 (.002)	.138	.003 (.002)	.117	.003 (.002)	.141
Spouse education	.013 (.008)	.131	.013 (.008)	.130	.014 (.008)	.087
Spouse employed	-.063 (.053)	.231	-.065 (.053)	.216	-.064 (.053)	.223
Has dependents	.066 (.042)	.113	.060 (.041)	.151	.059 (.041)	.156
Other stressful life event[b]	.086 (.037)	.019	.087 (.037)	.018	.085 (.037)	.020
Previous wave CES-D	.448 (.018)	<.001	.449 (.018)	<.001	.444 (.018)	<.001
Currently unemployed	---	---	---	---	.332 (.108)	.002

Model 1: Full multivariate model, controlling for time between waves (p = .053)
Model 2: Model including interaction terms, controlling for time between waves (p = .048)
Model 3: Model including interaction terms and second wave employment status, controlling for time between waves (p =.027)
[a] Measure of occupational status. See Siegel (1971) for an overview of the method.
[b] Other stressful events include death of a spouse, parent, child or friend, divorce, robbery, or attack.