

Does the effect of involuntary job loss on well-being differ by educational level?

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Abstract

Becoming redundant or being fired is a harmful experience, but some people may be better able to deal with it than others. We use the first 17 (1991-2007) waves of the British Household Panel Study to examine the effect of involuntary job loss on well-being. More specifically, we study whether level of educational attainment moderates the effect of involuntary job loss on the short (1st year after job loss) and long term (4 to 6 years). We hypothesize that higher educated people suffer less from an involuntary job loss on the short term because they experience fewer direct stressful effects of job loss and they have better re-employment chances. For the impact of job loss on well-being on the longer term, two competing hypotheses are derived. The first simply extends the short term hypothesis; higher resources and better re-employment chances will cushion the negative effects of job loss for the higher educated. On the other hand, lower aspirations and higher unemployment among peers may lead lower educated individuals to better adapt to being unemployed than higher educated individuals (Clark, Georgellis, & Sanfey, 2001). Fixed effects regression analyses show that, on average, involuntary job loss hurts well-being on the short term, but only for people that left employment and to a lesser extent for people that were downwardly mobile on the long term. In addition, higher education decreases the effect of involuntary job loss on the short term (first year). No clear pattern of interactions with education was found for the long term.

Does educational level modify the effect of involuntary job loss on well-being?

Introduction

The involuntary loss of a job is one of the most stressful events that can happen in life (Paul and Moser, 2009). It is often the start of a spell of unemployment, and can have long term negative effects ("scarring") on a person's labor market career (Mooi-Reci, preliminary version). Also, a person's health and well-being seem to be negatively affected by involuntary job loss. Research from longitudinal studies all point in the direction that job loss causes declines in mental health and well-being (Paul & Moser, 2009). Evidence from factory closure studies is especially convincing in this regard. Most previous research into the relationship between job loss/unemployment and health has focused on whether job loss causes health decline (causation) or health predicts job loss (social drift/health selection). In doing so, it has treated job loss as a homogeneous event (Paul & Moser, 2009). In this paper, we consider the effect of involuntary job loss on well-being. We distinguish between involuntary job loss and unemployment and focus on the former. In particular, we study whether involuntary job loss has a similar effect for higher and lower educated people.

To what extent are individual responses to job loss socially patterned? A number of cross-sectional and longitudinal studies of job loss and unemployment report findings pertaining to this question (Andersen, 2009; Clark, Georgellis, & Sanfey, 2001; Dooley, Prause, & Ham-Rowbottom, 2000; Gallo, Bradley, Dubin, Jones, Falba, Teng et al., 2006; Strully, 2009; Turner, 1995; Whelan, 1994) but few make it the focus of research. More research is warranted as these studies show mixed and even conflicting findings. Longer unemployment lowered well-being for higher educated men in the German GSOEP panel (Clark, Georgellis, & Sanfey, 2001), increased depression on the short term for men and women becoming unemployed in the American NLSY panel (Dooley, Prause, & Ham-Rowbottom, 2000), and Whelan (1994) reports similar findings for men from higher social classes using cross-sectional Irish data. Andersen (2009), however, using the British BHPS panel finds that unemployment effects were worst for men from the middle classes. Gallo et al (2006) find that, in the USA, the effects of job loss for older workers (50+) in the Health and Retirement Study depended on prior wealth levels; those with more wealth experienced less negative effects. In a recent paper, Strully (2009) finds no differences between American blue collar and white collar workers in the effect of no fault job loss on self-rated health, but she

does find that fired/laid off blue collar workers are more likely to report less-than-good health compared to white collar workers.

The literature on socio-economic differences in the impact of job loss and unemployment is limited in scope, but two rather divergent arguments about socio-economic differences in the impact of job loss can be distilled. On the one hand, it is argued that a higher social position confers psychological, social and financial resources that may buffer the stressful direct impact of job loss. In addition, higher educated people may be more likely to find (successful) re-employment after job loss (Mooi-Reci, preliminary version). They are therefore less exposed to detrimental effects of unemployment following job loss. On the other hand, involuntary job loss may be the catalyst for future unemployment and downward mobility. For higher educated people work is more important for their self-concept and therefore not having the right job may hurt even more (Turner, 1995), which would lead to the expectation that job loss is worse for the higher educated.

In this study, we investigate whether the impact of involuntary job loss depends on educational level. We aim to answer the following questions: To what extent does job loss decrease well-being on the short and long term? Do the effects of involuntary job loss on well-being differ between lower and higher educated people (on the short and long term)? We focus on educational level because it is a prime indicator of human capital and of one's social position. Furthermore, educational level is a socio-economic asset that is not directly affected (or lost) by job loss, contrary to for instance social class or income. We will study the impact of involuntary job loss using the 17 waves of the British Household Panel Study (BHPS). The BHPS is a large representative annual household survey of the United Kingdom that started in 1991.

We aim to make four contributions to the research field. First, whereas a number of studies investigate whether the effect of unemployment differs by socio-economic status (Andersen, 2009; Clark, Georgellis, & Sanfey, 2001; Turner, 1995; Whelan, 1994), only two studies, that we are aware of, report whether job loss differs by a measure of socio-economic status (Gallo, Bradley, Dubin et al., 2006; Strully, 2009). We prefer to focus on job loss rather than on unemployment because focusing on involuntary job loss rules out an important source of selection bias. Unemployment is *an* outcome of involuntary job loss that may become less likely with increasing educational level. Those individuals who remain unemployed long enough to be observed in a survey (even in annual survey such as the BHPS) may differ in important respects from the people who were *ever* unemployed (due to job loss). In other words, those who become unemployed form a subset of the people who involuntarily lost

their jobs. If one is interested in buffering effects of negative events in the life course, one should consider everyone who experienced the stressor. In this case, we study everybody who involuntarily lost their job regardless of whether this event was followed by a short or longer spell of unemployment.

Second, most studies do not explicitly focus on variability in the experience of involuntary job loss (or of unemployment, for that matter). In some cases, where a large enough number of unemployed people is observed, interactions by socio-economic status may be reported (e.g. Clark et al., 2001) We add to this literature by formulating competing hypotheses about the moderating effect of educational level and testing some of the proposed mechanisms

Third, we will study the impact of job loss on the short and on the long term. Previous research on socio-economic differences in the impact of job loss is restricted to the short term (but see Clark, Georgellis, & Sanfey (2001) for long-term effects of unemployment). The long term is of prime interest as a negative as well as a positive buffering effect of education is conceivable.

Fourth, by using the BHPS we are able to improve the empirical analysis in several ways. The BHPS includes information on the reason for job loss and rich details of the previous job. Reasons for job loss can be used to construct a better measure of job loss and allows to largely exclude health selection as a competing explanation. Furthermore, previous research does not differentiate between social status of the lost job and characteristics of the person who loses the job. Educational level is strongly associated with the type of job that one loses. Higher educated people lose better jobs (higher status, higher income, white collar work) as such they may lose more compared to lower educated individuals and they run a higher risk of downward mobility, if one does not control for the type of job lost. Our analysis offers a way to control for such processes by modeling the difference between successful re-employment and downward mobility. We do so by incorporating information on the social status of and the relative income earned in the involuntarily lost jobs.

Theory & hypotheses

The event of involuntary job loss may have instantaneous and long term repercussions for well-being. An unwanted job loss is often a major setback in one's career (Burgard, Brand, & House, 2007; Strully, 2009). We argue that there are at least three ways in which involuntary

job loss affects well-being: first through stress of involuntarily losing one's job, second through effects related to being out of employment for those who do not (directly) find re-employment (or become self-employed), and third for those who find re-employment the new job may be of less quality than the lost job (Burgard, Brand, & House, 2007; Dooley, Prause, & Ham-Rowbottom, 2000). We therefore expect that involuntary job loss may have negative effects on well-being on the short and longer term (*hypothesis 1*). In figure 1 we give a schematic overview. Below, we first discuss the mechanisms in more detail. In a second step, we discuss why educational attainment may influence the effects of involuntary job loss (dashed arrows in figure 1).

First, the process of involuntary job loss is inherently stressful. The stress may be caused by uncertainty about the future on the one hand and blows to one's identity and self-esteem on the other hand. In addition, people lose job specific investments and contacts with their colleagues. These losses can be offset by a new job, but settling into and adapting to a new work environment may be stressful too, especially if the change was involuntarily. We suppose that the direct stressful impact of job loss mainly influences well-being on the short term. With the passage of time people enter a new state, either employed or unemployed, with a new level of certainty, an identity, and level of self-esteem. Being in this state may affect them in positive or negative way, but the direct stressful effects of job loss supposedly wear off.

Second, involuntary job loss may lead to unemployment or labor market exit in case people do not directly find a new job and in this way result in lower well-being. There is an extensive literature on the effects of unemployment on well-being (Hanisch, 1999; Paul & Moser, 2009). Being unemployed has a low societal status, and those who become unemployed suffer a drop in income. In addition, the unemployed lose the positive functions that work may provide for well-being: work connects people with society at large, gives a sense of purpose, lets people share in collective goals, and provides a way to structure time (Hanisch, 1999; Jahoda, 1982; Paul & Moser, 2009). Those who leave the labor force all together may share the negative effects of the unemployed on well-being too, i.e. drop in income and status. But new satisfying activities might be undertaken, such as education, volunteer work, child care, that could take the place of work. On the longer term, the effects of being unemployed may worsen. The income drop may be more hard felt, as people may have used up savings and durable goods may need replacement.

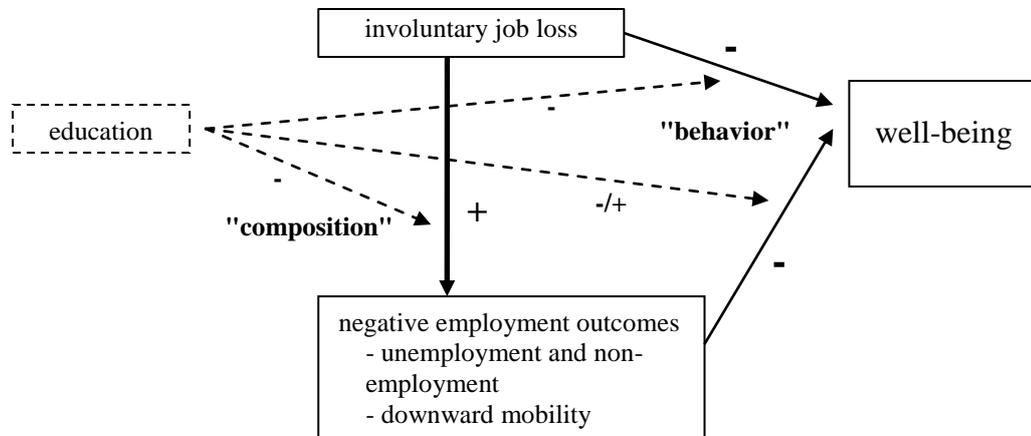
The third factor concerns the type of re-employment and self-employment. Meta-analyses suggest that in general re-employment nullifies the negative effects of

unemployment/job loss on well-being (Hanisch, 1999; Paul & Moser, 2009). Re-employed individuals regain the positive functions of work for well-being. However, the quality of the new job may be worse than before, i.e. people may experience downward mobility (Burgard, Brand, & House, 2007; Dooley, Prause, & Ham-Rowbottom, 2000). Over time most people will find a new job. But as time passes by the pressure to take up *any job* instead of the *ideal job* increases, and people may find themselves in a less desirable job than the one they involuntarily lost. As a consequence, even the people who find re-employment may experience reduced levels of well-being on the longer term, depending on the kind of job they find (whether they are downwardly mobile or not). They may suffer a loss in income and/or status compared to the job they lost, which may negatively impact their well-being. In other respects a new job may be of lower quality too, such as less satisfying work, increased commuting time, or fewer working hours than desired. Based on the economic literature it can be argued that the involuntary loss of a job may mean more than a (temporary) career setback, as there may be a ‘scarring’ effect on the future career (Clark, Georgellis, & Sanfey, 2001; Mooi-Reci, preliminary version), which increases the likelihood of unemployment and downward mobility on the longer term. A period of unemployment may act as a signal for potential employers; they are less likely to hire such a person because a period of unemployment is considered as a sign of lower productivity. Those who lose their jobs may be affected by this scarring either because they become unemployed for a period of time and/or because employers regard involuntary job loss as a sign of lower productivity too.

Education buffer

We argue that the outlined effects of involuntary job loss may depend on the level of educational attainment (dashed arrows in figure 1). In the first place, education may decrease the effects of the direct stress of involuntary job loss. Second, education decreases the chances of unemployment after job loss and it lowers the chance of downward mobility (compositional effects). And, third, education may influence the impact of non-employment and the impact of downward mobility on well-being. We discuss these buffering effects of education in more detail below.

Figure 1. Conceptual framework



Regarding the direct stressful impact of involuntary job loss, we expect that higher educated individuals are better able to deal with stress. This may be so because higher educated people have higher levels of psychological resources (for instance, a stronger internal locus of control (Schieman & Plickert, 2008)), because they have higher levels of social support (Ross & Wu, 1995), because they are more likely to use active coping strategies (Christensen, Schmidt, Kriegbaum, Hougaard, & Holstein, 2006), and because they have higher socio-economic resources (Ross & Wu, 1995). In addition, they are more likely to have savings and hold investments, which may ease life and reduces worries in a period of financial crisis and uncertainty about the future, as is the case with involuntary job loss. As discussed above, we suppose that the direct stressful effects of involuntary job loss are limited to the short term. The increased resources of higher educated people lead us to expect that education buffers the negative effects of involuntary job loss on well-being on the short term (*hypothesis 2*).

How does education matter for the effect that involuntary job loss has through unemployment and downward mobility? The better educated have more human capital and may be more likely to find a new job after involuntary job loss, thus avoiding the negative consequences of unemployment. Gallo et al. (2006) suggest that a higher financial buffer, which the higher educated tend to have, allows individuals more time to find suitable re-employment. We therefore expect that the higher educated suffer less from job loss through unemployment and downwardly mobile. It is important to take into account the social position of the lost job because higher educated people tend to have better positions on the labor market and an involuntary job loss is therefore more likely to lead to a sharper drop in income

and in status, which may well result in larger declines in well-being. The drop will be steepest for those who become unemployed, but also for the higher educated who find a new job the income and status drop may be severe. Furthermore, it may be harder and take more time to find a job on the same high level as before. One may expect that if two people with equally high status jobs who only differ in educational level lose their jobs, the one with the higher educational level stands a better chance of finding a similar or better job in the future. These mechanisms are all compositional in nature; of the highly educated people who lose their job far fewer become unemployed. And holding characteristics of the previous job constant, fewer higher educated people are expected to be downwardly mobile. In our analysis, we can take these explanations into account by controlling for the level of the lost job.

The way people deal with the negative consequences of unemployment or downward mobility after job loss may also depend on educational level. These consequences may be less severe for higher educated people because they have more savings and so the income drop may be less hard felt, in particular on the short term. Furthermore, the higher educated may be better able to deal with the stresses associated with being unemployed through the resources mentioned above. Moreover, higher educated people might have more alternative options to find purpose in life other than paid work. It may be more accepted for them to start doing volunteer work and so they can avoid the negative effects of idleness and the loss of daily routine that the unemployed face. The above outlined compositional effects and these behavioral mechanisms lead us to expect that education buffers the negative effects of involuntary job loss on well-being through unemployment and downward mobility both on the short term (*hypothesis 2*) and long term (*hypothesis 3a*).

There is an alternative view of how educational level moderates the effect of involuntary job loss regarding the way people deal with unemployment and downward mobility. The basis for this competing view lies in the higher aspirations among higher educated people (Turner, 1995). Having higher aspirations on the labor market may make it harder to accept being unemployed or moving to a new job on a lower level. Furthermore, the stigma of unemployment may be stronger among the higher educated. Findings with the German GSOEP data are in line with this view, as they show that over time the lower educated adapt to unemployment but the higher educated do not (Clark, Georgellis, & Sanfey, 2001). These mechanisms would lead to a contrary hypothesis, namely that, on the long term, education increases the negative effects of involuntary job loss, especially so for those who become unemployed or downwardly mobile. We expect that such negative effects of educational level are limited to the long term because people are likely to consider

unemployment and downward mobility on the short term as temporary concessions in a search for adequate re-employment.

To summarize, we expect short and long term negative effects of involuntary job loss on well-being (hypotheses 1). We expect that education reduces the impact of job loss on the short term (hypothesis 2) and for effects on the long term we derived two opposing hypotheses on the moderating role of educational level (hypotheses 3a and 3b). We put forward an explanation of buffering effects of educational level in terms of composition of the involuntary job loss and in terms of behavior (see figure 1).

Data

We use data from all of the 17 waves of the BHPS (British Household Panel Survey). The BHPS is an annual household panel: all individuals over 16 in the household are interviewed separately. Individuals are allowed to enter and leave the panel (as households change in composition over time) and so the BHPS is an *unbalanced panel*. The BHPS started in 1991 with approximately 10,000 individuals in 5,500 households. In 1999 1,500 households in each of Scotland and Wales were added and in 2001 2,000 households were added for Northern Ireland.

We limited the study to men only in the ages of 18 to 54. The employment careers of men and women differ in too many respects and women have more socially acceptable alternatives to employment which complicated a simultaneous analysis. Observations of individuals younger than 26 who are still in full-time education were excluded, to avoid problems with temporary student jobs. The upper age cap was put at 54 to steer clear off (involuntary) early retirement as an alternative form of involuntary job loss. This produces 50,353 observations of 9,674 men with face-to-face interviews (we discarded proxy and phone interviews).

We further apply some restrictions guided by our desire to study the impact of involuntary job loss. We follow individuals from the point in time at which they become at risk of involuntary job loss (i.e. those who are employed at baseline and those who become unemployed in later waves). Individuals are included in the sample if they have at least two observations of which the first was in employment. Individuals can temporarily exit the observation window if they are not interviewed (observed) for one or more waves. These exits may be temporary as respondents may be observed in later waves again. Individuals exit

permanently once they turn 55 or once they leave the BHPS due to sample attrition. In the analyses we limited ourselves to observations with full information (listwise deletion). This resulted in 47,238 observations of 6,263 men. More details for follow-up rates on the short and long term are presented in Table 1.

Operationalisation

GHQ-36

The self-completion questionnaire incorporates the shortened GHQ-12 (General Household Questionnaire). The GHQ was originally developed as a screening instrument for psychiatric illness and versions of the GHQ are often used as general measures of well-being (e.g. Thomas, Benzeval, & Stansfeld, 2005). The shortened GHQ includes six negatively and six positively worded statements about how people have been feeling the last few weeks. Examples of negatively worded items are: “lost much sleep over worry”, “felt constantly under strain”, examples of positively worded items are “been able to concentrate on whatever you're doing“ and “been able to face up to problems”. Responses are given on a 4-point scale ranging from 0 to 3, with 0 being the best score, for example “not at all” for a negatively worded item, and “more so than usual” for a positively worded item. Cronbachs’ alpha is .89. We created a scale ranging from 0 to 36 by summing the individual items and reversed it so that a higher score reflects higher well-being.

Job loss

The BHPS collects information on labor market behavior in two ways. Respondents report on their current labor market status and in each annual wave respondents are asked to report retrospectively on employment, self-employment, and non-employment spells from the 1st of September in the previous year to the present. As respondents are interviewed between August and May, these job histories go 13 (for those interviewed in August) to 20 (May) months back. The job histories also contain information about why people left their jobs. We adapted the Stata programs written by Maré (2006) to clean the job histories.

We consider a job ending as involuntary if the reason was stated as “made redundant” or “dismissed or sacked” and the job lasted at least 6 months. Whether a job ended because a temporary contract ended was also an answer category. We decided against incorporating temporary endings in our measure of job loss because it is less clear that such job endings are

really involuntary and it is also less clear whether these have the same detrimental consequences. The BHPS offers as an alternative reason for job loss “health reasons”. Respondents who lost their jobs because of health problems are likely to pick this option, so health selection may be less of a problem in this study (Burgard, Brand, & House, 2007). We decided to only consider the first reported involuntary job loss for conceptual and practical reasons. Conceptually, we suppose that involuntary job loss may influence the risk of future job loss, people that lost their jobs involuntarily may be more likely to experience it again because they end up in less secure jobs and/or they are inherently more likely to lose their jobs. If we would model the effect of both job losses on well-being we would underestimate the effect of the first job loss. The job histories in part overlap with previous waves (yearly waves, histories of 13 to 20 months), in two consecutive waves respondents may therefore report in each wave that *a* job ended, even though in reality just one job ended. To keep things simple we decided to only consider the first job loss and ignore subsequent job losses. In addition, job endings occurring before the first wave of observation were not considered (i.e. reported in the first observed wave) because the design requires a pre-job loss observation of well-being. We observe 1,107 involuntary job endings; 940 redundancies and 167 dismissals/sackings.

Educational level prior to job loss

We distinguish four levels of academic educational attainment: (1) no qualification; (2) up to O-level or equivalent; (3) A-level or equivalent; (4) higher qualifications, degree or higher than degree. Educational level prior to job loss is interacted with job loss (educational level in the wave before job loss). In a fixed effects model, the main effects of educational level reveal the effects of a change in educational level for an individual. Educational level hardly changes in adulthood and we are not interested in this particular effect; therefore, we do not include the main effect of educational level.

Social status of the previous job

Social status is measured using Treiman's Standard International Occupational Prestige Scale (SIOPS), which was coded using the ISCO-88 coding frame (Ganzeboom & Treiman, 1996). This scale measures the social attractiveness of a job. This scale was standardized (to the sample distribution) and respondents who did not experience job loss were assigned a score of zero.

Relative income of the previous job

To supplement the social status measure we created a measure of relative income. We determined the relative income position of the lost job in the sample yearly full BHPS sample income distributions of those who were employed/self-employed between 18-65 (distribution in steps of 5 percent). This measure was standardized (to the sample distribution) and respondents who did not experience job loss were assigned a score of zero. The correlation between the social prestige score and relative income is about .45.

Employment situation after job loss

We categorized the employment situation after job loss into three groups: a group that becomes unemployed or non-employed, a group that is downwardly mobile and a group that finds re-employment in an equal or better job/self-employment enterprise (termed successful re-employment). The unemployed/non-employed are the people who do not hold a job and who are not self-employed. We used two measures of downward mobility. People are downwardly social mobile if the current job (or self-employment) after job loss has a lower prestige than the lost job (5 points or more difference, e.g. from 83 to 78 or lower). Downward mobility in terms of relative income was follows: downward mobile is a drop in relative income position of more than 5 percentage points (e.g. going from the 30-35th percentile to the 20-25th percentile). The reference category is comprised of the people who were successfully re-employed (in the short term analysis). For the short term analysis we used the employment situation in the wave that the job loss was reported.

For the long term analysis (4-6 years after job loss) the employment situation is less straightforward to operationalize. In fixed effect models only changes matter, as we investigate a period of at most three years (4-6 years after job loss), we need to measure the employment situation of the *whole* period per respondent. Otherwise, changes within the 4-6 years period after job loss would contaminate the results. We are also most interested to what extent the period after job loss was better or worse in terms of employment. We calculated the mean number of waves per respondent of the 4-6 year period (i.e. at most three waves) in each of the employment situations (non-employed, successfully re-employed, and downwardly mobile).

Controls

We control for the number of physical health problems respondents report, as deteriorations in physical health may affect labor market opportunities as well as well-being (Mandemakers &

Monden, forthcoming). In addition, we control whether people are currently out of the labor force due to a long term illness. For the first wave of observation this dummy is always equal to 1 as our sample selection criteria required that people are employed in the first wave (i.e. not long term ill). Relationship status is controlled for with a set of dummy variables (single, cohabitating, separated/divorced/widowed (there are only 35 observations of widowers, marriage is the reference category)). We control for the annual household income that is not derived from the labor income of the respondent because respondents in more affluent households may be less affected by involuntary job loss and partners may increase working hours in response to job loss. We take the total annual income of the household and deduct the respondent's annual labor income and equalize it using the McClements scale (see appendix). The analyses include age (divided by 10) and its square. We included dummies for regions in the UK, and year of interview (grouped) to take spatial and time variation in labor market opportunities into account. See table 2 for the descriptive statistics of the variables used in the analyses. Table 3 shows characteristics of the jobs that were involuntarily lost and of the educational level of people who lost a job.

We use an unbalanced panel design (people can leave and re-enter the observation window). To find out whether leaving and re-entering matters, we incorporate a dummy for the waves that indicates whether people left and have re-entered.

Model

We use fixed effect models to model the effect of involuntary job loss on well-being. These models control for unobserved time-invariant differences between people that may affect their chance of involuntary job loss and their level of well-being (e.g. the motivation to work, unobserved health differences). Individuals who involuntarily lose a job may be less happy in the first place. By looking at changes within an individual we control for such differences between people.

We run separate analyses for short term effects (limited to the wave in which the job loss was reported, i.e. at most one year after the job loss) and the long term effects (the third to fifth waves after the wave in which the job loss was reported, i.e. 4-6 years after the job loss). We pooled the years 4 to 6 to increase statistical power. We use two sets of observations: For the analysis of short term effects, we use all the observations of people who do not experience job loss and for the people who experience job loss, we use all the observations before the first job loss and the first wave after job loss (i.e. we discarded the

second and further waves after first job loss, as these people are no longer at risk of experiencing a first job loss). The short term sample consists of 41,491 observations of 6,263 men. For the analysis of long term effects, we only use respondents who never experienced job loss for whom we have long term observations (at least two observations that are 4-6 years apart) and respondents who experienced a job loss for whom we have at least 1 observation 4-6 years after job loss. Again we discard observations after the period of interest. The long term sample consists of 39,677 observations of 4,302 men.

In preliminary analysis, we noticed that well-being deteriorates in the wave before job loss is reported. This suggests an anticipation effect of losing one's job and measurement inaccuracy. In our final models, we incorporated a dummy to indicate the wave before job loss. When we exclude this dummy, the effect of job loss is somewhat attenuated (as the fixed effects regressor compares the well-being score after job loss with the overall individual well-being score, the pre-job loss wave inflates that overall mean if we do not control for it). The fewer pre-job loss waves present for an individual the larger this problem is. Results without the dummy do not differ substantially; results are available upon request.

Before testing the hypotheses, we show descriptive results and examine characteristics of jobs that were lost and of the process of job loss. The analyses then proceed in a number of steps. First, we illustrate the usefulness of using job histories to examine the impact of involuntary job loss compared to the more traditional focus of research on wave to wave transitions in current employment status. Second, we show that educational level moderates the effect of involuntary job loss. Subsequently, we focus on why educational level may be important. We look at the effects of unemployment and downward mobility following involuntary job loss on well-being (compositional effects). In a further step, we examine whether the experience of unemployment and downward mobility differs by educational level.

Results

Descriptive

Table 3 shows that 1,107 respondents experience involuntary job loss in the course of the panel. The second column of the table shows further how these are distributed by the reason of job loss (mostly redundancies almost 85%), by educational level of respondents (21% has no qualifications, 17% a degree or higher), and by characteristics of the job (lasted on average 6.3 years, about 38 hours a week on average, average prestige was 43, average relative

income percentile was 11.9 (i.e. between 60th and 65th percentile). On the longer term we have information on 731 of the originally 1,107 respondents who had lost their jobs. The characteristics of the lost jobs of the long term sample do not differ very much (second column).

What happens after job loss? The bottom half of table 3 gives the answer. On the short term, 29% became non-employed and 18% experienced downward mobility in terms of job prestige, and the remainder (about 53%) found re-employment of similar or higher prestige in the first year. 29% was downwardly mobile in terms of income (about 42% was successfully re-employed in terms of income). On the longer term, in 4 to 6 years, most people have found re-employment, as only in 11% of the observations people are non-employed (compared to 29% on the short term). A large part of the observations of people who involuntarily lost their jobs on the longer term concern observations of downwardly mobile people (26% in terms of job prestige, 31% in terms of relative income).

Table 4 shows the mean level of well-being for people who experienced a job loss and for the control group who did not have that experience. In the control group mean GHQ is 25.8; this is somewhat higher than the pre-job loss level of those who experience job loss (which is 25.6). The post job loss waves show significantly lowered levels of well-being (25.4) compared to pre job loss (25.6) and also compared to people who do not experience job loss (25.8). These results indicate that involuntary job loss hurts well-being (in line with hypothesis 1).

Figure 2 shows the mean within individual changes in well-being following job loss over time by educational level. In the first year, there appears to be a sharp decrease in well-being compared to pre-job loss levels. On the short term a higher education seems to buffer the stress increasing effects of job loss, as the effects clearly diverge by educational level. Those with no qualification or just O-level suffer the most, followed by those with an A-level. Those with a higher qualifications/degree or higher do not appear to suffer from job loss. In the second and third year the differences between the educational levels decreases and A-level and higher qualifications/degree+ trade places. In the fourth to sixth year the differences between the educational levels decrease even further, but especially the highest educational level remains to stand out. These descriptive results would lend support to our first hypothesis that involuntary job loss hurts on the short and long term, and to our second hypothesis that education buffers the effect of job loss on the short term. For the long term effects, these results appear to show that educational level buffers the impact of involuntary job loss, but only for the highest educational level. These effects, however, reflect the mean within

individual changes, but they do not take into account control variables such as changes in health. For more sophisticated analyses, we turn to fixed effects models.

Short term impact

Table 5 shows five models of the short term effect of job loss in increasing order of complexity. The first model includes an indicator for job loss and the above described set of controls. As mentioned before, only the first post job loss wave is included in this analysis. The model shows that job loss decreases the GHQ score by about 0.8 point in the first wave after a job loss. Also in the wave before job loss GHQ is significantly lowered, which may be the effect of anticipating job loss. The second model also includes a variable indicating whether people are currently out of employment (unemployed and non-employed for simplicity). This reflects the effects of leaving employment on well-being. In line with previous research on wave to wave transitions in employment status, it shows that becoming non-employed hurts well-being. Adding this control to the model almost halves the effect of involuntary job loss (from 0.8 to 0.5). The effect of involuntary job loss is reduced because the negative effect of becoming unemployed after involuntary job loss is now captured by that dummy. (Note that although we combined unemployment and non-employment in this model for simplicity, the effect of non-employment is mainly driven by unemployment.)

Before moving on, we discuss the control variables in some detail. The health controls appear to be especially important. Reporting a long term illness decreases well-being by about 4 points, and each reported health problem decreases the score by 0.4 points. Losing a partner (through divorce/separation or death) decreases well-being. Changes in the number of kids and changes in the log of income from other household members do not affect well-being. The association with age appears to be curvilinear (U-shaped). Well-being decreases first until about age 47 (minimum well-being is at age = $-2.44/(-2*.26)=46.7$) and then increases again (but note that the upper age limit is at 54). Respondents who temporarily exited and then re-entered the sample do not have a different GHQ score than before they left. The region dummies suggest that well-being decreases as people leave the area around London, and if they move to the north of the United Kingdom. Regarding the year dummies, it appears that at the start of the panel well-being was lower, perhaps because of the economic crisis in the UK in the early nineties. The control variables show very consistent effects across all the models and are therefore not discussed furthermore and are omitted from the other tables.

The third model (column 3 of table 5) investigates whether education buffers the effect of job loss on the short term. The main effect of job loss now indicates the effect of becoming

redundant for respondents with no qualifications. The significant positive effects of A-level and higher qualifications/degree and higher shows that those with a higher educational level suffer less from job loss than those with lower levels of education. These results lend support to our second hypothesis: education buffers the effects of job loss on well-being.

Characteristics of the job that was lost regarding job prestige and relative income are added in the fourth model. As expected, adding these effects increases the buffering effects of educational level. These effects control for the fact that the higher educated tend to lose better jobs. Losing a well regarded job seems to be especially bad compared to jobs held in less esteem; losing a job with a one standard deviation higher prestige leads to a 0.5 larger decrease in well-being. The relative pay of the lost job does not matter, once job prestige is controlled for.

Now we turn to investigating why educational level moderates job loss on the short term. Table 6 includes the previous fixed effects model (model 4) for reference and we add two-way interactions with the employment situation after involuntary job loss from model 5 onwards (either downward mobility or successful re-employment, non-employment is the reference category). We first focus on downward mobility in terms of job prestige and second on relative income position. Model 5 controls for the composition of the people who involuntarily lost their jobs.

In model 5, the main effect of job loss becomes bigger because it now reflects the effect of becoming non-employed after involuntary job loss. The significant positive signs of downward mobility and of successful re-employment show that the effect of involuntary job loss has less negative consequences for those that find re-employment, especially successful re-employment reduces the effect. Downward mobility cannot fully compensate for the negative effect of involuntary job loss though ($-3.52+1.98=-1.54$, which is significantly different from 0). The interaction effects of educational level are diminished but remain significant once we control for these compositional effects. So, it appears that part of the buffering effect of educational level occurs because educational level helps people find a new job and prevent downward mobility.

In model 6 we define downward mobility in terms of a drop in relative income. The results are fairly similar to model 5 and support the same conclusion regarding the buffering effects of educational level. Note however, that there does not appear to be a difference between downward mobility and successful re-employment in terms of income for well-being. Either our measure of downward income mobility is faulty or income of a job after job loss is not that important for well-being.

Next we test our idea that higher educated individuals are better able to deal with non-employment and downward mobility after involuntary job loss on the short term. In model 7, we include interactions between downward mobility after job loss and educational level (in terms of job prestige), and between non-employment after job loss and educational level. The model consists of the following: a dummy for successful re-employment after job loss, interactions between becoming non-employed and educational level, and interactions between downward mobility and educational level (there are no reference categories, so comparison with previous models is difficult). In model 7, we see that non-employment is worst for people with no qualifications, and becomes less bad for well-being as we move up the educational ladder. So, given that people become non-employment after job loss, the higher educated are better able to deal with it. For downward mobility, the effects are a bit less clear cut. We find that people without qualifications do not suffer from downward mobility, perhaps because they can hardly go down in job level (floor effect). For the people with qualifications (O-level and up) it appears that having a higher education level reduces the impact of downward mobility. In model 8 we apply the same analysis for relative income. Here we do not find differences by educational level in the impact of downward mobility.

Long term impact

We investigate the long term impact of job loss by investigating the effect on well-being after 4 to 6 years (see table 7). The first model of table 7 just models the job loss trajectory. The controls are not depicted as the effects are similar to the ones discussed before. The model includes dummy variables for the wave before job loss, the wave in which job loss was reported (year 1), for the second and third year, and for the fourth to sixth year. Our prime interest lies with this last long term effect. As mentioned before, subsequent post job loss waves are excluded from the analyses. The model shows that job loss decreases well-being by about 0.7 point in the first wave that job loss was reported (i.e. first year of job loss). This differs from the models in table 5 because we exclude respondents who we do not observe for the long term. In the wave before job loss, well-being is also significantly lowered. In the second and third year the effect of job loss diminishes to just 0.2 point and this effect is no longer significant. In the fourth to sixth year, the effect disappears completely. So, there does not appear to be a long term effect of job loss. This contradicts hypothesis 1. Heterogeneity in the effect of job loss on well-being may dampen the overall effect of job loss on well-being. The effect of job loss could be negative for the lower educated and positive for the higher educated (as predicted by hypothesis 3a), so that they could cancel out. That may perhaps be

the case if the composition in terms of employment situation after job loss and/or the impact of a particular employment situation on well-being differs by educational level. The average long term job loss effect may hide such heterogeneity. The second model investigates whether the overall job loss effect differs by educational level (which can be due to compositional and behavioral differences). Model 2 shows that the coefficients of education are not significant. Characteristics of the job that was lost are added in the third model. Adding these effects does not change the model. It appears that educational level does not moderate the overall impact of involuntary job loss on the long term, contrary to hypotheses 3a and 3b.

There could still be a negative impact of job loss on well-being on the long term. Perhaps such an effect is limited to the people who experience downward mobility or those who become non-employed. A large negative effect for relatively few downwardly mobile/non-employed people and the lack of a lasting negative effect (or even positive) for the larger group of successfully re-employed people could be hidden beneath the overall job loss effect. Models 4 and 5 add indicators of non-employment and downward mobility to model 1 in terms of prestige and relative income, respectively. The lost jobs 4-6 year ago dummy now refers to the people who involuntarily lost their jobs and who are successfully re-employed in each of the 4-6 observed years after job loss. Half of the long term sample respondents find re-employment with similar or higher job prestige/relative income for each of the observed years (see table 4). Model 4 shows that people who find work with similar or higher job prestige in all of the observed 4-6 years after job loss experience even a rise in well-being compared to the period before job loss (0.4 points). The added compositional terms in model 4 show that the negative impact of job loss is limited to people who experienced more non-employment (0.9 points) and to a lesser extent more downwardly mobility in terms of job prestige (0.5 points, significant on the 10% level) on the long term. Downward mobility and successful re-employment in terms of income did not significantly moderate the impact of job loss on the long term (model 5).

Model 6 and 7 evaluate whether the impact of non-employment and downward mobility after job loss on the long term differs by educational level. The models do not show a convincing pattern of interactions that would give support for either hypothesis 3a (higher educated deal well with non-employment/downward mobility) or for 3b (they deal badly). The models indicate that especially people with A-level experience a large drop in well-being if they become non-employed (4 points drop if all long-term observations are non-employed). It seems that the negative effect of becoming non-employed on well-being in model 3 is mainly driven by this strong effect for people with A-level qualifications. Model 7 further

shows that those with higher qualifications deal well with becoming downwardly mobile in terms of income.

Conclusion & discussion

This paper investigated what happens to men's well-being when they get fired or when they are made redundant. We supposed that such involuntary job losses reduce well-being on the short and long term. Furthermore, we set out to uncover whether educational level buffers the effects of job loss. For the short term and long term, we hypothesized that a better education decrease the effect of involuntary job loss because higher educated people have more resources to deal with stress and negative employment transitions, and they have better re-employment chances. For the longer term we derived an competing hypothesis, namely that higher educated people suffer more from involuntary job loss since they are more attached to work and job loss may lead to non-employment and downward mobility.

In yearly British panel data (BHPS) covering at most 17 years of approximately 6500 men of working age 1,107 men experienced involuntary job loss. Fixed effects regression analyses indicate that involuntary job loss decreases well-being on the short term (first year after job loss) and on the long term (4-6 years after job loss) only for people who become non-employed or are downwardly mobile. For the short term, we showed that involuntary job loss decreases well-being even if we controlled for employment transitions. This illustrates the importance of looking at involuntary job loss compared to just the occurrence of unemployment. Unemployment is *an outcome* of involuntary job loss, a focus on unemployment therefore does not tell the whole story, especially not so for the reason that those with a higher level of education are less likely to become unemployed following involuntary job loss. Regarding the moderating effects of education we found that a higher education decreases the effect of involuntary job loss on the short term (first year).

In a second step we investigated why educational level moderates the effect of involuntary job loss on the short term. We find that once we incorporate information on transitions to non-employment and downward mobility (both in job status and income) the buffering effect of educational level decreases, which suggests that education may help because it protects people from negative labor market transitions after job loss. We further find that, on the short term, education may help buffer the impact of job loss: among the people that become non-employed after job loss those with a higher educational level

experience less negative effects. Also, higher educated people who moved to jobs with lower status than the job they lost appeared to suffer less.

A number of puzzles remain. First, why do we find very strong effects on the short term but hardly effects on the long term? The long term effect of job loss was limited to people with A-levels who become non-employed or downwardly mobile. That could be an aberrant finding. Lets suppose that there are no truly long term effects of involuntary job loss. The BHPS offered a unique possibility to investigate involuntary job loss, so we feel that it is unlikely that the data are not powerful enough to find an effect. Two thirds of the men who experienced job loss were included in our long term analysis, only 10% was lost to attrition, the remainder was lost due to age restrictions and the end of the panel. Why would there be no long term effect? We investigated the effect of job loss after a period of about five years. In such a period people can easily have "moved on"; most find new jobs, few remain unemployed. A theory in psychology, the "set point theory of happiness", states that shocks to people's well-being, such as being fired and becoming redundant, are mainly temporary in nature. Over time the new status and life take over and people return to their "set point". Our results point in such a direction (with the exception of those with A-levels who become non-employed after job loss...). Second, why do we find a negative effect of downward mobility in terms of getting a job with a lower prestige on well-being but not for income. Is the income in a new job irrelevant after involuntarily job loss, i.e. *any job* will do as long as it is a respected job, or is it a question of bad measurement on our part?

The BHPS allowed us to simultaneously investigate the buffering effects of educational level and control for job characteristics. This allowed us to exclude the intervening mechanism that higher educated people tend to lose higher status jobs and better paying jobs if they get fired/laid off. Interestingly, the buffering effect of education increased when we took characteristics of the lost job (job prestige and relative earned income) into account. This suggests that the benefits of education are not only tied to their higher occupational standing, but education has independent buffering effects on well-being.

Health selection

Health selection of unhealthy individuals into job loss poses a threat to studying the impact of job loss on well-being. We feel that our design thwarted this threat for the following reasons: 1) we used fixed effects models, so the effects of job loss reflect inter-individual well-being changes; 2) we were able to control for the type of involuntary job loss. Job loss due to health reasons was an answer option offered to respondents in the BHPS, which may be more

socially acceptable than dismissal or redundancy. We therefore feel that it is quite unlikely that people who lost their jobs due to health reasons picked dismissal or redundancy. Still it is possible that employers choose less healthy individuals to fire; 3) we incorporated good controls for change in physical health. The number of health problems reported and whether people were long term ill covers health selection. And then still our main interest does not lie with whether there is a causal effect of job loss, we want to study whether the associations differ.

TABLES AND FIGURES

Table 1. Panel out-flow: whether present at short term and long term
(N respondents = 6,263)

	short term (wave +1)	long term (wave +3, 4 or 5)	
	all observations (N = 47,471)	still at risk of first job loss (N=40,384)	first job loss reported in current wave (N=1,107)
	%	%	%
follow-up	83.7	63.8	66.0
temporary exit	3.1	0.6	0.7
permanent exit			
by design (55+ or last wave)	8.1	25.8	22.5
attrition	5.2	9.8	10.8

Figure 2. predicted change in GHQ-36 (higher=better) after job loss by educational level.
(Note years since job loss is 1 in wave of reported job loss) (based on model with job loss and interactions with education only).

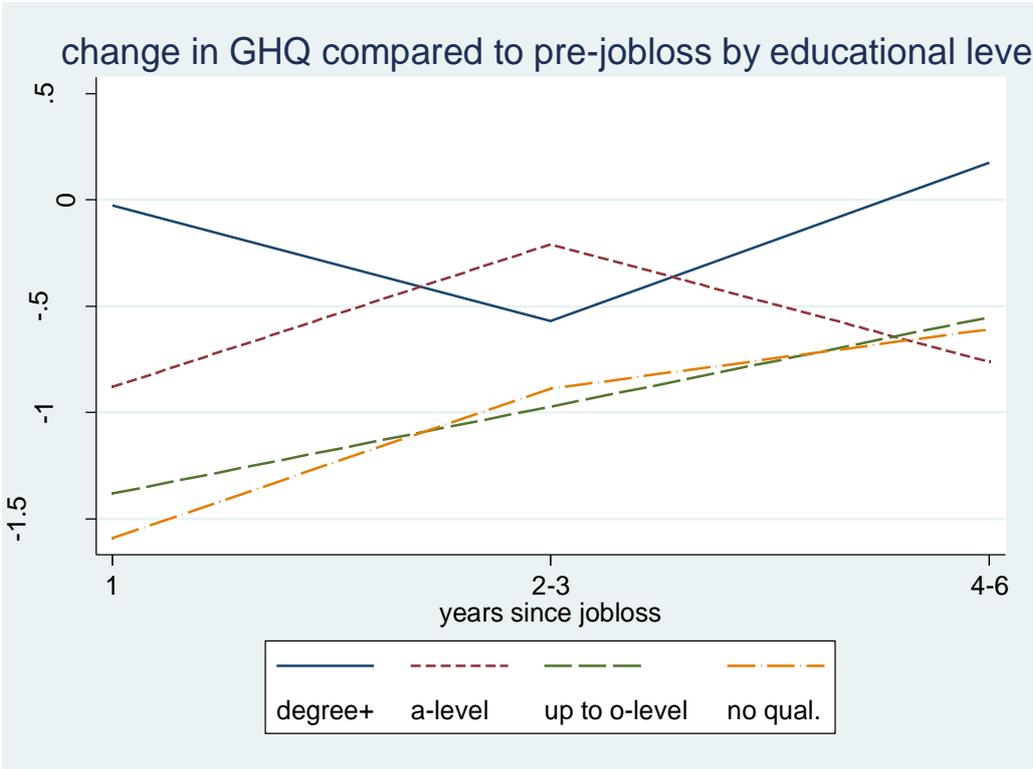


Table 2. Descriptives (*N* respondents = 47,238, *N* observations = 6,263).

Variable	Mean	Std. dev.	Min	Max
GHQ 36 (0-36)	25.73	4.89	0	36
1 wave before job loss	.025		0	1
job loss, wave reported, year 1	.023		0	1
job loss, year 2-3	.036		0	1
job loss, year 4-6	.040		0	1
non-employed	.065		0	1
long term illness	.014		0	1
number of health problems	.601	.86	0	8
married (ref.)	.558		0	1
cohabitating	.161		0	1
divorced/separated/widowed	.052		0	1
single	.231		0	1
number of children	.777	1.03	0	7
log eq. household income	3.72	.90	-.44	5.99
age /10	3.62	.98	1.8	5.4
age squared (age /10)	14.07	7.19	3.24	29.2
re-entered sample	.120		0	1
Greater London (ref.)	.070		0	1
South & East Anglia	.253		0	1
Midlands	.139		0	1
Manchester, Mersey's & North West	.084		0	1
Yorkshire & North	.125		0	1
Wales	.117		0	1
Scotland	.154		0	1
Northern Ireland	.058		0	1
1991-1993 (ref.)	.124		0	1
1994-1996	.139		0	1
1997-1999	.148		0	1
2000-2002	.228		0	1
2003-2005	.225		0	1
2006-2008	.135		0	1

Table 3. Reason job loss, educational level, characteristics of lost job, situation after job loss.

variable (range)	short term (year 1)		long term (year 4-5-6)	
	Mean	Std. dev.	Mean	Std. dev.
<i>type of job loss:</i>				
redundancy/lay-off (ref.) (0-1)	.151	-	.140	-
dismissal (0-1)	.849	-	.860	-
<i>educational level respondent:</i>				
no qualifications (ref.) (0-1)	.212	-	.197	-
O-level (0-1)	.361	-	.367	-
A-level (0-1)	.254	-	.264	-
higher qualifications & degree (0-1)	.173	-	.172	-
<i>characteristics previous job:</i>				
duration (years)	6.26	7.01	5.93	6.432
work hours in wave before job loss	38.1	9.21	38.8	14.75
job prestige (SIOPS)	41.3	12.9	41.4	12.67
relative income	11.9	4.90	11.9	5.08
<i>situation post job loss*:</i>				
unemployed/non-employed	.290	-	.112	.285
downwardly mobile (prestige)	.180	-	.256	.385
downwardly mobile (income)	.285	-	.308	.402
<i>N</i> respondents (who lost a job)	1,107		731	
average number of long term observations			2.56	

* for the long term these are averages of observations per respondent (0=zero waves, 1=all observed waves).

Table 4. Mean GHQ-36

		mean GHQ level	<i>N</i> individuals	<i>N</i> observations
never lost a job	overall	25.8ab	5,093	35,614
ever lost a job	overall	25.4a	1,107	11,624
	pre- first job loss	25.7b	1,107	4,770
	post job loss	25.3b	1,107	6,854

means that share a or b or c differ significantly

Table 5. Fixed effects model of short term effects of involuntary job loss on well-being.

	model 1: job loss process	model 2: non-employ- ment added	model 3: educational level added	model 4: job char. added
<i>job loss process</i>				
> wave before job loss (ref.)	-	-	-	-
1 wave before job loss	-.54***	-.57***	-.56***	-.55***
job loss, wave reported, year 1	-.81***	-.51***	-1.46***	-1.83***
<i>wave to wave transitions:</i>				
employed/self-employed (ref.)		-		
non-employment		-1.28***		
<i>job loss * educational level:</i>				
no qualifications (ref.)			-	-
O- level			.34	.55
A-level			.79*	1.16**
higher qualifications, degree and higher			1.74***	2.41***
<i>job loss * characteristics of lost job</i>				
job prestige of lost job				-.45*
relative income of lost job				-.05
<i>controls:</i>				
long term illness	-4.02***	-2.97***	-4.02***	-4.02***
health problems	-.38***	-.37***	-.37***	-.37***
married (ref.)	-	-	-	-
cohabitation	.25*	.26*	.25*	.25*
divorced/separated/widowed	-1.20***	-1.18***	-1.20***	-1.21***
single	-.03	.02	-.03	-.03
number of kids	-.01	-.01	-.01	-.01
log of equivalised income	-.02	-.00	-.02	-.02
age /10	-2.44***	-2.44***	-2.44***	-2.48***
age squared (age /10)	.26***	.27***	.26***	.26***
re-entered sample	.08	.11	.08	.08
Greater London (ref.)	-	-	-	-
South & East Anglia	.49*	.50*	.48	.47
Midlands	.69*	.73*	.69*	.68*
Manchester, Mersey's & North West	.36	.41	.36	.36
Yorkshire & North	1.28**	1.41***	1.29***	1.28***
Wales	.91*	.91	.91*	.91*
Scotland	.46	.57	.46	.45
Northern Ireland	1.40	1.52	1.41	1.41
1991-1993 (ref.)	-	-	-	-
1994-1996	-.30**	-.29**	-.29**	-.29**
1997-1999	-.11	-.13	-.10	-.10
2000-2002	-.16	-.21	-.16	-.15
2003-2005	-.08	-.15	-.08	-.07
2006-2008	-.09	-.18	-.09	-.08
constant	30.80***	30.60***	30.80***	30.88***
<i>N</i> observations	41,491	41,491	41,491	41,491
<i>N</i> respondent	6,263	6,263	6,263	6,263
average observations per respondent	6.62	6.62	6.62	6.62

legend: * p<0.05; ** p<0.01; *** p<0.001

Table 6. Fixed effects, short term analysis; why does education moderate?

	job loss process model 4:	compositional effects		behavioral effects	
	model 4:	model 5:	model 6:	model 7:	model 8:
<i>job loss process</i>					
> wave before job loss (ref.)	-	-	-	-	-
1 wave before job loss	-.55***	-.59***	-.55***	-.58***	-.59***
job loss, wave reported, year 1	-1.83***	-3.52***	-2.41***		
<i>job loss * educational level:</i>					
no qualifications (ref.)	-	-	-		
O- level	.55	.42	.33		
A-level	1.16**	.83*	.81*		
higher qualifications, degree and higher	2.41***	1.92***	1.86***		
<i>job loss * characteristics of lost job</i>					
job prestige of lost job	-.45*	-.38*		-.19	
relative income of lost job	-.05		-.16		-.18
<i>employment situation after job loss</i>					
non-employment (ref.)		-	-		
downward mobility (prestige)		1.98***			
successful re-employment (prestige)		2.92***		.20	
downward mobility (relative income)			1.53***		
successful re-employment (rel. income)			1.57***		-.19
<i>non-employment after job loss * educational level</i>					
no qualifications * non-emp.				-3.88***	-3.86***
O-level * non-emp.				-3.15***	-3.16***
A-level * non-emp.				-1.98***	-2.03***
higher qual. & degree + * non-emp.				-1.62*	-1.69*
<i>downward job prestige * educational level</i>					
no qualifications * downward.				.26	
O-level * downward.				-1.58**	
A-level * downward.				-1.28*	
higher qual. & degree + * downward.				.41	
<i>downward mobility relative income * educational level</i>					
no qualifications * downward.					-.24
O-level * downward.					-.73
A-level * downward.					-.49
higher qual. & degree + * downward.					1.10
constant	30.88***	30.79***	30.81***	30.75***	30.73***
<i>N</i> observations	41,491	41,491	41,491	41,491	41,491
<i>N</i> respondent	6,263	6,263	6,263	6,263	6,263
average observations per respondent	6.62	6.62	6.62	6.62	6.62

Note controls not shown in table (see table 6). Model 4 is repeated from table 5 in this table for reference.

legend: * p<0.05; ** p<0.01; *** p<0.001

Table 7. Fixed effects, long term analysis

	model 1: job loss process	model 2: educatio nal level added	model 3: job char. added	model 4: composit ion job prestige	model 5: composit ion rel. income	model 6: behavior al effects job prestige	model 7: behavior al effects rel. incom
<i>job loss process</i>							
> wave before job loss (ref.)	-	-	-	-	-	-	-
1 wave before job loss	-.49***	-.49***	-.49***	-.50***	-.50***	-.50***	-.49***
job loss, wave reported, year 1	-.66***	-.66***	-.66***	-.67***	-.67***	-.67***	-.66***
job loss, year 2-3	-.15	-.15	-.14	-.15	-.16	-.16	-.15
job loss, year 4-6	.18	.11	.00	.41*	.12	.38*	-.07
<i>job loss (year 4-6) * educ.:</i>							
no qualifications (ref)		-	-				
O- level		.18	.19				
A-level		-.27	-.20				
higher qual., degree and higher		.48	.67				
<i>job loss (year4-6) * char. of lost job</i>							
job prestige of lost job			-.02			-.03	
relative income of lost job			-.19				-.32**
<i>empl. situat. year 4-6 after job loss</i>							
non-employment				-.86*	-.61	-.11	.03
downward job prestige mobility				-.52		-.27	
downward rel. income mobility					.38		.54
<i>non-employment * educ. level</i>							
no qualifications (ref.)						-	-
O-level * mean non-emp.						-.31	-.23
A-level * mean non-emp.						-3.69***	-3.66***
high qual. & degree + * non-emp.						1.10	1.51
<i>downward job prestige * educ. level</i>							
no qualifications (ref.)						-	-
O-level						-.01	
A-level						-.88	
higher qual. & degree +						.93	
<i>downward rel. income * educ. level</i>							
no qualifications (ref.)						-	-
O-level							-.14
A-level							.10
higher qual. & degree +							1.47*
constant	30.97***	30.96***	31.04***	30.97***	30.92***	30.94***	30.98***
N observations	39,677	39,677	39,677	39,677	39,677	39,677	39,677
N respondent	4,302	4,302	4,302	4,302	4,302	4,302	4,302
average observations per respondent	9.22	9.22	9.22	9.22	9.22	9.22	9.22

legend: * p<0.05; ** p<0.01; *** p<0.001

Appendix:

Table 8. Employment situation indicators 4-6 years after job loss (*N* respondents = 731).

		mean non-employed					
maxeduc_jobloss		0	.3333333	.5	.6666667	1	Total
1 degree h qual		113	5	2	0	6	126
		18.28	16.67	20.00	0.00	11.11	17.24
2 a-level		170	5	3	3	12	193
		27.51	16.67	30.00	15.79	22.22	26.40
3 o-level		222	14	3	7	22	268
		35.92	46.67	30.00	36.84	40.74	36.66
4 no qual.		113	6	2	9	14	144
		18.28	20.00	20.00	47.37	25.93	19.70
Total		618	30	10	19	54	731
		100.00	100.00	100.00	100.00	100.00	100.00

		mean downward mobility (prestige)					
maxeduc_jobloss		0	.3333333	.5	.6666667	1	Total
1 degree h qual		93	11	5	6	11	126
		19.66	16.67	26.32	11.54	9.09	17.24
2 a-level		106	29	6	16	36	193
		22.41	43.94	31.58	30.77	29.75	26.40
3 o-level		166	17	6	23	56	268
		35.10	25.76	31.58	44.23	46.28	36.66
4 no qual.		108	9	2	7	18	144
		22.83	13.64	10.53	13.46	14.88	19.70
Total		473	66	19	52	121	731
		100.00	100.00	100.00	100.00	100.00	100.00

		mean succesfull re-employment (prestige)					
maxeduc_jobloss		0	.3333333	.5	.6666667	1	Total
1 degree h qual		19	5	7	12	83	126
		9.69	8.47	33.33	17.39	21.50	17.24
2 a-level		56	15	3	27	92	193
		28.57	25.42	14.29	39.13	23.83	26.40
3 o-level		85	27	7	19	130	268
		43.37	45.76	33.33	27.54	33.68	36.66
4 no qual.		36	12	4	11	81	144
		18.37	20.34	19.05	15.94	20.98	19.70
Total		196	59	21	69	386	731
		100.00	100.00	100.00	100.00	100.00	100.00

Figure 3. McClements Equivalence scale:

wFIEQFCB wFIEQFCB contains a conversion factor to allow for the effects of household size and composition on needs in making income comparisons. The equivalence scale used in this variable is the McClements scale, as used in publications such as 'Households Below Average Income' (Department of Social Security, 1992). wFIEQFCB is based on the scale to be used with income before housing costs are deducted. (see Table 29) Uses wHGR2R wAGE wDEPCHL on Record wINDALL.

Table 29 McClements Equivalence Scales

	Before housing costs	After housing costs
Head	0.61	0.55
Spouse	0.39	0.45
Other second adult	0.46	0.45
Third adult	0.42	0.45
Further adult	0.36	0.40
Dependent child aged:		
0-1	0.09	0.07
2-4	0.18	0.18
5-7	0.21	0.21
8-10	0.23	0.23
11-12	0.25	0.26
13-15	0.27	0.28
16+	0.36	0.38

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