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The Influence of Internal Control on the Employment Status of German Workers

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Abstract

Using data from the 1994 – 1996 waves of the German Socio-Economic Panel, this study investigates whether perceived control influences reemployment among displaced German workers. The sample includes 349 workers who lost their jobs between 1994 and 1996. Our results indicate that higher perceived control is associated with increased probability of reemployment following job loss. The findings highlight an important, potentially modifiable determinant of reemployment.

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1. Introduction

The negative influence of job loss on mental health is well established (Frese / Mohr 1987; Kaplan et al. 1987; Brenner / Starrin 1988; Warr et al. 1988; Gallo et al. 2000). Several studies have demonstrated that the loss of a job may have a negative impact on physical health and health-related measures, as well (Westin 1990; Hamilton et al. 1993; Gallo et al. 2000). Although existing data suggest that reemployment may diminish, or even reverse some of the negative mental health effects of the job loss (Warr / Jackson 1985; Frese / Mohr 1987; Brenner / Starrin 1988; Kessler et al. 1988; Liem / Liem 1988; Kessler et al. 1989; Gallo et al. 2000), few studies have focused on the factors that predict reemployment. Understanding such factors can help identi-

fy unemployed workers who may be at increased risk for prolonged joblessness and its associated adverse health consequences.

One factor that has been proposed to influence reemployment is a person's perceived locus of control. Rotter's seminal study of control (Rotter 1966) suggests two ways of perceiving personal control: internal and external. Individuals with an internal perception of control believe that life events are contingent upon their own behavior, skills or efforts, while those with an external sense of control attribute events to luck, chance, or fate. The theoretical literature on internal control (Lazarus / Folkman 1984) supports the hypothesis that individuals with stronger internal control beliefs are more likely to be reemployed. In the case of job loss, individuals who have more internal control may assess the job loss and potential for reemployment more positively, attributing employment outcomes to their own behavior, and considering the prospect of reemployment to be within their control. Control beliefs may also influence coping activities during unemployment (Vinokur / Schul 2002), and the intensity and persistence with which jobless workers seek new positions.

Earlier research (Tiffany et al. 1970) suggested a cross-sectional relationship between unemployment and external perceived control. Several more recent studies (Vinokur / Schul 1997; Ginexi et al. 2000; Vinokur et al. 2000) have described a relationship between internal control beliefs and the reemployment of jobless workers. Such studies have reported higher levels of internal control or control-related factors among unemployed individuals who subsequently become reemployed than among those who remain unemployed.

Despite evidence that is generally suggestive of a link between internal control beliefs and reemployment, our understanding of this connection remains limited. Most previous investigations have studied samples of workers who are already unemployed at the time of first observation. In this type of design, there is a truncated and potentially biased view of the phenomenon of interest. This is because it is not known whether the unemployment experience influences the levels of internal control, or whether those who became reemployed promptly, and are therefore not included in the study sample, are different in perceived control from those who are included in the sample. Accordingly, results from these investigations may not be generalizable to the broader population of unemployed workers. Additionally, we could find no studies that have used data from German workers, the subjects of this paper. Given individual and institutional differences between Germany and other countries in which the previous research has been performed, the results of such studies may not be applicable to German workers.

This study uses data from the German Socioeconomic Panel (GSOEP) to assess the influence of perceived control on the reemployment of displaced German workers. There are two principal advantages of this research. First, this study uses a rich, nationally representative data source for the study of

German workers that offers a unique combination of economic and psychological measures, and a large sample of working adults. Second, the study design permits us to select a study sample composed of working individuals, and to observe the transition from employment to unemployment and vice versa. Thus, we may explore the full range of causal relationships, and in doing so achieve a greater understanding of the previously reported cross-sectional relationship between unemployment and perceived control.

In this study, we explore the influence of perceived control on the time to reemployment among displaced workers. In supplementary analyses,[1] we consider whether perceived control is predictive of subsequent involuntary job loss, and test whether the experience of job loss influences changes in perceived control.

2. Methods

Study design & data source

This study employs a prospective, longitudinal design that uses the 1994, 1995, and 1996 waves of the German Socio-Economic Panel. The GSOEP is a representative sample of German households that was begun in 1984 to investigate stability and changes in living conditions. Participants are surveyed annually on a wide range of topics, including labor force participation and earnings, education and training, housing, health, and various personal attitudes. In 1996, more than 13500 individuals from over 7000 households were surveyed. The GSOEP has been described in greater detail elsewhere (SOEP Group 2001).

Analysis sample

The analysis sample for this study was constructed by combining the 1994, 1995, and 1996 GSOEP survey waves, three consecutive years in which the perceived control battery was administered. To select the sample, we first identified individuals who were successfully surveyed at each of the three survey dates (n = 9453), excluding 1661 respondents from the foreign sample, who were not asked the perceived control battery in 1994 and 1995. Next, eligible respondents (n = 3647) were identified. Eligible participants were respondents who were (a) employed at the 1994 survey, (b) reported working at the 1994 survey, and (c) were not self-employed.

[1] Because of space limitations, the results of these analyses are not reported. However, as these findings are relevant to the conclusions drawn in this study, they are discussed later in the manuscript. The results from the complete set of analyses are available from the authors upon request.

From the group of eligible workers, respondents who experienced job displacement were next identified using retrospective information provided at the 1995 and 1996 surveys.[2] Displaced workers (n = 390) were those who reported a job loss because of a business closing (company closed down) or layoff (business relations ended or laid off). Of the 390 displaced workers, 196 were displaced between 1994 and 1995, and 194 were displaced between 1995 and 1996. Eliminating individuals with missing data for one of the outcome variables or independent variables left a total of 349 displaced workers in the analysis sample.[3]

Measure of Reemployment

To accommodate the method used to estimate reemployment in this study (Cox proportional hazards survival analysis), reemployment among the workers who experienced involuntary job loss was measured by time (in months) from date of job loss to the date of reemployment. For displaced workers who were not reemployed following the job loss, the outcome variable was the number of months from the date of job loss to the 1996 survey date, the time of final observation. In all cases, we added one to the number of months so that observations for which reemployment occurred in the initial survey month would be counted in the analysis.

Job Displacement

Job displacement was measured by a binary variable that takes the value one if a respondent experienced loss of a job due to plant closing or layoff between survey waves, and zero otherwise. For workers with multiple displacements, we count only the first displacement.

Perceived Control

The measure of perceived control was constructed from responses to 8 statements adapted from the Questionnaire of Control Beliefs (Krampen 1981), based on Rotter's earlier concept (Rotter 1966). Of the 8 statements, 5 are ex-

[2] In the supplementary analyses, a comparison group of continuously employed workers, composed of individuals who reported no change in their employment status from 1994 to 1996, the period of observation, was used to assess the effect of perceived control on subsequent job displacement *and* changes in perceived control following job loss.

[3] Most of the missing data resulted from missing information on sociodemographic covariates. Moreover, because of missing information on the date of displacement or reemployment, we were unable to calculate the duration of unemployment for 23 of the 390 displaced workers.

ternally oriented and 3 are internally oriented.[4] Survey responses were 1 = applies completely; 2 = applies more or less; 3 = does not really apply; 4 = does not apply. To construct the perceived control measure, we first reverse coded responses to the 3 optimistic statements. Next, we summed the responses for the 8 statements, creating a single continuous dimension, which ranges from 8 – 32, where higher values indicate more internal perceived control.

The internal consistency of the 8-item perceived control score was assessed using the approach suggested by Cronbach (Cronbach 1951). The alpha coefficient reflecting the internal consistency of perceived control was 0.70 at the 1994 baseline, 0.72 at the 1995 follow-up, and 0.73 in 1996. All coefficients suggest adequate consistency. Because factor analysis conducted in earlier research (Nolte / Weischer 1997) revealed two distinct factors within the 8-item battery, sensitivity analyses were performed to test the validity of the constructed single-dimension perceived control scale; the results of the sensitivity analysis suggested that the 8 items are appropriately combined to a single dimension for this research.

Control Variables

A number of variables were included to adjust for potential confounding of the relationships investigated. Covariates tested for inclusion were measured at the 1994 baseline, and included age in years, marital status (married = 1), a dummy variable for blue-collar occupation, job tenure in years, self-assessed health (range: 1 – 5; higher scores reflect better health), education in years, hourly wages in Deutschmark, and East German residence.

Standard diagnostics were run to investigate collinearity of independent variables. We examined both pairwise variable correlations and variance inflation factors. Given the diagnostic results, sensitivity analyses were performed to determine the best-fitting set of independent variables. Variables that were both collinear and contributed least to the models were eliminated. Thus, the final models excluded education and tenure as covariates.

[4] The externally oriented statements were: “It is useless to make plans because they seldom work out”, “No one can escape their fate, everything in life happens as it must happen”, “If I get something that I want then it’s mostly due to luck”, “There is little sense in planning ahead because something unexpected always comes up”, “Things always happen differently, one can’t rely on anything”. The internally oriented statements were: “I determine what happens to me in life”, “Most plans I make are successful”, “My behavior determines my life”.

Data analysis strategies

The principal analysis estimated the effect of perceived control on reemployment among the displaced workers, where reemployment was measured by the time, in months, between the displacement date and the date of reemployment. The reemployment model was fit with the Cox proportional hazards technique, which accommodates right-censored data. In this study, displaced workers who are not reemployed comprise right-censored observations, because the termination of their unemployment spells cannot be observed. Time to reemployment was estimated as a function of perceived control and the set of socioeconomic covariates.

The time-to-reemployment analysis was estimated for the full sample of displaced workers (n = 349). We also analyze the subset of high-tenure workers, individuals who had worked in their job continuously for at least 3 years' prior to the job loss (n = 215), in order to reduce unobserved sample heterogeneity by omitting seasonal workers and those with unstable work histories, thus eliminating individuals with a weak labor force attachment. Analyzing higher tenure workers is consistent with earlier studies of job loss (Couch 1998; Gallo et al. 2000), including previous analyses of German unemployment data (Couch 2001). Further, the United States Bureau of Labor Statistics counts a worker as displaced only if his service on that job is a minimum of 3 years (Flaim / Sehgal 1985).

All models were estimated with using STATA Release 6. Data were weighted for the longitudinal study design. A longitudinal weight, equal to the product of the individual weight from the 1994 survey and the probability of remaining in the sample in the relevant follow-up surveys, was calculated and used in the analysis.

3. Results

Descriptive analysis

Table 1 provides descriptive statistics on the sample of displaced workers. At baseline, sample members averaged 40 years of age, and earned approximately DM19 per hour. About 64% of sample members were married and 58% were male. Over half worked in blue-collar occupations, and 60% of the sample reported living in Eastern Germany. On average, baseline health scores were in the range of "satisfactory" to "good." Of the 349 displaced workers, 204 were reemployed in the observation period. The average unemployment duration for a displaced worker in our sample was just over 6 months.[5]

[5] It should be noted that the average unemployment duration is based on the full sample of displaced workers, 42 % of whom were not reemployed at the 1996 survey date, the final period of observation.

Table 1

Unweighted Means For Displaced Workers (*N* = 349)

Variable	Mean (Std. Deviation)
Months to reemployment	6.16* (6.36)
Baseline Perceived Control	22.36 (3.54)
Male Gender	.58 (.49)
Age	40.31 (11.12)
Marital Status	.64 (.48)
Education (in years)	12.03 (2.35)
Blue Collar Occupation	.54 (.50)
Hourly Wage (DM)	19.45 (12.71)
Job Tenure (in years)	7.66 (9.43)
East German	.60 (.49)
Baseline Self Assessed Health	3.37 (.93)

* This value does not reflect the one month added to each observation so that workers reemployed in the month of displacement could be used in the survival analysis.

Multivariate estimation results

Table 2 reports estimates of the influence of internal control on reemployment of the displaced workers in our sample. Adjusted hazard ratios are provided for both the full sample and the subsample of higher tenure workers. For both samples, the measure of association (hazard ratio) for the perceived control variable was rescaled to reflect the impact of a one-standard-deviation change in perceived control on the associated outcome variable. Such an approach preserves the composition of the continuous perceived control scale, while producing somewhat more interpretable results.

The results indicate that higher levels of internal perceived control are associated with increased probability of reemployment (i.e., shorter duration of unemployment) after job loss. More specifically, our estimates suggest that a

Table 2

The Impact of Internal Control on the Time to Reemployment of Displaced Workers

	Full Sample (N = 349)	High Tenure Workers (N = 215)
Variable	Hazard Ratio (90% confidence interval)	Hazard Ratio (90% confidence interval)
Baseline Perceived Control[a)]	1.24* (1.00, 1.55)	1.31* (1.03, 1.68)
Male Gender	1.07 (.74, 1.55)	1.51 (.98, 2.34)
Age	.97*** (.96, .99)	.96*** (.94, .98)
Marital Status	1.01 (.73, 1.40)	1.32 (.83, 2.10)
Blue Collar Occupation	.80 (.55, 1.16)	.85 (.53, 1.36)
Hourly Wage (DM)	1.01 (1.00, 1.01)	1.00 (1.00, 1.02)
East German	.86 (.63, 1.18)	.83 (.56, 1.25)
Baseline Self Assessed Health	1.06 (.86, 1.29)	1.07 (.84, 1.36)

[a)] The hazard ratio and 90% confidence interval on the Baseline Perceived Control variable have been rescaled to reflect the impact on the outcomes of a one-standard-deviation change, rather than a one-unit change.

* $p < .10$, ** $p < .05$, *** $p < .01$

one-standard-deviation increase in internal control raises the monthly hazard rate by 24 % for the full sample (hazard ratio 1.24, 90 % confidence interval 1.00, 1.55) and 31 % for the subsample of high-tenure workers (hazard ratio 1.31, 90 % confidence interval 1.03, 1.68). This means that the probability of having found a job after three months is 91% higher (1.24^3), and after six months 2.9 times higher (1.24^6), in the full sample. The other predictor variable that is significantly negatively associated with reemployment is age. For each additional year of age, the monthly hazard rate is reduced by 3 % in the full sample, and 4 % in the sample of high-tenure workers.

4. Discussion

The results of this investigation indicate that, in Germany, displaced workers' control beliefs may be an important determinant of their reemployment. Among both the full sample and the subsample of workers with three or more years of continuous employment, those with greater internal control were significantly more likely to be reemployed than were workers with lower internal control, a finding not previously reported among German workers. The supplementary results[6] further indicate that perceived control is not predictive of job displacement, and that control beliefs are stable, and are therefore not affected by the experience of unemployment following involuntary job loss.

The mechanism by which control beliefs affect reemployment is not known. However, it seems plausible that unemployed workers with an internal perception of control may pursue more active job search strategies and are, thus, more likely to find work. Such an interpretation is consistent with the literature on coping, which suggests that internal perceived control is associated with a problem-focused approach to dealing with unemployment.

Previous cross-sectional research (Tiffany et al. 1970) has found low internal control among unemployed men, who perceived their employment condition to be externally directed, believing that their lives were controlled by environmental forces rather than their own behavior. Three possible interpretations of this cross-sectional evidence are imaginable. One explanation is that workers with lower internal control are more likely to experience job loss. A second explanation is that the job loss influences subsequent control beliefs. Finally, the cross-sectional finding may be due to a selection effect related to reemployment. By this we mean that individuals with greater internal control may be more likely to seek and find new jobs, leaving workers with lower internal control beliefs among the unemployed.

The prospective nature of our study allowed us to test each of the three possible explanations. Our results support the third possible explanation, which suggested that cross-sectional associations between low internal control and unemployment are likely due to a selection effect associated with reemployment. Whereas we found that internal control is significantly and positively related to reemployment, the findings of our supplementary analyses did not indicate that internal control is associated with subsequent job loss or that job loss is associated with subsequent changes in internal control.

This study has two limitations that merit mention. First, the data used in this research to assess reemployment lack the broader set of measures, including assertiveness, self esteem, and job-search self-efficacy and intensity, that might attenuate the relationship between perceived control and reemployment.

[6] See footnote 1.

And second, the sample used in the reemployment analysis is somewhat small, so that caution must be used when drawing inferences to the full population of German workers.

There is extensive evidence of the negative health consequences of unemployment. Workers with low internal control and, thus, reduced likelihood of timely reemployment are likely to suffer such negative effects. Programmatic interventions to support job search performance, through such means as cognitive behavior therapy (Proudfoot et al. 1997) or motivation and skill acquisition (Caplan et al. 1989), may be especially important in assisting dislocated workers make the transition to employment, and thus, in reducing the physical and psychological impact of joblessness.

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