
Editorial: New ideas and insights into designing and understanding effective and sustainable interventions

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1 Background and selection of papers

To improve employee well-being and health, numerous intervention studies in organisations have been conducted. This kind of intervention views organisations as ‘(co-)generators’ of stress-related health risks (Cox et al., 2007) and, correspondingly, target risk factors (and resources) at the work, group and company levels. However, studies show that these interventions are often ineffective and have the tendency not to reach the intended goals, whereby the evidence is rather inconclusive (Nielsen et al., 2010; Semmer, 2006). The primary aim of this special issue is to bring together some of the latest research surrounding organisational level interventions; to understand how intervention design promotes successful implementation, effectiveness and sustainability, considering the heterogeneous and dynamic contexts of socio-technical systems. Authors were invited to submit papers with theoretical, empirical and practical discussions based on their contributions to the 11th International Symposium on Human Factors in Organisational Design and Management (ODAM), 46th Annual Nordic Ergonomics Society (NES) Conference in Copenhagen, Denmark in August of 2014. The five papers selected provide the reader with new ideas and insights into designing and understanding effective and sustainable interventions.

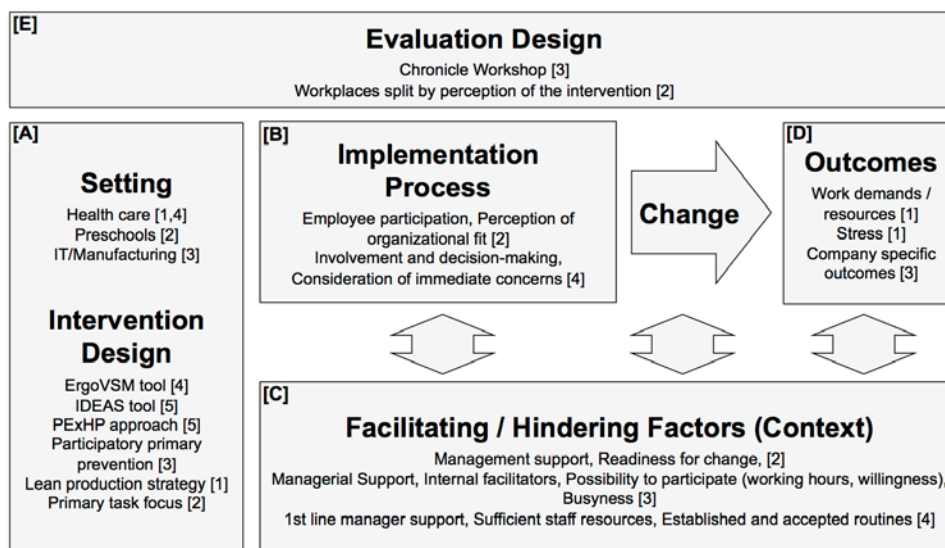
2 Summary of the papers: integration of principles and alignment of stakeholders

The ideas and insights presented in this special issue are combined into one conceptual schema depicting the logic of organisational intervention and evaluation research. The following schema relates to the context, process and outcome (CPO) evaluation model for organisational health interventions (Fridrich et al., 2015). The causal narrative underlying this schema can be summarised as follows (see Figure 1): An intervention plan (*design*) gets implemented (*process*) in a more or less favourable environment (*context*), which will trigger dynamic interactions in the targeted system (*change*), leading to intended or unintended effects (*outcomes*). Here, the process and context are strongly interwoven; that is, the implementation will shape the context, which will influence the implementation, and so forth. Each paper contributes a piece of knowledge to this overall puzzle of change in organisational intervention research.

- a *Setting and intervention design*: Three papers contain intervention designs that were iteratively tested over several years (Poulsen et al., Robertson et al. and Winkel et al.). The designs are considered to be theoretically well-grounded and thoroughly tested in practice, which advocates their dissemination. These designs and practical tools implicitly or explicitly incorporate processes and contextual factors that have been identified as being critical for intervention success (see also below). The intervention design and analysis scorecard (IDEAS) tool (Robertson et al.), for example, has a strong focus on *participatory procedures* and the *appointment of facilitators*, which also applies to the participatory primary prevention design presented by Poulsen et al. Some of the interventions were designed specifically for a certain setting (health care), while others are generally applicable. An overarching and very notable theme emerging from contemplating these designs includes the *integration of approaches* and the *alignment of stakeholders*. With regard to

integration, both the ergonomic value stream mapping (ErgoVSM) tool (Winkel et al.) and the IDEAS tool aim to integrate principles from different fields. The ErgoVSM tool combines the lean principles with the optimisation of the work environment in general, and the IDEAS tool strongly advocates the integration of participatory ergonomics and health promotion (PExHP). With regard to alignment, the need for synchronising employees in so-called design teams with decision-makers in steering committees is a vital and formalised part of the process sequence designed in the IDEAS tool. This encourages the building of an internal business case or, to explain it more generally, a shared mental model of the goals, objectives and procedures to be followed and achieved. This potential area of tension between the stakeholders and their competing strategies, interests and influential power is also an undercurrent in the other papers, for example, in the paper by Dellve et al., who study the effects of the strategic and operative lean approaches.

Figure 1 Summary of the special issue’s papers based on a simplified version of the CPO evaluation model for organisational health interventions



Notes: 1 – Dellve et al.; 2 – Framke and Sørensen; 3 – Poulsen et al.; 4 – Winkel et al.; 5 – Robertson et al.

Source: Fridrich et al. (2015)

- b *Implementation process and change*: The implementation process itself has been the subject of much research over the past years with regard to participation rates, exposure to interventions, fidelity of implementation, process appraisal, program satisfaction, etc... (Hasson et al., 2014a; Fridrich et al., 2015). In the present contributions, the success or failure of the intervention’s implementation has served, on the one hand, as a means of categorisation, to identify the accountable success factors within the intervention’s context (see c below). On the other hand, two issues in the implementation process were consistently shown to be relevant: *being involved* in the process and *perceiving the fit* of the intervention to the organisation (and to each of the participants). Further, the authors of the papers argue that the design of

their interventions, as described above, can increase these success factors through the planned alignment and involvement of the stakeholders; the building of a common mind map and business case, respectively; the selection of negotiated and mutually accepted goals; the focusing on primary tasks; and the integration of the principles from different perspectives and approaches to optimising work and health. All in all, such successful implementation will trigger change processes in the targeted organisation that are invisible to the researchers, that is, psychosocial mechanisms such as (social) learning and identity building processes, interpersonal influencing, emotional contagions, among others (Biron and Karanika-Murray, 2014).

- c *Facilitating/hindering factors (context)*: The present studies identified contextual factors that facilitate or hinder the implementation process, which strongly overlap and can be summarised as follows: managers *willing to support* the project, *facilitators* driving and mediating the project, employees *ready for change*, *sufficient resources* (staff, time), opportunities to participate, and *established routines* will support and sustain the implementation. These factors have emerged in other studies as well, as crucial contextual barriers or promoters (cf. Hasson et al., 2014b; Biron et al., 2010; Biron and Karanika-Murray, 2014). Thus, in the first place, these factors need to be considered when designing interventions; secondly, they need to be built up at the beginning, during and towards the end of the implementation process (Biron and Karanika-Murray, 2014; Fridrich et al., 2015). The intervention needs to build a context for itself, within which its implementation will flow without barriers, receive favourable appraisals and flourish beyond the project's limited time frame (Bauer and Jenny, 2013). The IDEAS tool (Robertson et al.), for example, offers a spreadsheet to reflect on intervention activities with regard to needed resources and anticipated obstacles, and to what extent they need to be considered.
- d *Outcomes*: The analysis of the effects and effectiveness in the presented studies taps into an interesting line of thought: To what extent should measures for analysis and outcome evaluation be tailored to the specific target system? For example, Poulsen et al. elaborate specific changes in a participatory way, together with representatives of the companies. Similarly, the IDEAS tool (Robertson et al.) specifies objectives and goals that can potentially be operationalised and measured to evaluate the project's success. On the other hand, Dellve et al. rely on the Copenhagen Psychosocial Questionnaire (COPSOQ) with its established and broadly relevant indicators of job resources, demands and stress outcomes, serving as general markers of a healthy working environment and successful intervention in this regard. Mostly, intervention and evaluation research explores context-specific changes with qualitative methods, and general changes in established outcomes (such as job demands and resources) with quantitative methods. However, there are studies challenging this approach, of the general markers or anchor-points of stressful working situations, and testing tailored questionnaires (Nielsen et al., 2014). Tailoring, in general, enhances the perception of fit and raises readiness for change, but can also have downsides in terms of effort, benchmarking opportunities and the establishment of an idiosyncratic self-observation system potentially blind to newly emerging work and health issues.
- e *Evaluation design*: Finally, this special issue's papers also comprise evaluation designs for assessing the process, context and outcome of interventions in

organisations. For example, the chronicle workshop (Poulsen et al.) is a narrative approach to exploring and pinpointing the most salient changes over an intervention period. It also helps identify the relevant contextual factors, and can contribute to routinising self-monitoring in organisations (becoming so-called ‘learning organisations’). Framke and Sørensen use a retrospective approach to explore the implementation and context of their project, splitting workplaces by their perception of the intervention as successful or unsuccessful.

3 Conclusions

In summary, based on the CPO evaluation model (Fridrich et al., 2015), we can consolidate important factors from a range of studies that need to be considered when designing and implementing organisational level interventions. Using a classification scheme and an underlying narrative of change facilitates the aggregation of study results, reporting to researchers and stakeholders in the field, as well as the prioritisation of indicators to be included in future intervention and evaluation research.

4 Future research

Future research could build on these qualitatively elaborated processes and contextual factors, and quantify them systematically for cluster randomised controlled trials (RCTs). Since the presented intervention designs focus on smaller groups or teams, multi-centre studies could be conducted with a large number of smaller units of change (without involving an entire company). These could be comparatively rated at the beginning, during and at the end of the intervention, with regard to these factors. The factors showed to be most influential in terms of implementation success and outcome evaluation, overall or only in specific settings, can then be further addressed by intervention designers. Special attention should be granted to the beginning and the end of the implementation process (cf. Biron and Karanika-Murray, 2014; Fridrich et al., 2015). Here, the context is first prepared for the subsequent time and energy consuming intervention actions (workshops, etc.), and the triggered dynamics need to be appropriated and anchored in the organisation (and its members). More research is needed not only on the structural anchors for sustainable interventions, but also on the cultural anchors in terms of shared mental models, mutual beliefs and a common language (cf. Ipsen et al., 2015). The psychosocial mechanisms of the change process will have to be considered, as described above (Biron and Karanika-Murray, 2014), for which adequate research methods need to be translated from fields of research that are adept at observing and analysing daily interpersonal interactions.

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International Symposium on Human Factors in Organisational Design and Management (ODAM), 46th Annual Nordic Ergonomics Society (NES) Conference in Copenhagen, Denmark in August of 2014. The conference focused on the rapidly changing world economy, globalisation of production systems and growth of service and knowledge work. The human factors and ergonomics profession is being challenged by new work situations presenting new issues to be dealt with in practice and in research. One issue which was discussed was organisational level interventions aiming at improving workplaces and situations, forming the foundation of this special issue. Therefore, we would also like to thank the authors for their contributions to this field.

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