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Published online: 23 Aug 2017.

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Can job insecurity be managed? Evaluating an organizational-level intervention addressing the negative effects of restructuring

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ABSTRACT

Although downsizing and reorganisation are recognised as serious threats to the psychological well-being of employees, intervention strategies for addressing these events are limited. This study evaluated the effects of a participatory organisational-level intervention in which employees and managers chose to address the psychosocial consequences, specifically job insecurity, of restructuring. The intervention was conducted among postal service letter carriers in Denmark and was evaluated based on quantitative and qualitative data. Using interviews ($N = 24$) and observations, the programme theory of the intervention and to what extent the intervention had been implemented were assessed. Using survey data ($N = 238$), repeated measures ANOVAS were conducted to test for differences in the development of job insecurity between the intervention group and a comparison group. The results indicate that the intervention group had a significantly smaller increase in one dimension of job insecurity as compared to the comparison group. Therefore, we conclude that employees' experiencing of job insecurity, which typically follows in the wake of restructuring, can be addressed by planned efforts at the workplace level.

Introduction

Since at least the mid-1980s, there has been a growing focus on how restructuring, mergers, and layoffs may contribute to increased job insecurity and posing a threat to psychological well-being among employees (Kieselbach et al., 2009; Wiezer et al., 2011). It has even been argued that stable jobs are becoming the exception rather than the rule (Allvin, Mellner, Movitz, & Aronsson, 2013). With organisations being forced to adapt to globalisation, restructuring has become inevitable (Rosa, 2013), often leading to job insecurity and decreased well-being among employees (de Jong et al., 2016). To manage job insecurity and promote well-being and employee health, organisational-level

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interventions have been proposed as a solution (De Witte, Vander Elst, & De Cuyper, 2015). Organisational-level interventions are here defined as "planned, behavioural, theory-based actions that aim to improve employee health and well-being through changing the way work is designed, organized and managed" (Nielsen, 2013, p. 1030).

Despite the growing interest in job insecurity and its consequences, to the best of our knowledge, no intervention studies in occupational health psychology have explicitly focused on how to best manage the substantial risk to employee health posed by job insecurity as a result of workplace restructuring. Field experiments (Schweiger & Denisi, 1991) and other studies have shown that the negative effects of specific aspects of the change process can be reduced by involving employees in proactively implementing changes (Sverke, Hellgren, Näswall, Göransson, & Öhrming, 2008) or participative decision-making (Probst, 2005). Though these studies suggest that there is potential for planned organisational efforts to alleviate job insecurity, studies on the impact of interventions are still needed.

The present study fills a gap in current research on job insecurity and restructuring by examining a unique case of an intervention that was implemented during a period of major restructuring. The intervention aimed to prevent job insecurity resulting from the restructuring and downsizing. We conduct a mixed-methods evaluation of a participatory intervention that was conducted as a cluster randomised controlled trial among postal delivery workers from two postal regions within the Danish National Postal Service. In a recent review of job insecurity literature, no intervention studies that focused on job insecurity were identified which "strongly highlights the importance of developing and testing interventions in future research" (De Witte, Pienaar, & De Cuyper, 2016, p. 27). Our study addresses the numerous calls for research on interventions that aim at reducing insecurity (De Witte et al., 2015; Sverke & Hellgren, 2002).

Restructuring as a risk factor

Restructuring and especially downsizing are known to affect employee well-being (de Jong et al., 2016; Kieselbach et al., 2009). A central component of the negative effects of restructuring is uncertainty about the future, concerning the future content of the job (qualitative job insecurity) as well as the risk of losing one's job (quantitative job insecurity) (Hellgren, Sverke, & Isaksson, 1999). Recent studies have documented that both quantitative job insecurity (De Witte, 2005; Sverke, Hellgren, & Näswall, 2002) and qualitative job insecurity have negative effects, such as poor well-being, low commitment to the organisation, and high levels of depressive symptoms (De Witte et al., 2010; Vander Elst et al., 2014). Job insecurity, in general, has also been found to be a long-term predictor of ill health (De Witte et al., 2016; Hellgren & Sverke, 2003), which supports the need for interventions that focus directly on reducing job insecurity caused by organisational restructuring.

Interventions and restructuring

Organisational-level interventions have been found to be effective for reducing sickness absenteeism (Semmer, 2011), enhancing job satisfaction (Nielsen, Fredslund, Christensen, & Albertsen, 2006), improving social support and decision latitude, and reducing demands (Bambra, Egan, Thomas, Petticrew, & Whitehead, 2007). Together, these studies support

the notion that interventions may be an effective means of reducing the organisational and psychological problems caused by restructuring.

Some intervention studies have taken place during times of restructuring (Mikkelsen & Saksvik, 1999) or have focused on well-being during restructuring (Parker, Chmiel, & Wall, 1997); however, these studies have generally shown disappointing results and have suggested that restructuring makes implementation difficult (Egan et al., 2007). It is likely that an intervention during restructuring needs to focus directly on employees' experiences of working conditions (such as job insecurity), as these are likely to affected by restructuring. One indication that an intervention could help is provided by the results from the seminal quasi experiment by Schweiger and Denisi (1991), in which employees who received change relevant information during a merger reported stable levels of job insecurity. Related to this, other studies indicate that a proactive organisational stance towards managing the effects of downsizing may lessen the negative effects on employees' well-being (Parker et al., 1997; Sverke et al., 2008).

Theoretical framework for the intervention

The conceptual foundation of the intervention in the current study was based on employee participation, in the form of employees' active involvement in the planning and implementation of an intervention and its related activities. This type of participation builds on the premise that utilising a highly participatory design (Nielsen & Randall, 2012) and focusing on both adverse and positive aspects of work (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Bakker, 2004) will encourage the development of problem-solving skills and enable employees to maintain or increase their resources for addressing problematic issues (Nielsen, 2013; Nielsen & Randall, 2012). Another conceptual foundation for the intervention was the job demands-resources model (JD-R) (Demerouti et al., 2001). Specifically, two aspects of the JD-R model were applied in the intervention. The first aspect concerns the nature of job demands and resources. As the JD-R model views these to be contextually determined, the aspects that were to be considered as strenuous and in need of intervention were assessed in the specific context. Second, the JD-R model encouraged employees and managers to intervene to simultaneously reduce demands and increase resources.

The intervention was developed from the idea that employees must be involved in the planning, assessment, implementation, and evaluation of the activities to attain the desired positive outcomes and learn from the intervention (Nielsen, Stage, Abildgaard, & Brauer, 2013). To sustain this participatory process, the intervention had to be highly systematic and transparent and include a detailed, context-specific risk assessment as well as priority setting and action planning – to some extent inspired by British Risk Management approach (Cox et al., 2000). Using employee participation in developing the intervention content, according to theory, would be expected to provide a better fit between the activities and the context of the workplace, while at the same time facilitating employee acceptance of the intervention (Holman & Axtell, 2015). In addition, letting participants prioritise which issues to work on creates ownership and makes it more likely that improvements in working conditions are achieved (Holman & Axtell, 2015).

There are several reasons why this type of intervention could lessen a potential rise in job insecurity in connection with organisational restructuring. Participating in the

decision-making procedure regarding change processes is likely to result in the organisational change being implemented in a way that produces a less dramatic increase in job insecurity (Probst, 2005). Participation itself is potentially a type of collective coping strategy (Kuo, 2013), which can further manage job insecurity during restructuring. More information about the change process is likely to be provided during the discussions and intervention activities, which can make the restructuring process more comprehensible (van den Heuvel, Demerouti, Bakker, & Schaufeli, 2013). The collective job crafting and empowerment aspects of an intervention may also foster a proactive stance towards restructuring. A proactive approach to restructuring appears to outbalance job insecurity during organisational change (Sverke et al., 2008).

Therefore, we found it reasonable to assume that conducting an intervention following the aforementioned theoretical framework during a period of restructuring could alleviate employees' experiences of job insecurity. In line with this, we pose the following main hypothesis of our study:

> Hypothesis 1(H1): Employees in the intervention group will experience lower levels of job insecurity compared to the comparison group post-intervention.

Process evaluation framework

The use of a highly participatory intervention design presents a challenge to evaluators in that the content of the intervention is not known in advance (Nielsen & Abildgaard, 2013). To comprehensively interpret the results regarding H1, the effect evaluation was supplemented with a process evaluation to examine the initiatives that were developed and the degree of implementation.

In order to assess whether changes in job insecurity could be related to the OLI, we drew on the process evaluation framework of Nielsen and Abildgaard (2013) and included two supplementary research questions in the study. This framework emphasises the importance of evaluating what action plans are developed and how the intervention participants believe that the action plans may affect the work environment. As the content of an intervention shapes what changes in outcomes are likely to result from its implementation, the analysis of the prioritisation of risk factors and action planning is a central first step in evaluation. The postulated causal links between prioritised problem areas, action plans, implemented solutions, and expected outcomes are in this study conceptualised as the programme theory of the intervention, defined by Pawson (2013, p. 88) as the "ideas on how and why interventions might work." We therefore investigated the following research question:

> Research Question 1: What was the programme theory of the intervention?

After examining how the participants developed the programme theory, we evaluated whether the proposed activities that were believed to influence working conditions had been implemented as planned. To draw inferences about the potential effects on employees' job insecurity, it is necessary to examine to what degree the intervention activities proposed in the programme theory were actually implemented. This examination serves as a manipulation check in that the successful implementation of the intervention activities could explain any improvements in job insecurity as posited in Hypothesis 1. The implementation phase of interventions has been argued to be a potentially weak link in

terms of the success of interventions in general (Nielsen, Randall, & Christensen, 2010), particularly when conducted during times of organisational change (Egan et al., 2007). This is also the reason why we strive to uncover both the perceptions regarding implementation and the degree to which the activities were implemented according to plan. In conducting the manipulation check and assessing the implementation of the intervention in the workplace, we therefore posed the following research question:

Research Question 2: To what extent was the intervention implemented?

Method

The present study used a mixed-methods approach that combined interviews, field observations, and questionnaire data to evaluate a participatory organisational-level intervention in the Danish Postal Service. As the postal sector has undergone substantial changes due to a rapidly declining amount of mail, the restructuring behind the present study was in the form of a specific episodic change event (layoffs due to decreasing amounts of mail) as well as general systemic change (Senge, Lichtenstein, Kaeufer, Bradbury, & Carroll, 2007). The postal service was moving towards employing substantially fewer mail carriers and being less reliant on mail delivery as a source of revenue, focusing instead on other services such as parcel delivery. Two geographically adjacent but organisationally independent postal service regions volunteered to participate in the project and were randomly assigned to either the intervention or the comparison group (i.e. a cluster randomised design). Both postal regions performed very similar tasks of sorting mail and conducting mail delivery in rural and urban areas, and were each organised in a number of teams working different routes. Human Resources, work environment initiatives, management development, recruitment practices, and organisational changes were comparable in the two regions. The two postal regions have a hierarchical organisational structure in which delivery is handled discretely within each region; hence, the risk of spill-over of intervention activities from the intervention to the comparison groups was negligible.

To avoid potential bias from negative perceptions of being allocated to a non-treatment condition, the comparison group was offered an adapted version of the intervention after the follow-up.

The intervention

The participatory design of the intervention is a clear methodological strength, as it enabled employees and managers to prioritise the problems that they perceived as most pressing (Nielsen et al., 2010). The intervention consisted of a series of phases. In the *initiation phase*, a steering group was established that included employee and manager representatives. In the *screening phase*, interviews and questionnaire data were collected (as described below), and a report of the results from a survey of working conditions tailored to the postal context was presented to the steering groups of both the intervention and the comparison groups (for validation of this measure and a detailed description, see Nielsen, Abildgaard, & Daniels, 2014). Both the intervention group and the comparison group continued with "treatment as usual" practices of psychosocial workplace risk assessment, including an annual standardised well-being survey with subsequent team-based discussions regarding the development of corrective actions.

For the intervention group the following series of activities took place. In the *prioritisation phase*, the employee representatives and line managers participated in a prioritisation workshop where they discussed the results of the survey and prioritised which areas to focus on based on the survey feedback. This was followed by the *action-planning phase,* where representatives from all work teams, a line manager, and a union representative in a workshop planned activities to address the issues identified during screening. All managers in the region also attended a workshop where they discussed how they could best support the intervention. In the following *implementation phase*, the managers and employees in the intervention group would implement or intended to implement the action plans. The steering group held regular meetings to monitor the progress. Finally, in the *evaluation phase*, the effects of the intervention were assessed.

The prioritisation and action-planning phases were conducted 6–9 months after the project was initiated, with the implementation phase occurring between 6 months and 11 months after project initiation. A detailed description of the intervention programme can be found in Nielsen et al. (2013).

Data sources

The mixed-methods evaluation methodology builds on principles of using several data sources to illuminate a problem (Bryman, 2006). As this study focused on identifying both processes and outcomes, a mixed-methods approach was chosen as an appropriate way to evaluate the intervention (cf. Nastasi et al., 2007). This method supports the examination of the programme theory in that the data selection for specific steps in the evaluation can be tailored to the needs of that part of the evaluation.

Observations and documents

At all of the project steering group meetings, a representative of the research team took notes. Nine meetings during the *screening*, *prioritisation*, *action-planning*, *implementation*, and *evaluation phases* were observed, ranging between around one hour and five hours in duration, in addition to two all-day workshops (a manager workshop and an action-planning workshop). The observation data were supplemented with meeting minutes and action plans.

Interviews

In the *evaluation phase*, interviews with managers and employees were carried out. These evaluation interviews used a semi-structured format (Brinkman & Kvale, 2015) with a series of questions regarding the project (interviewees' participation in activities, perceptions about action plans, etc.) as well as an inquiry about the contextual events relevant for the implementation of the intervention (restructuring, competing projects, layoffs, etc.).

The researchers randomly selected interviewees from alphabetical personnel lists provided by the organisation. If a person was to be absent for the duration of the interview period, the next person in alphabetical order on the list was chosen. All managers in the postal region were interviewed. To ensure that different perspectives were represented from the team, the interview process included group and individual interviews. Two persons from each of the smaller teams ($N < 25$) participated in the former, while three to four persons from each of the larger teams ($N > 25$) engaged in one of each type. In

total, 6 managers and 18 employees from the intervention group were interviewed. The duration of the interviews ranged between 29 minutes and 2 hours and 8 minutes; 68% lasted between 45 and 90 minutes.

Questionnaire

All employees in the participating regions were invited to complete the questionnaire study, and a meeting was arranged at the workplace in which employees received time to fill out the survey. For the baseline survey (T1), a questionnaire was sent to the 333 employees of the two postal regions in 2010 during the *screening phase*, with a response rate of 89% ($N = 295$). The follow-up survey (T2) was given one year later to 318 employees as part of the *evaluation phase,* with a response rate of 90%. Two hundred and thirty-eight employees responded at both time points.

Job insecurity

To measure the development of job insecurity, we used an adapted version of Hellgren et al.'s (1999) two-dimensional measure of job insecurity. This instrument distinguishes between qualitative job insecurity and quantitative job insecurity. The former is defined as insecurity derived from changes in the content and context of the job and was measured by four items, including "I feel that the postal service can provide me with stimulating job content in the near future" (reverse keyed). Quantitative job insecurity was defined as uncertainty related to potential job loss and was measured by three items such as "I feel uneasy about losing my job in the near future." All items used a Likert-type response scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha was satisfactory for both qualitative job insecurity (T1 = .77, T2 = .76) and quantitative job insecurity (T1 = .72, T2 = .75).

Process measures

To evaluate the intervention process, we used seven single items that were developed for the intervention and tailored to the specific context and intervention components. Three of these items focused on the perceptions of the intervention and used a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). These items are "We have had an influence on how the action plans have been used," "We have discussed the action plans at our team meetings" and "Do the action plans address the most important problems?." Four process items were included that focused on four specific action plans and used response categories of "yes/no." A sample item is "Has there been any progress made in implementing the re-planning of postal routes according to the action plan?." The process measures were investigated in the T2 survey.

Data analysis

Research questions 1 and 2 were addressed using a mixed-methods approach inspired by *directed content analysis* (Hsieh & Shannon, 2005; Krippendorff, 2004). To identify the programme theory, we analysed the qualitative data from the prioritisation process and the developed action plans for information about what the participants targeted and how they intended to achieve the changes (RQ1). To analyse the implementation, feedback from employees and managers was examined (RQ2). As the response rate for the

questionnaire was high, a descriptive quantitative analysis of the process items was conducted to provide a comprehensive picture of the degree of implementation. In addition, an *evaluation coding* strategy (Saldaña, 2015) was employed to provide more qualitative depth to the investigation of RQ2; this strategy was applied to the responses for several questions, including "Has action been taken on the action plans?" which was coded according to level of implementation (completely, partially or not at all), and according to level of effect (completely, partially or not at all). We then analysed the answers to the questions, "What changes has the project brought about?" and "Has it [the intervention] made a difference in your daily life?" and specifically coded for perceptions (positive, negative or neutral) of the developments taking place.

To test Hypothesis 1 (the effect of the intervention on job insecurity) and test if a significant effect of study group and/or time was present, we conducted a repeated measures analysis of variance (ANOVA) using SPSS version 20 to explore the changes from T1 to T2 in the two dimensions of job insecurity. In this analysis, the interaction between time and study group indicates whether the two groups developed differently over time.

In summary, the analytic strategies utilised in this study were selected to suit the different types of data gathered, with some parts of the analysis being largely based on the qualitative data (RQ1), others relying on quantitative data (H1), and some drawing from both types of data (RQ2). The results are presented chronologically in terms of the participants' experiences, starting with RQ1 and RQ2 and followed by Hypothesis 1.

Results

Research question 1: What was the programme theory of the intervention?

The programme theory developed by employees and managers, focusing particularly on how the intervention activities were expected to relate to restructuring and job insecurity, is presented in Figure 1. This was derived from the activities as follows: At the prioritisation workshop, the researchers presented the results of the initial screening of the work environment. Although the participants at the workshop reported that the rate of change at the workplace was already posing problems for employees, the reported mean levels of job insecurity (2.80 in the intervention group) were perceived as high and surprised employees and managers, as previous measurements of job insecurity among postal workers had not shown substantial differences compared to the general working population (Burr, 2006). At the prioritisation workshop, the participants were split into two groups, one for employees and one for managers. Each group prioritised themes to address in action plans. Both groups independently identified restructuring as the main issue.

Managers and employees in the steering group decided to prioritise to work on restructuring, as this was seen as the main cause of the elevated job insecurity and an increased cause for concern.

During the action-planning workshop, the participants arrived at the understanding that the underlying reasons that employees were experiencing increased job insecurity due to restructuring included the more frequently occurring re-planning of work (due to a reduction in the number of routes to cover the same geographical area), a lack of information about the organisational changes, in general, and the fact that the team managers had been inconsistently distributing information about the change process – all of which
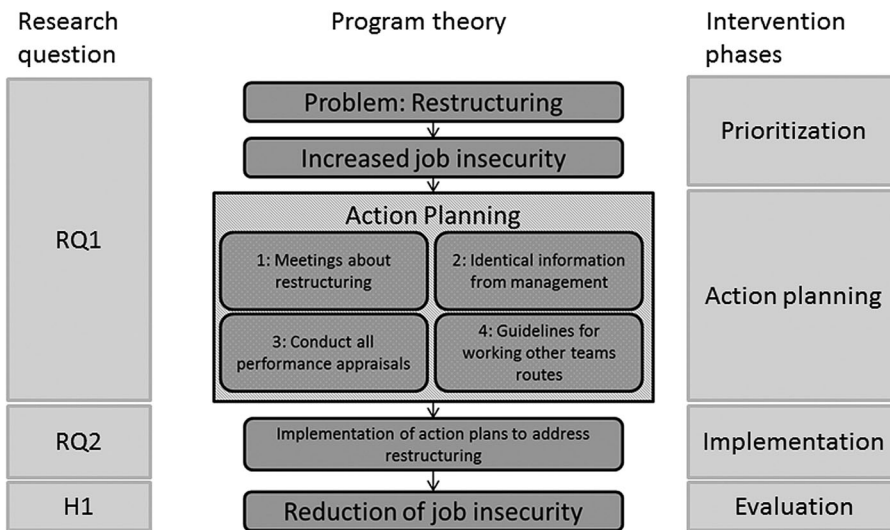
Figure 1. Programme theory.

created a general uncertainty about the future among staff. The basis of the participants' programme theory was thus that restructuring was perceived as a central problem that caused an increase in job insecurity and also that specific aspects of the restructuring (such as re-planning), which were deemed to be causes of this increase, were to be addressed by the intervention activities.

The workshop participants were divided into smaller groups that each focused on addressing one aspect of restructuring by developing action plans for the related perceived causes of job insecurity. The first of these plans aimed to address the problem of the increasingly prevalent re-planning of routes and resulted in a series of meetings where the implementation of re-planning and its consequences were discussed. Subsequently, adjustments in manpower and other compensatory measures could be negotiated. The second plan addressed the managerial aspect of uneven information flow from the different managers. It was passed on to be discussed by the management group, which subsequently developed a charter for implementing change procedures. This charter focused on establishing a clear flow of information about upcoming changes from every manager to their employees. A third action plan suggested that all employees should be subject to performance appraisals, which included discussions of the role of the future postal worker. A fourth plan consisted of formulating a guideline on the procedure for temporarily transferring employees to a work route operated by another team, a type of re-assignment that occurred more frequently as route layout changes in general were occurring at an increasing rate. These four action plans targeted different areas related to restructuring, but all had the core goals of reducing uncertainty, increasing and improving the information flow, and preparing the employees for the future. In terms of the programme theory of the participants, these four action plans were, if implemented, believed to be able to reduce the negative effects of restructuring on job insecurity.

All of the written action plans clearly corroborated the assessment of "uncertainty" (action plan excerpt) as the main problem. The goal for the overall intervention was

specified to be "to reduce job insecurity and uncertainty [and] reduce insecurity regarding daily mail delivery" (action plan excerpt). The statements in the action plans suggested that the participants had a clear programme theory; insecurity caused by changes and disturbances in mail delivery and restructuring was the main problem to be addressed. The next point in their programme theory was that specific aspects of restructuring were problematic. The implementation of measures targeting these issues was then expected to result in a decrease in job insecurity. Although employees and managers did not make a distinction between different types of insecurity, it was apparent from the content of the action plans that they were not targeting potential job loss (i.e. quantitative job insecurity). Instead the action plans specifically targeted qualitative insecurity related to daily operations as well as to present and future tasks. We therefore assumed that the intervention would influence only this specific type of job insecurity if action plans were implemented according to plan.

Research question 2: To what extent was the intervention implemented?

In order to establish the degree to which the programme theory developed by employees and managers was implemented, we first assessed the degree to which the planned activities addressed the problem areas. The results of the follow-up survey revealed that the participants, to a high degree, perceived that the action plans were relevant. When presented with the survey item, "The action plans address the most important problems," 47% responded that they partially agreed, and another 40% either agreed or totally agreed with the statement.

Although the majority (87%) of respondents perceived that the action plans targeted relevant areas, the responses to the questionnaire items about other processes showed that the opinions about the implementation of the plans were not as positive. When asked, if there had been any progress made in implementing each action plan, the proportions responding "Yes" differed depending on the area: 46% for the plan on increased information about re-planning, 38% for the plan to conduct competence appraisals, 22% for the plan regarding standards for lending out employees to other teams, and 18% for the plan regarding uniform information from managers. Although these results indicate that the implementation of the intervention partly failed, the overall picture was more positive when viewed in context. The action plan concerning working the routes of another team, for example, was not perceived as equally relevant to all employees, as revealed through the group interview with one team, whose members clearly stated that their team was not one in need of that plan:

> [Working other teams' routes] is not a big deal; it seldom happens. And [the employees of the other team] are eager to help when it does. I think we already take good care of the employees from other teams who fill in to work our routes as well. (Group interview)

Furthermore, the action plan on consistent information from management was implemented by the line managers without collaborating with employees, which may explain the low percentage of employees reporting progress was being made on this plan. Those who saw indirect improvements assumed that these improvements were due to the action plan. When asked about whether it had led to changes, one employee explained:

I don't know. I'm not present at the other teams' meetings. But two weeks ago, we were all told at the same time and on the same day at the morning meeting that a manager was leaving us. We could sense that it was because they wanted to avoid rumours. So they have learned something [from the intervention], and I think that's good. (Employee interview)

Though re-planning was perceived as important, several contextual events, especially changes in managers, made the implementation of the related action plans difficult. For example, when asked about the action plan regarding re-planning, a team that was currently in the middle of a re-planning of routes described their present re-planning process as more negative than previous ones due to a change in team leaders:

We are in the middle of a route re-planning at the moment and have not used [the action plan]. We are changing team leaders, and our departing leader said that it is our new leader who calls the shots [regarding the re-planning]. It's a step backwards. This re-planning is more problematic for many on the team because we haven't been informed properly how far we have come and so on. (Employee interview)

Therefore, in spite of specific setbacks and implementation shortcomings, the action plans were viewed as positive and were thought to have led to improvements in the cases where they had been implemented. Similarly, the impact of the action plans and the opportunity to work with them were often seen as temporary, and the impact of the intervention was viewed as a manifestation of a general cultural change towards better planning and consideration of colleagues' feelings, such as when temporarily transferring to another team:

It just used to be dismissed [if you complained about it], but now it's like you pay more attention to one another. You give it a try, taking on a section of another's route and see if it works out. (Employee interview)

When asked about the effects of the intervention, another employee replied:

I can't give you any specific examples, but it's my impression that the appraisals are being held in a new and better way. And our route planners are much more on top of things than they used to be. Whether it is due to the project, I'm not sure, but it's what I feel has changed. (Employee interview)

The interviewees generally expressed a perception that the workplace was functioning more smoothly due to participating in the intervention, and that employees and managers were getting along better. For instance, the managers felt better equipped to address changes and were more personally supportive of the work environment strategy of their postal region:

I definitely use [the action plans] to keep track and see if what I'm doing is in line with [them]. (Manager interview)

This perspective was mirrored by the statements of several employees who emphasised that their managers had facilitated more dialogue about changes and were present more often in the sorting room:

I feel that our team leader is more "hands on" all the time now; I'm not sure if it's due to the project or just something he feels he needs to do because we have a lot more to do these days. But in any case, it's good. (Employee interview)

These general perceptions of improvement suggest that even though more employees could have been involved in implementing the specific action plans, a reasonable

number did perceive some degree of activity taking place concerning the implementation of the action plans, and that changes related to the intervention activities were taking place to some degree.

A similar moderately positive tendency was found in relation to the process questionnaire items "We have discussed the action plans at our team meetings" and "We have had an influence on how the action plans have been used;" for both statements, 69% of the participants agreed to some degree. Although those in disagreement (30–31%) were a substantial minority, the clear majority felt that they were able to give their input and be included in shaping these matters.

In the interviews, when asked about overall changes in the work environment due to the intervention, 15 of the interviewees (63%) reported that it had led to substantial improvements in the work environment. Though the results of the implementation of the intervention suggest a suboptimal degree of implementation, half of the employees (based on the quantitative data) or more (based on the qualitative data) perceived that the activities had been adequately implemented.

These qualitative and quantitative results indicate that the intervention and the action plans were at least partially implemented. The intervention may thus have contributed to reducing the levels of job insecurity in the intervention group relative to the comparison group.

Hypothesis 1: Employees in the intervention group will experience lower levels of job insecurity compared to the comparison group post-intervention

In the next sequence of the analyses, we therefore studied the effect of the intervention on qualitative and quantitative job insecurity to examine if the intervention had achieved the goals set in the programme theory: to reduce job insecurity among employees in the intervention group. Given the focus of the activities on areas such as information sharing, competence appraisal, and route re-planning, reducing qualitative rather than quantitative job insecurity had been prioritised – as these aspects relate to threats to job content rather than the risk of job loss. We would therefore on the basis of the results of RQ1 and RQ2 assume that the intervention would affect only the qualitative dimension. Descriptive statistics for the job insecurity dimensions are presented in Table 1. The aggregate mean levels were somewhat higher for qualitative job insecurity than for quantitative job insecurity. The means were somewhat higher at T2 than at T1, and stability over time was also higher for quantitative insecurity (.51) than it was for the qualitative dimension (.42).

The results of the repeated measures ANOVA conducted to formally test the effect of the intervention on the two dimensions of job insecurity showed that there was a significant effect of time, $F(1,236) = 22.10$, $p < .001$, in the qualitative job insecurity model but

Table 1. Means (standard deviations) and correlations for job insecurity both before and after the intervention.

	Mean (SD)	1	2	3	4
1. Qualitative job insecurity T1	2.67 (0.96)				
2. Quantitative job insecurity T1	3.02 (0.75)	.17[a]			
3. Qualitative job insecurity T2	3.00 (1.03)	.42[a]	.02		
4. Quantitative job insecurity T2	3.18 (0.79)	.10	.51[a]	.15[a]	

[a]The correlation was significant at the .01 level (2-tailed).

not in the quantitative job insecurity model, $F(1,238) = 3.590$, *ns*, thus indicating that the overall mean level of qualitative job insecurity increased significantly from baseline to follow-up with a partial eta^2 effect size of .086. There was no significant group effect. The interaction between intervention status and time was non-significant for quantitative job insecurity, $F(1,238) = 1.408$, *ns*. It was, however, significant for qualitative job insecurity, $F(1,236) = 5.21$, $p < .05$, with a partial eta^2 effect size of .022. Employees in the intervention group experienced a significantly smaller increase (T1 = 2.80, T2 = 2.89) in qualitative job insecurity compared to the comparison group (T1 = 2.60, T2 = 3.06). Hypothesis 1 was therefore partially supported: employees in the intervention group experienced a smaller increase in job insecurity compared to the comparison group, but only for the specific type of insecurity that was directly linked to the implemented action plans (i.e. qualitative insecurity).

Discussion

In the present study, we evaluated the process and effects of a participatory organisational-level intervention, investigating how it addressed the increasing levels of job insecurity connected with restructuring in the Danish Postal Service. The results show that job insecurity and restructuring were perceived as substantial problems and that these issues, according to the programme theory developed by managers and employees, were to be addressed through action plans, such as more consistent information sharing and personal development feedback during restructuring (RQ1). Our qualitative and quantitative data demonstrate that the planned activities were implemented to a reasonable extent and also were in line with the programme theory developed by employees and managers (RQ2). Finally, the quantitative analyses reveal that the intervention group had a significantly smaller increase in qualitative job insecurity compared to the comparison group (Hypothesis 1), while there was no difference in quantitative job insecurity, thus providing partial support for the intervention successfully achieving its goals. As interventions addressing job insecurity and restructuring are novel phenomena in intervention research (cf. De Witte et al., 2016), it is important to examine our findings in relation to the literature on organisational interventions in general and in regard to the specific issue of restructuring as a psychological risk factor.

The present case is especially relevant, as studies have found that interventions can be difficult to conduct during times of organisational change (Egan et al., 2007; Olsen et al., 2008) and that they have largely shown no effect (Aust, Rugulies, Finken, & Jensen, 2010; Biron, Gatrell, & Cooper, 2010). With the restructuring of the Danish Postal Service, it was expected that some teams would be too preoccupied with layoffs and changes in mail delivery to have in-depth discussions about the intervention.

Implications for theory, practice, and research

Our results suggest that the psychological consequences of restructuring can be productively addressed to some extent, but an actual reduction in job insecurity may sometimes be too ambitious a goal; instead, a lesser or slower increase in job insecurity in the intervention group may be a more realistic goal for an intervention. Although the effect of time for the entire sample was substantially larger than the intervention effect (time × group),

the time effect mainly reflected the (larger) increase in qualitative job insecurity in the comparison group, as compared to the intervention group. As the changes in the postal service are substantial and protracted in nature, the realistic goal of interventions and similar work psychology initiatives for situations involving prolonged restructuring may be to stabilise job insecurity as opposed to reducing it.

Egan et al. (2007) suggested that intervention studies targeting restructuring and downsizing should apply a longitudinal design and include a comparison group, as was done in the present study. Their justification for strongly advocating the use of comparison groups in intervention research during restructuring is that the intervention might succeed in stabilising job insecurity (Schweiger & Denisi, 1991), even if it does not reduce this insecurity. To be able to detect stabilisation, which indeed represents a positive development, there is a need to contrast this development with a comparison group to determine whether the absence of intervention would have resulted in higher levels of job insecurity. A similar buffering effect or increase in negative outcomes in the comparison group and a stabilisation in the reference group were also found by Nielsen et al. (2010) and Tsutsumi, Nagami, Yoshikawa, Kogi, and Kawakami (2009). Our results suggest that comparison groups are needed to explore whether an intervention has succeeded in stabilising negative trends in job insecurity, especially given that every event of restructuring is contextually unique and that interventions will act differently in different contexts (cf. Pawson & Tilley, 1997).

Both the Schweiger and Denisi (1991) and our study also suggest that practitioners and researchers need to develop novel tools for investigating how job insecurity is not only to be stabilised but also actually reduced, shedding light, for example, on how to avoid a gradual increase in job insecurity over consecutive episodes of restructuring. This is especially critical today, as change and restructuring are becoming a more prevalent aspect of modern working life (Rosa, 2013).

In investigating how an intervention may counteract increases in job insecurity during organisational restructuring, the present study also provides further evidence of the independence of the quantitative and qualitative dimensions of job insecurity. As the action plans focused on changes in tasks and the organisation of work, as opposed to layoffs, it was expected, and confirmed, that the quantitative dimension of job insecurity was less likely to be affected. This finding supports the hypothesis that quantitative and qualitative job insecurity are separate constructs (cf. De Witte et al., 2010; Hellgren et al., 1999; Sverke et al., 2002; Vander Elst et al., 2014).

It may seem paradoxical that we advocate introducing new health and well-being practices at a time when many employees raised concerns about the amount of changes.

This is because the problems caused by restructuring are not necessarily directly due to the actual amount of change but rather how they were managed. The reduction of qualitative job insecurity may have been caused by the intervention helping employees to view changes as manageable. The results from the present study indicate that introducing activities to reduce the negative effects of restructuring – in spite of the increased workload that follows from additional meetings, work groups, surveys, and action planning – has the potential to help manage job insecurity in times of restructuring.

Utilising an intervention can also equip employees with tools for managing the stress brought on by a restructuring, a lack of which would be problematic when facing such a stressor (cf. Lazarus & Folkman, 1984). In addition, the uncertainty about the future

might grow and produce rumours if little or no effort is made to address the psychosocial consequences of the organisational change. From this perspective, the intervention can be seen as a collective coping strategy which may have led employees to see the organisational changes in a more positive light (cf. Sverke et al., 2008). The experiences of the re-planning were thus likely not only affected by the action plan but also influenced by a change in the employees' attitudes towards re-planning and restructuring.

It is unclear how much of the effect on job insecurity was caused by the implementation of the action plans and how much was due to the fact that the employees felt they were acting collectively to address a threat to their psychological well-being. The enactment and perception (Daniels, 2006) of restructuring as a psychosocial risk factor thus changes as employees spend time and effort collectively addressing restructuring. These theoretical explanations suggest the overall implication that the intervention is generalisable on a general approach level, in the sense that the psychological mechanisms suggested to explain its effects (coping, facilitating information flow, and targeting perceived problems) are generic and will likely also be present in other settings. Furthermore, the study also serves as a methodological example of how to evaluate participatory intervention programmes, from the initial assessment of their programme theory to the implementation and outcome evaluation.

This study clearly suggests that restructuring should be the focus of interventions, and that it is possible to conduct interventions that successfully target restructuring. As restructuring is not necessarily classified as a central psychosocial risk factor in many standardised screening methods (notable exceptions include the United Kingdom Health and Safety Executive Management Standards; Mackay & Palferman, 2013), it is possible that problems related to restructuring may be overlooked in daily employee health and well-being activities. The comparison group in the present study completed a "treatment as usual" psychosocial risk assessment consisting of an annual well-being survey along with subsequent action planning. The results from our study show that such efforts were largely fruitless in relation to restructuring, as the mean level of our measure of qualitative job insecurity increased from 2.6 to 3.06 in the comparison group, partially due to a lack of awareness of the severity and extent of job insecurity. This suggests that a dedicated effort to manage the psychosocial work environment during restructuring is crucial to avoid increasing job insecurity.

The study also contributes to the literature on job insecurity by addressing a known knowledge gap resulting from the lack of studies focusing on planned efforts to limit and reduce job insecurity (De Witte et al., 2015, 2016). Though this study by no means presents an end-all solution for managing job insecurity, it shows promising results and identifies mechanisms for effecting positive change. Further related studies are called for to discover and develop other ways of reducing job insecurity among the at-risk working population.

Strengths and limitations

A clear strength of this study is the mixed-methods use of questionnaires, interviews, documents, and observations to evaluate the programme theory, implementation, and effects of the intervention. Another strength of this study is that the goals and content of the intervention were defined by employees and managers in the intervention group.

This emphasis on participation as well as the cluster randomised design can be seen as a methodological improvement over the previous Schweiger and Denisi (1991) study, which used a quasi-experimental, top-down design.

A limitation is that the study was based on one organisation, a national postal service. Although the results are as generalisable as most specific interventions, the postal service is a specific context. The principles behind the intervention as well as its main components are transferable to other contexts, while the specific action plans that the employees developed to address their contextually specific problems may not be. The general approach, based on survey feedback, assessment of the most salient factors to address, and participation in developing the action plans, in this regard still represent an overall practice usable in other contexts (cf. Nielsen et al., 2013; Nielsen, Randall, Holten, & Rial-González, 2010).

Other organisations attempting to adopt this strategy of managing problems related to restructuring would therefore need to conduct their own process to develop specific solutions to their challenges, as is also the case for other context-specific interventions, such as participatory job design initiatives (Holman & Axtell, 2015).

A final limitation is that the results pertaining to Hypothesis 1 were based on self-reported data. While this method entails a number of problems due to common method variance (Podsakoff & Organ, 1986), self-report data is necessary in a study of psychological phenomena, such as job insecurity. Further, the two time points at which the self-report questionnaires were used in this study were a year apart, which minimised common method variance due to separation of measurement time points (cf. Podsakoff & Organ, 1986).

Conclusion

The implications of the results in this study are threefold. First, for intervention research, the current study paves the way for further studies of organisational interventions addressing restructuring. The empirical demonstration that intervention programmes can successfully limit job insecurity during restructuring has revealed a new avenue for combating a substantial threat to employee health and well-being. Second, we specifically demonstrated that it is possible for organisations, in which high levels of job insecurity are present in the workforce during restructuring, to develop a detailed programme theory, create action plans, and achieve substantial and significant results. Our supportive findings on the feasibility of a participatory organisation-level intervention approach for dealing with very challenging and complex issues, such as restructuring, are valuable, as they, in particular, suggest that it is possible to address organisational restructuring as a psychosocial risk factor. Third, the study adds to the job insecurity literature by demonstrating that an organisational intervention can reduce the increase of job insecurity. We hope the present study paves the way for further efforts to reduce job insecurity and manage the psychosocial work environmental effects of restructuring.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

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