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TITLE

Decreased well-being after
job loss: testing omitted
causes

Research paper

Author

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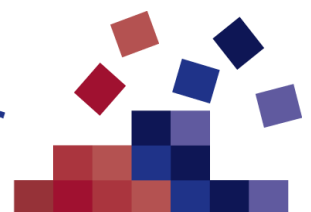
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Author

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Abstract

Job loss is widely known to lead to a substantial decrease in workers' subjective well-being. Functionalist theories explain this fact by arguing that the fundamental needs that work fulfills are absent during unemployment. Recent evidence from longitudinal studies however contradicts this approach, showing that workers who find a new job do not fully regain their former level of well-being upon reemployment. Therefore other mechanisms must be at work. We suggest that changes in social or economic domains of workers' lives – triggered by job displacement – lead to the observed changes in well-being. Drawing on a unique data set from a survey of workers displaced by plant closure in Switzerland after the financial crisis of 2008, our analysis confirms the previous result that finding a job after displacement does not completely restore workers' pre-displacement level of well-being. The factors that best explain this outcome are changes in social domains, notably changes in workers' job-related social status and their relationships to friends. This result provides valuable insights about the long lasting scars job displacement leaves on workers' lives.

Keywords

Subjective well-being | Job displacement | Social Status | Social relationships

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** **JEL classification:** I31 (General Welfare, Well-Being), J31 (Wage Level and Structure, Wage Differentials), J41 (Labor Contracts), J65 (Unemployment Insurance; Severance Pay; Plant Closing), J81 (Working conditions), Z13 (Economic Sociology, Economic Anthropology, Social and Economic Stratification)

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1. Introduction

A large body of research has shown that job displacement has long-lasting effects on workers' occupational careers: displaced workers experience lower rates of employment than non-displaced workers (Eliason and Storrie 2006: 843), some of them experience substantial wage losses at reemployment (Kletzer 2001: 32; Appelqvist 2007: 32; Couch and Placzek 2010: 583) or are affected by occupational downgrading as they are reemployed in jobs of lower quality (Brand 2006:293; Burgard et al. 2009). But less attention has been paid in the literature on how workers *subjectively* experience plant closure.

Evidence from longitudinal studies that examine the effect of becoming unemployed on individuals' subjective well-being shows that job loss is associated with a substantial decrease in general life satisfaction¹ (Winkelmann and Winkelmann 1998: 13; Oesch and Lipps 2013: 963). The arguments that have been brought forward to explain this outcome are usually of functionalist character and claim that work provides individuals with the fulfillment of some of their fundamental needs such as having an income, a regular activity or an identity. The hitherto proposed approaches coincide in how they predict workers' well-being to change after job loss: Losing their job would lead individuals to experience a decrease in their well-being as they are deprived of the functions that employment fulfills. At the same time, if displaced workers were reemployed, their pre-displacement level of well-being would be restored.

Yet studies that measure workers' well-being not only during the transition from employment to unemployment but also throughout their transition back to employment show that workers do not fully regain their pre-displacement level of life satisfaction upon reemployment. These findings challenge the functional explanations of decreased well-being after job loss and suggest that they are either not complete or that other causal mechanisms are at work to produce the observed reduction in workers' life satisfaction.

Our paper sheds light on possible alternative explanations for reemployed displaced workers' lasting scars in well-being. The goal of our paper is to receive a better understanding about how changes in reemployed displaced workers' life satisfaction come about. With respect to potential explanatory factors we distinguish between economic realms of workers lives such as their income or dealing with expenditures on the one hand and social realms such as their social relationships on the other. Whether

social or economic factors are more important for individuals' well-being is subject to an ongoing debate in the social sciences. We therefore try to identify which types of factors better explain reemployed displaced workers' changes in general life satisfaction.

We use data from a tailor-made survey of 1200 manufacturing workers in Switzerland who lost their job because of plant closure in the aftermath of the financial crisis of 2008. The use of plant closure data is a methodological instrument to avoid selection bias since the reason for workers' job loss is likely to be exogenous. Consequently, if we find that job loss goes along with a drop in workers' well-being we can exclude the possibility that poor health has caused workers to lose their job. In contrast, using plant closure data allows us to conclude that the causality goes the other way round and that a drop in workers' well-being is likely to result from job loss.

The paper is structured as follows: In section 2 we review the literature on the link between workers' well-being on the one hand and their economic and social situation on the other hand. Section 3 describes our dataset and the measures we use, and discusses methodological issues. In section 4 we present descriptive results. Section 5 examines which factors best explain changes in workers' well-being. Finally, section 6 summarizes and discusses our findings.

2. Theory and hypotheses

According to Durkheim (1933: 182), labor has a highly integrative role. In modern societies, characterized by division of labor, individuals' places are marked by their particular occupational function. In a similar vein, Jahoda (1982: 20-26) claims in her latent deprivation theory that workers who lose their jobs experience deprivation of some of their fundamental needs such as a regular activity, a daily time structure or an income. The classic study by Jahoda, Lazarsfeld and Zeisel (1971), which documents an Austrian town where almost all workers lost their job as a consequence of the Great Depression, reports that the unemployed not only suffered from the loss of their social status and an impairment of their health but also from a sense of social isolation. Another theory suggests that workers who are laid off lose their agency (Fryer 1986). Unemployment thus would go along with a loss of control and leverage that individuals have over their lives.

These functionalist approaches of social integration, fundamental needs and agency coincide in how they predict workers' well-being to change after job loss. In all the scenarios, workers losing their job would experience a decrease in their well-being as their social integration and agency dwindle away and as they are deprived of the access to the functions that employment fulfills. At the same time these theories suggest that if displaced workers were reemployed, their well-being would be restored. In fact, the functions of employment would be reestablished and the mechanisms that cause the reduced life satisfaction of the unemployed would stop acting after reemployment. Workers would regain their social integration and an activity that offers them an income and a social identity, and they would reclaim control over their lives. Yet evidence from a recent panel study on unemployed workers from the US shows that the former level of life satisfaction is not quickly reestablished when workers find a new job (Young 2012: 16). Other longitudinal studies observe highly similar results for Germany (Lucas et al. 2004: 11; Clark et al. 2001: 234).

These findings challenge the discussed explanations for decreased well-being after job loss and suggest that they are either not complete or that other mechanisms are at work. For instance, these theories do not consider the characteristics of the jobs in which workers are reemployed such as perceived job security or job authority. They treat all employment as homogeneous and suggest that the opportunities available in one job are equally available in another. But evidently not all jobs offer the same scope of agency. Whether workers are able to develop themselves through their job likely depends on the specific employment relations in which they are engaged (Kalleberg et al. 2000: 262). Moreover, workers may have experienced a disruption of their marital relationships as a consequence of job loss. Thus, an array of different causal mechanisms may be at work to produce the observed reduction in workers' life satisfaction.

2.1 Economic determinants of unemployed workers' well-being

It is widely understood that unemployment is likely to have scar effects on workers' subsequent wages. Gangl (2006: 999) reports based on US and European panel data that workers who experience spells of unemployment have to accept wage losses in the order of magnitude of 4 to 15 percent upon reemployment. Yet there are strong differences between countries according to the specific labor market institution with US workers experiencing the strongest drops in wages one year after job loss. For Great

Britain Arulampalam (2001: F597) reveals wage losses of 6 percent one year after job loss and about 14 percent four years after. For Switzerland recent research has shown that workers who experienced an involuntary job loss see their hourly wages dropping by about 10 percent, even up to four years after the separation (Balestra and Backes-Gellner 2013: 14).

Since these studies use data about unemployed workers in general – which are not a randomly selected group as Balestra and Backes-Gellner have pointed out these studies possible overestimate the scope of wage losses caused by job loss itself. However, studies using data from plant closure where workers are unlikely to be directly responsible for their job loss, provide similar results. Couch (2001: 565) finds wage losses of 14 percent for Germany and Schwerdt et al. (2010: 139) report for Austria losses of 8% for white-collar and of 2% for blue-collar workers one year after plant closure.

Empirical evidence is less clear-cut with respect to the question how workers' well-being is associated with their earnings.² Traditionally, economists have assumed that the financial return to work substantially affects how satisfied workers are with their job (Clark and Oswald 1996: 361). A quasi-experimental study on lottery winners in Great Britain simulating wage increases observes strongly positive effects of winning in the lottery on workers well-being – even in the long-term (Gardner and Oswald 2007: 53). Yet, a recent meta-analysis reports that the majority of studies find only a weak correlation between workers' well-being and their wage (Judge et al. 2010). As an example, two studies based on German longitudinal data find only extremely small effects of wage losses on well-being (Ferrer-i-Carbonell and Frijters 2004: 656; Winkelmann and Winkelmann 1998: 12).

From these findings we may infer that wage losses *per se* do not threaten workers' well-being as long as they permit to keep up a similar standard of living. Only if the wage reduction is large enough to constrain workers' fulfillment of their daily needs, negative repercussions on their life satisfaction become much more likely. This argument is supported by results from two US studies, one based on data from Tennessee and the other from Utah, which find that *perceived* economic well-being is a much better determinant of individuals' well-being than *measured* household income (Mills et al. 1992: 61; Fox and Chancey 1998: 74).

Another strand of the literature has shown that displaced workers are likely to experience a decrease in job quality upon reemployment (Dieckhoff 2011: 242). A study based on longitudinal data from the US finds that workers who underwent an episode of unemployment are more likely to report low levels of job security than workers who have been continuously employed (Burgard et al. 2009: 782-3). The study shows that perceived job insecurity is in turn associated with lower levels of self-rated health.

Another negative effect of job displacement on job quality may be that workers are underemployed in their new position. In other words, they may not manage to find a job in which they are hired at an activity level that corresponds to their working hour preferences. A meta-analysis reports that underemployment has harmful effects on individuals' well-being, probably because it usually involves a lower income or a lower social status than full-time employment (Winefield 2002: 142).

Additional burdens that displaced workers may endure in order to become reemployed are longer commuting distances. Kahneman et al. (2004: 431-2) have shown for female workers in Texas that commuting is the daily activity that they most strongly dislike. Accordingly, workers who have to commute long distances to their workplace are less satisfied than those who travel short distances. Scholars assume that workers' acceptance of commuting increases if they are compensated in terms of wages or other benefits. Yet a study based on German longitudinal data suggests that even if the commuters are compensated adequately, they are less satisfied with their lives than those who do not commute (Stutzer and Frey 2008: 349). This finding points to a strongly negative effect of commuting on individuals' well-being.

2.2 Social determinants of unemployed workers' well-being

Even if workers are reemployed job loss may involve status loss. Reemployment in jobs of lower quality or in lower hierarchical positions is likely to impair workers' self-esteem, possibly because it leads to a decrease of the perceived occupational prestige (Kalleberg 2009: 9). Based on data from the British Household Panel it has been shown that social status is an important determinant of individuals' well-being (Clark and D'Angelo 2013: 14). Another longitudinal British study examining the well-being of managers who – voluntarily or involuntarily – changed jobs has revealed that downward mobility led to substantial decrements in their life satisfaction (West et al. 1990: 127).

But most prominently, the literature has pointed out that social relationships matter for individuals' well-being. A British study comparing the effect of a large number of life domains on individuals' well-being found that the domain that is most strongly correlated to life satisfaction is satisfaction with one's *social* life (Dolan et al. 2011: 7). Accordingly, if social relationships suffer as a consequence of job loss, workers' life satisfaction is most probably negatively affected.

The study by Dolan et al. (2011) has highlighted that among different types of social ties the individuals' relationship to their spouse matters most for their well-being. If workers' marital

relationship suffers – for example as a consequence of a degradation of the financial household situation – they are likely to be negatively affected in their general life satisfaction. Displaced workers may feel pressure to quickly find a job, particularly if they are the main breadwinner. A small-scale longitudinal study from the US shows that job loss leads to a decrease in the quality of the marital relation, but that the quality recovers after reemployment (Atkinson et al. 1986: 320-7). Alternatively, the relationship to their spouse or family may also improve if workers experience solidarity and receive emotional assistance. In particular, Atkinson et al. (1986) show that cohesive family structures are stress buffering for unemployed workers.

Other studies have pointed out that friendships are better determinants of individuals' well-being than family and spousal relationships. A study based on data from Canada and the US shows that relationships to friends are associated more than twice as strongly with workers' well-being than relationships to their family (Helliwell and Putnam 2004: 1439). A similar result has been found in a meta-analysis on this issue (Pinquart and Sörensen 2000: 194). The authors argue that encounter with friends is associated with enjoyment and sharing of good times. However, the results from the meta-analysis are of limited benefit for our analysis since it focuses on older individuals. In addition, the authors contend that well-being is correlated more strongly with contacts to friends only if the *frequency* of the encounters but not if *quality* is considered.

2.3 Research question and hypotheses

The literature review has highlighted that changes in economic realms of workers' lives on the one hand and changes in social realms on the other may explain reemployed displaced workers' changes in well-being. This opposition between social and economic factors represents a puzzle that seems to be unsolved in the present social science literature. The aim of our study is therefore to examine whether changes in reemployed workers' well-being can better be explained by changes in their social or economic realms of life.

Based on previous findings, our study examines four hypotheses about displaced workers' well-being which are presented in a schematic overview in Table 1. Hypothesis 1a suggests that changes in workers' financial situation affects their well-being most strongly. In particular, workers' well-being is negatively affected if workers experience wage losses or have to be more cautious with their daily expenditures. The literature about underemployment and commuting gives rise to the hypothesis 1b. It states that changes in time budget are crucial for workers' well-being. If workers are not able to work at

the activity level they wish or are constraint to commute long distances their life satisfaction is impaired. Hypothesis 2a that highlights social recognition predicts lower scores of life satisfaction for workers who experience a downgrading from their hierarchical position at the workplace and of their job-related self-perceived social status. The rationale behind this hypothesis is that social recognition is central to individuals' identity and self-esteem, which is in turn a predictor of their well-being. Finally, hypothesis 2b expects that changes in social relationships – in particular marital relationship – following job loss are one of the most important predictors for changes in workers' well-being. The deterioration of these relationships has the most harmful effect on individuals since relationships are of highest importance for their well-being.

Table 1: Overview over the hypotheses

<i>Hypo-thesis</i>	<i>Type of factor</i>	<i>Theory</i>	<i>Predicted outcome</i>
H 1a	Economic	Financial situation	Increases in income and being less cautious in dealing with expenditures are positively linked to changes in workers' well-being.
H 1b	Economic	Time budget	Reemployment at a lower activity level than before displacement leads to a decrease in well-being as do longer commuting distances.
H 2a	Social	Social recognition	A decrease in job authority and of perceived social status triggers a loss of well-being.
H 2b	Social	Social relationships	The deterioration of social relationships – marriage relationships in particular – has a harmful effect on reemployed workers' well-being

3. Data, method and measures

3.1 Plant closure as a methodological instrument to address selection bias

The advantage of plant closure data is that workers are unlikely to select themselves into job loss. Displaced workers do not lose their employment because they performed poorly on their job but as a

consequence of the relocation or closing of their firm.³ In this sense plant closure is a methodological instrument to avoid unobserved heterogeneity in the study of unemployed workers.

An additional advantage of plant closure data is that reverse causality can be excluded (Eliason and Storrie 2006: 1402; Brand 2015: 17). Consequently, if we find that job loss goes along with a decrease in workers' well-being it is legitimate to assume that the drop in well-being is a result of plant closure. Obviously events unrelated to the displacement can take place in parallel to the job loss and thus interfere with the results: Displaced workers may experience the decease of a significant other or learn that they are severely ill and thus experience a strong decrease in well-being. Yet these extreme cases – positive or negative – are rare and happen at random.

Our analysis is based on a unique dataset from a survey of the workforce of five manufacturing plants in the German- and French-speaking regions of Switzerland that closed down in 2009 or 2010.⁴ The companies were of medium size (160 to 440 workers), active in the sectors of production of metal, plastic, chemical products and machines as well as in printing. The total workforce of these five plants consisted of 1390 workers of whom 14 percent could not be contacted because they either refused access to their address or moved home. Our sample thus consists of 1203 workers who were surveyed in Autumn 2011, on average 23 months after they lost their job. The response rate was 62%, leaving us with 748 self-reported observations. The survey data was complemented with register data from the public unemployment office. Register data also served to control for nonresponse bias which does not seem to afflict our study (for more details about the survey see Baumann et al. 2015). Since observations of workers' well-being was solely collected by means of the survey, register data fulfills in this study primarily the task of increasing data reliability. By the time we conducted the survey 69% of the respondents were reemployed while 17% were unemployed, 11% retired and 3% had dropped out of the labor force (for more details see Oesch and Baumann 2014). The descriptive statistics of the sample is presented in Table A.1 in the Appendix.

The Swiss labor market is characterized by a system of weak employment protection and an unemployment insurance that offers a comparably strong buffer against financial distress. If firms dismiss at least 10% of their workforce legislation compels them to consult the work's council. Although bargaining over redundancy plans was not mandatory in Switzerland at the time when the firms in our sample closed down, plans – including termination pay and early retirement – were negotiated in all companies except one. With respect to unemployment insurance, a contribution period

of at least 18 months entitles workers to a benefit period of 18 months with a replacement rate of 70 percent of the last wage or of 80 percent for workers with dependent children or a low wage.

3.2 Subjective life satisfaction as dependent variable

The dependent variable in this paper is the absolute value of within-individual changes in subjective well-being. We measure subjective well-being using the variable “satisfaction with life in general”, measured on an 11-point scale from 0 to 10. 0 represents “not at all satisfied” and 10 “completely satisfied”. Change in life satisfaction is the obtained by subtracting the value of the workers’ life satisfaction before displacement from the value of their life satisfaction after displacement.

We measure the difference between the workers’ life satisfaction before displacement (i.e. when they were still working in the plant from which they were displaced) on the one hand and the workers’ life satisfaction after displacement (i.e. at the moment when they answered the survey questionnaire) on the other. The advantage of having two assessments of workers well-being – one before and one after displacement – is that we can address potential selection into unemployment based on time-invariant unobservables (Gangl 2010: 34). Accordingly, confounding due to unmeasured factors can be avoided. Measuring within-individual changes is of additional importance since research suggests that individuals have a baseline level of well-being from which they temporarily deviate in the case of major life course events, but to which they return afterwards (Winkelmann and Winkelmann 1998: 3).

Since our data is cross-sectional, we rely on retrospective information about workers’ pre-displacement well-being. Even though longitudinal studies are always to be preferred, cross-sectional studies using retrospective recall constitute a second-best (Hardt and Rutter 2004). In order to assess the reliability of our life satisfaction measures we will compare our findings with the data from the SHP where life satisfaction is assessed with the identical wording as in our own questionnaire. Previous evidence suggests that using retrospective data leads to the underestimation of well-being in the past (Gomez et al 2013). Accordingly, if we find that workers experience a decrease in life satisfaction we probably underestimate the magnitude of the decrease since workers tend to underestimate their the past level of well-being if assessed retrospectively.

The use of the concept of subjective well-being in social science research has been challenged. Probably the most prominent critic is Daniel Kahneman who maintains that the concepts of “satisfaction

about one’s life” and “satisfaction *in* one’s life” are often confounded. His studies have shown that retrospective assessments of well-being related to experiences are peak-end evaluations. In other words, most individuals primarily remember how experiences ended but not how they felt during the whole period of the experience (Kahneman 1999: 19). Another issue that casts doubt on the reliability of the assessment of life satisfaction is that survey respondents may adjust their reported well-being in order to correspond to a particular norm (social desirability) or to appear consistent (Lucas 2007: 76).

Yet another problem with measuring well-being is “substitution”. It has been shown that individuals answering a question about their overall life satisfaction tend to be biased by what they were thinking about right before answering the question (Strack, Martin and Schwarz 1988; Kahneman and Frederick 2002). Substitution is likely to be an issue in our survey since the question about overall life satisfaction was placed *after* the questions about the characteristics of the reemployed workers’ new job. This setting probably leads to an overestimation of the correlation between workers’ well-being and their new position. In contrast, the association between the workers’ life satisfaction on the one hand and their social relationships and dealing with expenditures on the other hand are likely to be correctly assessed since the life satisfaction question was asked *before* the questions about changes in social relationships.

It has been argued that the evaluation of life satisfaction vary across cultures (Easterlin 1974: 108). This view is supported by research based on data from the International Social Survey Programme using language as a proxy for culture. The study shows that levels of self-reported well-being significantly vary between language regions (Dorn et al. 2007: 514). In countries where most people speak either Slavic or Latin languages individuals are less likely to indicate to be “very satisfied with their lives” than in countries where Germanic languages (including English) are spoken – even after controlling for other factors. Since our survey was conducted in two language regions of Switzerland – the French- and the German- speaking regions – we address this issue by controlling in our models for the language in which the questionnaire was completed.

Despite its flaws we consider the concept of life satisfaction to be a meaningful indicator for understanding social interactions. In contrast to objective measures such as wage or contract type, this subjective measure sheds light on the individuals’ experience of life course events. Diener and Seligman (2004: 1-3) have pointed out that results from studies on subjective well-being can contribute to

overcome the shortcomings of – for example – economic indicators. Although objective indicators are more likely to be widely available and are often measured more exactly, they may fail to provide a full account of individuals' quality of life. Thus, the assessment of subjective well-being importantly complements objective measures.

3.3 Economic and social factors as independent variables

We distinguish between two groups of independent variables: economic factors and social factors that are each divided in two subgroups: financial situation and time budget representing economic factors and social recognition and social relationships representing social factors. These four subgroups each contain two to three indicators. For all of these variables we have either data about the workers' pre- and post-displacement situation or about how they assess the change between these two situations. Thus, as time-varying changes can only be explained by time-varying factors, we analyze how *changes* in economic and social realms of workers' lives affect *changes* in their well-being (Ferrer-i-Carbonnel and Frijters 2004: 646).

To measure changes in workers' financial situation we use the variables 10 percent wage changes and changes in dealing with expenditures. The pre- and post-displacement wages are standardized on a 40 hours workweek and the change in percentage between the wage before displacement and the wage after displacement then calculated. We use only information of full-time workers who work at least 35 hours per week. Changes in dealing with money were assessed by asking workers whether they had to make adjustments in spending money. We distinguish between three outcomes: (i) Being more cautious, (ii) no change or (iii) being less cautious after displacement as compared to before displacement.

To measure changes in time budget we employ 10 percent changes in weekly working hours and changes in commuting distance. We assessed the number of weekly working hours in workers' new jobs as compared to their former job and calculated the difference in percent. With respect to commuting we measure the difference in time workers daily invest in their commute to work that can be (i) more than 30 minutes more (henceforth called much longer), (ii) between 5 and 30 minutes more (slightly longer), (iii) no more than 5 minutes more or less (about the same), (iv) between 5 and 30 minutes less per day (slightly shorter), and (v) more than 30 minutes less per day (much shorter) in their new job as compared to their former job.

Changes in social recognition are assessed using workers' job authority and social status. Regarding change in job authority we distinguish between three outcomes: (i) lower position, (ii) same position, or (iii) higher position. Being reemployed in a lower position means that the individual had a function of supervision in the former job and has no function of supervision anymore in the new job. Higher position represents the opposite situation. To measure workers' self-perceived job-related social status we asked the reemployed workers whether their new job represents (i) a lower position, (ii) the same position or (iii) a higher position.

We measure changes in three types of social relationships: changes in workers' relationship to their spouse, to their family and to their friends. This measure was assessed straightforwardly by asking the survey participants: "If you compare your present situation with your situation before the displacement, did something change in the relationship to your spouse (or to your family or friends, respectively) and if yes, how do you evaluate these changes?" Possible answers were (i) very positive, (ii) rather positive, (iii) no impact or neutral, (iv) rather negative, and (v) very negative.

4. Descriptive results for displaced workers' change in well-being

Figure 1 presents a descriptive analysis of the average life satisfaction by labor market status for workers in our displaced workers survey and in the Swiss Household Panel (SHP). All workers represented in Figure 1 were employed in 2009. The workers in the displaced worker survey – appearing on left hand side of the figure – then lost their job. In the figure we distinguish between those displaced workers who were still employed in 2011 and those who were unemployed⁵ at that time. Among the workers in the SHP – presented on the right hand side of the figure – we distinguish between those who employed in 2011 and those who were unemployed at that time.

Displaced workers who were *reemployed* when we surveyed them, indicate an average life satisfaction of 7.7 (standard deviation SD=1.8) before displacement and of 7.5 (SD=2.0) after displacement. Accordingly, this worker subgroup experienced on average a slight but statistically significant (at the level $p < 0.05$) decrease in well-being. However, if we look at the distribution of change in life satisfaction within this group, we observe that not all workers experienced a decrease. Figure A.1a in the Appendix shows that many of them regained the same level of life satisfaction as

they had before displacement and some even experienced an increase in well-being. More precisely, 60% of the workers experienced no change at all or of no more than one point in life satisfaction. The remaining 40% are about equally distributed between experiencing an increase or a decrease in life satisfaction.

For displaced workers who were *unemployed* in 2011 we find an average life satisfaction of 8.2 (SD=1.8) before displacement and of 5.4 (SD=2.8) after displacement. These workers thus experienced on average a strong and highly significant (at the level $p < 0.001$) decrease in life satisfaction. The distribution of the change in points is presented in Figure A.1b in the Appendix. The result is strongly skewed towards the negative values with about 7% of the unemployed having experienced the maximum decrease of 9 or 10 points. About 60% of the unemployed workers report a decrease of between 2 and 7 points. At the same time, about 25% of the workers indicate that they experienced no or only one point change in well-being and almost 10% experienced an increase between 2 and 7 points.

Workers in the SHP who were *employed* in 2009 and 2011 report an average life satisfaction of 8.0 in both years (SD=1.28 in 2009 and SD=1.23 in 2011). With respect to the workers in the SHP who were employed in 2009 but *unemployed* in 2011 we find that they indicated an average life satisfaction of 7.1 (SD=1.6) in 2009 when employed and of 6.8 (SD=1.7) in 2011 when unemployed. Changes for both, workers continuously employed and workers becoming unemployed by 2011 are not statistically significant.

What do we learn from the comparison of workers affected by plant closure with the control group in the SHP? First, we find that continuously employed workers in the SHP do not experience any change in life satisfaction. In contrast, displaced workers who were reemployed in 2011 experienced a decrease in life satisfaction (although it is small). This suggests that plant closure affects workers' well-being even if they are reemployed. Second, we find that workers in both samples – displaced workers and SHP – indicate substantially lower levels of well-being if they are unemployed in 2011. While there is the possibility that less happy workers select themselves into unemployment, our analysis shows that there is an additional drop in well-being at the moment when workers become unemployed. If the workers in our displaced worker survey selected themselves into unemployment – which seems rather unlikely given that plant closure is an exogenous event – the outcomes strongly vary depending on the workers' labor market status in 2011. This suggests that being unemployed *per se* goes along with

hardship. This finding supports the functionalist theories about the role of employment. Yet, in section 5 will provide evidence for the argument that these approaches do not fully explain the mechanisms behind displaced workers' changes in well-being.

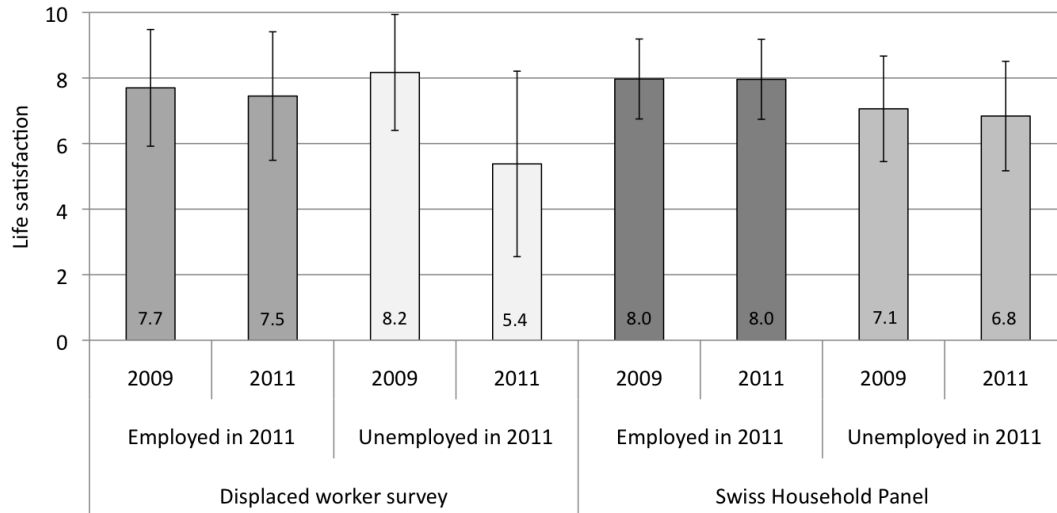


Figure 1: Average life satisfaction by labor market status

Note: Each color represents a different subgroup; within each subgroup workers are followed from 2009 through 2011.

N Displaced worker survey: employed in 2011=480, N unemployed in 2011=115, N Swiss Household Panel: employed in 2011=3'175, unemployed in 2011=32. Because of item non-response we do not have information about the life satisfaction of all respondents of our survey.

The error bars indicate the standard deviations. A Student's t-test provides the following significance levels for change in life satisfaction between before and after displacement are: Displaced worker survey: Employed in 2011: $p < 0.05$, Unemployed in 2011: $p < 0.001$. SHP: Employed in $p > 0.5$, Unemployed in 2011: $p > 0.5$. With respect to the difference in change in life satisfaction between the workers in the Displaced worker survey and the SHP, we were not able to compute the significance level since the two measures are based on two different subgroups.

The finding from Figure 1 that the unemployed workers experience a strong decrease in life satisfaction is consistent with previous results. Earlier research has consistently found that job loss has strong detrimental effects on workers' well-being (e.g. Winkelmann and Winkelmann 1998: 13; Oesch and Lipps 2013: 963) and even may be a triggering factor for depression (Burgard et al. 2009: 376). What is surprising however is the fact that some of the still unemployed displaced workers experienced an increase in well-being. A potential explanation for this finding may be that some workers were relieved to lose their former job which was marked by instability. This interpretation is based on the

result of a qualitative study on job displacement from the US that reported that in terms of health the situation of many workers improved after they lost their job loss (Sweet und Moen 2011:24-5).

Our study also confirms the previous findings by longitudinal studies from the US and Germany that displaced workers do not regain their pre-displacement level of well-being when reemployed – although we report a smaller drop in life satisfaction than the other studies. In his analysis of data from the US Panel Study of Income Dynamics, Young (2012: 14) shows that the fixed-effects coefficient for the transition from work to unemployment is more than twice as large than the coefficient for the transition from unemployment to work. Based on the German Socio-Economic Panel Study, Lucas et al. (2004: 11) find that reemployed workers' life satisfaction – measured on the same scale as used in our analysis – drops by more than one point between 2 years before displacement and 2 years after displacement. Interestingly, the study shows that workers' life satisfaction starts decreasing already one year before displacement. It is therefore possible that our measure of well-being before displacement underestimates worker's pre-displacement life satisfaction and we thus underestimate the reemployed workers' drop in life satisfaction. This in turn corroborates our argument that the negative effect of job loss is stronger than the positive effect of reemployment.

In contrast, our results are surprising for three reasons. First, the levels of life satisfaction are on average higher for workers in the SHP than for workers in our displaced worker survey – with the exception of the unemployed displaced workers in 2009. This finding may be explained by mode effects that influence how individuals report their well-being. It has been shown that respondents tend to give more socially desired answers in personal interviews as compared to paper and pencil surveys (Voogt and Saris 2005: 369). It is thus likely that if data on life satisfaction is collected by means of a telephone survey, as it is the case in the SHP, individuals are more likely to indicate higher levels of life satisfaction than if it is collected by means of a paper and pencil questionnaire, as in our displaced worker survey.

Second, we find that the unemployed displaced workers indicate to have had a higher level of life satisfaction in 2009 than the average Swiss worker. This finding points to an overestimation of the life satisfaction before displacement if the workers' post-displacement situation goes along with hardship. Since the pre-displacement life satisfaction is a retrospective measure, it is likely subject to recall bias.

To rule out a possible recall bias we carry out the multivariate analysis in section 5 only for the reemployed displaced workers and exclude the unemployed.

Third, *the workers in the SHP* who were unemployed in 2011 experience only a slight (and not significant) change in life satisfaction while becoming unemployed went along with a strong drop in life satisfaction for the individuals *in the displaced worker survey*. At the same time, the level of life satisfaction is already comparably low for the workers in the SHP before they lose their job. The results for the workers in the SHP who are unemployed in 2011 may not be very reliable because the sample size is small ($n=32$). Another possible explanation for this finding may be that workers who tend to become unemployed are intrinsically less satisfied than workers who tend to stay employed. However, this hypothesis has been challenged by evidence from a German study (Winkelmann and Winkelmann 1998: 7). Alternatively, we may expect that workers who become unemployed already experience a decrease in well-being before they actually lose their job – for instance because they anticipate a possible job loss. A study based on longitudinal data from Germany and Switzerland that has provided support for this assumption showing that workers already report a strong drop in life satisfaction one year before becoming unemployed (Oesch and Lipps 2013: 959).

5. Multivariate results for reemployed workers' change in well-being

In order to better understand the mechanisms that are at work behind reemployed displaced workers' changes in well-being, we proceed with a multivariate analysis to estimate the impact of changes in economic and social factors on changes in workers' well-being. We run six OLS regression models where we first only enter the socio-demographic variables sex, education, civil status, age, survey language and duration since displacement. In a second step we test our hypotheses by entering and then removing changes in wages and dealing with money in model 2, adding and then removing changes in weekly working hours and in time spent commuting in model 3, then introducing and again removing changes in hierarchical position and in weekly working hours in model 4, and adding and then removing changes in social relationships in model 5. Finally, we run a model 6 that includes all variables. The standard errors are clustered at the level of the plants. All six models are presented in Table A.2 in the Appendix. In order to facilitate the reading of the results, we graphically present the coefficients from the complete model 6 – including 95% confidence intervals – in Figure 2.

We begin with the discussion of the variables related to our hypothesis 1a that predicts that an increase in workers' wages and them being less cautious in dealing with expenditures are positively linked to changes in their life satisfaction. We find that an increase in wages by 10% between the pre- and post-displacement job is associated with an increase of 0.08 points in life satisfaction. Workers who have to be more cautious with their expenditures experience a decrease in well-being of 0.49 points. At the same time, workers who can afford to be less cautious experience an increase in well-being by 0.43 points. Yet, the coefficients for both variables are not statistically significant.

Our hypothesis 1b states the expectation that workers who work less hours per week and workers who have to commute longer distances after than before displacement tend to experience a decrease in well-being. The analysis of the effect of changes in weekly working hours reveals a negative relationship suggesting that the opposite is happening from what we expected. Unlike our assumption that workers who work less hours after displacement – and are thus possibly underemployed – are less satisfied with their lives, workers who work more after displacement exhibit a decrease in well-being. With respect to commuting time the results are not in line with our hypothesis. Although we find as expected a negative effect of longer commuting distances on workers' well-being and a positive effect of *slightly shorter* commuting distances, we also find the counterintuitive result that *much shorter* distances are associated with a strong and significant decrease in life satisfaction. A possible explanation may be that a *much shorter* commuting time is a proxy for an unobservable variable. For instance, workers who have to commute much shorter distances may be unhappy about being obliged to work in a different city than before displacement and need time to get used to their new environment.

Hypothesis 2a addresses the association between changes in social recognition and changes in workers' well-being. In contrast to our expectation, we observe that both, being reemployed in a higher and a lower hierarchical position goes along with an increase in life satisfaction. Yet, the coefficients do not reach statistical significance. With respect to workers' job-related social status we find that being reemployed in a job with a lower social status is associated with a strong and significant decrease in life satisfaction by 1.20 points. Being reemployed in a higher status job is linked to an – although less strong and not statistically significant – increase in well-being.

Finally, hypothesis 2b highlights the importance of social relationships predicting that deterioration in couple, family and friendship relationships as a consequence of plant closure has a harmful effect on

workers' well-being. While the effect of changes in the workers' marital relationship does neither go into the expected direction nor is linear, the effect of changes in family relationships is more intuitive. As expected, positive changes go along with an increase in well-being and negative changes with a decrease. Very negative changes in family relationships even are associated with a 2.40 points decrease in life satisfaction. However, the standard errors for effects of couple and family relationships are too large to enable the coefficients to be statistically significant.⁶ In contrast, changes in friendships are significantly linked to workers' satisfaction with their life. Both, deterioration and improvement of these relationships coincide with substantial changes in workers' well-being, the positive effect being even stronger than the negative effect.

With respect to the control variables we find that men are more likely to experience negative changes in life satisfaction than women. Higher levels of education are linked to positive changes in well-being. As compared to workers with lower secondary education, workers with upper secondary education experience an increase in life satisfaction of 0.31 points and workers with tertiary education even an increase of 0.43 points. Age has a positive effect on workers' life satisfaction, an older age going along with higher levels of life satisfaction than a younger age. Workers who are single are more satisfied with their lives than workers who are married.⁷ As compared to French-speaking workers, German-speaking workers are 0.19 points more satisfied with their lives in the after plant closure than before displacement. With respect to the time since displacement, the further in past the job loss, the higher the workers' level of life satisfaction. However, in model 6 none of the control variables reaches statistical significance.

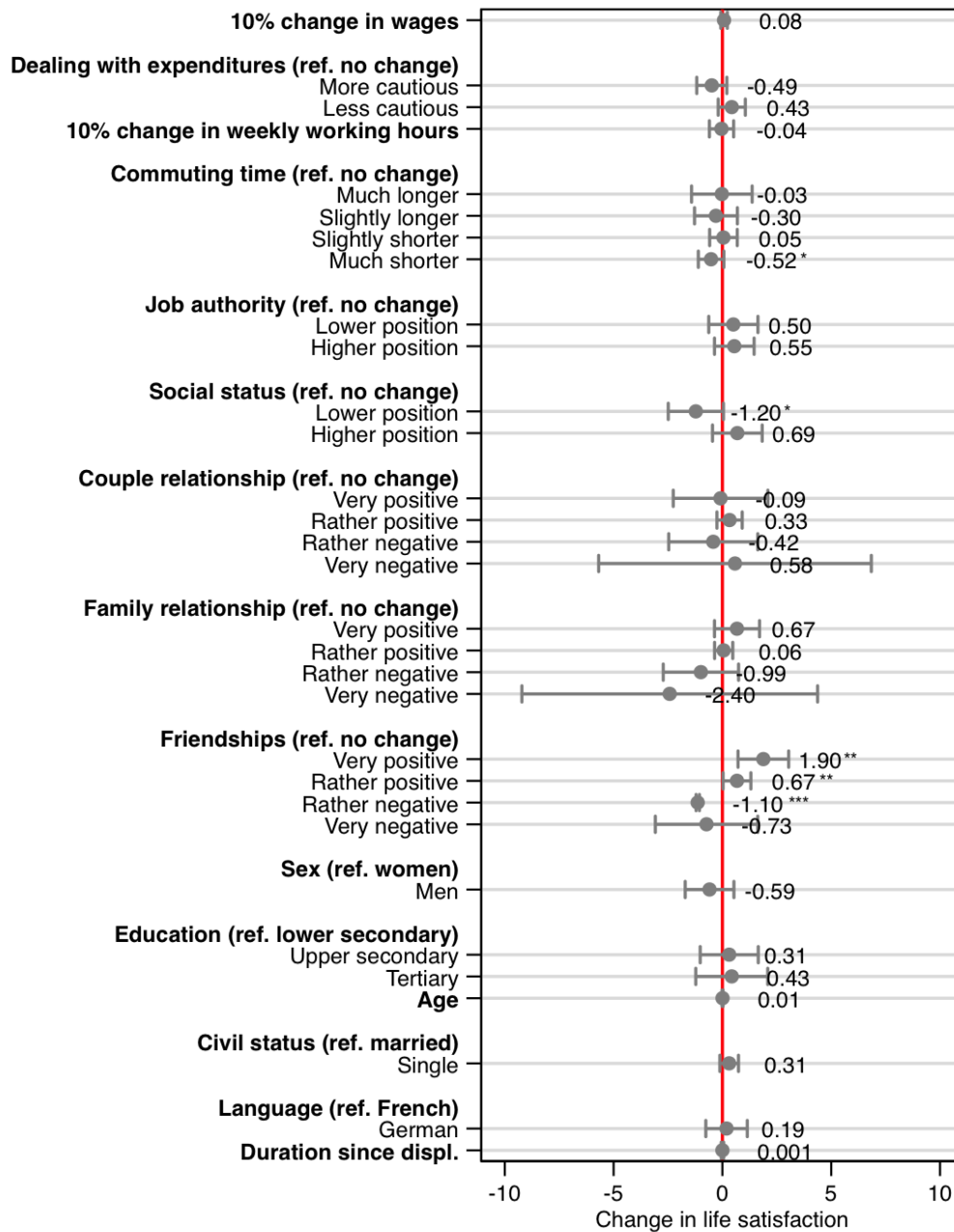


Figure 2: OLS regression analysis for change in life satisfaction for the reemployed workers

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. 95% confidence interval shown. Standard errors are clustered at the plant level. The figure is based on the results from model 6 in Table A.2. $N=307$.

How do these results compare to earlier studies? The finding that changes in wages are only weakly associated to changes in workers' life satisfaction coincide more strongly with evidence from Germany as compared to evidence from the UK (Ferrer-i-Carbonell and Frijters 2004: 656; Winkelmann and

Winkelmann 1998: 12; Gardner and Oswald 2007). This is little surprising since the unemployment insurance in Germany – as it does in Switzerland – represents a stronger buffer against financial hardship than in the UK.⁸ As a consequence, changes in the workers' financial situation probably affect workers in Switzerland less than workers in other countries.

Regarding changes in social status a British study on a large sample of managers has shown that downward mobility had even more deteriorating effects on their life satisfaction than unemployment (West et al. 1990: 132). The authors explain this finding by contending that the expected direction of mobility of managers is upward and a failure affects their well-being particularly strongly. This argument can be extended to workers in general, at least for those who are not close to the end of their career. Brand (2015: 17-18) claims that if the strains caused by job loss were mainly financial, reemployment would have the potential to reestablish workers' well-being. In contrast, if displacement profoundly alters workers' place in society regaining the former level of life satisfaction may be more difficult.

Our finding that relationships to friends are more strongly associated with subjective well-being than relationships to spouses and the family is in line with the meta-analysis by Pinquart and Sörensen (2000: 194) and with a study by Helliwell and Putnam (2004: 1439) on the US and Canada. The importance of changes in friendships in our analysis may therefore stem from the fact that friendship relationships are in general a better determinant of individuals' well-being than their family relations.

In contrast, our finding that changes in the couple relationship matter little for workers' changes in well-being contradicts earlier research. A recent literature review has shown that deteriorations in marital relationships affect individuals' well-being particularly negatively (Dolan et al. 2008). It is thus astonishing that the effects in our analysis are not significant and rather small. A potential explanation may be that changes in couple relationships tend to be gradual instead of sudden and that individuals thus have time to adapt to the changes (VanLangham et al. 2001: 1316-8).

6. Conclusion and discussion

This paper has sought to provide answers to the puzzle why displaced workers do not regain their former level of life satisfaction when reemployed. Hitherto theories to explain the workers' drop in

well-being when they become unemployed do not seem to be able to fully describe the mechanisms behind this phenomenon. The argument that unemployed workers are less happy because the fundamental needs that work fulfills are not provided in their situation does not explain why workers do not reestablish their pre-displacement level of life satisfaction when reemployed.

In order to identify potential determinants of this phenomenon, we examined how changes in workers' occupational situation and their social relationships are associated with changes in their life satisfaction. Our analysis is based on data from a survey of about 1200 workers displaced as a consequence of plant closure in the Swiss manufacturing sector after the financial crisis of 2008. Drawing on insights from sociological, economic and psychological models our key argument is that either changes in social or economic realms of workers' lives such as deterioration of their social status or social relationships affect their well-being, even if they are reemployment. In a nutshell, our analysis provides us with two main results.

First, workers who are reemployed at the moment of the survey do not completely regain their former level of well-being albeit the average decrease in well-being is small. In contrast, unemployed workers experience a tremendous loss in life satisfaction and are even much less satisfied with their lives than the average unemployed workers in Switzerland.

Second, our results do not clearly speak in favor for one of our hypotheses. However, we found that changes in workers' job-related social status are significantly linked to changes in their well-being. Deterioration in self-perceived social status seems to be a heavy burden on the workers' shoulders. The importance of changes in workers' social status on their well-being may be due to the fact that our dependent variable is life satisfaction and not another measure of well-being. According to Kahneman and Riis (2005: 285), some well-being measures assess how individuals experience a situation – what they call the experiencing self – while the concept of life satisfaction refers to a more global evaluation of individuals' lives – what they call the remembering self. In this light it makes sense that the evaluation of workers' social status is more important for their life satisfaction than other aspects of their lives.

Even more importantly, changes in workers' friendships are strongly associated with changes in their well-being. This result is surprising since expected that changes in relationships to their spouse and family would be more important for changes in their well-being. How can we interpret this finding?

Although we know that reverse causality between job loss and change in well-being is unlikely (i.e. that a decrease in well-being has caused workers to lose their job), it is possible that we are confronted with reverse causality between our dependent and independent variables. Notably, the effects between changes in social relationships and changes in workers' well-being may go in both ways. In other words, people who experience a low general life satisfaction may experience a deterioration of their social relationships through the mechanism of avoiding contacts with their friends. Albeit this interpretation is plausible, it seems more likely that the correlation that we found expresses an effect of changes in social relationships on changes in workers' well-being because the wording of our question was causal ("How did plant closure affect your relationship to your spouse/family/friends?").

A more plausible explanation is that our measure of changes in relationships to *friends* actually assesses workers' relationships to their former *co-workers*. If this is the case, positive changes in these relationships may have positive effects on workers' well-being as a consequence of solidarity expressed among former colleagues. As the workers' occupational career is falling apart, they may find and provide important mutual support from and to their former colleagues. The negative effect of deterioration in friendship relationships on workers' well-being may be an expression of grief in the case of loss of appreciated former co-workers.

In sum, our analysis provides us with the insight that finding a job after displacement does not guarantee that workers overcome the shock of the displacement and restore their pre-displacement level of life satisfaction – even though being unemployed is even a much stronger burden. This suggests that hitherto theories for loss in well-being after job loss do not fully explain the mechanism behind this phenomenon. Our results in fact indicate that additional processes are at stake. Indeed, it seems that some realms of workers' lives are enduringly affected by job loss and that these effects persist even after reemployment. This is particularly true for social relationships which are likely to be affected by job loss which in turn seems to have paramount consequences for workers' subjective well-being.

Notes

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- ¹The terms subjective well-being and general life satisfaction are used interchangeably.
- ² Some studies on the link between job quality and well-being focus on *job* satisfaction instead of *life* satisfaction. But since we are interested in the determinants of the latter outcome, we discuss different job characteristics such as wage or hierarchical position in the light of overall well-being instead of job satisfaction. This procedure seems to be justified because job satisfaction and life satisfaction are closely related (Frey and Stutzer 2002: 103). Yet they are evidently not the same. Interestingly, a longitudinal analysis has shown that life satisfaction more strongly affects job satisfaction than vice versa (Judge and Watanabe 1993: 944).
- ³ However, there may be an indirect selection into displacement since older and less educated workers seem to select themselves into closing firms (Burda and Mertens 2001: 22-24; Cha and Morgan 2010: 1141; Balestra and Backes-Gellner 2013: 23). In addition, workers are likely to informally know that their plant is in bad economic condition or plans to relocate. The workers with the best labor market prospects thus tend to change their employer before the closure is officially announced (Eliason and Storrie 2009: 1397; Schwerdt 2011: 79). In this case the best performing workers select themselves out of the sample. If these processes were at work in the case of the plants in our study we would be confronted with selection bias and would probably underestimate the average displaced workers' labor market prospects and their well-being.
- ⁴ The plants were selected by means of convenience sampling based on the following criteria: First, the plants had to close down about one to two years before the survey was conducted. This strategy aimed at capturing long-term unemployment and the exhaustion of unemployment insurance benefits. Second, we targeted medium- and large-size plants. The rationale behind this choice was to avoid small-size firms because there the closure may possibly be caused by the workers' performance. Third, we focused on the manufacturing sector where plant closures are particularly frequent (Cha and Morgan 2010: 1141). The use of convenience sampling has the downside that our sample is probably not representative for the population of interest – displaced workers in general (Lohr, 1999: 5). Focusing on the manufacturing sector, our results can probably not be generalized to displaced workers in other sectors, for instance because manufacturing workers are more likely to have completed vocational upper secondary education (i.e. an apprenticeship) than workers in other sectors.

However, own calculations show that within the manufacturing sector the composition of the workforce of the companies in our sample is similar to the one of other manufacturing firms.

⁵ Unemployment is defined according to the ILO criteria: (1) being without work, i.e. not in paid employment or self-employment, (2) being currently available for work and (3) seeking for work, i.e. had taken steps to seek paid employment or self-employment.

⁶ We tentatively calculated the effect of changes in relationships to family and spouse on changes in well-being only for those workers who have a spouse (there is no information available about children). The results were basically the same as those presented in Figure 2 and Table A.2 but have the downside that the number of observation is smaller. We therefore decided to show the results for all workers independent of the availability of a spouse.

⁷ This finding is astonishing since most studies report that married individuals are more satisfied with their lives than non-married individuals, mainly as a result of selection of happier individuals into marriage (Stutzer and Frey 2006). In the context of plant closure this finding suggests that occupational transitions are more difficult for workers who bear financial responsibility towards a spouse or a family.

⁸ See <http://www.oecd.org/els/benefitsandwagesstatistics.htm> (accessed on January 8, 2015)

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Appendix
Table A.1: Descriptive statistics of the variables used in the analysis

Variable	Share in %	N
Labor market status status: reemployed	69	614
Labor market status status: unemployed, training or childcare	20	164
Labor market status status: retired	11	97
Sex: male	83	862
Sex: female	17	160
Education: less than upper secondary	17	152
Education: upper secondary	57	494
Education: tertiary	26	226
Age at displacement (in years)	45.7	1007
Age: 16 -29	14	137
Age: 30-39	15	150
Age: 40-49	28	286
Age: 50-59	27	271
Age: 60 and older	16	163
Civil status: married or with partner	74	655
Civil status: single, divorced or widowed	26	233
Plant 1	12	149
Plant 2	19	229
Plant 3	30	356
Plant 4	24	288
Plant 5	15	180
Language: French	17	126
Language: German	83	618
Monthly wage in pre-displacement job (in CHF)*	6'220	749
Monthly wage in post-displacement job (in CHF)*	6'039	401
Commuting: much longer	23	116
Commuting: slightly longer	27	136
Commuting: about the same	22	109
Commuting: slightly shorter	18	88
Commuting: much shorter	9	46
Hierarchical position: downgrading	17	77
Hierarchical position: same position	77	358

Hierarchical position: upgrading	7	31
Change in weekly working hours: > 2 hours less	9	42
Change in weekly working hours: about the same	0.81	376
Change in weekly working hours: > 2 hours more	0.10	48
Impact of displacement on couple: very positive	10	67
Impact of displacement on couple: rather positive	19	128
Impact of displacement on couple: neutral or no impact	56	368
Impact of displacement on couple: rather negative	12	77
Impact of displacement on couple: very negative	3	19
Impact of displacement on family: very positive	10	67
Impact of displacement on family: rather positive	21	144
Impact of displacement on family: neutral or no impact	56	373
Impact of displacement on family: rather negative	10	70
Impact of displacement on family: very negative	3	17
Impact of displacement on friendships: very positive	7	47
Impact of displacement on friendships: rather positive	21	146
Impact of displacement on friendships: neutral or no impact	54	370
Impact of displacement on friendships: rather negative	15	100
Impact of displacement on friendships: very negative	3	20

* Gross monthly wage of full-time employees standardized for 40 hours of weekly employment, including an eventual share of a 13th monthly salary

Table A.2: OLS regression analysis for change in life satisfaction for the reemployed workers

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Coef. (Std.Err.)	Coef. (Std.Err.)	Coef. (Std.Err.)	Coef. (Std.Err.)	Coef. (Std.Err.)	Coef. (Std.Err.)
Men (ref. women)	-0.31 (0.36)	-0.37 (0.25)	-0.30 (0.48)	-0.39 (0.32)	-0.54 (0.34)	-0.59 (0.40)
Education (ref. less than upper secondary education)						
Upper secondary education	0.86 (0.40)	0.72 (0.30)*	0.84 (0.36)*	0.62 (0.41)	0.53 (0.53)	0.31 (0.48)
Tertiary education	0.98 (0.40)*	0.65 (0.27)*	1.04 (0.46)*	0.72 (0.48)	0.82 (0.53)	0.43 (0.59)
Single (ref. married or with partner)	0.20 (0.12)	0.17 (0.11)	0.24 (0.14)	0.05 (0.11)	0.48 (0.26)	0.31 (0.15)
Age	-0.02 (0.01)	-0.01 (0.01)	-0.02 (0.01)	-0.002(0.02)	-0.01 (0.01)	0.01 (0.01)
German-speaking (ref. French-speaking)	0.62 (0.38)	0.44 (0.43)	0.70 (0.42)	0.60 (0.29)	0.28 (0.39)	0.19 (0.34)
Duration since displacement	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.03)	0.00 (0.02)	0.001(0.02)
10% change in wage		0.08 (0.10)				0.08 (0.05)
Change in dealing with expenditures (ref. no change)						
More cautious		-0.79 (0.23)**				-0.49 (0.25)
Less cautious		-0.10 (0.57)				0.43 (0.22)
10% change in weekly working hours			-0.15 (0.21)			-0.04 (0.20)
Change in commuting distance (ref. about the same)						
Much longer			-0.64 (0.43)			-0.03 (0.50)
Slightly longer			-0.30 (0.58)			-0.30 (0.35)
Slightly shorter			0.07 (0.20)			0.05 (0.22)
Much shorter			-0.28 (0.23)			-0.52 (0.21)*
Change in hierarchical position (ref. same position)						
Lower position				0.46 (0.29)		0.50 (0.41)
Higher position				0.34 (0.59)		0.55 (0.33)
Change in social status (ref. about the same)						
Downgrading				-1.83 (0.33)***		-1.20 (0.45)*
Upgrading				1.23 (0.45)*		0.69 (0.41)
Change in couple relationship (ref. no or neutral impact)						
Very positive					0.28 (0.51)	-0.09 (0.78)
Rather positive					0.41 (0.25)	0.33 (0.21)
Rather negative					-0.52 (0.81)	-0.42 (0.74)
Very negative					-0.31 (2.18)	0.58 (2.26)
Change in family relationship (ref. no or neutral impact)						
Very positive					0.04 (0.54)	0.67 (0.37)
Rather positive					0.12 (0.35)	0.06 (0.15)
Rather negative					-1.03 (1.03)	-0.99 (0.62)
Very negative					-1.79 (2.22)	-2.40 (2.45)
Change in friendship (ref. no or neutral impact)						
Very positive					2.28 (0.56)**	1.90 (0.42)**
Rather positive					0.79 (0.21)**	0.67 (0.23)**
Rather negative					-1.20 (0.13)***	-1.10 (0.03)***
Very negative					-1.12 (0.57)	-0.73 (0.84)
Constant	-0.67 (1.62)	-0.30 (1.31)	-0.55 (1.46)	-1.07 (1.49)	-0.18 (0.93)	-0.17 (0.73)
R ²	0.04	0.07	0.05	0.20	0.31	0.40
N	307	307	307	307	307	307

Note: * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors are clustered at the plant level.

We also conducted an ordered logistic regression on the same variables. The results were basically the same but with some more coefficients being significant. We chose to present the OLS regression coefficients because they constitute a more conservative result and are easier to interpret.

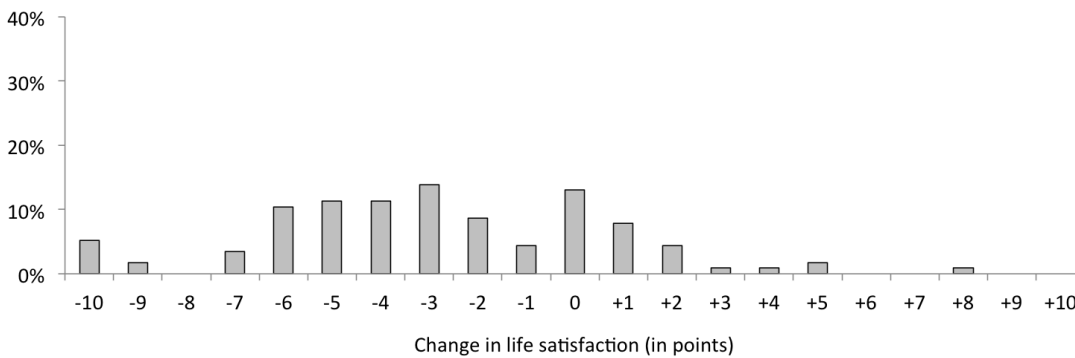
The sample size is determined by the restriction of our analysis to reemployed workers and by item non-response in the questionnaire.

A look at the explained variance (R²) provides evidence for the assumption that changes in workers' social relationships and the loss of their social recognition are particularly strongly associated with their well-being. Indeed, the explained variance clearly increases as we introduce changes in social status or relationships to friends into the model: while models 1 to 3 have an R² of less than 0.10, the goodness of fit increases to 0.20 in model 4 and even to 0.31 in model 5.



N=480

Figure A.1a: Distribution of change in life satisfaction of the reemployed



N=115

Figure A.1b: Distribution of change in life satisfaction of the unemployed