

Dismissals — A Major Concern, but Only One among Others?

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Abstract: The Finnish forest industry has undergone extensive transition in recent years. This study investigates the effect of restructuring on the well-being of blue-collar employees who continued working in the organization after the changes. All six factories selected for the study were in the process of restructuring between baseline and the follow-up survey. The factories were grouped according to personnel reduction (dismissals): Change group 1 – no dismissals; and Change group 2 – dismissals. The majority of the analyses were carried out using longitudinal data (n=382). The associations between the changes in personnel and functional and psychological well-being were analysed using ANCOVA (adjusted for age, gender, education, and outcome at baseline). In both change groups the level of functional well-being improved after restructuring, but the level of psychological well-being decreased. The content of the changes, regardless of whether they involved personnel dismissals, did not affect the magnitude of the decrease in psychological well-being. It seems that the effect of restructuring on the psychological well-being of employees working in the restructuring organization is considerable, even when no dismissals are involved. The impact of change on functional well-being seems to be different.

Key words: Psychosocial stress, Organizational change, Restructuring, Well-being, Job satisfaction, Work ability

Introduction

Downsizing, relocation, outsourcing, mergers, and business expansion are all examples of the types of restructuring (organizational change) activities that form part of the working life of the employees in today's organizations. The restructuring process aims to alter key organizational variables (such as the structure of the organization) to ensure that the organization is more productive and more innovative than its business rivals. At the same time,

these changes mean challenges for individual employees because work or the way in which it is done may change.

The employees who lose their jobs are the most likely to be negatively affected by restructuring. Research shows that job loss, more generally unemployment, causes ill health^{1, 2)}. However, those who keep their jobs, the “survivors”³⁾, may also suffer. The focus of this article is on the employees who stay in the organization after restructuring, since they are the ones who go through the whole restructuring process, and have to adapt to work in the changed organization. We assume that the restructuring process can be a highly stressful experience for them even though they keep their jobs.

Earlier research⁴⁾ has already shown that downsizing

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is associated with poor mental health, medically certified sickness absence, and poor physical health (including cardiovascular disease mortality), among employees who continue working in an organization after downsizing. Downsizing also causes considerable stress for the employees who continue working in the organization due to increased workload, increased job insecurity, and reduced job control⁴).

Downsizing is not, however, the only threat to the well-being of employees. The general uncertainty associated with restructuring may also be challenging. Employees may, for example, fear losing their status or may doubt their ability to cope with the demands of the changed organization. According to Ferrie *et al.*⁴), several cross-sectional studies have already looked at how restructuring or labour market instability can cause threats to jobs, even if immediate downsizing of personnel is not necessarily involved. These studies found that restructuring was associated with poor self-reported health outcomes, such as health problems, poor physical health, prospectively poor self-rated health, health complaints, and longstanding illness.

Some longitudinal studies show that other types of restructuring, which do not include reduction of personnel, for example a change in ownership, also affect employees' well-being by causing a feeling of job insecurity⁵), which in turn may play a role in the onset of ill health^{2, 6-8}). Merger experiences have shown to elevate the prevalence of subjective stress, anxiety, and impatience⁹) and increase the risk of generalised anxiety disorders (GAD)¹⁰). Negative merger experiences have also been found to increase the risk of post-merger psychiatric morbidity¹¹).

It seems clear that all kinds of restructuring activities can pose a threat to employees' well-being, even when the employees are not at risk of losing their jobs. Therefore it is important to take a closer look at the role of personnel reductions (dismissals) during different kinds of restructuring. For example, we already know that the magnitude of organizational changes (measured by the amount of changes in personnel) is important¹²): major changes (over an 18% increase or decrease in the workforce) have been associated with a greater risk of physical hazards across gender and sector. Therefore we ask: Do restructuring activities that do not include dismissals affect the well-being of employees less than a "big bang" (dismissals), or are they in fact equal?

Subjects and Methods

Study context

In recent years, the Finnish forest industry has undergone extensive transition. Although organizational changes have taken place in the sector earlier, such as lay-offs and mergers in the 1990's, at the beginning of the 2000's, development was growth-orientated. However, the situation changed drastically after 2005. Even though new production records were still made in 2006¹³), before the end of 2008, six pulp, carton and paper factories (out of 61) were closed down and different ways of lowering production had been implemented.

The new changes in the forest industry differed from the earlier changes in at least the following ways. For the first time, the entire Finnish forest industry faced productivity problems, and companies were forced to dismiss personnel. Earlier reductions of personnel were managed through voluntary departures, for example by using the so-called 'unemployment pension route'. This system made it possible for older employees to receive unemployment allowance until retirement, thus safeguarding their income. The system has since been made stricter¹⁴), and the level of income of older employees now depends to a larger extent on their ability to find a new job. Furthermore, as from 2009, large companies pay more in unemployment security if they lay off older employees. All this may have influenced the way in which dismissals are carried out and the number of voluntary departures.

Participants and procedure

The sample is based on a larger study project, 'Promoting occupational well-being and managing sickness absences in the Finnish paper industry', carried out in 2008–2009¹⁵). The sector had the second highest rate of sickness absence among industrial sectors¹⁶) and had undergone major changes since 2006. As a result, the Finnish Forest Industries (employer association) and the Finnish Paper Workers Union (employees' association) invited the Finnish Institute of Occupational Health to carry out a project focusing on the well-being of employees. The approval of the ethics committee of the Finnish Institute of Occupational Health was obtained for the study.

Eight production facilities (factories) from four major forest companies in Finland decided to participate in the study at the beginning of 2008. In spring (baseline, T¹), a questionnaire was sent to all blue-collar employees (response rate 52%, n=1,955). At the time of the survey, no restructuring activities were expected.

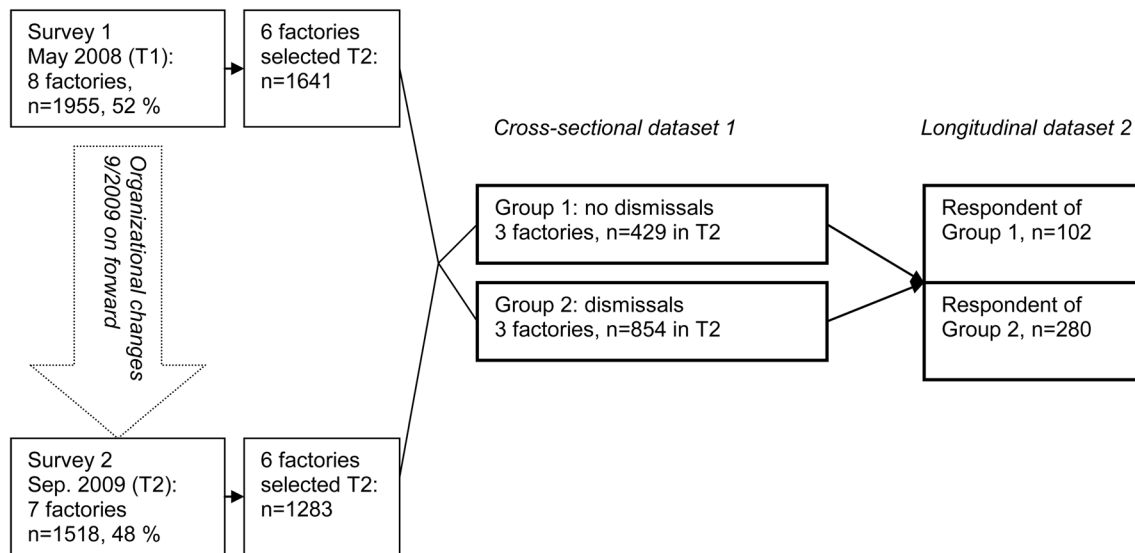


Fig. 1. Sample procedure.

One factory was closed down at the end of 2008; one factory was going through changes already at the baseline.

The consequences of the recession started to influence the sector in the autumn of 2008, and restructuring processes began in most of the participating companies. This time, the restructuring consisted mainly of downsizing activities, either in the number of employees or in the amount of production. As a consequence of these restructuring activities, the number of blue-collar employees decreased by 28% in the participating production facilities in a two-year time period¹⁷.

A year later, in the autumn of 2009 (T²), a follow-up survey was conducted (response rate 48%, n=1,518) at a time when the restructuring activities were already being carried out in the participating companies. Of the original participating companies, six production facilities (from four companies) were selected for further analysis. Two production facilities were excluded: one was closed down, so follow-up information was not available, and in the other, baseline information was not available, as the organizational changes were already underway during the first survey.

To be able to study the effects of the restructuring, information about the changes was collected from participating production facilities through organizational material. The changes were as follows: the organization was sold, parts of production were outsourced, a production line/department was closed down, and investments were made in production. Employees were dismissed in some production facilities but not in others. This information on the reduction of the personnel (dismissals) between baseline and the

follow-up survey (T²) was used to classify participating production facilities into two groups: (1) no dismissals and (2) dismissals. Whether or not personnel was reduced was also related to the number of other restructuring activities carried out in the production facilities. In Group 2, more changes were made. Both groups included three production facilities (factories).

We used both cross-sectional and longitudinal data in the study (Fig. 1). In both surveys the questionnaire was distributed to all blue-collar employees at his/her workplace. Answering to the questionnaire was voluntary and anonymous based. At the same time a written permission to obtain their sickness absence records was asked. The procedure to safeguard anonymity was explained in detail to the respondents. Confidentiality was assured to all employees.

Dataset 1 forms the cross-sectional information regarding employee well-being at the organizational (general) level separately at T¹(n=1,641), and one year later (T², n=1,283). Follow-up data (Dataset 2) could only be collected from those employees who completed both surveys and who at both times had granted the research team permission to obtain their sickness absence records from their organization (n=382). Dataset 2 was used for studying the consequences of the restructuring on the individual level. Thus the wider Dataset 1 was only used to see if well-being before restructuring (baseline), or the consequences of the restructuring for these employees (Dataset 2), differed from that of the whole study population (attrition test).

Table 1. Descriptive statistics (dataset 1)

Variables	T1				T2				Items	Scale ³
	n ¹	Mean	SD	a ²	n ¹	Mean	SD	a ²		
<i>Feelings of stress</i>	1,641	2.13	0.92	–	1,283	2.3	1.03	–	1	1–5
<i>Job satisfaction</i>	1,641	3.87	0.89	–	1,283	3.73	0.96	–	1	1–5
<i>Future of work</i>	1,641	3.13	1.08	–	1,283	2.9	1.11	–	1	1–5
<i>Work ability</i>	1,641	3.70	0.77	0.84	1,283	3.9	0.80	0.86	4	1–5

1) n = Number of participants. 2) Cronbach's alpha (estimate of internal consistency). 3) Theoretical range.

In Dataset 1 at T¹, all the participants were blue-collar employees and most of them were men (84%). Their mean age was 42.7 (SD=12.8). The average time that they had worked in the company was 18.8 (SD=11.2) yr, 10.0 (SD=9.7) yr in the same job. The average age, gender distribution, average time in the company, and the time in the same task were similar at T², also in the longitudinal dataset.

Measures

Well-being can be addressed from a physical, emotional, psychological, and behavioural perspective (e.g.,¹⁸). In this study, we examined physical and psychological well-being.

Physical well-being was studied from the perspective of functional well-being, measured using the *work ability* sum scale, which includes four items (Cronbach's alpha T¹=0.84 and T²=0.86) measuring physical, mental, and comparative ability to perform duties, for example, "How would you evaluate your present work capacity regarding the physical requirements of your work?" A Likert-type scale ranging from 1 (very good) to 5 (very poor) was used. The items were derived from the Work Ability Index¹⁹, the predictive validity of which has been found to be reliable in Finnish studies²⁰.

Psychological well-being was measured using three different variables: feelings of stress, job satisfaction, and trust in the future of work.

Feelings of stress were measured at T¹ and T² with a single question: "Stress is defined as a situation in which a person feels tense, restless, nervous or anxious, or is unable to sleep at night because of a constantly troubled mind. Do you feel this kind of stress?" We used a Likert-type scale, ranging from 1 (very rarely) to 5 (very often). The item was from the Occupational Stress Questionnaire (OSQ)²¹.

Job satisfaction was measured at T¹ and T² with a single question: "How satisfied are you with your current job?" We used a Likert-type scale, ranging from 1 (very dissatis-

fied) to 5 (very satisfied). A single-item measure of job satisfaction has previously been found to be acceptable and reliable²².

Trust in the future of work was measured at T¹ and T² with a single question: "Do you see the future of your work positively? We used a Likert-type scale, ranging from 1 (not at all) to 5 (very much). The item was from the QPSNordic-ADW questionnaire²³.

Background characteristics

Information on age (year of birth), gender, and education were elicited with single questions.

Data analyses

We carried out the *t*-test to find possible differences in the level of well-being in the change groups. We used an independent samples *t*-test to see whether there was a difference in overall well-being at the organizational (general) level (Dataset 1), and a paired samples *t*-test to test the difference in individual well-being during follow-up (Dataset 2). The associations between the type of changes (no dismissals / dismissals) and well-being were also analysed in a longitudinal (Dataset 2) setting by applying ANCOVA (adjusted for age, gender, education, and outcome at baseline). See Tables 2 to 3. We measured test-retest reliability with the intraclass correlation coefficient (ICC). The analyses were conducted using the *t*-test and GLM procedures of the SAS 9.2 statistical software package (from the SAS Institute, Inc., Cary, NC).

Results

The means and standard deviations of the study variables in Dataset 1 for T¹ and T² are presented in Table 1. The descriptive statistics already indicate a decrease in the level of well-being at the general level.

We aimed to find out if the effect of restructuring on employee well-being is smaller when there are no dismissals compared to a situation in which the organization is forced to implement dismissals.

Table 2. The level of organizational well-being in T¹ and T² according to the type of the change (dataset 1)

Type of change	n ¹ MAX	Feelings of stress			Job satisfaction			Future of work			Work ability		
		T1	T2	Sig. ²	T1	T2	Sig. ²	T1	T2	Sig. ²	T1	T2	Sig. ²
<i>No dismissals</i>	493/429	2.13	2.29	**	3.83	3.67	**	3.12	2.97	*	3.80	3.90	*
<i>Dismissals</i>	1147/854	2.14	2.31	***	3.89	3.77	**	3.13	2.87	***	3.67	3.90	***

1) n = Number of participants. 2) Independent samples *t*-test for equality of means. The test result of equality of variance was used to select either the separate-variance *t*-test or pooled-variance *t*-test for means. The pooled-variance *t*-test was used when the *p* value for the variance equality test is >0.05, *p*-values ****p*<0.001, ***p*<0.01, **p*<0.05.

Table 3. The level of individual well-being in T¹ and T² according to the type of the change (dataset 2)

Type of change	n ¹	Feelings of stress			Job satisfaction			Future of work			Work ability		
		T1	T2	Sig. ²	T1	T2	Sig. ²	T1	T2	Sig. ²	T1	T2	Sig. ²
<i>No dismissals</i>	102	2.13	2.25	ns	3.93	3.80	ns	3.08	2.96	ns	3.79	3.80	ns
<i>Dismissals</i>	280	2.13	2.2	ns	3.97	3.83	*	3.32	2.94	***	3.76	3.83	*

1) n = Number of participants. 2) Paired samples *t*-test, *p*-values ****p*<0.001, ***p*<0.01, **p*<0.05.

The cross-sectional organizational level findings showed that at the general level, all measures of psychological well-being (feelings of stress, job satisfaction, and trust in the future of work) were at a lower level after restructuring in both change groups. In contrast, functional well-being (work ability) was reported to be higher after restructuring (Table 2).

The longitudinal, individual level findings showed similar trends (Table 3). The level of psychological well-being at the individual level decreased in both change groups. However, most of the differences showed only weak significance levels. Only trust in the future of work had clearly decreased among employees working in a factory undergoing personnel reduction. Since the longitudinal findings did not seem to differ drastically from the wider, cross-sectional findings, only the longitudinal dataset was used in further analyses.

There was also no difference in the development of employees' well-being (either psychological or functional) between the change groups (ANCOVA, adjusted for age, gender, education, and outcome at baseline *p*=ns). The content of the restructuring, regardless of whether or not it involved personnel dismissals, did not affect the magnitude of the decrease in well-being.

Discussion

Our study focused on employees who stay in the organization after restructuring activities; the 'survivors' of restructuring. These are the employees who undergo the entire change process (from the announcement of the change through to the actual changes) and who have to learn to

work in the changed organization. Our aim was to extend current research by studying the effect of restructuring, regardless of whether or not they involved personnel dismissals, on the psychological and physical (functional) well-being of employees. In our study we were able to compare the consequences of different kinds of restructuring activities in the same industrial sector during the same period of time in a longitudinal setting.

We found that the level of psychological well-being decreased equally in both change groups regardless of whether or not employees had faced an actual threat of dismissal during restructuring. Both the organizational-level (Dataset 1, cross-sectional) findings and the individual-level findings (Dataset 2, longitudinal) provided similar results.

The fact that the consequences were so similar for the psychological well-being of employees may be due to several factors. Our study was carried out in the Finnish forest industry during a period of extensive transition. The whole sector was struggling with productivity, and all companies were forced to initiate restructuring activities of different magnitudes. The extent of this transition was also shown in employees' experiences, since they reported that the new changes affected them more severely than the changes they had experienced earlier¹⁵⁾.

The principles of decisions concerning the future of the factories have changed in the sector. Employees have seen that producing profits is no longer a guarantee that a factory will continue to operate, as in the case of the Voikkaa paper factory²⁴⁾ and others that were still profitable but were closed down. This may have more deeply affected how employees view the future of this sector, and thus reduced

the well-being of employees. The study of Moore *et al.*²⁵⁾ also found that even employees who have been exposed to indirect downsizing suffer from health problems.

One also has to consider the fact that the participants worked at production facilities in small and often quite remote communities, where the company was one of the major employers. Therefore, the majority of employees may have limited possibilities to find a new job locally in their area of competence. It might be that even employees' worries about losing their own jobs caused feelings of stress and insecurity, thus decreasing their well-being. Therefore, it is possible that employees who were working in production facilities undergoing types of restructuring other than downsizing of personnel may also have reacted to the changes more strongly than in a situation in which the future of the whole sector was not threatened. This is in line with the stress appraisal theory²⁶⁾ in which people may appraise a given situation as a threat or as a challenge: it is possible that employees evaluated the changes to be more severe and thus as a threat to their well-being.

We also found, in contrast to some earlier findings⁴⁾, that employees evaluated their functional well-being (own work ability) as better after restructuring in both change groups. This finding may be related to the reactions of employees when the organizational changes are announced. Previous qualitative research has found that employees want to ensure that they are not seen as weak, so they come to work even when sick⁵⁾. Similarly, it may be that the way in which they report their own work ability changes: The attitude that "My work ability is at least as good as that of others" may become stronger during uncertain times.

Previous research has also found decreases in short term sick leave among employees working in areas of poor local economy²⁷⁾. However, one negative consequence of downsizing has been an increase in sickness absence rates²⁸⁾. The findings of Virtanen *et al.*²⁹⁾, also indicate that when employment changes from insecure to secure (fixed-term to permanent) it is followed by an increase in medically certified sickness absences. Therefore, this improvement of work ability may only be temporary and even detrimental to the well-being of employees in the long run.

Methodological aspects

Our study relies on self-reports, so common method bias may present a threat to our results. Most of the measures were also single items. However, the same variables have been widely used in other studies, and have proven

to be reliable and acceptable for use^{22, 30)}.

It is possible that a selection error occurred when the participating facilities signed up for the original study¹⁵⁾. However, these facilities had relatively high levels of recorded sickness absences, and when we compared the results of the T¹ survey¹⁵⁾ to the Finnish forest industry in general³¹⁾, we found that the level of stress was a little higher and job satisfaction a little lower in our sample than in the sector in general. Work ability at T¹ was at the same level as in Finnish industry in general. Thus we can assume that the study population was in no better a situation than blue-collar employees in the sector in general. In addition, the participating companies were not able to anticipate the forthcoming restructuring when they voluntarily decided to take part in the study. Furthermore, the change groups were classified according to objective information gathered from the organizations, not based on employees' views of the changes taking place in their organization.

It is also possible that the consequences are more severe than our results indicate. The sample size of the longitudinal dataset was relatively small. The differences between the mean values were in some cases considerable but not statistically significant, which may have been due to the small sample size. However, the findings of the larger, cross-sectional sample were similar, which supports the view that the changes in well-being could in fact be significant. In addition, our study population consisted of only those employees who still worked in the organization after the changes, who at both times had given their permission to use their sickness absence records, and had answered the follow-up survey after a difficult period. All this, together with relatively modest response rates (52% and 48%), may cause selection bias³²⁾. The respondents might represent a group of employees whose resources are relatively good and whose capacity to cope with the challenging situation is better than that of those who left the organization and/or who did not respond to the surveys (the healthy worker effect³³⁾). Even so, well-being was clearly affected by the organizational changes.

Concluding remarks

It is evident that the effects of restructuring on the psychological well-being of employees working in restructured organizations are significant. Therefore, attention should be paid to the way in which the restructuring process is handled, even when it involves no dismissals.

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