ORGANIZATIONAL INTERVENTIONS FOR HEALTH AND WELL-BEING

A Handbook for Evidence-Based Practice

Edited by **Karina Nielsen** and **Andrew Noblet**

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This important new collection provides not only a comprehensive overview of how organizational interventions can improve health and well-being in the workplace – addressing its causes rather than the symptoms – but also the practical issues faced in their design, implementation and evaluation.

Drawing on a range of case studies and empirical investigations, it is the first book to seriously examine each element of the intervention process, and to recognize the individual, group, leader and organizational factors that researchers should consider. The authors describe the various challenges to such collaborative processes, as well as the specific methods and tools that can be used in response. Each chapter offers practical, evidence-based guidance.

Featuring a final section examining new directions and approaches in organizational intervention research, the book features contributions from some of the leading international researchers in the field. It will be essential reading for any researcher or practitioner interested in the practical issues involved in improving the organization, design and management of the contemporary workplace.

Karina Nielsen holds the Chair of Work Psychology and is the Director of the Institute of Work Psychology at the University of Sheffield, UK. Her main research interests lie within designing, implementing and evaluating organizational interventions.

Andrew Noblet is a Professor in Organisational Behaviour at Deakin Business School, Deakin University, Australia, and Co-Director of the Centre for Organisational Health and Consumer Wellbeing. Much of his recent work has focused on planning, implementing and evaluating strategies aimed at enhancing the health of workers and the environments in which they work.

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DEDICATION

I would like to thank all the people in the field of organizational interventions I have worked with over the years, you are a true inspiration and it is always a joy to meet up and discuss the complexities of designing, implementing and evaluating interventions. I would in particular like to thank the research assistants, PhD students, consultants and data managers I worked with at the National Research Centre for the Working Environment in Copenhagen. Interventions are the result of many people's work and without the valuable support of colleagues liaising with organizations, keeping track of the massive amounts of data that need to be linked over time and across teams, and running workshops and managing change processes in the participating organizations, I would have been lost. Intervention research in organizations is truly a team effort. Finally, I would like to thank three people whom I worked with during my early years as a PhD student at the University of Nottingham: Dr Ray Randall, Dr Joanna Yarker and Dr Eusebio Rial-Gonzalez. During these early years of my career, these individuals provided invaluable support. Eusebio (Seb) sadly passed away in 2014 and I would like to dedicate this book to him. He was a constant support throughout my career and a great friend. We enjoyed many a good time together, often over a meal.

Karina Nielsen

To my late parents (Gordon and Win), my loving family (Belinda, Isabella, Dominique and Alex) and the many nurses, police officers, social workers and other front-line workers who have supported my work.

Andrew Noblet

CONTENTS

FIGURES

TABLES

NOTES ON CONTRIBUTORS

Johan Simonsen Abildgaard, PhD, is an organizational psychologist and researcher at the National Research Centre for the Working Environment in Denmark. He has been involved with the evaluation of several large-scale work environment intervention projects and his focus lies between post-structuralist organization theory and more traditional occupational health–oriented work environment studies within psychology. His topics of research include how working conditions are conceptualized and measured; organizational change as a challenge and planned effort; and mixed-method evaluation of organizational-level work environment interventions.

Carolyn Axtell, PhD, is a senior lecturer in Work Psychology at the Institute of Work Psychology in Sheffield University Management School, UK. Her research focuses primarily on new ways of working and the factors that enhance the effectiveness of these practices and which promote employee wellbeing. She has published her work in a range of academic journals (including *Journal of Occupational Health Psychology, Work & Stress*, *New Technology, Work & Employment*) and has presented at several different academic and practitioner conferences. She is on the advisory boards of the *Journal of Occupational and Organizational Psychology* and the *Journal of Business and Psychology*.

Georg F. Bauer, MD DrPH, is Professor and head of the Division Public and Organizational Health and of the Center of Salutogenesis of the Institute of Epidemiology, Biostatistics and Prevention, University of Zurich, Switzerland. Following his medical training, he received a Master and Doctor of Public Health at the School of Public Health, Berkeley, and an advanced doctorate at the Swiss Federal Institute of Technology. His research focuses on positive, salutogenic health development at work and in organizations.

Maureen F. Dollard is Professor of Work and Organizational Psychology and Director of the Asia Pacific Centre for Work Health and Safety, a World Health Organization Collaborating Centre in Occupational Health, University of South Australia, and Honorary Professor at Nottingham University. Maureen is on the Editorial Board for *Work and Stress*, *Journal of Organizational Behavior*, and the *European Journal of Work & Organizational Psychology*. She is Co-chair of the ICOH Scientific Committee and President-Elect of the Asia Pacific Academy for Psychosocial Factors at Work, and Fellow of the European Academy of Occupational Health Psychology. Her main research is on psychosocial safety climate and she established the national surveillance project, the Australian Workplace Barometer.

Alicia G. Dugan, PhD, is an industrial–organizational psychologist and Assistant Professor at the University of Connecticut's School of Medicine, in the Division of Occupational and Environmental Medicine at UCONN Health. Dr Dugan's research focuses on employee stress and the work–life interface, and the contextual factors that affect these experiences (i.e., social support, resource availability). She uses participatory action research to develop interventions that improve worker well-being, and conducts dissemination and implementation research to understand factors that determine the successful communication, uptake and widespread use of evidence-based health interventions in real world settings.

Liv Gish, PhD, is a part-time lecturer at both Aalborg University and the Technical University of Denmark. She also works as an independent writing coach. Liv's research interests are innovation management, employee participation and product development. Her research has been published internationally.

Henna Hasson, PhD, is Associate Professor and a co-leader of the Procome research group at the Medical Management Centre, Karolinska Institutet. She is also director of the Implementation and Evaluation Unit at the Center for Epidemiology and Community Medicine, Stockholm County Council. Her research focuses on the implementation, context and outcomes of interventions. She runs several international projects comparing the impact of process and context factors across interventions and countries.

Robert A. Henning, PhD, is an associate professor of Industrial/Organizational Psychology at the University of Connecticut, USA, and a board Certified Professional Ergonomist (CPE). His academic training is in psychology (BS), biomedical engineering (MS) and industrial engineering (PhD), with post-doctoral training at the National Institute for Occupational Safety and Health (NIOSH). He conducts research in the social psychophysiology of teamwork, computer-mediated work, participatory ergonomics and occupational health and safety. He is a researcher in the Center for the Promotion of Health in the New England Workplace, past president of Psychophysiology in Ergonomics (PIE, International Ergonomics Association), and one of the founders of the Society for Occupational Health Psychology.

David Holman is Professor of Organisational Psychology at Alliance Manchester Business School whose primary research interests are job design, job quality and emotions at work. His work has been published in a wide variety of journals, including *Human Relations*, *Journal of Management Studies*, *Journal of Applied Psychology*, *Occupational Health Psychology* and *Academy of Management Annals*, and he has been awarded best paper prizes for his work on job design and job quality in *Human Relations* (2013) and the *Journal of Occupational Health Psychology* (with Carolyn Axtell, 2015-2016). David has a cat called Otis and also serves on the editorial board of *Human Relations*, the *Journal of Business Psychology* and the *Journal of Occupational Health Psychology*.

Christine Ipsen, PhD, is an associate professor and Head of the Implementation and Performance Management group at DTU MAN at the Technical University of Denmark (DTU). From 2012-2016 she was also head of the departments' PhD School. In 2016, she became Vice-Chair of the ScAIEM board. During her PhD at DTU, she studied prevention of work-related stress and knowledge intensive work. She has led a number of research projects focusing on developing participatory intervention programs supporting implementation of preventive changes and her research is published in a number of books and papers. Her present research focus is on distance management and organizational performance and employee-well-being, and in particular the role of new digital technologies.

Gregor J. Jenny, Dr Sc. ETH, studied Applied Psychology, Film and Modern History at the University of Zurich. He has been working since 2002 for the Division of Public & Organizational Health. In 2009, he received his doctorate from the Department of Management, Technology and Economics, ETH Zurich. As a senior researcher, he is responsible for studies on the effectiveness and dissemination of health-oriented (digital) interventions in companies.

Anthony D. LaMontagne is Professor of Work, Health & Wellbeing at the Centre for Population Health Research in the School of Health & Social Development at Deakin University in Melbourne (Australia). He also holds appointments and affiliations with the University of Melbourne, Monash University, the University of Massachusetts and the Institute for Work & Health in Toronto. He leads a research unit in Work, Health & Wellbeing, and from 2016 also serves as overall Director of the Centre for Population Health Research (with around 70 full-time researchers with an annual external research income of approximately $5M). His broad research interest is in developing the scientific and public understanding of work as a social determinant of health, and translating this research into policy and practice to improve workplace and worker health. He has an international profile for cross-disciplinary applied epidemiology and intervention research in occupational health and safety (OH&S) and health promotion.

Caroline Lornudd, PhD, is a psychologist and researcher in the LEAD research group at the Medical Management Centre, Karolinska Institutet. She also works at the Unit for Intervention and Implementation, Karolinska Institutet. Her research is concentrated on the effects of leadership development and leadership in relation to work environment factors such as stress and sick leave.

Angela J. Martin is Principal Consultant, *Pracademia* and Adjunct Professor, School of Business and Economics, the University of Tasmania (Australia). Before founding *Pracademia*, a consultancy focused on leveraging academic insights for practical advantage, Angela enjoyed a successful academic career spanning over 20 years. Her PhD is in the field of Organisational Psychology and her primary focus is mental health and well-being at work. She has over 70 peer reviewed publications and has led or collaborated on a number of national competitive grants in this field of expertise, including projects funded by the Australian Research Council and the Australian National Health and Medical Research Council, as well as a wide range of projects funded by industry.

Karina Nielsen, PhD, is Chair of Work Psychology and Director of the Institute for Work Psychology, University of Sheffield, UK. She is a research affiliate of Karolinska Institutet Sweden and Center for the Promotion of Health in the New England Workplace at the University of Connecticut. Her research interests include the design, implementation and evaluation of participatory organizational interventions. She has published over 100 peer-reviewed papers and book chapters in leading journals such as *Human Relations*, *Work & Stress*, *Journal of Organizational Behavior* and *Journal of Occupational Health Psychology*. She is an associate editor of *Work & Stress* and serves of the editorial boards of *Occupational Health Science*, *Human Relations*, *Journal of Occupational Health Psychology*, *Journal of Business Psychology* and *The Leadership Quarterly*.

Andrew Noblet is a professor in Organisational Behaviour at Deakin Business School (Deakin University) and a Co-Director of the Centre for Employee and Consumer Wellbeing. His research interests are in the areas of occupational stress, job engagement, organizational fairness, leader–member relationships, and organizational health and development. Much of Andrew's recent work has focused on planning, implementing and evaluating strategies aimed at enhancing the health of workers and the environments in which they work. He has a particular interest in the processes and methods that can be used when identifying and addressing the sources of stress/wellbeing in high demand – low-resource working environments such as policing, health care and community-based social services.

Signe Poulsen, PhD, is an assistant professor at the Technical University of Denmark. Her research interests are preventive interventions and implementation of preventive initiatives in services. She now leads a project on implementation of preventive initiatives granted by the National Work Environment Foundation (AMFF). Her work has been published internationally and in 2014, she was awarded the 2nd Annual Ted Brown and Hal Hendrick Young Investigators Award at the Organizational Design and Management (ODAM) conference.

Anne Richter, PhD, is a researcher in the Procome research group at the Medical Management Centre, Karolinska Institutet. In addition, she works at the Implementation and Evaluation Unit at the Center for Epidemiology and Community Medicine, Stockholm County Council, where she translates research into practice. In her research she focuses on the effects of work environment factors, such as stressors and leadership training, on the implementation process, as well as on the health and well-being of employees.

Michelle M. Robertson, PhD, CPE, is a research scientist in Human Factors/ Ergonomics. Dr Robertson is a board Certified Professional Ergonomist (CPE) and holds a PhD in Instructional Technology, MS in Systems Management, from the University of Southern California and a BA in Human Factors from the University of California at Santa Barbara. She conducts applied field and laboratory research projects in human factors/ergonomics and management. Dr Robertson was on the faculty in Human Factors and Management at the Institute of Safety and Systems Management, University of Southern California, for 12 years. Dr Robertson has published over 85 articles in Human Factors/Ergonomics/Safety and has presented her work nationally and internationally. She is a Fellow of the Human Factors & Ergonomics Society and the International Ergonomics Association. Dr Robertson was the Co-Principal Investigator on the Healthy Worksite Participatory Program ToolKit Project.

Ole Henning Sørensen, PhD, is a consultant at SPARK and part-time associate professor at Aalborg University. His research expertise includes operations management, workplace design, industrial relations, psychosocial working conditions and occupational stress. Ole has been involved in both descriptive and intervention research and he has applied both quantitative and qualitative methods and mixed methods. He has published his research in a number of books and scientific papers. Ole has participated in three large international research projects.

Ulrica von Thiele Schwarz is a psychologist and professor of psychology at Mälardalen University. She co-leads the Procome research group at the Medical Management Centre, Karolinska Institutet. Her research is focused on uncovering how to design, conduct and evaluate innovative improvement initiatives in organizations and their effects on organizational as well as employee outcomes. She is also involved in research on how the usefulness of research evidence in health care can be improved.

Christian Dyrlund Wåhlin-Jacobsen is a PhD student at the Department of Organization, Copenhagen Business School, and is affiliated with the National Research Centre for the Working Environment in Denmark. In his doctoral work, he studies the role of interaction in participatory intervention activities, focusing on how decisions are made on the basis of employees' suggestions, how employees decide to assume responsibility for action plans, and the line manager's role in relation to employee voice. He holds an MSc in psychology from the University of Copenhagen.

Amy Zadow is a registered psychologist and PhD Candidate at the Asia Pacific Centre for Work Health and Safety, University of South Australia. Amy's PhD thesis examines how psychosocial safety climate influences the development of workplace injuries, and the efficacy of organizational stress interventions that target the psychosocial safety climate. Amy is currently working on a range of projects relating to workplace mental health and has presented her work at the European Association of Work and Organizational Psychology, the European Academy of Occupational Health Psychology, the International Congress of Applied Psychology and the International Commission on Occupational Health.

INTRODUCTION

Organizational interventions: Where we are, where we go from here?

Karina Nielsen and Andrew Noblet

This book is the result of our desire to bridge the gap between research, policy and practice and support occupational health practitioners, organizations, academics and their students to design, implement and evaluate organizational interventions that may successfully improve employee health and well-being. Organizational interventions can be defined as planned, behavioural, theory-based actions to change the way work is organized, designed and managed in order to improve the health and well-being of participants (Nielsen, 2013, Nielsen et al., 2010a). This type of intervention employs a problem-solving approach and typically consists of five phases: preparation, screening (identification of problem areas), action planning, implementation of action plans and evaluation (Nielsen et al., 2010a). This type of intervention is generally recommended (ENWHP, 2007; ETUC, 2004; EU-OSHA, 2010; ILO, 2001), however, we lack knowledge on how to design, implement and evaluate such interventions.

The demands for understanding how to design, implement and evaluate organizational interventions have arisen both from research and from policy. On the research side, the randomized, controlled trial (RCT) design has been considered the gold standard for organizational interventions (Murphy, 1996; Nielsen & Miraglia, 2017; Sauter & Murphy, 2004). Meta-analyses based on this framework conclude inconsistent results in terms of their ability to improve employee health and well-being (Martin et al., 2009; Richardson & Rothstein, 2008; van der Klink et al., 2001), however, arguments have been put forward that the RCT is not suitable for evaluating complex interventions such the organizational interventions (Nielsen & Miraglia, 2017). From a policy perspective, national policies have been developed in the attempt to manage psychosocial risks and ensure employee health and well-being, however, it can be questioned whether these policies are based on research and they are often not rigorously evaluated. In this Introduction, we first discuss the need for understanding what works for whom in which circumstances

from a research and a policy perspective. With a starting point in policy approaches to organizational interventions, we then review state-of-the-art of recent evidence base on what works for whom in which circumstances, i.e. which tools and methods may work in which contexts. Finally, we provide a brief overview of the chapters in this edited book.

On the need to know what works for whom in which circumstances from a research perspective

Organizational interventions most often employ a participatory approach, where employees and managers through ongoing negotiations and discussions decide on the process and the content of the intervention (Nielsen et al., 2010a). Organizational interventions can be classified as complex interventions because they work through an emergent and recursive causality (Rogers, 2008). Scholars have argued that the intervention process and the way in which the interventions are implemented may partially explain the inconsistent results of organizational interventions (Egan et al., 2009; Murta et al., 2007, Nielsen et al., 2010a) and research should reflect the complexity of organizational interventions when planning, implementing and evaluating organizational interventions.

In recognition of the need for a new paradigm, several models have been developed that discuss how organizational interventions should be implemented and evaluated (Nielsen et al., 2010a, Nielsen & Randall, 2015; Noblet & LaMontagne, 2009) and evaluated (Nielsen & Abildgaard, 2013; Nielsen & Randall, 2015). In a recent critical review, Nielsen and Miraglia (2017) argued that organizational interventions may be best evaluated using the realist evaluation paradigm. Moving beyond the RCT question of "what works" or rather "whether an intervention works", realist evaluation sets out to answer the questions of what works for whom in which circumstances. It has been argued that realist evaluation may open the black box of "what works" to answer which elements of organizational interventions may be effective and thus provide a basis for theoretically developing and testing models for what interventions work, for whom and in which circumstances (Nielsen & Miraglia, 2017). Realist evaluation assumes that there are patterns that may explain why an intervention succeeds or fails and that we can build and test models to explain these patterns (Pawson, 2013). The central tenet of realist evaluation is to answer these questions though theoretically developing and testing context+mechanism = outcome (CMO) configurations (Pawson, 2013; Pawson & Tilley, 1997). The realist strategy thus focuses on three themes: understanding the mechanisms through which an intervention achieves its outcomes, understanding the contextual conditions necessary for triggering mechanisms, and understanding outcome patterns (Pawson & Tilley, 1997). However, moving to developing, testing and revising CMO configurations requires that we as researchers start publishing on the mechanisms of organizational interventions and in which contexts and organizational settings these mechanisms may be triggered. A limitation of current research, however, is that few studies focus directly on formulating and

testing CMO configurations and rarely describe the methods and tools used in organizational interventions. We therefore have limited knowledge of the effective mechanisms of organizational interventions (Nielsen & Miraglia, 2017). The aim of this book is to provide examples of the content of interventions and discuss how the tools and methods (mechanisms) used work for whom in which circumstances.

On the need to know what works for whom in which circumstances from a policy perspective

According to the European Union (EU) Framework Directive 89/391/EEC, organizations have a legal obligation to "ensure the safety and health of workers in every aspect related to work". This includes psychosocial aspects of the working environment. The Framework Directive, however, does not state any specific measures to manage the psychosocial work environment and as a result the European Commission called upon the social partners to develop strategies to manage psychosocial aspects of the working environment (Persechino et al., 2013). The European Framework Agreement of October 8, 2004 addresses psychosocial issues. The Agreement states that it is the responsibility of the employer to take measures to identify and prevent issues concerning the psychosocial work environment and stress.

As a response to Framework Directive, several European countries have developed policies and guidelines for how organizations may manage employee health and well-being. In the UK, the Management Standards (MS) have been developed (Cousins et al., 2004; Mackay et al., 2004). Inspired by the MS, WorkPositive (http://surveys.healthyworkinglives.com/) and INAIL (Iavicoli et al., 2014; Persechino et al., 2013; Ronchetti et al., 2015; Toderi et al., 2013) have been developed in Ireland and Italy, respectively. In Belgium, the SOBANE (Screening, Observation, Analysis and Expertise; Malchaire, 2004) method has been developed and in Germany the START method (Satzer & Geray, 2009). At the European level, a guidance standard has been issued by the British Standards Institution (PAS1010; Leka et al., 2011). Outside Europe, a Canadian Standard has been developed on how to develop healthy and sustainable workplaces (CAN/CSA-Z1003-13/BNQ9700-803/2013; www.mentalhealthcommission.ca/English/issues/workplace/national-standard). Likewise, in Australia the National Mental Health Commission have developed a broad set of recommendations about the steps that should be taken when developing a mentally healthy workplace (www.mentalhealthcommission.gov.au/our-work/mentally-healthy-workplace-alliance.aspx).

A review of these policies and standards reveal that they recommend a problem-solving cycle and they share a number of key principles, including employee participation, senior management and line management support, and fitting the intervention to the organizational context. Although these policies and standards are recommended they have only been validated scientifically to a limited extent. The MS have been validated in three studies (Biron et al., 2010; Mellor et al., 2011, 2013). The INAIL has been validated in one published study

(Di Tecco et al., 2015). The Deparis guide used by the SOBANE method has been validated in one paper (Malchaire, 2004; www.sobane.be/sobane/index.aspx). Finally, Kunyk et al. (2016) published a study on the usability of the Canadian Standard, however, not all participants were familiar with the Standard. To the best of our knowledge, the WorkPositive has not been validated. The lack of rigorous evaluation, raises the question whether these policies are fit for purpose. Overall, the policies in place provide little concrete guidance or offer tools that organizations may use to fulfil the EU requirements. The chapters in our book aim to inform policy on the tools and methods that may be used by organizations to ensure organizational interventions are fit for purpose and successfully improve the psychosocial work environment and employee health and well-being.

What do we know?

Before, we move on to the contributions of experts in the field of organizational interventions, we need to gain an overview of the current knowledge of what works for whom in which circumstances. To this end, we provide an overview of recent developments in research. Nielsen et al. (2010a) provided an in-depth review of the state-of-the art on the design, implementation and evaluation of organizational interventions. In the present chapter, we build on this review. We conducted a systematic literature search on papers published since 2010 and, in the following sections we present an update on what we know concerning the design, implementation and
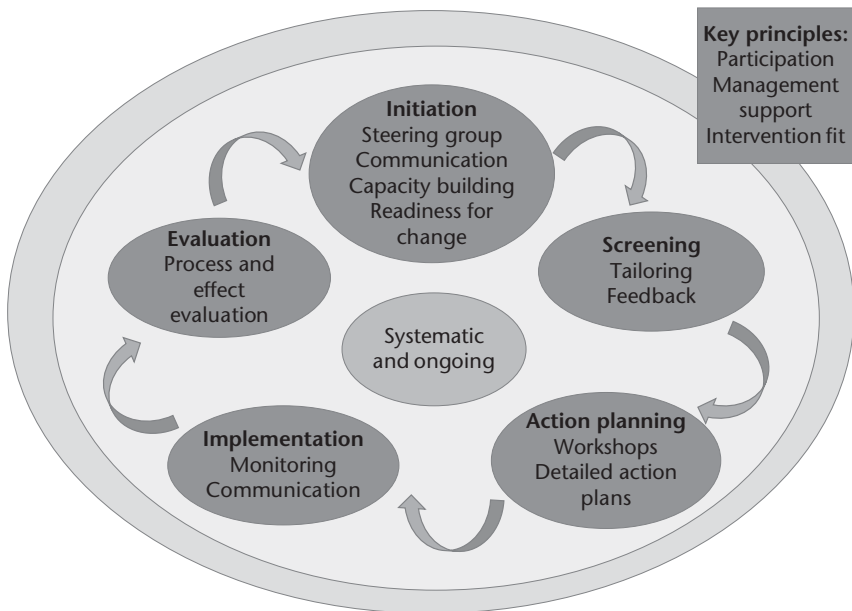
FIGURE 0.1   Revised model of organizational interventions by Nielsen et al. (2010a)

evaluation of organizational interventions. For research before 2010, we refer to the paper by Nielsen and colleagues (2010a). For the purpose of this review, we chose to keep the five-phase model developed by Nielsen et al. (2010a) as it follows the problem-solving cycle recommended also by policy. We discuss the research in light of the policies developed in the UK, Ireland, Germany, Italy, Canada and Australia. In figure 0.1, we present a slightly revised model of the Nielsen et al. (2010a) based on the policies and standards and state-of-the-art research. We first present the three key principles identified in all the policies and standards and then present the latest research support these and the five phases of the model.

Fitting the intervention to the organizational context

Nielsen and Randall (2015) argued that interventions should be tailored to the organizational context and to the individuals within the organizations. Recent development in research supports this notion. Mellor et al. (2013) in the evaluation of the MS found that integrating stress policy into corporate plans and internal systems and procedures helped put stress issues on the agenda. Also evaluating the MS, Biron et al. (2010) found that few of the line managers who had been allocated responsibility for managing the intervention process and had received training in how to use the survey tool had actually used the tool. There were many contextual factors accounting for the failure to use the tool. Many line managers and their employees had changed jobs, their teams had become too small to receive feedback and thus did not meet the requirements for participating. Only 5 out of 21 line managers used the tool due to practical constraints. Furthermore, line managers felt the tool was unnecessary; senior managers suffered from stress, not employees (Biron et al. 2010). In a study by Aust et al. (2010), occupational health consultants suggested that the focus on participation had been problematic as employees were poorly equipped to manage the process and line managers felt unsure about their role. Framke and Sørensen (2015) reported that the opportunity to fit the intervention to the organization was perceived to be a strength and Poulsen et al. (2015) found that the pressure to bill time on projects prevented employees from engaging with the intervention. Ipsen et al. (2015) reported that their SME-focused intervention did not fare well in an organization where people worked across different shifts because communication and participation was limited across shifts. On the downside of fitting the intervention to the context and adopting a flexible approach, Jenny et al. (2014) found that a high level of flexibility in the process across participating organizations meant that some participants felt the intervention lacked structure. Ipsen et al. (2015), Jenny et al. (2014), Mellor et al. (2011) also reported that concurrent organizational changes took focus away from the intervention. Andersen and Westgaard (2013) found that few participants felt the intervention had led to any successful outcomes and some even felt that the interventions took away attention from the core tasks.

Finally, Albertsen et al. (2014) provided an excellent example of the importance of fitting the intervention to the organizational context. In a large study introducing

a new IT system to manage the roster, they found very different results in the three intervention groups included in the study. In group A, no changes were detected and interviews with employees and managers revealed that the organizational context had been problematic: concurrent downsizing resulted in a temporary cancellation of the IT system use as employees would be called in to work at short notice. Furthermore, the intervention had provided a poor fit to some individual employees as they had found the system difficult to use. In group B, improvements in work–life balance could be observed and the process evaluation indicated that employees found the IT system supported the existing roster planning procedures, the IT system has made the process fairer, and the system offered the opportunity to consider individual preferences. Overall, the intervention was perceived to provide a good fit the organizational context. In the third group, a deterioration in work–life balance was observed. Interviews revealed that although the IT system had been implemented, management had introduced a "buffer-zone" that meant that they could delay or postpone working hours. This zone resulted in more evening work, variable working hours and unpredictability in when to start work. The system was perceived to present a poor fit because it did not consider employees' needs.

One important aspect of fit is to make use of the existing structures in place in the organization to support the intervention (Nielsen & Randall, 2015). Integrating health and well-being management process into performance systems, Augustsson et al. (2015) and von Thiele Schwarz et al. (2017) found integrating employee health and well-being consideration into existing Kaizen structures (visual boards to streamline production processes going through a plan, do, check, act problem-solving cycle; Imai, 1986). Augustsson et al. (2015) resulted in a successful outcome where employees were already familiar with the Kaizen process.

Together these studies provide strong evidence for understanding how the context may or may not trigger the mechanism of an organizational intervention and provides valuable information on when an intervention may be effective.

Employee participation

Employee participation is widely recommended in research (Nielsen & Randall, 2012; Noblet & LaMontagne 2009) and also emphasized by the national policies. Employee participation is believed to make use of participants' knowledge about what activities are fit for purpose in the local context, ensure ownership of the intervention and improve collaboration between management and employees (Nielsen et al., 2013). In the process evaluation of the INAIL method, Di Tecco et al. (2015) found that 32.2 per cent of 124 organizations involved a representative sample of employees, whereas 39.3 per cent opted for involving all employees in the organization, and Mellor et al. (2011) reported that participation and in particular indirect participation through the involvement of trade unions facilitated the implementation of the MS.

Recent studies have found support for the use of participatory methods and included added information on the forms of participation which may be effective.

In their study on integrating health and well-being management into performance management, Augustsson et al. (2015) found that where integration had been successful, employees reported they had had the opportunity to provide input to the process and they were active in the integration. On the level of participation needed, Framke and Sørensen (2015) found that the intervention involving employee representatives in the process was perceived to be sufficient because representatives acquired additional input when needed from the wider group of employees and employee representatives justified the time spent on the intervention to colleagues not directly involved. Whether the intervention led to successful outcomes was not reported.

Integrating process and effect evaluation, Nielsen and Randall (2012) explored the extent to which employees reported having been involved in the planning and the implementation of a teamwork intervention explained intervention outcomes. They found that such participation was associated with intermediate outcomes in the form of autonomy and social support, which in turn were related to affective well-being and job satisfaction.

Together, these studies provide valuable support for the participatory process as an important mechanism, however, the studies provide limited information on the concrete forms of participation. A recent framework has been proposed on how to define and understand participation in organizational interventions (Abildgaard et al., 2018).

Senior and line management support

The national policies all recommend that senior managers are involved in promoting the project, and in particular the MS emphasize the role line managers have in the daily running of organizational interventions. There is new research that supports the importance of management support.

Mellor et al. (2013) in their evaluation of the MS found that senior management was instrumental in getting the project up and running. Framke and Sørensen (2015) found that senior management supported the intervention. Jenny et al. (2014) reported that where senior managers acknowledged even critical results, engaged in dialogues with employees and superiors, and pursued change, the intervention progressed well. Interestingly, Greasley and Edwards (2015) in a study of three organizations found that initial senior management support did not guarantee a successful outcome. They suggested that this may be due to managers lacking the necessary skills to implement subsequent change.

The importance of senior management support throughout the entire project was emphasized by Ipsen et al. (2015), however, line management support was also described as vital. Where line managers had prioritized daily work activities over intervention activities, the intervention had not been successful. Ipsen et al. (2015) outlined the ways in which line managers had supported the process. These included formulating a vision for what could be achieved from the intervention and prioritizing time in meetings to work with the intervention. Lack of

support from line managers has been reported to have detrimental effects: Lingard et al. (2012) in their evaluation of a work–life balance participatory intervention found that younger employees found it challenging to change their behaviours because line managers acted as negative role models; they worked excessive hours themselves. In summary, there is support for the important role of senior and line managers as an important process mechanism, but there is yet limited information on how managers can be involved.

Preparing the intervention

Three key elements outlined by the national policies in the preparation of the intervention, are the establishment of a steering group, the development of a communication strategy and making sure the organizational members are ready for change.

Establishment of a steering group

The composition and the skills of the steering groups are important. In the evaluation of the SOBANE method, Malchaire (2004) reported that in the majority of cases (51 per cent) the internal occupational safety and health (OSH) practitioner functioned as the coordinator, whereas in 28 per cent of the cases it was the employer. In the remaining cases it was an external OSH consultant. Mellor et al. (2013) found that steering groups that had a mixed representation of human resources (HR), health and safety, occupational health representatives, senior management and union representatives helped move the process along. It was also reported that HR or occupational safety and health professionals were vital to support managers during the risk assessment phase. Mellor et al. (2011) further found that steering groups needed project management skills and knowledge of occupational health to support the MS process. Organizations on their own lacked the competencies to administer surveys and focus group facilitation and in many cases, external consultants were effective in facilitating the process (Mellor et al., 2011).

Hasson et al. (2014b) explored the importance of different key stakeholders' agreement of a web-based intervention. Although both senior management, HR professionals and line managers agreed it was the line managers' responsibility to make the intervention happen, HR professionals admitted they had not provided line managers with the necessary tools to assume this responsibility. Senior managers were disappointed that line managers had not been more proactive and line managers in turn reported feeling little supported by their managers.

Weigl et al. (2013) found that supportive steering groups were important for the intervention's success. Jenny et al. (2014) found that the steering group encouraged employees to contribute opinions and ideas. Framke and Sørensen (2015) reported that consultants played a vital role in taking charge.

Some studies have also looked at the role of project champions. Ipsen et al. (2015) evaluated an organizational intervention targeting four SMEs. Rather than using external consultants, internal facilitators were selected among staff

by senior management. The organizations reported having no problems identifying the right people as drivers of change: people that were trusted within the organization and had an interest in people management. These people were described by both management and employees as being effective drivers of change. It would thus appear that given internal champions possess the necessary skills and competencies, external champions may not be needed.

Employee readiness for change and capacity building

The importance of readiness for change have been established in a range of studies. Ronchetti et al. (2015) found that 74 per cent of companies that had used the INAIL methodology had provided training to those involved in the intervention.

Albertsen et al. (2014) found that in group C where the intervention had a negative impact, employees were resistant of the intervention because they considered it a "lean-and-mean management practice"; they did not see the benefit of the intervention. Augustsson et al. (2015) reported that where employees had positive expectations of the intervention, health and well-being management had successfully been integrated into performance management procedures using Kaizen. Also Framke and Sørensen (2015) reported that in groups were employees reported being ready for change activities were implemented, compared to the groups where employees felt the intervention was forced upon them and that it did not add value for money invested in the project. Jenny et al. (2014) found that employees who anticipated the most impact of the intervention were also those that reported the best intervention outcomes.

Hasson et al. (2013) found that when line managers' ratings of organizational learning climate differed from the ratings of their employees, these employees reported poorer well-being. Hasson et al. (2013) suggested that such disagreement may have detrimental effects on intervention outcomes because employees and managers do not have shared mental models of what changes are required. These results suggest that a shared understanding of which changes are needed is important.

In support of the importance of capacity building, Nielsen and colleagues found in a teamwork intervention aimed at improving employee well-being, training team leaders and employees had a positive effect on the leaders' own well-being (Nielsen & Daniels, 2012) and employees' well-being (Nielsen et al., 2010b, 2017).

Although these studies provide valuable information on how to prepare employees for change and develop their capabilities, there is still much to be learned about the methods used to ensure readiness.

Communication

All policies recommend developing a communication strategy to support the intervention. There is some research to support the importance of communication during the initial phases of the process. In the evaluation of the SOBANE method

(Malchaire, 2004), 92 per cent of respondents felt the method had been explained well and had resulted in the method being easy to understand and use (81 per cent). Mellor et al. (2011) found that communications such as raising awareness, multiple channels of communication and visible senior management action all helped progress on working with the MS.

Augustsson et al. (2015) found that successful integration of health and well-being management into existing performance management procedures had happened where communication had been clear about the tasks and roles in relation to the intervention. Where integration had been unsuccessful, employees reported they had received insufficient information about the project and did not know what was expected of them. Lack of information about the project and its content may severely impair intervention outcomes. Aust et al. (2010) found that in the study where 6 out of 13 measured working conditions deteriorated in the intervention groups, about 50 per cent of employees had not been aware they could get help from organizational consultants. In the intervention in SMEs (Ipsen et al., 2015), visualization tools were used throughout the intervention to keep up momentum and updates were presented at ongoing status meetings. The visualization tools were mostly appreciated by managers and internal facilitators who felt they functioned as a reminder to employees. Jenny et al. (2014) found that across eight organizations the tailored approach to communication meant that the intervention did not have a distinctive profile in the organizations. Lingard et al. (2012) found that newcomers to the organization found the work–life strategies on offer difficult to get an overview of because there was no formal package.

Screening: Identifying focus areas

A central part of the problem-solving cycle is the identification and prioritization of which problems to focus on changing. The method to identify problems most often used is the standardized questionnaire, i.e. the use of pre-existing questionnaires that allows for the identification of broad range of psychosocial risks. The MS have developed and validated the HSE Indicator tool (Edwards et al., 2008) and this is also used by the WorkPositive and the INAIL policies. The START method, however, recommends the use of a tailored questionnaire, a questionnaire that taps into the local context. The debate as to whether screening should use standardized tools or tailor tools to the local context has also received attention in research (Nielsen et al., 2014).

Tailored or standardized screening tools

Mellor et al. (2013) found that all five case study organizations using the MS method had opted for using only parts of the standardized HSE Indicator tool (Edwards et al., 2008) or equivalents and supported the screening with examination of turnover and/or absence levels, grievance cases, occupational counselling

referrals, violent incidents, reports of conflicts and changes to work practices. In many cases, screening was also used to identify individual cases of stress through one-to-one interviews. It was reported that it was easy to identify the causes of stress using the MS approach, however, in cases where only few items of the HSE Indicator tool had been used, managers reported the causes of stress were not clear. Results of the survey were fed back through emails, leaflets and team meetings. Mellor et al. (2011) reported in another study of the MS that participants found the HSE indicator tool difficult to use and needed tailoring to the organization in question. Data were also collected on absenteeism to provide diagnostic information, however, this was problematic due to poor organizational records. Although the MS guidance prescribe that results of screening should be compared to the states to be achieved as outlined by the MS, Biron et al. (2010) found that in the private organization, where most line managers did not conduct the screening, no improvements in working conditions and well-being could be observed. Biron et al. (2010) found that only line managers who had resources available to them (good mental health and few negative work demands) had used the HSE Indicator survey tool.

In support of the INAIL screening methods, Di Tecco et al. (2015) reported in their evaluation of the INAIL method that 60 per cent of workers and 68 per cent of safety representatives were involved in gathering, analyzing and discussing checklist data. Only 1.5 per cent of the 124 organizations participating in the survey conducted an in-depth assessment. Of these, 56 per cent used tools in addition to the HSE Indicator tool (Edwards et al., 2008): 23 per cent used focus groups, 19 per cent used detailed meetings and 12 per cent conducted semi-structured interviews. Malchaire (2004) reported that 96 per cent of respondents found the Deparis method useful to guide to solutions and allowed participants to determine whether a situation required further action.

Support for the tailored approach suggested by START was found in a study in the Danish postal service. Nielsen et al. (2014) examined the use of a tailored questionnaire. Problems with the existing standardized screening tool was experienced as employees perceived that the tool did not capture their working conditions, they felt the questions had little relevance to them and the results fed back to them provided limited useful input on which action plans to develop. As a result, the research team interviewed employees using the cognitive mapping method. They asked employees to map the resources and the demands of the job and how these could be increased or reduced, respectively. On the basis of this mapping, the researchers developed a questionnaire that captured the working experiences of postal workers. Employees and managers reported that they felt the tailored questionnaire captured better the local context, i.e. the work of a mail carrier, in terms of issues with the postal route and the number of changes faced by the postal service during times of increased electronic communication and reduced mail. Employees and managers also reported that it was easier to develop concrete action plans on the basis of the tailored questionnaire, that the

participatory approach used to develop the questionnaire resulted in participants advocated the project to their peers, and that the resulting tailored questionnaire created a sense of ownership over the intervention (Nielsen et al., 2014).

Feedback of survey results

One study has explored the feedback of screening. Jenny et al. (2014) found that automated survey feedback and personal tips were reported to stimulate discussions and action, however, especially managers were concerned that either poor or exceptionally good results of the survey may have repercussions. Jenny et al. (2014) also reported that participants found it difficult to understand the results without the support of consultants and found that the intervention lost momentum when there was a time lapse between the survey and the feedback of results.

Action planning phase

After the identification for which areas to focus intervention activities on, participants engage in the development of action plans.

Fifty-two percent of the 124 organizations participating in the INAIL study reported that they had developed action plans to prevent, reduce or eliminate poor working conditions (Ronchetti et al., 2015). Malchaire (2004) reported in the evaluation of the SOBANE method that a total of 417 solutions were suggested, i.e. more than ten per meeting. Participants reported that only 33 per cent if these proposed solutions had been suggested before indicating that the Deparis guide offered innovative solutions. A total of 60 per cent of solutions were directly implemented while 40 per cent were related to work procedures, work quality and productivity. It is not clear how many of these solutions were related to the second, the 14th and the 18th dimensions that cover psychosocial issues. In response to the "who does what and when" action planning, 77 per cent of respondents felt the approach was interesting and 87 per cent felt it was reliable. This type of action planning played a role in 32 per cent of the solutions proposed. Finally, Framke and Sørensen (2015) found that an intervention focusing on improving the primary task (in participating kindergartens, taking care of the children) led to the development of action plans supporting employees in completing their primary task, however, whether this focus helped them being implemented or led to improvements in employee health and well-being was not evaluated.

The use of workshops and focus groups

The use of focus groups or workshops has received recent research attention. Mellor et al. (2013) reported that conducting workshops and focus groups was a time-consuming exercise. It was also found that in one organization where managers had been the sole drivers in developing action plans, the impact of the MS was limited. Ipsen et al. (2015) reported that action planning workshops that included

an open and collective voting system for prioritizing actions were perceived to be problematic because management was present during voting. Furthermore, Poulsen et al. (2015) found that those who had not participated in action planning workshops agreed less with the action plans and engaged less in the evaluation workshop (see process evaluation section). Finally, Saksvik et al. (2015) reported that participation in workshops led to a sense of community because participants got to know each other better.

Implementation phase

There is evidence that management drive the implementation of action plans. Mellor et al. (2011) found in their process evaluation of the MS that senior managers were instrumental in getting action plans implemented. Mellor et al. (2011) also found that implementing action plans at the team level rather the organization level meant that needs were met and these action plans were perceived as less time consuming. Mellor et al. (2013) reported that one of the most important barriers to successful implementation of MS action plans was lack of availability of managers. In the study by Augustsson et al. (2015) it was found that where health and well-being management had been successfully integrated into performance management, line managers had supported the process and involved employees in the integration. Andersen and Westgaard (2013) reported that a lack of support from management resulted in intervention activities being withdrawn due to lack of resources or not followed up upon due to time pressures.

The failed intervention project reported by Aust et al. (2010) found that although lower level leaders had participated in coaching, they had failed to improve the leaders' role in the organization because managers or professions at higher levels in the hierarchy had resisted change, however, a contributing factor to the failed project could also be that only 21 per cent of employee felt that leaders had prioritized the project.

Also positive effects of implementation has been reported. Hasson et al. (2014a) found that in work groups where changes had been implemented that targeted reducing psychological demands and improved decision latitude, these working conditions improved. No such effects were found for changes targeting social support and rewards (based on the effort–reward model; Siegrist, 1996). In groups, where employees felt that changes had been implemented and these changes were perceived to improve working conditions, positive outcomes could be identified in terms of reduced psychological demands, improved rewards, social support and decision latitude (Hasson et al., 2014a). This support the notion that individuals' appraisal of the intervention plays an important role in determining intervention outcomes.

Some research has focused on the appropriateness of action plans. In the Albertsen et al. (2014) study, the group experiencing a deterioration in intervention outcomes reported that management had made changes to the way the IT system had been implemented which resulted in the system creating more problems than

it solved. In the Aust et al. (2010) study where the intervention groups were worse off after the intervention, only 15 per cent reported that the implemented activities had been positive and 17 per cent reported they had been negative and another 36 per cent rated the activities as neither positive nor negative.

Studying the degree to which action plans had been implemented, Sørensen and Holman (2014) found that participating departments could be divided in to three groups: low implementation, medium implementation and high implementation. Where action plans had been implemented, improvements were observed in perceptions of management quality and leader skills and support (Sørensen & Holman, 2014). The high implementation group was characterized by employee project champions who were more active in involving their colleagues. Also departmental managers and senior management in the high implementation group were perceived to be more supportive. The high implementation group also reported having received more information about the intervention. The importance of communication was supported by Aust et al. (2010): a contributing factor to the intervention's failure was attributed to the fact that almost a third of employees had not been aware that any activities had been initiated.

Evaluation phase

Several research-based models have been developed since 2010 providing guidance as to how organizational interventions should be evaluated. Nielsen and Randall (2013) developed the Framework for Evaluating Organizational-level Interventions. In this Framework, Nielsen and Randall (2013) identified three key elements of the process that should be evaluated. First, it is important to consider the intervention process itself, for example, who is involved and why? What action plans are developed and to which extent are they implemented? Second, the hindering and facilitating factors in the context need to be identified. The factors include omnibus factors, e.g. the culture of the organization and the management systems in place and the discrete factors, e.g. concurrent changes such a downsizing or conflicting initiatives. Third, the mental models of participants should be evaluated. What did participants think of the intervention? How have their mental models changed during the intervention process? This framework has been used to structure the process evaluation of interventions (Augustsson et al. 2015).

Taking into account and expanding on the Framework, Nielsen and Abildgaard (2013) developed a model that made explicit which factors to evaluate at each phase of the intervention and that integrated process and effect evaluation. A key element of effect evaluation is to examine the "chain of effects", e.g. whether changes in attitudes lead to changes in the way work is organized, designed and managed, and whether these changes lead to changes in the psychosocial work environment, which in turn leads to improved employee health and well-being.

In an innovative approach to evaluation, Poulsen et al. (2015) used "chronicle workshops" to conduct process evaluation. In a workshop, participants in the intervention drew a time line of the project and created a coherent story of the process.

In support of the importance of exploring the chain of effects, i.e. whether improvements in working conditions lead to actual improvements in well-being, Moen et al. (2016) found that in a participatory intervention to increase employees' control over their working time, increases in schedule control and reduced work-family conflict partially mediated the intervention's outcomes in terms of reduced burnout, perceived stress, psychological distress and increased job satisfaction. Also Holman et al. (2010) found that job control, skill utilization, feedback and participation explained improvements in employee well-being, and Holman and Axtell (2015) found that improved feedback and job control explained the intervention's outcomes in terms of performance and well-being.

Where do we go from here?

As evidenced by this review, it is clear that there is by now a body of knowledge that can help inform the design, implementation and evaluation of the future interventions and help develop our knowledge on what works for whom in which circumstances. A limitation of most studies is that they have been published in journals that restrict the level of detail that can be provided about the tools and methods used in the studies to bring about any outcomes in employee health and well-being. In the present book, we aim to address this limitation. We invited recognized organizational intervention researchers to contribute with their concrete experiences in designing, implementing and evaluating organizational interventions. This book thus focuses on described tools and methods and the experiences with using these tools.

The book has been divided into three parts. Part I consists of three chapters that focus on the processes and methods used in intervention planning and implementation while Part II – also comprising three chapters – examines the various tools and techniques that can be adopted when evaluating interventions. Part III spans four chapters and aims to consider the new directions and approaches in organizational intervention research. The book then concludes with an epilogue that reflects on the key messages contained in each of the contributions – particularly in terms of what can help or hinder the development of effective interventions – and highlights issues that need to be addressed in future organizational intervention research.

The following is a more detailed summary of the chapters covered in each part of this book.

A variety of themes are covered in Part I, however a topic that is common to all is the participatory methods that researchers or consultants can use to plan, implement and evaluate organizational interventions. In Chapter 1, for example, Ipsen et al. address the dearth of information on how researchers or practitioners can collaborate with workplace 'actors' to transform initial problem identification into tailor-made interventions. The authors draw on empirical data from two projects where high-involvement Fishbone workshops were used to help employees and managers undertake the initial problem identification and issue

analyses and then to use the insights gained from these methods to develop strategies aimed at improving work systems and practices. Likewise in Chapter 2, Axtell and Holman examine case studies undertaken in two call centres and demonstrate how a job redesign program based on participatory processes could be planned and implemented in working environments that are often very resistant to employee-centred, high-involvement planning strategies. In this case, employees participated in all stages of intervention development with results from both studies showing that changes in job characteristics were an important mechanism through which participative job redesign interventions can lead to improvements in the health and performance of telephone operators.

In the final chapter of Part I (Chapter 3), von Thiele Schwartz and colleagues emphasize the importance of all parties not only participating in the decision-making process but also working together to co-create new knowledge, ideas and ways of operating. This chapter outlines a structured process whereby organizational stakeholders collaborate with researchers to develop the intervention goals and corresponding strategies. Importantly, participants also identify the mechanisms through which the strategies are designed to achieve those goals (i.e., the program logic). The goals, strategies and connecting mechanisms then form the basis for deciding how the intervention is going to be monitored and evaluated.

Intervention evaluation was the focus of Part II and this section begins with Wåhlin-Jacobsen (Chapter 4) providing a detailed evaluation of the Kaizen-inspired "improvement boards". The tools and techniques used to plan and implement organizational interventions are rarely the subject of in-depth evaluation and given that these tools can have a significant influence on the outcomes associated with the phase in question (e.g., problem identification, action planning), this research addresses an important gap in the literature. In this study, mixed methods are used to identify the circumstances in which the improvement boards are more or less successful in three manufacturing companies. The findings indicate that while the improvement board was successful in facilitating the development and follow-up of a number of action plans, they were only beneficial for teams that were able to have regular meetings at a fixed time. More specifically, they were not as effective in contexts where there was shift-work and periods of heavy workloads created by high production goals and concurrent government inspections.

Dollard and Zadow (Chapter 5) also address an under-researched area, this time focusing on the preparatory phase of organizational interventions. Specifically, the authors describe and evaluate the preparatory stage of a job stress prevention intervention involving public sector employees working in the Australian-based human services and education sectors. The approach taken led to the development of an intervention plan that was supported by the participating organizations and incorporated best practice stress prevention principles. These principles included drawing on risk management processes for identifying and addressing organizational stressors and involving both employees and managers in the development of stress reduction action plans. In the final chapter of

Part II (Chapter 6), Abildgaard focuses on evaluating complex organizational interventions. The author outlines five practical strategies for evaluating strategies that target multiple areas of work and multiple levels within the organization (i.e., individuals, groups, leaders, organization). The chapter incorporates a case study aimed at improving the work ability of industrial employees to illustrate what these strategies look like in practice. In addition to recognizing the benefits of the five strategies, the author also highlights the common risks associated with evaluating complex interventions.

The overall goal of Part III is to present new directions and approaches to organizational interventions. In the first chapter of this section (Chapter 7), Henning and colleagues recognize the pivotal role that OSH practitioners can play in facilitating the design and implementation of participatory-based health and safety initiatives. A seven-step intervention design process is used to demonstrate not only how OSH practitioners can actively encourage the involvement of employees in the design process, but also identifies where OSH personnel and subject matter experts (e.g., facility managers) can share their expertise with workers and thereby expand employees' knowledge, skills and abilities. In Chapter 8, Martin and LaMontagne highlight the lack of research attention given to the specific needs of SMEs and advocate the need for intervention researchers and practitioners to move small business out of the "too hard basket" and to expand the evidence base around "what works for whom" (Nielsen and Miraglia, 2017) in this context. The authors then focus on the three core principles of an integrated approach to workplace mental health (prevent harm, promote the positive, manage illness) and discuss the features of SMEs that can make it challenging to implement this approach as well as noting a number of characteristics that represent "easy wins" when addressing these three principles.

The final two chapters of this book focus on new developments in the area of leadership development interventions. In Chapter 9, Hasson et al. (Chapter 9) present new research on "supporting interventions" and use a case study to demonstrate how a training program for more senior managers was designed to help them understand and support a leadership development program for line managers. The need for the supporting intervention is especially important in this case as the development of new leadership competencies is heavily influenced by the way in which line managers themselves are led (e.g., the amount of autonomy they receive, the level and quality of feedback). Similarly, in Chapter 10, Bauer and Jenny refer to a case study involving a municipal council to illustrate how an intervention designed to improve the capacities of leaders and their teams to identify and address health issues in their immediate working environments can be planned and implemented. A key goal of the intervention is to ensure that the participating work units developed the ability to identify and address issues when and as they arise. As a result, teams are not reliant on outside "experts" to find a way forward but instead can achieve sustained effectiveness by having the skills and confidence to continually adapt to their changing circumstances.

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PART I

Planning and implementing organizational interventions

1

USING HIGH-INVOLVEMENT FISHBONE WORKSHOPS TO TRANSFORM PROBLEM IDENTIFICATION INTO TAILOR-MADE ORGANIZATIONAL INTERVENTIONS

Christine Ipsen, Ole Henning Sørensen, Signe Poulsen and Liv Gish

Introduction

A vital role of organizational intervention research is to determine whether specific organizational change initiatives can improve the health of employees by creating healthier work processes. The current research indicates the importance of employee involvement, social support, quality management, organizational justice, and trust for employee health (Kompier & Taris, 2011).

Recently, some researchers have directed their attention toward the importance of employees' perceptions of how well they can perform their core tasks and if they can do so to a high standard (Nielsen et al., 2014; Sasser & Sørensen, 2016). An example is how organizational research can use tailored questionnaires of individuals' appraisals of working conditions to take into account the concrete context of work. A central purpose of the method presented in this chapter is that it allows managers and employees to focus on the context and effects of the employees' actual performance, how positive effects can be furthered, and how negative effects can be prevented.

There are many challenges related to conducting and evaluating organizational interventions. We emphasize two important challenges. First, there is the question of whether the central intervention's components are effective for the target population in the specific context (does it work as intended?). Quantitative effect evaluations are often used to answer this question, sometimes supported by qualitative programme evaluations that may determine whether the intervention design has an organizational fit.

Second, awareness has increasingly been directed at the importance of formative process evaluation designs as an important supplement to determine the degree of implementation fidelity, that is, to what degree the core intervention's activities are implemented as intended (von Thiele Schwarz et al., 2015). Pure intervention

designs are able to determine whether it is probable that the active intervention component worked or not (i.e., was statistically related to the intended outcomes) cannot determine whether lack of positive results were related to problems with the change theory (program failure) or the implementation of the intervention (implementation failure) (Nielsen et al., 2006).

A good process design may help to determine whether the researcher and workplace implemented the intervention as intended, which makes it possible to identify program failure in cases where the intervention did not have the intended effects. Although a well-designed process evaluation may allow researchers to analyze fidelity post hoc, thereby strengthening the evaluations, it would be advantageous if the intervention design could minimize the risk of program and implementation failure. We propose that the intervention method presented in this chapter has this capability.

Many occurring organizational processes may increase the risk of implementation failure. Examples of occurring organizational processes are low management attention or lack of support for implementation, low employee participation because of insufficient qualifications of the participants or project facilitators, or unrelated changes such as budget cuts or changes in management.

When researchers initiate organizational interventions, they typically face complex environments where even basic organizational processes are difficult to control and assess. Therefore, organizational interventions are more likely to fail and typically do not reach the success of individualized interventions. It is crucial that organizational interventions get support from management and employees and that there is a fit between the organizational intervention and the workplace structure. This requires considerable tailoring of the intervention's components to adapt it to the needs of the organization and employees (Nielsen, 2013). A successful tailoring is key for management and employee support and implementation fidelity, that is, that the core activities are implemented as intended with sufficient intensity.

Participatory intervention designs present a positive step in this direction because they have the dual advantage that both researchers or consultants and participants can use their knowledge of work processes to design interventions that fit the needs of the organization and the participants (Randall et al., 2009). Involvement motivates participants to take ownership of the implementation of the intervention, increasing the chances of success (Israel et al., 1996). However, there is still lack of understanding regarding how intervention researchers or consultants in collaboration with workplace participants can transform initial problem identification into tailor-made intervention initiatives that relate to organizational processes.

Organizational intervention research has stipulated how employees and managers can be involved in design and tailor-made intervention activities. A central concern in such engagement processes is how to systematically process and transform the knowledge that the employees and managers provide. Some of the most often used approaches to include workplace participants in the development of tailor-made intervention activities have been dialog workshops, the Future Workshop (Jungk & Müllert, 1981; Müllert, 2011), the Chronicle Workshop

(Limborg & Hvenegaard, 2011; Poulsen et al., 2015) and custom-made surveys (Nielsen & Abildgaard, 2013).

This chapter presents a participatory method, the Fishbone workshop, where workplace participants transform their work-related experiences into tailor-made intervention initiatives that fit the organization and relate to organizational processes. Focusing on work processes, the Fishbone workshop aims at linking work-related experiences with workplace activities by asking participants to link enthusiasm and stress to daily work practices and systems.

The chapter explains the origin and content of the Fishbone workshop, presenting it as a central intervention component and a method that can enhance the process of evaluation design. The chapter draws on empirical data from two research projects to discuss methodological issues concerning the use of the method. The workshops were conducted with employees and managers to generate initiatives that could reduce stress. In addition, the chapter discusses how the method can be used to gather primary data about local program theories, that is, workplace participants' perceptions of causal mechanisms in organizational processes.

About the method

The method, the Fishbone workshop, uses a mapping tool that starts with cause and effect modeling. The mapping tool is inspired by the "root course analysis," which is used in lean production and accident prevention (Sørensen et al., 2007; Sørensen, 2010). The method has its origins in the quality control literature (Ishikawa, 1983) and is designed to help workshop participants structure organizational information and display work-related experiences in diagrams. The diagrams thus reflect local theories about organizational processes that affect participants' well-being, (for example, poor management, undefined tasks, lack of support, and high demands), as well as their ability to perform the required tasks. When Fishbone diagrams are co-created among employees and managers (with support from trained employees, consultants, or researchers with expert method knowledge), the diagrams provide a visual overview for creating organizational interventions that reflect the work processes (Ipsen & Andersen, 2013; Ipsen et al., 2015).

The Fishbone workshop: Principles behind the method

A range of factors have been found to contribute to the success of organizational interventions (Hasson et al., 2016; Ipsen et al., 2015; Nielsen et al., 2010; Rosskam, 2009). The Fishbone workshop builds on the principles of participation and combines the principles of creating a shared forum for explication of knowledge (Nonaka et al., 2002) with a dual focus on both enthusiasm and stress (Ipsen & Jensen, 2012), that is, work-related experiences. These elements help establish a clearer understanding of the content and outcome of the Fishbone workshop among all the participants involved. The content in the Fishbone workshop is based on the following five principles:

1. Participation of both managers and employees: A multi-level approach
2. Priority issues: Daily tasks and work-related matters
3. A dual focus on work-related experiences: Enthusiasm and stress
4. A shared forum for explicating work-related issues
5. Acknowledgement of all participants' experiences, perceptions, and opinions

Participation of both managers and employees: A multi-level approach

A participatory approach toward developing organizational interventions provides a means with which to gain access to the knowledge and experiences of all the participants throughout the course of the intervention's development and implementation. Thus, it ensures that all participants' interests and requests are openly expressed. The rationale behind this principle is that multi-level participation in the Fishbone workshop is necessary to gain access to all relevant knowledge about the workplace, ensure ownership, coherence, and, above all, ensure sustainability (Ipsen et al., 2010; von Thiele Schwarz et al., 2016).

Participation is frequently mentioned as an important factor in interventions and their processes (Randall et al., 2009). Cooperation and collective reflection and action should be an integrated part of this process to secure the sustainability of the interventions and work-related changes. As a responsible unit and generators of ideas in a development process, the collective can contribute more to the process than any individual alone (Kompier et al., 1998).

The participants are provided with the opportunity to discuss and decide collectively about the development and direction of the intervention (Hurrell & Murphy 1996; Ipsen et al., 2010). A participatory approach is also a way to establish ownership and secure a sustainable intervention and change (Kompier et al., 2000). Finally, both employees and managers have the opportunity to affect the intervention's content (Greene, 1997).

Managers and employees participate in separate workshops. Participation in two separate workshops has three purposes. First, this approach can help clarify the differences in perceptions of work that exist among employees and managers; second, it secures a sense of ownership and commitment to the present intervention; and third, it reduces the risk that power differences inhibit the employees from voicing their views. However, if the employees and their managers participate in the same workshop, additional work is required when it comes to sharing and discussing the outcomes of the workshop and creating implementation initiatives based on these discussions.

Priority issues: Daily tasks and work-related matters

Primary stress management interventions that aim at improving stress-related working conditions are the most efficient method to prevent work-related stress (Hurrell & Murphy, 1996; Murphy, 1988). According to Rosskam (2009), improving

working conditions takes place in a wider organizational context of worker and management relations. Applying a work systems perspective increases the likelihood that the intervention-induced changes become embedded in daily practices and tasks (Rosskam, 2009).

This principle ensures that the intervention's participants develop tailor-made intervention activities that address the organizational sources of stress. Therefore, priority should be given to better understanding the daily processes, management, and organization of work where the problems occur. It should be emphasized that the cause–effect analyses should focus on the daily tasks because these are of the most importance to the employees. Thus, the Fishbone workshop explores and identifies work-related issues that target the organizational sources of employee well-being. Consequently, the intervention also improves the likelihood of organizational fit (Nielsen & Randall, 2015).

Dual focus on enthusiasm and stress

The third principle states it is important to explore participants' perceptions of the causes of both enthusiasm and stress. The reasoning is that the same factors may both influence employee well-being and enthusiasm while inducing stress. Theoretically, increasing employees' influence should reduce the risk of stress, but it may also increase their workloads, which increases the risk of stress. Social interaction increases the likelihood of social support but may also increase social complexity, role conflict, and more. A dual focus increases the likelihood that workshop participants grasp the complexity of work processes and how these processes relate to both positive and negative outcomes.

It is advantageous to start with the positive aspects of the work and workplace because people who experience positive feelings are more likely to share their perspective. By sharing the participants be able to gain an overview of the relationships and the larger picture (Fredrickson, 1998). This increases the chances that the Fishbone analysis of the negative effects of workplace processes becomes honest, elaborate, and constructive. The explication and sharing of participants' knowledge can then be used to develop, implement, and continuously evaluate preventive organizational changes, forming the basis for adjustments.

A shared forum for the explication of work-related issues

A shared forum provides a means with which to gain access to the knowledge and experiences of all relevant parties and groups in the organization (Nonaka et al., 2002). This principle ensures that individual knowledge becomes explicated and shared through a formalized participatory process of collective reflection structured by the rules of the Fishbone method. The combination of knowledge from the participants forms the basis for the formulation of organizational change initiatives. The sharing of knowledge among all participants, employees, and managers alike subsequently supports the implementation process.

This principle is inspired by Ipsen and Jensen (2012), who show that knowledge of work-related issues and possible solutions exist within most work settings, in particular in knowledge-intensive work. However, these experiences and ideas are rarely shared, so they cannot inform the development of organizational interventions and stress-preventing activities. In addition, knowledge-intensive organizations often lack collective systematic reflection and development in relation to the prevention of work-related stress (Ipsen & Jensen 2012).

There is, therefore, a need for collective reflections that can facilitate the explication of knowledge in the externalization process. Based on the work of Nonaka et al. (2002) and Argyris and Schön (1996), Ipsen & Jensen (2012) suggest that collective reflections can be developed as an organizational framework. By combining the explication of knowledge and a collective learning process (Argyris & Schön, 1996), managers and employees can explicate the factors that affect their work experiences. The process also supports the development of solutions (Ipsen & Jensen, 2012) and a local, collective understanding of workplace-related problems and their causes. Such reflection should focus on daily practices and tasks and involve the affected employees and managers (see principle 2).

Acknowledgement of all participants' experiences, perceptions, and opinions

To make knowledge sharing possible, the method needs to include a final acknowledgement of all the participants' experiences and opinions. This principle may be difficult in organizations where power imbalances, mistrust, and cynicism toward the organization and its leaders affect social relations. Therefore, the method needs a structuring principle that ensures that all participants' views will be heard and receive a natural "place" in the analyses. This may be achieved by taking turns, having the process facilitated in a way that all views are reflected in the Fishbone diagrams and ensuring representation of all the participants' views, for example, by taking turns and having notations showing that particular statements are not shared.

Content: Procedures

The purpose of the Fishbone workshop is to map and target organizational sources of employee well-being in a structured process where both managers and employees participate – either in the same or in separate workshops. In this chapter, we describe only the case where workshops are conducted separately. Each workshop explores and identifies work-related issues, and each workshop produces two Fishbone diagrams: one for enthusiasm and one for stress. The workshop process is applicable to all types of workplaces, and the size of the enterprise does not matter. The workshops should be conducted at the department or unit level.

Prior to a workshop: Issues to consider

In two Fishbone workshops, employees and managers explore their work and workplace, respectively (Ipsen and Andersen, 2013; Sørensen and Holman, 2014).

Prior to the workshops, a workshop leader must be appointed – one for each workshop. A workshop leader can be an employee, an human resources (HR) consultant, occupational health and safety (OHS) organization member, someone from another department, or someone from outside the workplace (such as a consultant or researcher). The primary selection criteria for the workshop leaders are the following: (1) experience in conducting workshops and (2) ability to earn the participants' respect. When appointed, the manager and workshop leader invite and inform all participants about the upcoming workshop. Ideally, all employees in a department should participate, but this may not always be possible.

Each workshop leader brings wallpaper, sticky notes, pens, and paper to the workshop. For each workshop, the leader draws Fishbone diagrams on two pieces of paper, one diagram for enthusiasm and one for stress. We recommend a minimum of 8 employees and a maximum of 16 participants in each workshop. The duration of each workshop is between 20 and 60 minutes, depending on the number of participants.

During each workshop

The managers and the workshop leaders should welcome the participants and introduce the purpose of the workshop. When the managers leave to conduct their own Fishbone workshop in another room, the employee Fishbone workshop starts. First, the employees answer the following question: "What creates enthusiasm in your work?" Then, they should write each reason as a statement on a sticky note. Each participant can write two to three statements, thus producing two to three sticky notes. When everyone has created their notes, each participant individually presents his or her sticky notes to the rest of the participants and places each note on the Fishbone diagram. Because each side bone of the diagram should end up representing an area that leads to enthusiasm or stress, the first participants will place their notes on a blank diagram. Examples of themes are "good colleagues," "challenging tasks," "work variation," or "visible leadership." When all side bones have received a note, the subsequent participants typically have statements that cover a similar theme. Otherwise, the workshop draws a new side bone. In cases where there are similarities between statements, the sticky notes are clustered on the same side bone of the Fishbone diagram.

In close dialogue with the participants, the workshop leader facilitates the workshop and supports the placement of the sticky notes. When posting a note, each person reads the note aloud and comments on it, if necessary. The workshop leader may ask clarifying questions regarding what each note means. Additional notes may be written at this stage if the explanation includes a causal relation, for example, "visible leaders help to solve conflicts at work." It is important that the statements focus on experiences related to the work and working conditions. Gradually, the

participants fill out the Fishbone diagram, and when all notes are posted, an image emerges of the factors that the participants perceive as creating enthusiasm. Second, the participants follow a similar procedure and write statements for the following the question: "What creates stress in your work?" Then, they place their answers on the second Fishbone diagram labelled "Stress." A corresponding workshop is carried out among the line and project managers. However, in this case, the focus is not on their own working conditions, but rather on the employees' working conditions. In this workshop, the managers first answer the following question: "What do you think creates enthusiasm for your employees?" They then place their statements on a Fishbone diagram. Subsequently, they answer the following question: "What do you think causes stress for your employees?" These two Fishbone diagrams illustrate the managers' perceptions of what they believe creates enthusiasm and causes stress in their employees' daily work environment.

At the end of the workshop

The explorative phase is followed by ordering the statements, which clusters the statements into themes. Each thematic cluster expresses a certain theme. With the help of the workshop leader, the participants discuss which thematic heading each side bone resembles. In this process, the sticky notes may be rearranged to align with the individual sticky notes and thematic headlines. The aim of this part of the workshop is to induce the participants in creating meaning from the data and to identify relations between the expressed conditions.

Together, the two Fishbone diagrams illustrate numerous themes that the participants have expressed. The subsequent clustering forms the starting point for defining organizational intervention activities. In practice, each workshop creates (1) a visual overview, that is, themes of the participants' perceptions of the working conditions that engage and stress employees, and (2) insight into how one's colleagues experience work and workplace processes.

Practical experiences and outcomes

The Fishbone workshop was studied in two large intervention projects: "Knowledge Work and Stress" (Ipsen et al., 2010; Sørensen & Holman, 2010) and "Productivity and Well-Being" (Ipsen et al., 2015). In both projects, the Fishbone workshops involved both managers and employees in the development of organizational interventions and initiatives with the purpose of increasing employee well-being. The projects included a detailed registration of the outcomes and of the initiatives that were formulated based on the input from the workshops.

In total, the researchers conducted 26 workshops (14 + 12) in the two aforementioned intervention projects. The participants generated 52 Fishbone diagrams (28 + 24) and up to 15 intervention initiatives for each workplace, of which a large majority of the initiatives were implemented during the intervention period. Both research projects combined quantitative and qualitative techniques to document and evaluate the results of the interventions. The process evaluations used

TABLE 1.1 Fishbone example: Overview of case company

	IT – Software development company
Total number of employees	31
Number of participating departments	2
• Development	
• Support	
Number of participating employees	31

a combination of observation and semi-structured interviews to gain knowledge of any implementation issues. All diagrams were documented electronically and transcribed and coded selected interviews for the analyses. These analyses were conducted and shared with the workplaces after the interventions had been completed. In the following section, we outline the results from one Fishbone workshop that was conducted in a small Danish IT software development company (Table 1.1).

What creates enthusiasm?

During the first step of the workshop, the participating employees answered the following question: "What creates enthusiasm in your work?" Figure 1.1 illustrates the final Fishbone, including all the employees' statements. After a few minutes of reflection, the participants went to the Fishbone diagram to present what they had written on their green sticky notes and added a few comments for others to understand their statement. Each note was then placed on the Fishbone where it made sense to that person. If existing statements resonated with the new statement, the note was placed in association with the existing or in conjunction with it on one of the side bones. When all the employees had posted their statements, the first part of the Fishbone workshop was complete. Figure 1.1 illustrates the final Fishbone, where each statement on the side bones represents the employees' perceptions of workplace factors that create enthusiasm.
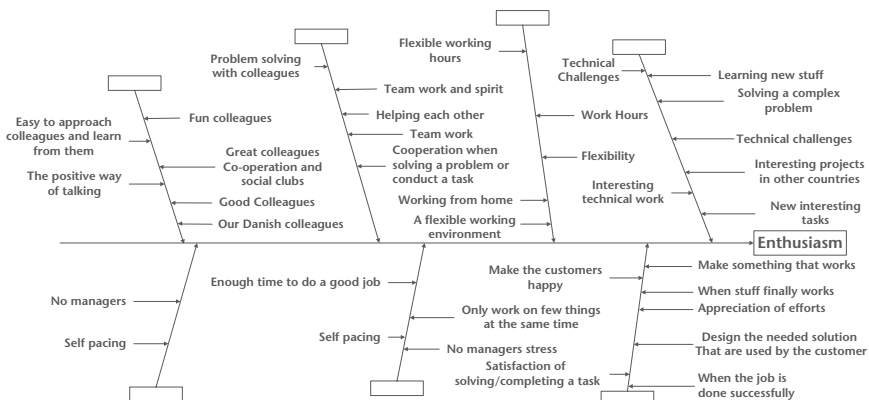
FIGURE 1.1   Employee Fishbone: Experienced enthusiasm related to work

What creates stress and strain?

In the next step, the employees answered the question "What creates stress in your work?" and placed their answers on the stress Fishbone diagram using pink sticky notes. The process was like the first step, and Figure 1.2 illustrates the final Fishbone.
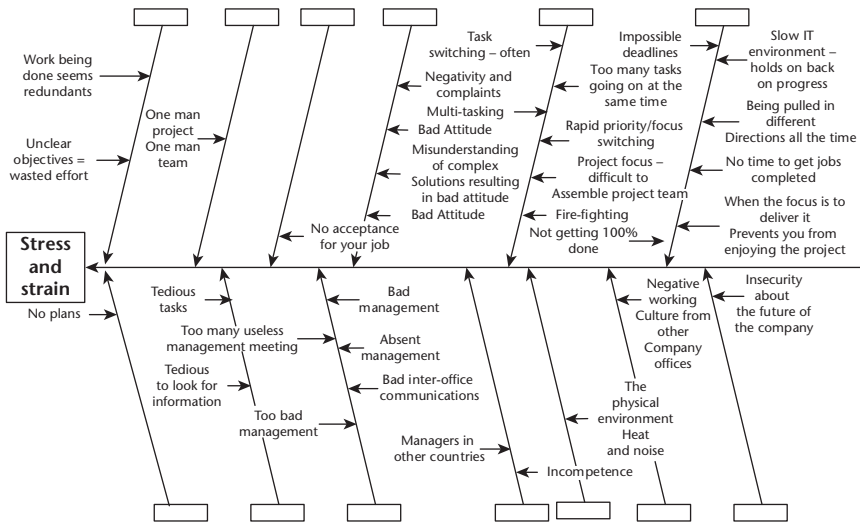
When the second Fishbone diagram was completed, the workshop leader placed the two diagrams on the wall next to each other. Together, the two diagrams illustrated the participants' shared experiences.

Grouping themes

When the employees had shared their experiences and posted their statements, each side bone formed a cluster of similar statements. Together with the facilitator, two employees went through each side bone and formulated themes corresponding to the content of each side bone. Meanwhile, the other participants took a break. Figures 2.3 and 2.4 show the final Fishbone diagrams, including the identified themes.

When the participants compared the diagrams, they merged and listed the themes (see Table 1.2).

Subsequently, the participants proceeded to a new phase where they developed intervention changes based on the themes. First, the participants prioritized the themes according to the theme's perceived importance. Second, they generated initiatives to decrease stress and increase enthusiasm. This phase built on the knowledge generated in the diagrams by looking for mechanisms that engage the

FIGURE 1.2 Employee Fishbone: Experienced stress and strain related to work
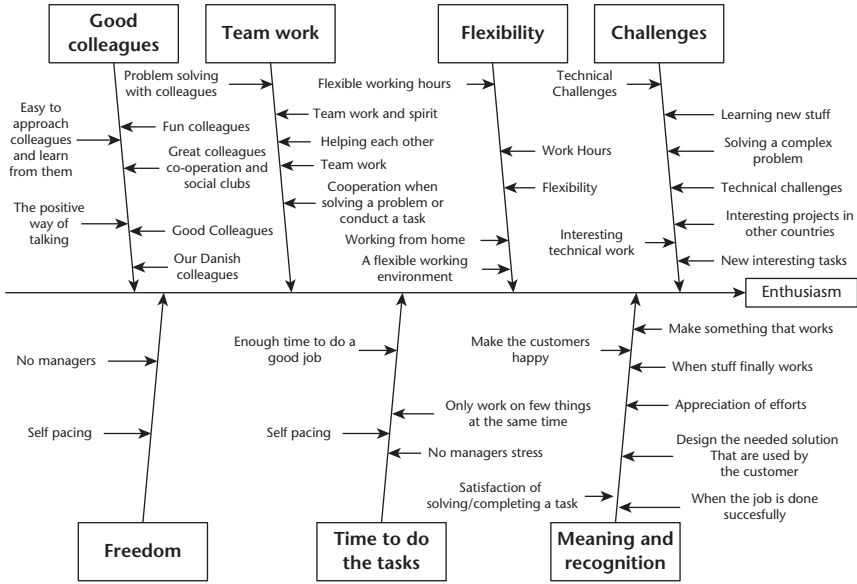
FIGURE 1.3 (Enthusiasm Fishbone)

Good colleagues
- Problem solving with colleagues
- Easy to approach colleagues and learn from them
- Fun colleagues
- Great colleagues co-operation and social clubs
- The positive way of talking
- Good Colleagues
- Our Danish colleagues

Team work
- Flexible working hours
- Team work and spirit
- Helping each other
- Team work
- Cooperation when solving a problem or conduct a task
- Working from home
- A flexible working environment

Flexibility
- Technical Challenges
- Work Hours
- Flexibility
- Interesting technical work

Challenges
- Learning new stuff
- Solving a complex problem
- Technical challenges
- Interesting projects in other countries
- New interesting tasks

Enthusiasm

Freedom
- No managers
- Self pacing

Time to do the tasks
- Enough time to do a good job
- Self pacing
- Satisfaction of solving/completing a task

- Make the customers happy
- Only work on few things at the same time
- No managers stress

Meaning and recognition
- Make something that works
- When stuff finally works
- Appreciation of efforts
- Design the needed solution That are used by the customer
- When the job is done succesfully

FIGURE 1.3   Employee Fishbone: Employee experienced enthusiasm, including themes on side bones

FIGURE 1.4 (Stress and strain Fishbone)

Meaningless tasks
- Work being done seems redundants
- Unclear objectives = wasted effort

Lack of recognition
- Loneliness
- One man project One man team

Communication
- Multi-tasking
- Negativity and complaints
- Bad Attitude
- Misunderstanding of complex Solutions resulting in bad attitude
- Bad Attitude
- No acceptance for your job

Lack of time
- Task switching-often
- Impossible deadliness
- Too many tasks going on at the same time
- Rapid priority/focus switching
- Project focus – difficult to Assemble project team
- Fire-fighting
- Not getting 100% done

Project management
- Slow IT environment – holds on back on progress
- Being pulled in different Directions all the time
- No time to get jobs completed
- When the focus is to deliver it Prevents you from enjoying the project

Stress and strain

No plans
- No plans

Tedious tasks
- Tedious tasks
- Tedious to look for information

Bad management
- Too many useless management meeting
- Absent management
- Bad inter-office communications
- Too bad management
- Managers in other countries

Bad management II
- Bad management

The work environment
- The physical environment Heat and noise
- Incompetence

Negative culture
- Negative working culture from other Company offices

Insecurity
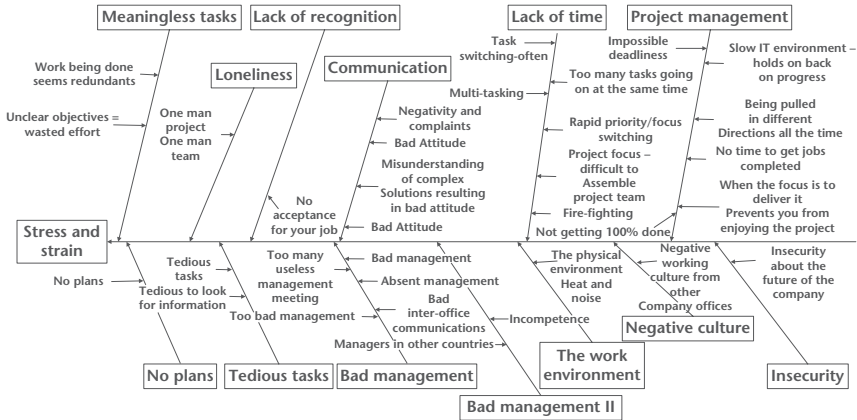- Insecurity about the future of the company

FIGURE 1.4   Employee Fishbone: Employee experienced stress and strain, including themes on side bones

employees or generate stress, as indicated by the statements on the sticky notes and themes. When changes are suggested and discussed, they can be "tested" in the diagrams, meaning that the workplace actors can discuss whether they are likely to increase engagement and decrease stress given the causal relations stipulated

TABLE 1.2 Grouped themes from side bones from stress and strain Fishbone

Themes from enthusiasm Fishbone	Themes from stress Fishbone
Challenge	
Flexibility	
Recognition and feedback	Lack of feedback
Time to do the tasks	Lack of time
Freedom	
Good colleagues	
Team work	
Work environment	Work environment
International collaboration	International collaboration and communication
Project management	Project management
	Loneliness
	Bad management
	Communication

TABLE 1.3 Total list of initiatives supporting the two changes as described by the participants

Improved project management	More recognition and feedback
• Status – team meetings → weekly project meetings	• Visions
• Definition of project content	• Salary
• Status of projects → whiteboard overview	• Appraisals
• Technical insight	• Sales feedback
• Kick-off meetings	• Manager feedback
• Requirements → project checklist and project plans	• Customer feedback
• Right people for the job	• Team – peers feedback → info about how to give feedback
• Quality	• Repeated troubleshooting

in the diagram. In this case, the participants identified the following changes: (1) improved project management and (2) more recognition and feedback.

The participants identified several initiatives. Ideas that could lead to improved project management were the following: "Weekly project status meetings," "Refinement of project checklist," and "Creation of project plans." Table 1.3 presents the full list of supporting initiatives.

Evaluation and discussion

The case illustrates how the Fishbone workshop gives workplace participants an opportunity to express their views of the central work processes that engage them and the processes that may lead to stress. The structure of the workshops makes it possible for the participants to explicate their knowledge in a structured process.

Our observations show that the Fishbone workshop creates an opportunity for the participants to establish a collective reflection about work and work-related experiences, transforming their knowledge into collective organizational interventions and activities. Our observations from other workplaces participating in the research projects support this conclusion. The process of generating the Fishbone diagram creates a framework for structuring a joint knowledge-sharing process.

The two questions about enthusiasm and stress narrow the inquiry to focus on the details and observable characteristics of the work and work-related experiences. Overall, the method makes abstract ideas more concrete by qualifying them (Gray et al., 2010). In principle, the Fishbone method can use any question. The themes included in this chapter illustrate that the Fishbone method facilitates the generation of themes that relate to both the workplace's tasks and performance, but also the employees' well-being. A crucial point is that the themes were not "imposed" on the participants by external experts, but rather, the themes expressed the participants' own perceptions of workplace task processes. The self-generated themes, including a joint focus on workplace tasks, performance, and employee well-being, support a sustainable intervention process.

However, the probability of the implementation leading to the desired outcomes is not better than the quality of the local program theories that the diagrams represent. However, if a successful implementation does not lead to the desired results, the workplace participants (and the researchers) have a chance to reflect on their perceptions and evaluate whether the lack of results are because of faults in the understanding of the workplace's mechanisms or whether the proposed initiatives were insufficient under the given circumstances.

The generation of Fishbone diagrams by placing and rearranging sticky notes creates shared artifacts that serve as a common reference for the participants. The processes create a visual space, allowing the participants to generate *nodes* (by writing the sticky notes) and themes by linking them on each side bone of the Fishbone diagram (by placing the sticky notes). The co-creation process forms the basis of transforming experiences into solutions and obtaining an understanding of the work-related causes by generating themes of causal mechanisms (by rearranging the sticky notes). The outcome illustrates a local program theory. That is, the diagram resembles a mind map where the nodes are linked under themes and represented by different side bones; but it is crucially different from brainstorming because the side bones indicate a causal relation. Thereby, it forces the participants to think more rigidly about the outcomes. The Fishbone diagram also resembles a flow chart, but it is different because concrete occurrences and choices do not have to be placed in a strict sequence, making it easier for the participants to represent abstract causal relations.

The Fishbone workshop as a research tool

As a research tool, the Fishbone workshop makes it possible to *collect primary data* about the participants' perceptions of the workplace and create intervention

initiatives that the participants perceive as important and relevant, hence strengthening the level of implementation support. The Fishbone diagrams and the initiatives illustrate that it is not only possible to generate initiatives that are relevant for the local workplace participants, but also that the diagrams provide the researcher, workshop leader, or consultant with vital information about the reasoning behind the initiatives. Combined with state-of-the-art process evaluation knowledge, these insights into how local participants perceive their workplace makes it possible to create better intervention evaluation designs that are tailored to the specific interventions.

Our findings indicate that in future studies, researchers can develop measures that relate directly to the local program theories, which make it possible to find indicators of what factors may lead to implementation success. Program failure is also easier to evaluate because the Fishbone diagram is the first step toward an explication of a shared program theory. However, the quality of that program theory rests heavily on the shared assumptions and understandings of the workplace mechanisms among the employees and managers participating in the workshops.

The Fishbone workshop as a practitioner tool

Practitioners can also use the workshop. However, there are a number of pitfalls related to conducting such workshops, including fundamental principles of causality, actors' knowledge and understanding of mechanisms, and how different conceptions of causality and mechanisms in different domains (technical, social, and political) can be depicted and represented in the Fishbone diagrams. We will mention three prominent issues: the facilitator, organizational issues, and the diagramming technique.

First, the role of the workshop leader is important because the method requires that all participants get an opportunity to express their opinion. Turn-taking in presenting statements is the mechanism that ensures this, but it is also important that the facilitator urges the participants to attach a small narrative to the statements to make the importance of the statement and the causal relation understandable for the other participants. Second, other organizational issues may affect the Fishbone workshop. Typical issues are related to organizational power and mutual trust that affect the relations between management and employees. Trust issues will naturally curb the openness of the participants, thereby impeding knowledge sharing. Other organizational issues that influence workshop outcomes are a general lack of resources, which may affect how much time can be devoted to the workshops, and management support to the organizational intervention and initiatives. Third, the diagramming technique is important because when the side bones in the Fishbone diagrams are converted into themes, the focus should be on making the side bones represent a problem or factors that cause the outcome, not a specific person (e.g., a manager or colleague) or an unspecific cluster of behaviors (e.g., bad management). The side bone themes need to be sufficiently specific as to indicate avenues for change initiatives.

Conclusion

The implications of our studies are threefold: the workplace participants gain insight into work-related issues that create enthusiasm and stress; the participants get an understanding of the different situations and perceptions of the work and work-related issues; and managers and employees gain insight into differences in understanding work conditions that create enthusiasm and stress at work. From a research perspective, the Fishbone workshop targets the work with the aim of reducing the stressors, so by identifying the work-related issues, the workshop strengthens the link between the current situation at the workplace and the intervention's initiatives (organizational fit). Therefore, our research projects indicate that the Fishbone workshop establishes a collective and systematic space for reflection in which both managers and employees can participate to develop solutions for workplace issues, thus transforming initial problem identification into intervention initiatives. From the identification of work-related and workplace stressors, managers and employees can then initiate changes in the organizational structure, functions, roles, and tasks.

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2

GETTING EVERYONE ON THE SAME PAGE

Cocreated program logic (COP)

Ulrica von Thiele Schwarz, Anne Richter and Henna Hasson

Aim and justification for the cocreated program logic

In order to design, implement, and evaluate organizational interventions, theories of change are needed – that is, theories that outline why a certain intervention activity would be expected to have an effect on a specific distal outcome (Blamey & Mackenzie, 2007). Yet, overall, these types of theories are seldom used in organizational interventions (Biron & Karanika-Murray, 2013; Nielsen, 2013). This stands in contrast to the abundance of theories like the job demand resources (JDR) model and the effort reward imbalance model (e.g., Demerouti et al., 2001; Siegrist, 1996), which link exposure to factors in the work environment to employee health and well-being outcomes (Kristensen, 2005) and therefore may guide the content of an intervention. The idea of occupational health interventions is generally to improve employee health and well-being through an intervention that decreases exposure to demands and/or increases employees' resources. Thus, theories such as the JDR model are helpful in establishing the connection between change in job demands and resources and employee well-being. Yet, they are not helpful for linking the intervention to the change in job demands and resources. This is what theories of change are for.

Whereas efforts to develop and apply social, organizational, and psychological theories to illuminate how organizational intervention is brought about (e.g., Nielsen et al., 2014) are ongoing, the field of evaluation has a long tradition of using program logic for the same objective. Program logic, also known as program theory or logic models, outlines how an intervention, through its specific intervention activities, is related to a chain of outcomes, from the most proximal ones to more distal ones. This links the design and the implementation of an intervention to its evaluation, and thereby, makes the theory of change more explicit (Olsen et al., 2012; Rogers, 2008).

Program logic has often been constructed by interventionist (i.e., intervention developers such as consultants or researchers) (Saunders et al., 2005). Here, we propose a cocreation process involving multiple organizational stakeholders in addition to researchers and consultants. The program logic is then used as a guiding framework that runs through the creation of the intervention, its implementation, and evaluation. In the business field, the concept of cocreation was presented by Prahalad and Ramaswamy (2000), and has spread since. Cocreation is one of several terms (e.g., codesign, coproduction, cocare, etc.) stressing that design, implementation, and evaluation needs to be a joint venture of the researchers and the organization. Formally, cocreation is an interconnected, recursive set of interactions between stakeholders (e.g., managers, employees, researchers, and consultants; Payne et al., 2008; Prahalad & Ramaswamy, 2000). Instead of organizations being passive recipients of services and products ("value"), they are engaged in cocreating value, building on their unique perspective and knowledge (Payne et al., 2008). Thus, the cocreation process is a way to ensure that the intervention process is truly participatory.

A participatory approach is far from new in the context of organizational interventions; on the contrary, it is the recommended approach (Lamontagne et al.; Nielsen, 2013; Nielsen & Randall, 2012). It is well known that managers and employees are not passive recipients of an intervention, rather they are and should be actively engaged in shaping the intervention (Nielsen, 2013). Thus, an organizational intervention is not something researchers or consultants can design and implement, but something the organization and its members are, to varying degrees, active in designing and carrying out (McVicar et al., 2013; Nielsen & Miraglia, 2017).

In a participatory approach, actors with different kinds of knowledge, skills, and perspectives are welcomed to the table. In essence, this process ensures that the need to integrate theoretical and practical knowledge is met. The challenge, then, is to make sure the differences converge and that all stakeholders contribute to creating an intervention that will lead to the target outcomes and that provides the best possible match between the different knowledge sources. This includes what is known from research, as well as knowledge about the specific organization, from different sources within the organization. But how do you do this?

This chapter outlines a structured process – the cocreated program logic (COP) process – for how organizational stakeholders can be engaged in defining intervention goals and activities and thus forming the program logic together with interventionists (researchers or consultants). The program logic can then be used to guide the evaluation of the organizational intervention. In this chapter, will also present how COP can be used in two different ways: (1) to inform the evaluation of an intervention where the intervention activities are preset, and (2) to, in addition to informing the evaluation of the intervention, also design intervention activities. Three objectives form the background for this approach: the necessity of a cocreation process in participatory approaches, the need for program logic to guide the design, implementation, and evaluation of organizational interventions, and the need to link the two together in a structured way.

Cocreation to establish ownership and utilization of best available knowledge

As interventions have moved from focusing on changing individual health behaviors to target organizational and multilevel structures, the importance of engaging stakeholders across the organization has become evident. This engagement includes having employees and managers across the organization participate in change efforts to create a sense of ownership in the organization for the change process. In this sense, organizational interventions are less of a time-limited, externally induced project and more of an ongoing, continual improvement effort that is more closely linked to daily operations. As such, any organizational intervention needs to be aligned with organizational visions, goals, and objectives (i.e., vertical alignment) as well as fitting with daily operations (i.e., horizontal alignment; von Thiele Schwarz & Hasson, 2013). Thus, the intervention needs to provide a so-called philosophical fit (with the organization's vision and goals) and a practical fit (that is, be possible to do in consideration of possibilities and constraints in the organization; Moore et al., 2013).

The need for alignment and fit means that many stakeholders need to be involved in the design, implementation, and evaluation of organizational interventions. Stakeholders who bring unique perspectives and sources of knowledge about the organization include employees, line and senior managers, researchers, occupational health specialists, human resources specialists, change agents (e.g., employees with certain areas of responsibility such as safety champions), and/or consultants. *Employees* need to be involved since they are instrumental in bringing about change. *Line managers* are known to be able to make or break an intervention, but given their role in a hierarchical organization, they are in turn dependent on *senior managers*, who provide (or do not provide) recourses for line managers and employees (Hasson et al., 2014). They also bring a wider perspective on how an intervention relates to the overall strategies and objectives of the organization. Then there are specialists on the relationship between work factors and employee health outcomes, as well as specialists on change and evaluation. This can include people such as a *human resources specialists, consultants*, and *researchers*. Combined, these stakeholders bring theoretical and practical knowledge that is essential for making sure that each organizational interventions builds on the best available evidence from a wide range of sources (that is, not only research evidence). To achieve a unified and coordinated change effort, all these knowledge sources and perspectives need to be brought together in planning and designing interventions. This includes agreeing on the objectives for the intervention, as well as a joint understanding of which activities will most likely bring about the desired change.

Yet, few concrete suggestions and tools exist for how these kinds of processes can be realized in practice. For example, the interactions between researchers and the organization and its employees have not been particularly well defined in previous research – it may be everything from the organization or the employees simply accepting the intervention, to the organization and/or the employees

having complete ownership of the change process (Kristensen, 2005). Similarly, participation may be direct or through representatives. The optimal level of participation is likely to differ between different organizations – one solution that fits to all organizations and interventions does not exist. For example, solutions may differ between interventions that the organization voluntarily commits to and interventions that are launched in response to external demands from changes in legislation or national guidelines, or between initiatives that comes from senior management and employee-driven changes. Thus, a tool is needed that is flexible enough to encompass different types of change processes, yet structured enough to provide a clear step-by-step guide for how participation throughout the design, implementation, and evaluation of organizational interventions can be achieved. Following this, the tool that we present is a suggestion on how a cocreation process can be set up and how it can look in practice.

Program logic: Outlining intervention components and target outcomes

The outcomes resulting from an organizational intervention generally develop as a chain of effects (Nielsen & Simonsen Abildgaard, 2013; von Thiele Schwarz et al., 2016) linking the components of the intervention to the outcome. For example, taking active part in an intervention (exposure and other implementation outcomes) aimed at redesigning how work is done (expressed in behavioral outcome) may lead to increased job autonomy and improved job clarity (intermediate outcome such as improved psychosocial work environment), which in turn increases job satisfaction and work engagement (distal outcomes such as employee well-being). That, in turn, may for example decrease turnover (end outcome such as organizational outcome). That is, each different outcome logically follows the previous one. This chain represents the program logic. It outlines the logic series of steps that are necessary for a chain of outcomes to be achieved.

The program logic, thus, outlines how the intervention is linked to the outcomes. This involves clarifying the core components of the intervention and the expected consequences of those components. Core components are the activities that are essential for the intervention to achieve its outcomes in that without them, the intervention will be less effective (or ineffective) (Fixsen et al., 2005). One can use multiple ways of outlining the core components. Outlines can be based on experience, previous empirical research of effective interventions, or theory. As described above, occupational health theories are helpful for guiding which and how outcomes (such as psychosocial work environment and employee health and well-being outcomes) are related; that is, the later stages of the program logic. For the earlier stages, other theories can be useful, including theories explaining behavioral change; for example, social learning theory and theory of planned behavior (e.g., Ajzen, 1991; Thomas et al., 2014) and theories explaining learning; that is, pedagogical theories such as constructive alignment (Biggs, 1996) and Vygotsky's zone of proximal development (Chaiklin, 2003).

By outlining how outcomes are expected to unfold, program logic also provides a framework for evaluation. As different effects follow on previous ones, this suggests *when* assessment of the different outcomes (i.e., *what* to assess) should be done in order to capture the effects. More so, the program logic can be viewed as an outline of the hypotheses for how the intervention will have its effect on outcomes. Having an a priori-specified model for the intervention is particularly important for organizational interventions that are not easily evaluated with randomized and controlled designs, and that aim to improve distal, multifactorial outcomes such as improvements in health (Kristensen, 2005). When outcomes are distal and multifactorial, it is difficult to link the changes or the lack of changes to the intervention. Thus, outlining and assessing more proximal, intermediate outcomes may allow the footprints of the intervention to be captured. In these circumstances, which are common for organizational interventions, the program logic provides an explicit and prospective way of studying the relationships between variables.

Getting everyone on the same page: Backward-moving program logic

Program logic can be developed in many different ways. Traditionally, the process involves starting with a predefined intervention where the core components are more or less known (e.g., stress management programs, mindfulness trainings, and leadership trainings). The intermediate and increasingly distal outcomes are then outlined in sequential order (Saunders et al., 2005). In contrast, the starting point in COP is at the outcomes: what goals are to be achieved? The logic is that in organizational interventions, achieving the outcome is more central than implementing a specific intervention. This approach is similar to that used in quality improvement research (Reed et al., 2014).

The backward-moving program logic is in line with the dynamic integrated evaluation model (DIEM; von Thiele Schwarz et al., 2016). This is an evaluation model for interventions that are dynamic (i.e., changing over time) and integrated (i.e., piggybacks on existing processes and structures in the organization) (von Thiele Schwarz et al., 2016). DIEM covers the intervention design, its implementation, further improvements of the intervention, and evaluation. The first four steps in DIEM cover the design phase, including decisions on objectives and target outcomes. COP can be used as a practical tool in these steps to define the intervention goals and intervention activities. After arriving at an intervention prototype (i.e., what activities we think are suitable), that is, the best current idea about how the intervention will look in the current context, the following DIEM-steps (five to eight) cover the implementation of the prototype and the potential revisions to it. These steps involve the continuous evaluation of how the intervention works in practice using data as a basis for potential revisions. Furthermore, evaluation involves the measurement of the intermediate and distal outcomes. COP is also a tool to define what type of outcomes should be measured and what are the optimal time points for these measurements. Thus, COP is central to several phases of an intervention.

Potential advantages of COP

Although it is possible for an interventionist or researcher to develop a program logic without involving other stakeholders, one of COP's defining features is that the program logic is cocreated amongst the group of stakeholders. This has a number of advantages.

First, cocreating the program logic may help get everyone on the same page, that is, to form a common understanding (a shared mental model) of the intervention (Nielsen & Randall, 2013). This decreases the risk of friction once the intervention is implemented. It may also decrease the risk of perceptual distance between stakeholders, that is, that different actors have different ideas and expectations about the intervention, its aim, goals, and needs (Hasson et al., 2016). As perceptual distance has been suggested to have a negative impact on the implementation of interventions as well as their outcome, decreasing perceptual distances concerning the intervention upfront may promote the successful implementation of the intervention (Hasson et al., 2016).

Second, cocreating the program logic may help build commitment and engagement. The necessity of having people across the organization on board is well known. By inviting those who will have opinions about the intervention, and allowing them to be able to influence whether it is implemented or not, a cocreated program logic means that those who can make or break the intervention will have invested time and intellectual capital in the development of it. This may increase the likelihood that they will assume ownership over the intervention as it unfolds.

Third, the program logic is likely to be more accurate if people with different knowledge sources and viewpoints have been involved in cocreating it. Having access to different knowledge sources (e.g., both theoretical knowledge about the intervention and practical knowledge about how things works in the organization) contributes to this.

Fourth, not only will the program logic be more feasible, the fit between the intervention and the setting where it is implemented is likely to be improved. The concept of intervention fit includes two interdependent dimensions: environment–intervention fit and person–intervention fit (Randall & Nielsen, 2012). By cocreating a program logic, constraints and opportunities in the organizational environment that may affect the intervention can be made explicit and managed by matching the intervention components to the needs in the organization, and (if needed) intervention components can be added aiming at managing obstacles for change. The cocreated program logic along with the adapted intervention can improve the perceived appropriateness of the intervention in the current environment (von Thiele Schwarz et al., 2016). Similarly, for those individuals involved and for those groups of employees they represent, person–intervention fit may be improved since the participants are likely to ensure that the intervention benefits them and those whom they represent. With a cocreation process with multiple stakeholders involved, this increases the chance that multiple viewpoints and needs will be addressed.

Lastly, by cocreating program logic the groundwork for the evaluability of the intervention is laid. The program logic forms a map that outlines what and when to evaluate and what data to collect. Since cocreating program logic helps establish a shared perception of the intervention activities and target outcomes as well as the mechanisms between them, those involved will understand the conclusions drawn from an evaluation, and thus, be more likely to embrace the findings (Blamey & Mackenzie, 2007; Leviton et al., 2010).

The COP process

The COP process builds on a structured methodology developed in higher education called adaptive reflection (Savage, 2011). Adaptive reflection combines the pedagogical theories of constructive alignment (Biggs, 1996), Bloom's taxonomy (Bloom et al., 1956) and Kolb's experiential learning process (Kolb, 1984). In constructive alignment applied in higher education, the outcomes that students are intended to learn are the starting point, and learning activities are aligned with these outcomes. It is important to note that the learning outcomes are expressed in active terms (e.g., describe, reflect, use, exemplify, etc.) that describe what performance is needed to achieve the outcomes. The active verb also indicates what kinds of learning activities are most suitable. For example, if the learning outcome is to apply something (e.g., give feedback), then the learning activity should provide opportunities to practice giving feedback. Bloom's taxonomy is a model covering a list of learning activities presented hierarchically, going from surface representations of learning (e.g., recognizing) through learning that reflects an increasingly greater ability to elaborate and use this knowledge (e.g., through describing, applying, analyzing, evaluating, and creating).

In the COP process, similar to adaptive reflection, the process of creating a constructive alignment between activities and outcomes is done with the stakeholders. They are led through a step-by-step process, outlined in Figure 2.1 (left-hand side). Figure 2.1 includes a description of the general steps as well as the ways the COP process was used in the two cases presented in this chapter, illustrating the flexibility of the tool.

The first step contains individual reflections over what it would look like if the outcomes of the intervention were achieved (see case descriptions for example). By reflecting individually at first, the benefits of having various perspectives is represented without risking anchoring effects and conformities, which regularly happen if one opinion is voiced before everyone has been able to contribute (Kahneman, 2011). Also, by asking the participants to build on their own experiences and then reflect and elaborate on them, the idea is to trigger a process of experiential learning (Kolb, 1984). The thoughts are documented on Post-it notes. In the second step, the Post-it notes are compiled and the participants asked to sort them into meaningful categories – initially under silence. This is, again, to allow individual interpretation, to avoid premature compromises, and to avoid the influence of power structures that may cap the knowledge becoming available in the group
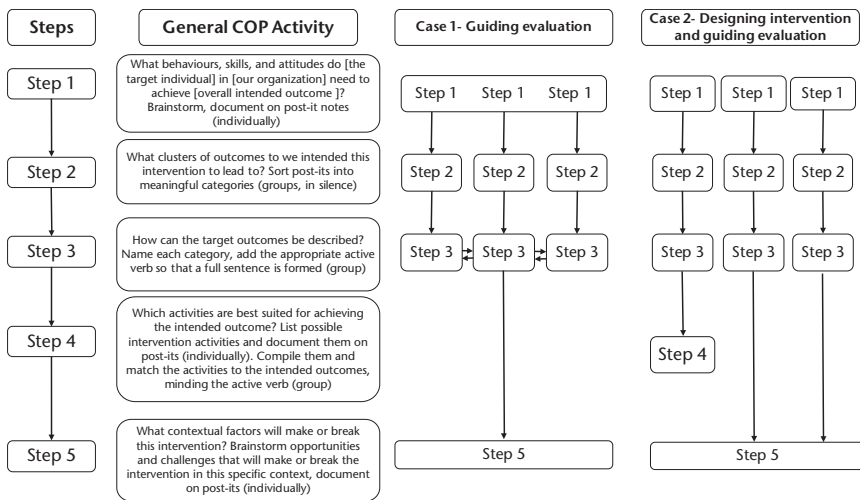
FIGURE 2.1   The COP process

(Savage, 2011). In the third step, each category is named and a suitable active verb is identified, forming a full sentence describing the target outcome in active terms. To help with this process, a list of active verbs can be presented (e.g., compare, analyze, inform, or reflect). In the fourth step, intervention activities are listed through individual brainstorming and then matched to the target outcomes. The final step in COP is to brainstorm factors that could make or break the intervention in this specific setting. This is also documented on Post-it notes individually.

Two cases of COP in action

In the following section, two cases illustrating how COP can be used in practice are described and discussed. First, a case where COP was used to create a common understanding of the objectives and to guide evaluation for a network-based learning model aiming to improve eHealth utility in a large health care organization is presented. The second case outlines how COP was used in a multilevel intervention including a first-line manager training intervention and a supporting senior management intervention (see also Chapter 9 for details on the senior management intervention). These cases are chosen to (a) outline how COP can be used to guide evaluation when the intervention is predefined (case 1) and (b) to inform the design of an intervention as well as guide its evaluation (case 2; see Figure 2.1, right-hand side). For each case, the contextual setting for the intervention and the background for the intervention are presented before explaining how COP was used. Then the results of the COP process are presented. We end each case by presenting some of the possibilities and limitations of using COP in the specific context of the case.

Case 1: Defining objectives to guide evaluation of an eHealth skills development intervention

Setting and background

This case focuses on a participatory employee skills development program. It was conducted in a regional health care organization in Stockholm County, Sweden, that included primary care, psychiatric care, habilitation, and rehabilitation divisions, as well as the five largest hospitals. The head of the primary care division, also responsible for the entire development program, contracted us in the autumn of 2015 to evaluate the intervention. The authors of this chapter had previously evaluated a similar intervention (Augustsson et al., 2017).

Intervention participants

All employees (i.e., 44,000 staff members) are expected to participate in the skills development program during 2017–2019. The intervention is a participatory skills development program consisting of a series of cross-professional workshops aimed to improve employees' skills in and use of information and communication technologies (ICT), clarify roles regarding ICT, decrease demands in general, increase work satisfaction, and also in a longer run strengthen employees' employability.

   The intervention has a network design and is led by an internal *project management team* supported by *consultants* specialized in process evaluation. They work together with a group of *process instructors* to design the themes and materials for the workshops that form the content of the intervention. The process instructors are health care staff working in the organization and thus they are familiar with the organizational context. The process instructors' task is also to coach *development leaders*. These are employees who have volunteered to lead the workshops that are conducted at each unit. They are also expected to act as embedded change agents. Thus, the workshops are led by different development leaders across the different units, but they use the same structure, themes, and materials.

   The participatory design of the workshops entails active participation of all employees in discussions, reflections, and practical exercises rather than didactic teaching. This also means that the questions discussed and the amount of time dedicated to different parts of a theme are allowed to differ somewhat between different sessions. Approximately 10 employees participate at each workshop session and every workshop theme is repeated until all employees in a unit have had the opportunity to participate. Overall the intervention includes three workshop themes. Each workshop lasts between 2.5 and 3 hours.

COP: Cocreated program logic to guide evaluation

In this case, COP was used to guide the intervention evaluation (agree on outcomes and the logic relationships between outcomes). This was done during one

workshop in September 2016. Participants were process instructors (e.g., internal change agents, $n = 9$) and the project management team ($n = 3$). The focus was on explicating the outcomes of the development program for the three main groups in the network model: the employees, the development leaders, and the process instructors. The goal with the COP process was to facilitate the development of a shared understanding of the goals of the intervention. In particular, because the intervention was set up as a network model, the aim was to make clear the connections between actions and outcomes across the network. The defined outcomes then guided the intervention evaluation.

Rather than running the COP steps separately for each group (i.e., employees, developmental leaders, and the process instructors), we ran them in parallel during the same workshop as outlined below (see also Figure 2.1).

Step 1. Following the general COP process outlined above, the first step involved individual work. We tailored the process slightly by repeating the first step so that outcomes for each group (employees, development leaders, and process instructors) in the network were covered. First, all participants were asked to consider the outcomes for employees. The original COP question was "What behaviors, skills, and attitudes do employees need to have after the intervention so that the project goals are met?" This was tailored based on input from the participants so that it would reflect the participatory process of the intervention. Participants were therefore asked to think individually about the question "What behaviors do employees need to engage in when participating in the intervention so that the workshop goals and the overall project goals are met?" The participants wrote their thoughts on Post–it notes (one thought per note). The Post–it notes were compiled and put aside for the moment.

Next, step 1 was repeated focusing on development leaders, asking "What behaviors, skills, and attitudes do development leaders need to have for the project goals to be met?" Again, thoughts were written down on Post–it notes, which were compiled and separated from the employee notes. After this, the same procedure was repeated with focus on the outcome for the process instructors. At this stage, the question was "What additional behaviors, skills, and attitudes (than those already mentioned for development leaders) do the process instructors need to show for the project goals to be met?" The participants wrote their thoughts on Post–it notes, which were gathered and compiled separately from the two other levels' outcomes.

Step 2. Following the COP process, the Post–it notes were clustered within each group according to common themes. Now, the process for each of the actors in the network model (employees, developmental leaders, and process instructors) was run in parallel. The participants were divided into three groups. The participants worked in silence to sort the Post–it notes into themes.

Step 3. Once the groups were pleased with their themes, they were asked to discuss and to create headlines for the clusters. The clusters of Post–it notes for the developmental leaders dealt with the themes of being able to *collaborate and communicate* with all relevant stakeholders; having thorough *understanding* of people,

the work conducted at the unit, ICT, and the organization; showing good *seminar leadership skills*; being able to *develop* in the role of seminar leaders; being able to *learn* from others; being able to *engage* all employees in the discussion (being able to listen, encourage those being more quite, being able to deal with those with strong emotions); and being *confident* in the participatory process, benefits of the training, and the organization being able to support them.

In an extension of step 3 of the original COP process, each group presented the headings to the rest of the participants. A discussion about the outcomes was facilitated by the researchers in order to create a common understanding of the headings and to get a deeper understanding of the themes.

The participants particularly highlighted that it became clear to them how the outcomes of the organization (on the employee level) were determined by how the developmental leaders were functioning, and how this, in turn, was dependent on how the process leaders acted. The groups also noted that the main themes were related to leadership and facilitation rather than content knowledge about eHealth. This was taken as an indication of the need to make sure this was reflected in the intervention activities for developmental leaders, which were initially focused more on eHealth content than change leadership. Due to the limited time that could be set aside for the workshop, this step did not involve finding active words as proposed in the original COP process.

Step 4. As this was an intervention where the intervention activities were already designed, the fourth step of listing intervention activities and matching them to the target outcomes was not applicable.

Step 5. The last step was an individual brainstorming activity to identify the organizational context that may influence the possibility of achieving the defined outcomes. The question the participants reflected upon was "What organizational context do development leaders need in order to succeed as seminar leaders?" Participants were instructed to think particularly about things that were feasible in their context, rather than visualizing the ideal organization where time and resources would be infinite. Again, thoughts were documented on Post-it notes. Aspects that were named was having mandate and support from their line manager and the process instructor were clear descriptions of what is expected of them, a general understanding in the organization that this participatory intervention is prioritized and linked to overall organizational objectives, feedback on performance from the project management team and the process instructors, capability to lead seminars and training in being able to do so, and practical aspects such as enough time allocated to the task as seminar leaders. This information was used to broaden the understanding among participants of the interconnectedness of the change initiatives within the broader organizational context as well as to guide the evaluation (e.g., suggestions for possible mediators and moderators of change).

Finally, the information from the COP-workshops was used to inform the choice of measurement. Items of established scales were identified and mapped on the target outcomes to ensure that the evaluation reflected.

Lessons learned when COP is used to inform evaluation: A self-evaluation

In this case, COP was used to guide the evaluation of an eHealth development program, and we found that the process did so by providing valuable information. The clustering of outcomes showed which constructs needed to be included in the evaluation. The individual Post-it notes then helped ensure that the items reflected the specific meaning that the stakeholders attached to the construct. This can be thought of as a simple way of tailoring the measurement to the specific context, which has been suggested to be critical when evaluating organizational interventions (Nielsen et al., 2014). This grounds the evaluation in the context where it is conducted, increasing the likelihood that it will be meaningful for the organization and that it will be sensitive to the changes it aims to measure. In this case, the evaluation is still ongoing and thus, we do not yet have data on how the evaluation has been experienced so far; it has been helpful to be able to fall back on that content of the evaluation that was cocreated., helping to pave the way for acceptance of the results of evaluation, whatever they may be (e.g., evaluability; Leviton et al., 2010).

From observations of the workshop and the conversations that took place, it was clear that inviting organizational stakeholders engaged in the intervention to a joint workshop gave the group an opportunity to discuss the project goals in more concrete terms. It seemed to facilitate the development of a common understanding of the outcomes. This may be particularly important since the group included both the project management team and the process instructors, that is, those overall responsible for the intervention and those who had been asked to join so as to inform intervention activities and to facilitate the delivery of the intervention. Having a common understanding of the goals is crucial because the intervention builds on a network model where each instructor and seminar leader is supposed to use the same material and themes as a basis and thereafter allow certain variations in the actual execution of the participatory workshops. Being on the same page is likely to contribute to the different nodes of the network moving in the same direction.

Using outcomes on three levels for employees, development leaders and for process instructors, seemed valuable both for us as evaluators and for the organizational stakeholders. For us, it helped explicate the logic model linking activities in different parts of the network to the end (employee) outcome. By working through the outcomes for the different actors, the links between them became evident also for the participants in the workshop. For example, the participants noted that many more leadership-related tasks were involved in their picture of a successful developmental leader than, for example, ICT competences. In fact, some participants expressed a revelation about the fact that the role was much more of being a change agent than they had realized before. In addition, they were somewhat surprised to realize their own roles as process managers had an important function in forming a context that would give developmental leaders opportunities to lead, which in turn would be necessary in order for the outcomes

on the employee level to be achieved. Overall, the importance of the process parts of the intervention, particularly the participatory approach, became clear through the COP process, suggesting that intervention activities targeting these areas may be needed.

Nevertheless, designing the intervention activities was beyond the scope of the evaluators' assignment as the intervention activities, overall, were preset. This is clearly a disadvantage, as relevant information became readily available through the workshop despite that the step specifically designed for this (step 4, Figure 2.1) was skipped. Therefore, even though the COP workshop gave input to the project management group, the usefulness of COP would have been even greater if the process also included informing the design of the intervention.

Working in parallel with the three different groups was a time-efficient way of covering a lot of material: the workshop only lasted 2 hours. It also saved the participants from the tedious repetition of going through the same process three times. Nevertheless, this may introduce a risk of developing different, rather than shared, understanding in the three groups. We tried to mitigate this risk by first having everyone contribute data for all three actors (step 1) before splitting into groups, and then, after the third step, letting the groups present and discuss each group's findings. Nevertheless, we would suggest adding another hour to the process to let this discussion take its time. This would also allow time to turn the headings of the clusters into meanings with active verbs, which was skipped because of time restraints. Adding that would allow more detailed analyses of the skills, knowledge, and behaviors than just description of the main themes.

Case 2: iLead – a multilevel intervention to foster implementation leadership

Setting and background

The second case focuses on a multilevel intervention that aimed to increase implementation leadership among line managers. This intervention was conducted in one division of the regional health care organization, with practices spread out throughout Stockholm County, Sweden. Senior management contacted us for help in the implementation of a working method that aims at facilitating and making care planning more effective. This implementation process had been on-going for approximately 18 months with a variety of setbacks.

Approximately 700 employees work in the division, which is divided into five thematic sections. Further, the sections are divided up into units, which are led by 33 line managers. The senior management group consists of nine members, who decided to invite all line managers to participate in the intervention. During the planning process, the senior management group also realized that they, too, needed to develop their own knowledge and skills about implementation and how to lead implementations, and thus, the line leadership intervention was complemented by a supporting intervention specifically for the senior management group.

Some of the content was similar, but overall, the senior management intervention focused on improving their ability to provide line managers with an optimal context to perform their implementation leadership. For further information about the project in general, see Richter et al. (2016), and for the senior management intervention in particular, see Chapter 9.

COP and intervention participants

Five national experts in implementation and leadership training (consults or researchers in the area) participated in the COP process preceding the intervention. Thirty-one line managers participated in the COP process and the intervention (one was unable due to ongoing organizational restructuring). The majority of participants were female, representing the general gender composition in health care. All participating managers chose a current implementation that was relevant for them to work on during the leadership intervention. In addition, the whole senior management group participated in the COP process and in the senior management intervention.

Using COP to design the intervention and guide evaluation

To design the intervention (the goals and the activities) and to guide the evaluation (agree on outcome and the causal relationships between outcomes), three separate COP workshops were conducted from winter 2015 to spring 2016.

The first COP workshop was conducted with experts. In addition to informing the design of the intervention and the evaluation in general, the specific goal was to get a coherent expert opinion about appropriate intended outcomes of implementation leadership training interventions and to identify intervention activities that where constructively aligned with those outcomes. Following the COP process outlined above, the followings steps were taken (see Figure 2.1, right-hand side).

Step 1. The experts were instructed to think individually about the question of "What behaviors, skills, and attitudes do managers need to lead an implementation?" They wrote down all thoughts on Post-it notes (one thought per note; see Table 2.1 for examples).

Step 2. The notes were compiled, and the experts worked together to sort them into meaningful categories, initially under silence.

Step 3. The experts then created headings for each cluster. These headings were iteratively revised until they contained an active verb, forming a full sentence that described an intended outcome of the intervention. To help with this process, the group was presented with a list of verbs. They were also asked to consider the level of proficiency that each verb represented in relation to knowledge, learning, and skills. In this way, the headings form the target outcomes for the line manager intervention (see Figure 2.2).

Step 4. To arrive at a list of intervention activities that matched the intended outcomes, the experts were asked two questions. First, they worked individually

FIGURE 2.2   The expert group in the process of matching intervention activities to the intended outcomes

FIGURE 2.3   The expert group reflecting on the identified the learning outcomes

generating answers to "Which activities have worked well in previous interventions?" The answers were documented on Post-it notes. These were compiled and the group jointly engaged in answering the second question: "Which of these learning activities would fit in the current intervention to achieve the target outcomes?" They matched the appropriate intervention activities to the intended outcomes (Figure 2.3). This included considering the verb (level of proficiency of knowledge and skill) and making sure the intervention activities were constructively aligned with the outcome. For example, the intervention outcomes "knowledge about relevant theoretical models" and "setting the implementation into a larger context" were intended outcomes that were identified by the experts. The ambition was also to include a variety of intervention activities such as how knowledge about the relevant theoretical models can be brought about (e.g., using short inspirational films, paper and pen exercises, etc.). See Table 2.1 for examples of identified intervention activities.

Step 5. Because the experts were not familiar with the specific context where this intervention would be implemented, this step was not applicable.

The *second* COP workshop targeted the 31 participating line managers. Their process involved steps 1–3 and 5.

Step 1. The first-line managers were asked to respond to the question "What behaviors, skills, and attitudes do managers in our organization need to lead an implementation?" Thus, they were asked to respond to a similar first question as the experts, but specifically considering leading implementation in their own organization. Similar to the experts, the line managers were instructed to generate as many Post-it notes as possible. See Table 2.1 for examples.

Step 2. Similar to the general COP process and that used in the expert group, the Post-it notes were compiled and then sorted into meaningful clusters, in silence. Because this was a larger group, this was done in groups of five to seven persons.

Step 3. Each smaller group was then asked to find headings for each cluster using active verbs. Compared to the expert group the line managers did not relate the active verbs to the level of proficiency that each verb represented. Here an adaptation was made to fit to time constraints for this workshop.

Step 5. Going directly to step 5, the managers were asked "What context/surrounding do line managers in our organization need in order to become good implementation leaders?" They were instructed to think particularly about things that were feasible in their organizational context, rather than visualizing the ideal organization where time and resources are infinite. Examples are presented in Table 2.1. For the sake of time, the line managers did not proceed with steps 2 and 3 for this question. Also, in contrast to the first question, which aimed at creating a common understanding of what implementation leadership is, the second aimed to provide input on what supporting activities would be needed, including informing the content of the senior management intervention. For example, it became evident that the managers needed clarity about the time frame for the implementation and that they longed for a more effective dialogue between senior and line managers.

TABLE 2.1 Examples from the different COP sessions

Experts	Line managers	Senior management
Question 1 What behaviors, skills, and attitudes do managers need to lead an implementation?	Question 1 What behaviors, skills, and attitudes do managers in our organization need to lead an implementation?	Question 1 What behaviors, skills, and attitudes do first-line managers in our organization need to lead an implementation?
• Know about general leadership, in particular transformational leadership • Know about domain specific leadership • Know about implementation models • Know about behavioral change such as handling resistance • Communicate change in an understandable and meaningful way • Communicate the belief in employees' competence to handle the change • Be a role model • Be clear but flexible • Show support • Setting goals, monitor and give feedback	• Clear communication to employees • Understand the aim and purpose of the change • Understand the change process • Be knowledgeable • Prioritize and structure • Monitor and give feedback • Be open • Handle resistance • Motivate and inspire • Listen to employees • Set goals • Engage employees	• Lead the process • Express trust and loyalty • Know the implementation process • Know the content of the implementation • Stand behind the implementation • Create motivation • Communicate the implementation relating it to the greater goal of the organization • Be open and creative • Have a structure for the implementation • Be a role model • Monitor and give feedback
Questions 2 Which intervention activities have worked well in previous interventions?	Question 2 (spet 5) What context/surrounding do line managers in our organization need in order to become good implementation leaders?	–
Didactic tools: • Video demonstration • World café Feedback and reflection: • Reflecting teams • Group discussion • Poster session Group work and role play Pedagogic models/theories	• Recruitment of employees • Support for employees • Communication plan regarding the implementation • Support from the closest manager • Clear direction from senior management • Possibility to participate in decision making • Time plan • Prioritizing in the organization • Monitoring and feedback	–

Because steps 2–3 were done in smaller group, the line managers spent 5 minutes towards the end of the workshop looking at the headings and Post-it from the other groups. This was done to give them a sense of which themes the other groups had identified.

The third COP workshop was conducted with the senior management group. It followed the same steps as the process for line managers answering the question "What behaviors, skills, and attitudes do first-line managers in our organization need to lead an implementation?" They silently wrote down answers on Post-it notes, sharing the notes and sorting them in silence, then deciding on the heading for each cluster. Results of this workshop were similar to the results from the workshop with the line managers (see Table 2.1).

After the workshops, the senior management group and the line managers received a transcript of notes from their respective workshops. This was done as a memory aid and to give them input for further reflection. The senior management group also received transcripts from the first-line manager workshop.

Once the three workshops had been conducted, the next step involved creating a program logic. Here we added another source of information, namely scientific literature and theory on leadership and implementation and pedagogical principles. A scoping review on these topics was undertaken, particularly looking at the theoretical underpinnings, content, and pedagogical principles of published leadership interventions. The results from the COP workshops as well as from the literature review were mapped and outlined in a logic model. The researchers conducted this in an internal workshop (Figure 2.4). A brief overview of the program logic can be found in Table 2.2. Overall, the results from the COP process were well in line with the scientific literature and theory. The intervention activities identified by the expert group also largely overlapped with pedagogical approaches that have previously been used in leadership interventions.

The program logic was then used to guide the evaluation. This was done in an iterative fashion whereby items of established scales measuring constructs relevant to the intervention goals were mapped on the intended outcomes to ensure that the identified issues were covered in the evaluation. This process highlighted the need to develop a scale that specifically captured implementation-specific, full-range leadership (Mosson et al., forthcoming).

Lessons learned when COP is used design the intervention: A self-evaluation

In this second case, COP was used both to inform the design and the evaluation of the intervention using a series of COP workshops targeting different stakeholders (e.g., experts, line managers, and senior management). Overall, this approach seemed feasible to elicit the information needed to create a program logic that was contextualized to the organization. It also seemed a feasible way to foster a shared understanding of the goals of the intervention as well as the logical links

FIGURE 2.4 The researchers map the results from the COP process on theoretically and empirically derived concepts

TABLE 2.2 Brief version of the program logic

Core components	Immediate impacts	Short-term impacts	Distal outcomes
• Short lectures • Work with a practical case e.g. action plan & sustainability plan • Reflection in small groups and individually • Role-play • Feedback from employees, fellow participants • Try new leadership behaviors – work between the workshops • Booster email between the workshops	• Increased knowledge about implementation leadership and implementation models in general • Increased knowledge about the specific implementation process • Increased understanding about reactions to change, motivation • Increased self-efficacy to lead implementation • Improved ability to structure implementation	• Improved skills and capacity to handle resistance, listen to employees • More frequently express trust, communicate change in an understandable and meaningful way • Setting clear goals, monitor and give feedback more frequently • Create motivation to implement • Provide increased direction	• Increased implementation of the guidelines • Improved implementation climate • Improved work-related wellbeing • Improved productivity

between the content of the intervention and the objectives (target outcomes) of the intervention.

One of the advantages of using a series of workshops with the different stakeholders was that it allowed the COP process to include only the steps most relevant for each specific group. All did steps 1–3 answering the question of "What behaviors, skills, and attitudes do managers in our organization need to lead an implementation?" But the experts subsequently focused on intervention activities and linking them to outcomes, and line managers added information on contextual factors that could make or break the intervention.

The input from the experts (e.g., researchers and consultants) helped to ensure that all-important aspects (both practical and theoretical) in the design and evaluation of the leadership intervention were considered. Thus, this process allowed research and practice to be combined, incorporating multiple knowledge sources. As the experts had practical experience of working with complex interventions and leadership development, they were able to contribute with a practical perspective both in terms of what they felt managers needed to know and do and also of "what works" as intervention activities. By inviting experts working in different fields and using different learning approaches, a variation of perspectives was considered that might not have been included if only relying on literature reviews. Nevertheless, the expert group was a convenience sample of experts who were well known to the researchers, and the width of experience could have been even more diverse, for example, by including experts with other disciplinary backgrounds.

Whereas the experts' input helped incorporate the theory and practice of leadership development, the line managers helped contextualize the intervention by describing the influence of context. By doing so, they provided valuable information about what should be included in a supporting intervention, and it was essential for creating the content for the senior management intervention (Chapter 9; von Thiele Schwarz et al., 2016). The Post-it notes on the contextual challenges were categorized by the interventionists and a summary of the relevant categories was sent out before each senior management intervention workshop to increase the senior group's readiness for the workshop and purvey the sense of urgency of the topic.

Inviting line managers to the COP process had additional advantages. First, it was a way to get to know the participants and for them to get to know the researchers. Therefore, the workshop, which was the first contact with the line managers, was important to building a trusting relationship. Second, it was a way to build a common understanding amongst the line managers concerning what it meant to lead an implementation. It provided line managers with an opportunity to reflect on their work and role together with colleagues. They also received transcripts of the notes and headings from the smaller groups. The fact that the different groups had generated very similar topics further conveyed that the perceptions to a large degree were shared. Third, the workshop gave the managers the possibility to reflect upon their role as implementation leaders and mentally preparing them for the role they would be asked to take during the intervention. Although we

lack data to support this claim at this point, we speculate that this may be a way to increase readiness for change.

This case also involved a separate COP process for senior management. For the researchers, this workshop was an important source of information, as it made explicit the expectations that senior management had on what the line managers needed to improve, which in turn made the expectations on the intervention and the interventionists explicit. Based on observations and comments from the senior managers during the workshop, the COP process also seemed to facilitate a better understanding of the complexity of implementation leadership. This provided a starting point to build on for the senior management intervention, as it clarified the demands the line managers were facing and how they can be assisted in their role as implementation leaders. Lastly, the COP process also meant that senior management got a sense of involvement and investment in the intervention. The COP process may be one way to increase the buy-in that is so important for the success of any organizational intervention.

The workshop with the senior management took 2 hours, but could very well have been expanded to also let senior management reflect on their own role in the change process. That would have been another source to shape the content of the supporting senior management intervention and should definitely be introduced if the senior management intervention is the primary rather than supporting intervention.

In this case, the different sources of information from the three stakeholder groups converged. This helped convey a sense of shared purpose that was particularly important given that the organization had experienced difficulties related to the implementation during the years preceding this intervention. It also made it seamless for the researchers to put the program logic together. Yet, there may not always be convergence between stakeholder groups. In these cases, the COP process will help illuminate any perceptual distance that may exist between different stakeholders. Such discrepancies will have to be managed, and to do so, it may be worthwhile to amend the COP process to also include more shared sense-making, similar to how it was done in the first case in this chapter.

The results from the COP process also largely converged with previous research and leadership theory. This could be interpreted as the process being superfluous but on the other hand, we believe this demonstrates the validity of the method (as well as the validity of the theories). From a research perspective, this means that we still could build the intervention on theory. Yet, we still received all the benefit of the cocreation process. Participants themselves had generated the content, likely increasing the sense of fit and relevance as well as ownership compared to a scenario in which the research team had presented a predefined solution to them. We believe that this can increase the person-intervention fit as well as the organization-intervention fit, which previously has been identified as a crucial factor to succeed with an intervention (Randall & Nielsen, 2012).

Conclusions

In this chapter, we present a structured process whereby organizational stakeholders and researchers are engaged in designing intervention activities and/or to inform the evaluation by outlining the objectives and outcomes, thereby cocreating a program logic. We illustrate it using two cases. The first shows how the COP process can be used to guide evaluation and support the development of a shared understanding among stakeholders for a predefined intervention. The second shows how COP can inform the design of the intervention, in addition to guiding evaluation. In both cases, we perceived the process to be immensely helpful to ensure a thorough work-through of the program logic as well as strengthen the collaborative relationships with the organization where the interventions were set.

The advantages of the current approach were as follows:

- The process provided a structured approach to integrating theory and practice. On the one hand, the process validated the relevance of theories linking participatory approaches and leadership to outcomes. On the other hand, it contextualized the theories, tailoring them to the needs of the organizations and describing them in the words of the participants.
- The process was flexible enough to allow changes to be made in response to needs expressed by participants (case 1). It also provided a sufficient balance between structure and flexibility to allow different stakeholder groups to focus on the steps most relevant for them (case 2).
- The process was active and engaging. The participants expressed that they enjoyed the workshops—they were perceived as engaging, fun, and thought provoking. They appreciated the practical approach rather than merely discussing issues. Thus, as a bonus, the positive experience helped increase positive expectations for the coming intervention.
- The COP process worked equally well with the different stakeholder groups— managers and change agents in multiple levels of the organizations. It also worked both for a predefined intervention and an intervention where the only the main form (a leadership training intervention) was predefined.
- Through the COP process, the stakeholders help delineate how the objectives of the organization could be achieved and what the target outcomes might be. In the discussions around the headings, the participants also touched upon the prioritization of outcomes and activities, which informed the researchers about the activities that were believed to have the greatest impact, to be most changeable, and to have the greatest possibility for positive spillover, issues that have been described as essential for matching an intervention to an organization (Michie et al., 2015).

Yet, based on our learning from the two cases, we propose two revisions to the COP process. These are summarized in Figure 2.5. The first is an addition of a sixth step. Similar to earlier in the COP process, this step involves clustering the

Steps	General COP Activity
Step 1	What behaviours, skills, and attitudes do [the target individual] in [our organization] need to achieve [overall intended outcome]? Brainstorm, document on Post-it notes (individually)
Step 2	What clusters of outcomes to we intended this intervention to lead to? Sort Post-its into meaningful categories (groups, in silence)
Step 3	How can the target outcomes be described? Name each category, add the appropriate active verb so that a full sentence is formed (group)
Step 4	Which activities are best suited for achieving the intended outcome? List possible intervention activities and document them on post-its (individually). Compile them and match the activities to the intended outcomes, minding the active verb (group)
Step 5	What contextual factors will make or break this intervention? Brainstorm opportunities and challenges that will make or break the intervention in this specific context, document on post-its (individually)
Step 6	What clusters of factors will make or break the intervention? Sort post-its into meaningful categories (groups, in silence) and name them (groups)
Step 7	How can the outcomes and activities be ordered in a logic model? Work brainstorm opportunities and challenges that will make or break the intervention in this specific context

FIGURE 2.5 Revised version of the COP process

Post-it notes (from step 5) into meaningful categories and providing them with a heading. We believe this addition may help the group also develop a shared understanding about the context, further increasing the sense of being on the same page. The second revision is simply to explicate that the process also involves summarizing the findings in a program logic.

In addition, we recommend that the following is also considered:

- The time allowed for the process. In both cases, more than 2 hours would have been needed to allow more steps to be covered, and we would recommend others to allow at least 3 hours instead. Nevertheless, given the wealth of information earned on the current scale, the process does seem to be flexible enough to be valuable when time is more limited.
- Care is needed in the formulation of the questions. We have also used this process in the context of stress management and in that case, the question needed to focus less on skills, attitudes, and knowledge and more on an imagined positive end state (imaging that one wakes up tomorrow and one's work situation is in total balance: what would that look like?).

- In these cases, the researchers summarized the results from the COP process in a program logic, but this could also be done in collaboration with the organization. Yet, our experience is that people often perceive program logic to be a complex matter, and for the sake of using time and skills efficiently, it may be sufficient to have the interventionist summarize the information from the COP process in a logic model and then sense-checking it with the stakeholders.

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3

PARTICIPATORY INTERVENTIONS IN CALL CENTRES

Carolyn Axtell and David Holman

Background to the chapter

Call centres present a particularly challenging environment in which to conduct participatory job redesign interventions as they have many features that can inhibit the success of participatory interventions such as little history of employee participation, bureaucratic structures and high turnover. The aims of this chapter are to show that participative job redesign interventions can be run successfully in call centres. In particular, we will draw on our experiences of running participative job redesign interventions in two call centres to describe and discuss the issues involved in their planning, running and evaluation (Holman et al., 2010; Holman & Axtell, 2016). First, we will outline the nature of job design within call centres, provide a brief overview of the literature on job redesign interventions in call centres and highlight the potential difficulties of running such interventions within this context. Next, we will describe the job redesign interventions we ran and specify the key phases and considerations when undertaking them. We will also evaluate the effectiveness of these interventions and conclude with some lessons learned about the strengths and limitations of our approach.

Rationale for job design in call centres

Job design refers to the characteristics of employees' job tasks and activities (Parker & Wall, 1999). Drawing on the job demands-resources model (Demerouti et al., 2001), job characteristics can be categorised as job resources or job demands. Job resources are psychological, physical, social or organisational aspects of the job that facilitate task achievement and learning, and which help to reduce the impact of job demands (Bakker & Demerouti, 2006). Job characteristics that can

be classified as resources include job control (i.e., discretion over the timing of work tasks and how to complete them), task variety, task feedback, skill utilisation, social support and participation in decision-making. Job demands are job characteristics that require sustained physical and/or psychological effort. Recent work has distinguished challenge demands from hindrance demands. Challenge demands are task requirements appraised as promoting growth and achievement (e.g., task complexity, workload) and hindrance demands are task requirements appraised as preventing task completion (e.g., emotional demands, time pressure; Lepine et al., 2005). Empirical research demonstrates that: job resources are positively associated with employee outcomes such as well-being, satisfaction and performance; hindrance demands are negatively associated with these outcomes; and challenge demands are associated with higher levels of burnout and stress but also with higher job satisfaction and performance (Humphrey et al., 2007; Lepine et al., 2005; Van den Broeck et al., 2010).

The design of call centre agents' jobs has been identified as problematic in a number of key areas. First, call centre jobs tend to lack key job resources such as job control, task variety and participation (Deery et al., 2002; Holman, 2002; Holman et al., 2007; Sprigg et al., 2003; Zapf et al., 2003). Second, with regard to challenge and hindrance demands, both workload and emotional demands tend to be high, while those challenge demands that might make the job more interesting, such as task complexity, tend to be low (Deery et al., 2002; Holman, 2002; Sprigg et al., 2003; Thite & Russell, 2010; Zapf et al., 2003). Third, performance monitoring in call centres is both extensive and intensive as it typically combines continuous electronic monitoring of quantitative performance (e.g., call times), frequent evaluations of call quality through overt and covert evaluation, and frequent feedback. This approach to performance monitoring can increase demands and thereby raise employee stress, particularly when used punitively rather than developmentally, when the quality of feedback is poor and when agents have little control over their work (Bakker et al., 2003; Holman et al., 2002). Lastly, opportunities to interact with colleagues can be limited due to low task interdependence (which has led some to characterise call centre teams as 'administrative' or 'pseudo' teams; Van den Broek et al., 2004) yet call centre agents often report relatively high levels of co-worker support (Deery et al., 2002; Sprigg et al., 2003).

Although not all call centre agent jobs have these characteristics – studies show a degree of variation in job design across call centres – the evidence does indicate that many call centre jobs are characterised by routinised and demanding work with low levels of job control and high levels of monitoring (Holman et al., 2009). As such, it is not surprising that call centre agents tend to report low levels of employee well-being, particularly relative to other similar service occupations (Frenkel et al., 1999; Grebner et al., 2003; Holman, 2002; Sprigg et al., 2003, Zapf et al., 2003) and that the level of employee turnover in the call centre industry is high, with one estimate that the median turnover rate is 20 per cent (Holman et al., 2007). Thus, the need for job redesign is strong in this context.

The case for participatory job redesign interventions in call centres

One way of addressing the problematic nature of job design in call centres is to conduct a job redesign intervention, which can be defined as a planned change initiative that aims to modify job characteristics as a means of enhancing employee outcomes (Holman & Axtell, 2016; Parker & Wall, 1999). Reviews of organisational interventions suggest that successful interventions have five phases including: *preparation*, i.e., developing and securing support for the intervention strategy; *screening*, i.e., identifying the psychosocial risks in the workplace; *action planning*, i.e., developing change initiatives that alter work activities as a means of changing job characteristics and improving employee outcomes; *implementation*, i.e., embedding change initiatives within the organisation; and, *evaluation* of the effectiveness of the intervention (Israel et al., 1996; Nielsen et al., 2010). Such reviews also identify employee participation (which in this context can be defined as involvement in planning and implementing an intervention) as central to the success of job redesign interventions (Egan et al., 2007; Hurrell, 2005; Kompier, 2004; Nielsen & Randall, 2012; Nielsen et al., 2010). For example, employee participation can improve the quality and contextual appropriateness of change initiatives by drawing on employees' expertise and knowledge, and can increase commitment to implementing change initiatives, as employees have a greater sense of ownership of those change initiatives (LaMontagne et al., 2007; Nielsen et al., 2007). Employee participation can also be beneficial in its own right, as it can increase the sense of job control and responsibility (Le Blanc et al., 2007; Mikkelsen & Saksvik, 1998).

However, employee participation is not without risks; it can increase the complexity of the intervention processes by involving a wider range of stakeholders who may have competing ideas and motivations, and raise costs by removing front-line employees from their jobs (Ichniowski et al., 2000). Furthermore, employee participation in job redesign interventions may be more difficult in certain contexts. For instance, when job control is low and there is little opportunity to participate, employees may lack the confidence or experience to be involved in decision-making processes, and bureaucratic organisations may make it hard for employees to implement changes to job tasks, particularly when tasks appear 'fixed' due to technological constraints such as software routines (Nielsen & Randall, 2012; Saksvik et al., 2002). In addition, in contexts with low employee well-being and high burnout, employees may find it difficult to actively engage in participative activities, while in an organisation with high turnover, those employees involved in developing ideas may not be around to embed them within the organisation (Nielsen & Randall, 2012). Given that call centres often have many of these contextual features (e.g., low job control, little history of employee participation, bureaucratic structures, high turnover), they present a particularly challenging environment in which to conduct participatory job redesign. But as we will show, participative job redesign interventions that improve job design, employee well-being and employee performance can be run successfully in call centres.

Content of the interventions

Within this section we present our experience of running participatory job redesign interventions within two call centre settings and detail the structure and content of the interventions. The first study (Study 1) took place in a private sector, non-unionised call centre in which the main tasks involved dealing with incoming calls from customers about their insurance policies and claims, and dealing with incoming post and documents (see Holman et al., 2010). The second study (Study 2) took place in a public sector, unionised call centre dealing with transport-related issues (see Holman & Axtell, 2016). The main tasks for call centre agents involved dealing with customer queries (from both private organisations and the general public), handling payments and making bookings. In both settings, although many of the calls were repetitive they still required a good understanding of underlying policies and procedures in order to deal with enquiries. There were also various administrative tasks relating to customer enquiries, such as emailing customers, writing letters, or emailing other parts of the organisation to get information.

The primary rationale for each intervention was to improve employee well-being. In Study 1, senior managers approached the research team as they were keen to improve job satisfaction (which company surveys had shown to be relatively low) and to reduce employee turnover, as previous initiatives had had little effect on these outcomes. In Study 2, the decision to involve external expertise was initially driven by trade unions concerned about employee well-being. Senior management were, however, very supportive and were also keen to improve job quality and well-being.

The participatory job redesign interventions had four main stages (1) preparation, (2) screening, (3) action planning and (4) implementation, although an evaluation phase was also included at the end. Stages 2 to 4 were largely based on a 'scenarios planning' tool that was originally developed to redesign jobs during the introduction of new technology and which provides a relatively structured method for conducting job redesign interventions. The scenarios tool also stresses collaboration between researchers and the organisation, the participation of multiple stakeholders so that their expertise is incorporated (especially from front-line staff) and the introduction of job design theory to inform and empower stakeholders so they can make better decisions about redesign solutions (Axtell et al., 2001; Clegg et al., 1996). It is worth noting that within both studies only part of the organisation underwent the full intervention and we were therefore able to employ a quasi-experimental design to compare the 'intervention' and 'control' groups within our evaluations. We now detail each stage.

Stage 1: Preparation

The preparation phase was geared towards developing and securing support for the intervention and to communicate the intervention plan to ready employees for change. Initial meetings included senior call centre managers in which the

scope and nature of the intervention was discussed and a broad plan and timetable for the intervention was agreed. With regard to the scope of the study, in Study 1, all five departments (seventeen teams) in the call centre were initially involved in the intervention, as managers wanted all employees to benefit from it (although two teams later dropped out due to an outsourcing decision). In Study 2, four out of the twelve teams were selected to take part. The researchers asked the managers to select teams that were representative and not just the best or most 'agreeable' teams.

The intervention plan was then communicated (by a researcher) at a meeting of all team leaders and then to all employees during formal team meetings. An important element of this initial communication was to manage expectations by stating the limitations of the intervention, particularly that it would not alter pay or (in Study 2) other employment conditions set by national collective bargaining. At these meetings, team leaders and employees were generally positive about the opportunity to try to improve aspects of the call centre agent job that they disliked or found frustrating (e.g., a lack of variety), although some expressed concerns that the intervention would increase workload.

Stages 2 and 3: Screening and action planning

The second and third stages of the intervention focused on screening and action planning activities with the overall aim to develop an agreed set of job redesign changes. These stages, primarily based on the scenarios planning tool, consisted of two one-day workshops followed by smaller follow-up meetings.

Workshop 1: Screening and developing alternative job design scenarios

The focus in the first workshop (which lasted for about five hours) was to evaluate and identify the risks of the current job scenario, to discuss alternative job scenarios, and to develop and select a new preferred job design scenario. In Study 1, separate workshops were run for each department in the call centre and involved two or three employee representatives from each team in that department. In Study 2, separate workshops were run for each team and all team members participated. The level of employee participation within teams was therefore greater in Study 2. The workshops also included team leaders from each team to provide additional insights, particularly that pertaining to team and cross-team functioning. Senior managers were not included within these workshops, as this might have constrained discussion and ideas. However, it was made clear that senior managers had given their support to these workshops and that they would need to 'sign off' any proposed changes. Participants were told that they would be given support to develop the case for the proposed changes before being presented to management.

Assessing the current job scenario. The workshop started by trying to develop a common understanding of the current work scenario among participants and

defining problems in need of improvement. To do this, the research team first introduced the rationale behind the workshop and put it in the context of the results from a recent employee survey that was run by the researchers as part of the intervention evaluation process. Next, employees worked in small groups to describe their understanding of their job tasks and then shared this in a plenary with the rest of the team, where the main points were written on a flipchart. The research team ensured that participants also thought about and included tasks that were at the boundaries of their work. For instance, participants considered team leader tasks (so there was an understanding of the vertical spread of tasks within the team), outlined where work needed to be passed on to other departments (to understand the horizontal range of tasks in the team), and defined obstacles faced in their day-to-day work. When outlining vertical and horizontal handover points, key obstacles to getting the work done were often highlighted.

Once participants agreed that they had covered all the main activities within the current scenario, they were asked to rate this current work scenario against a range of job design criteria and outcomes. The researchers prepared a sheet which outlined a set of thirteen previously identified job design criteria in call centres (adapting this to suit the call centre context was an important difference with previous uses of the scenarios planning tool), and went through these to ensure that the participants understood them. The job characteristics, their descriptions and rating scales are summarised in Table 3.1. Each of these characteristics was rated on a scale from 1 to 10 – with 10 representing the most positive score in job design terms. Notably we included 'job obstacles' and 'cross-team/department cooperation' because these are particularly pertinent and readily identifiable in call centres where jobs are typically very narrow but customer enquiries can be quite broad and complex. Basic principles of job design were also explained in relation to enhancing or reducing job characteristics to improve employee well-being and particular attention was given to distinguishing job demands from job resources. We also made a distinction between personal skills and the skills needed to do the task so as to distinguish between the design of the task itself and personal abilities and aspirations (which may not match). This helped to highlight training needs required for any new tasks adopted.

Next the job outcomes were explained and rated. There were three ratings for employee well-being. Two related to Warr's circumplex model and were measures of depression-enthusiasm and anxiety-contentment (Warr, 1990). Thus participants rated the current scenario from 1 (miserable) to 10 (enthusiastic) and from 1 (anxious) to 10 (calm). Another item based on the concept of burnout (Maslach et al., 1997) was rated from 1 (burnt out) to 10 (vigorous). Performance was rated in terms of productivity – from 1 (low call productivity) to 10 – high call productivity (no room for improvement); and quality from 1 (low call quality) to 10 – high call quality (no room for improvement).

The scoring process generated a lot of discussion and some disagreement, although most differences were resolved. However, if there were large differences due to different tasks in different parts of the team, then these differences were recorded.

TABLE 3.1 Job characteristics used in scenario rating

Job characteristic	Description	Rating
Job control (timing)	The freedom you have in your job to control the pace of work, or when you do particular pieces of work, or when you take breaks	1 = no control, 10 = complete control
Job control (methods)	The freedom you have to control how you do your work and what methods you use, and how you speak to customers	1 = no control, 10 = complete control
Variety	The degree to which your job involves doing different tasks throughout the day	1 = tasks repeated over and over; 10 = high variety of tasks
Task completeness (we used this term instead of task identity)	The extent to which you complete all parts of a tasks from beginning to end, rather than just small parts of a complete task	1 = only complete small subsections of a task, 10 = complete whole task from beginning to end
Task conflict	The extent to which there are competing demands (i.e., quality vs quantity, or different people expecting opposing things from you)	10 = task conflicts never occur, 1 = task conflicts are a permanent feature of work (NB. Reverse scored demand)
Feedback	The frequency, quality (e.g., usefulness) and timeliness of the feedback that you get on your call productivity and call quality	1 = little feedback, low quality; 10 = High level of feedback, high quality.
Participation	The extent to which you can influence decisions about how your team and department is run	1 = no influence, 10 = high level of influence
Group responsibility	The extent to which the group is responsible for the team tasks	1 = group is not responsible for team's tasks, 10 = group is highly responsible for team's tasks
Skill utilisation	Whether your skills are used in the job	1 = skills underutilised, 10 = skills fully utilised
Skill needs	Whether you feel you need a lot of skills to do the job	1 = do not need many skills, 10 = need many skills
Job obstacles	The things that prevent you from doing a good job. It could be a lack of information, the inability to complete a task, lack of access to a computer system, interruptions, technology not working properly, systems that are poorly designed	10 = no obstacles and 1 = high number/severity of obstacles (NB. reverse scored demand)

Cross–team/ departmental cooperation	The effectiveness of cooperation with other teams and departments	1 = very ineffective cooperation to 10 = highly effective cooperation
Physical working conditions	The extent to which the physical working conditions (e.g., light, noise, heat, equipment set up) affect the job tasks	1 = physical conditions have large negative effect on the task, to 10 = physical conditions have a positive effect on the task

The mean score for job characteristics, well-being and performance were then calculated, and the current scenario was then put to one side whilst work began on the alternative scenarios.

Developing alternative scenarios. The next step in the workshop was to help participants to consider various job redesign solutions that might improve job characteristics and outcomes. To that end, the researchers guided the participants towards possible alternative scenarios that emphasised particular criteria. Whilst the overall theme of the alternative scenarios was provided by the researchers, the participants came up with their own ideas of what changes would be needed to realise these alternative scenarios. At this stage we tried to encourage participants to ignore actual or potential barriers, as feasibility was considered at a later stage. This phase was meant to encourage employees to think creatively and consider new ideas.

In Study 1 we used three key scenarios – one aimed at improving well-being, one aimed at improving performance and one aimed at improving both. The idea behind this was to illustrate the trade-offs that might need to occur in order to satisfy both well-being and performance, but also served to highlight that there may be some work practices that would enhance both outcomes – or at least would enhance one but not harm the other component. However, one difficulty with this 'outcomes' focused approach was that, despite being informed about job design theory, call centre employees needed some encouragement to think about enhancing important job characteristics like job control. So we felt that highlighting this as a central theme of an alternative scenario would be helpful in enabling the participants to consider such ideas more explicitly. Moreover, from our experience of conducting the workshops in Study 1, we also knew that many of the obstacles highlighted within call centres related to cross–team collaboration and handover, where a task could not be completed by the agent because it had to be handed over to another department or team (relating to low task identity/ completeness and low control).

Thus, in Study 2, we asked participants to consider changes to the job that would be required to develop two alternative scenarios, one concerned with verti–cal enrichment (taking on more complex tasks and tasks performed by the team leader) and another concerned with horizontal enlargement (greater variety of tasks

at the same level). The first was aimed at promoting ideas related to greater control, responsibility and skill use, and the second to encouraging ideas related to greater variety, task identity and removing obstacles to the work flow. These two ideas were then combined into an 'enlarged scenario' which included both vertical and horizontal enlargement. Examples of the ideas that were eventually implemented are shown in Table 3.2.

   Developing the preferred scenario. After considering the alternative scenarios, participants were asked to take the best ideas for improving the job from the different alternative scenarios, to consider any other ideas they had about improving the job, and to combine them into a 'preferred' scenario. The preferred scenario was then rated against the job design characteristics, well-being and performance outcomes and compared to the current scenario. This rating process helps employees to appreciate that some aspects of the job will change more than others, and that some aspects may not change at all or may even get slightly worse. However, in both studies, the preferred scenario was rated more highly overall than the current scenario, and the participants agreed to take this scenario forward for implementation.

Workshop 2: Action planning

The aim of the second workshop (which lasted for about five hours) was to develop and refine the ideas for improving job design that were suggested in the previous workshop and to agree on a set of job redesign initiatives that would achieve the new preferred job design scenario. In Study 1, the second workshop took place

TABLE 3.2 Examples of job redesign initiatives

Job redesign initiative	Potential impact
Increasing supervisor performance feedback to four times a month	Feedback quality
Increasing clarity of performance criteria	Feedback quality
Participation in the design of a new computer system	Participation, removing task obstacles
Increasing range of tasks and availability of information, e.g., updating customer information on IT system, access to more customer information, dealing with complaint emails,	Job control, variety, removing task obstacles, skill utilisation
Performing supervisory tasks, e.g., running team briefings, collecting performance data, setting schedules and breaks, managing and recoding working time	Job control, participation, variety, skill utilisation
Procedural changes to tasks	Removing tasks obstacles
Training on new tasks	Skill utilisation
Cross departmental visits to develop greater mutual understanding	Skill utilisation, removing task obstacles

one week after the first, so representatives could obtain feedback from the rest of their team on the suggested job design changes. In Study 2, because the whole team were present, the second workshop was conducted the next day.

Selecting ideas. The initial focus of the second workshop was to remind participants about the preferred scenario and the ideas they had suggested to achieve it. A number of ideas were proposed ranging from minor procedural changes to large-scale reorganisation of team structures and practices. The benefits, costs and feasibility of introducing each change were then considered in detail. For example, participants were asked to estimate the amount of time saved by doing a particular procedure previously conducted by other employees (e.g., updating customer details) and the implications for call quality/productivity, costs and employee well-being. Occasionally, there were diverging views about the potential benefits of a proposed change and also the exact form the change would take. In such instances participants had to justify their ideas for or against a particular proposal. Key benefits of this discussion were to improve the feasibility and practicality of ideas, to help create a consensus for the worth of each change initiative, and to develop an underlying rationale for the change itself which was particularly useful for employees when, at a later point, they were required to articulate the benefit of a change initiative to managers and others in the organisation. Not all ideas were accepted. Some changes were rejected at this stage as unfeasible or because the benefits did not sufficiently outweigh the costs, while for other suggestions it was agreed that further investigation was needed before being accepted or rejected. When deciding on which ideas to adopt, the researchers encouraged participants to include some 'quick wins' (e.g., easily implemented tasks) amongst the chosen changes so as to maintain momentum and motivation.

Planning for implementation. In the next stage of second workshop, researchers asked for volunteers to act as the champion for a specific change initiative. The researchers made sure that tasks were distributed across team members (usually they were paired up). A timescale was set (about two weeks) for each idea champion to investigate the idea further (e.g., to get more accurate figures, or speak to other departments) and to summarise each into a short one-page report to be compiled by the researchers into a fuller explanatory document that would be presented to management. Participants were asked to outline the benefits and costs associated with taking forward the particular changes initiatives. The second workshop ended at this point, and participants went away to complete their investigations and reports.

The final part of the action planning phase was a meeting with management a few weeks later to present the ideas to management and get permission to go ahead with implementing the ideas. The researchers facilitated the meeting with management, but representatives from the teams presented the ideas themselves. At this point a few ideas were rejected by managers as they were not perceived to be feasible, particularly in Study 1 where a number of suggested change initiatives were aimed at reversing the effects of an outsourcing initiative, even though managers stated clearly that outsourcing would not be reversed. The meeting ended with a final agreement and consensus on which ideas would be implemented.

Stage 4: Implementation

Over the following months the teams were given responsibility to implement the agreed changes which ranged from increasing clarity of performance criteria to being involved in the development of a new computer system. Two representatives per team agreed to monitor progress on the changes and to meet with the researchers for three implementation meetings (one per month over three months). If the teams were having trouble with particular changes then the researchers would raise questions and negotiate further with management to try and make progress on implementation. By the end of the three months, all changes were implemented (for examples see Table 3.2), although the involvement in a new computer system development was ongoing (the new system was not live yet but the participation was agreed and had started).

Evaluation and participant experiences

We now present evidence for the success of the job redesign interventions based on quantitative analyses of data drawn from surveys used in both studies. In particular, we show that changes in job characteristics are the mechanism through which the job redesign interventions influence employee outcomes.

Evidence for successful intervention effects. In Study 1 (N = 119) we based our evaluation on five job characteristics and one employee outcome that were measured in surveys administered one month before the job redesign intervention began and one month after the end of the implementation phase. The job characteristics included four job resources (i.e., job control, participation, skill utilisation, feedback) and one job hindrance demand (i.e., task obstacles such as a lack of information, interruptions from colleagues and computer system problems). The outcome variable was a measure of employee well-being that assessed the extent of pleasant affect (e.g. enthusiasm, contentment) and the absence of unpleasant affect (e.g. anxiety, misery) at work (Warr, 1990). To examine the direct effects of the intervention, we conducted moderation analyses that tested the effect of the intervention (modelled using an interaction term that is the product of dummy variables representing time of measurement and group membership) on job characteristics and well-being. The results showed that the intervention resulted in significant improvements in the intervention group with regard to job resources (i.e., job control, participation, skill utilisation, feedback) and employee well-being but that it did not significantly lower hindrance demands, i.e., task obstacles (see Tables 3.3 and 3.4). We then ran a series of mediation analyses which showed that the effect of the job redesign intervention on employee well-being occurred through the changes in job resources (results not shown). Further analysis to examine potential validity threats ruled out the possibility that the results were affected by initial sample non-equivalence (i.e., that differences between the two groups explain each group's reaction to the changes), attrition effects (i.e., that participant attrition caused changes in mean scores) and halo-effects (i.e., that employees in

TABLE 3.3 Mean scores of Study 1 and 2 variables for intervention and control groups

	Study 1		Study 2	
	Intervention	Control	Intervention	Control
Employee outcomes				
Well–Being 1	3.23	3.35	3.15	3.42
Well–Being 2	3.41	3.31	3.17	3.16
Performance 1			3.70	4.00
Performance 2			4.36	4.13
Psychological contract fulfilment 1			2.71	2.83
Psychological contract fulfilment 2			2.84	2.71
Job characteristics[1]				
Job control 1	3.24	3.45	1.59	1.68
Job control 2	3.51	3.50	1.85	1.55
Participation 1	2.34	2.30		
Participation 2	2.54	2.13		
Skill utilisation 1	4.76	5.09		
Skill utilisation 2	4.96	4.83		
Feedback 1	4.60	4.98	3.62	4.08
Feedback 2	5.34	4.78	3.67	3.71
Task obstacles 1	2.66	2.69		
Task obstacles 2	2.58	2.57		

Note: [1]The mean scores of the job characteristics are not directly comparable as slightly different measures were used.

TABLE 3.4 Effect of intervention on job design and employee well–being: Study 1

	Job control	Participation	Skill utilisation	Feedback	Task obstacles	Well-being
	β	β	β	β	β	β
Intercept	3.43**	2.37**	4.85**	4.95**	2.71**	3.35**
Time of measurement	.31**	.26*	.25**	.62**	–.15*	.17*
Experimental group	.29**	.15	.17	.21	.15	.15
Interaction term	.31**	.51**	.52**	.78**	.00	.24*
Pseudo ΔR^2	3%	4%	7%	3%	0%	2%

Note: *$p<.05$; **$p<.01$; controls age, gender and tenure not shown. A significant positive relationship for the interaction terms indicates an intervention effect in the experimental group.

the intervention group experiencing change in one job characteristic are more inclined to report change in other job characteristics).

In Study 2 (N = 62) data were also collected in surveys administered one month before the intervention began and one month after the end of the implementation phase. We focused our analysis on two job characteristics (i.e., job control and feedback)

and three employee outcomes that were chosen to capture changes in affect (i.e., employee well-being), attitudes (a measure of psychological contract fulfilment) and behaviour (i.e., task performance). All measures were based on self-reports except the measure of task performance that was rated by the employee's supervisor. Similar methods of analysis to those mentioned above were employed to assess the direct and mediated effects of the intervention (see Table 3.3 for changes in mean scores). The findings showed that the intervention had a beneficial impact on the intervention group with regard to both job characteristics (i.e., job control, feedback) and all three outcomes (i.e., employee well-being, psychological contract fulfilment, task performance). Notably, the intervention appeared to arrest declines in job characteristics, well-being and psychological contract fulfilment that were experienced by employees in the control group, and improve task performance in the intervention group. Furthermore, the effects of the job redesign intervention on employee outcomes were mediated by the changes in job characteristics. For example, the intervention induced changes in job control which led to changes in employee well-being, psychological contract fulfilment and task performance. The only exception was that feedback did not mediate the effect of the intervention on task performance. Analysis also ruled out validity threats such as attrition effects and Hawthorne effects.

Overall, a key finding from both intervention studies is that changes in job characteristics, particularly job resources, are one mechanism through which participative job redesign interventions can be used to improve employee well-being, attitudes and performance. This is important as it shows that the positive effects of the participative job redesign interventions on employee outcomes are not simply due to involvement in participative decision-making or other intervention-induced effects, e.g., a Hawthorne effect. Rather the effects of the interventions occurred because the interventions altered job characteristics. These studies therefore show that job redesign initiatives that rely on employee participation can be successfully deployed in organisational contexts that may not at first sight seem amenable to such approaches.

Whilst we did not conduct interviews with participants to examine their reactions to the intervention process, we were able to see how even some of the initially sceptical team members became engaged within this process. From our observations in the workshops, an important outcome of employees' involvement in this process was greater ownership of the change initiatives, although a limitation of our data precludes us from stating the extent of these ownership perceptions and their subsequent impact on the implementation process. However, outcomes from a follow up meeting several years later for Study 2 suggest that those involved directly in the intervention had most ownership, which did not necessarily transfer to other teams or newcomers.

Lessons learned

In this section we reflect on some of the lessons learned and reasons why these job redesign interventions might have been successful. As noted, reviews suggest

that successful organisational interventions have five phases (preparation, screening, action planning, implementation and evaluation) and that employee participation is central to each phase and, as such, to the success of the intervention as a whole (Israel et al., 1996; Nielsen et al., 2010). In line with this, the preparation phase in both studies focused on developing and securing employee and managerial support for the intervention strategy. A key outcome of this was to secure managerial permission for call centre agents to have time 'off the phones' and to allow their participation in intervention activities during work time. We also invested much time and effort informing employees about the intervention in small team briefings prior to the start of the intervention. In Study 1, for example, seventeen separate team briefings were attended by researchers. Attendance at these team meetings also proved useful in managing expectations about the limits of the intervention, particularly that it would not affect or cover pay. One recommended element of the preparation phase that did not occur was the establishment of a steering group to oversee and monitor progress. Rather, in Study 1, the research team had responsibility for monitoring overall progress and two members per team were tasked with monitoring implementation progress. In Study 2, monitoring intervention progress was the responsibility of a team leader. Delegating this activity to a team leader was probably more effective because being on site and having more influence meant that the team leader was better placed to ensure that employees conducted intervention activities outside the workshops, such as researching the practicality of change initiatives and implementing change initiatives.

In the screening phase, the identification of psychosocial risks is often informed by or derived from the results of a quantitative survey (Eklof et al., 2004). However, in our interventions, although survey results were discussed, the assessment of psychosocial risks was primarily achieved by using the scenarios planning tool to get employees to discuss the positive and negative characteristics of their job, rate their job according to various job characteristics, and achieve group consensus on the main psychosocial risks of their job. From observations during the workshop and discussions with employees, it appeared that a key benefit of this participative approach to risk identification was to increase employees' understanding of the specific psychosocial risks of their job, increase their knowledge of job design principles, and to further raise awareness on why these job characteristics should be changed. However, it was not clear how participation in the screening phase shaped employee motives and actions in subsequent intervention process; although such insights could have been gained through the use of more focused qualitative interviews.

Success in the action planning phases appeared to be a result of extensive employee participation in the action planning workshops, and in related activities outside of the workshops during work time. Within the workshops, employees were asked to suggest and develop workable changes that would improve job characteristics and to articulate why this change would have a beneficial effect for employees and the organisation. We observed that key advantages of this participative action planning process were to improve the practicality of change initiatives

by drawing on employees' collective knowledge of work processes, and to help employees develop clear rationales for each initiative that were important when selling the idea to other teams and managers. Developing a clear rationale for each initiative also provided a means of fairly and justifiably rejecting employee suggestions that were not practical, outside the scope of the intervention, or which may result in negative consequences for employee well-being. Another possible reason for the success of the interventions was that, by the end of the action planning phase a consensus was reached between managers, employees and researchers on which ideas would be implemented, thereby publically committing all parties to ensuring their eventual implementation.

The implementation phase involved embedding change initiatives within the organisation and was underpinned by employee participation. In many organisational interventions, middle managers are given responsibility for implementing change initiatives, with their commitment to implementing change being crucial to intervention success (Kompier et al., 2000; Laing et al., 2007). In our studies, responsibility for implementing change initiatives was allocated to team members, often those who had suggested the specific changes. Although it is not possible to state whether this different method of allocating responsibility is more or less effective, it was clear that successful implementation did depend on employee participation and team leader commitment to the change process and also on senior managers' communicating their support. Indeed, in Study 1, managers' rejection of change initiatives to reverse the effects of an outsourcing initiative resulted in those teams which had suggested these changes becoming disengaged from the intervention process and unwilling to implement other changes. In these teams, the job redesign initiative did not lead to an improvement in job characteristics or well-being (although it is interesting to note that management did eventually reverse the outsourcing but not within our study period).

Conclusion

Our experience within these two studies suggests that it is possible in call centres to conduct successful participative job redesign interventions that enhance job design, employee well-being and performance despite the challenges of running a participative intervention in this context, e.g., low job control, participation. But our studies also demonstrate that the limitations of the context can be overcome to a certain extent through support from senior management and trade unions, as well as extensive employee participation in all phases, especially during the screening, action planning and implementation phases of an intervention. However, the type and content of the participation is also important, in particular, the development of rationales for change (informed by job design theory and evidence from the organisation itself), the process of achieving consensus and ownership of the changes within the workshops, and the sense of procedural fairness that the participative process engenders. Whilst the participative process differed slightly across the two studies (e.g., use of representatives, the emphasis of the alternative

scenarios and the responsibilities for implementation), the core components remained the same. The practicalities of running such interventions in different organisations mean that processes may differ slightly depending on what is suitable for and can be negotiated within these different contexts. Moreover, as our experience as facilitators grew, we tried new ideas (such as the focus of the alternative scenarios). Nevertheless, even with these differences, both interventions demonstrated significant success.

Yet the challenges of the call centre environment did limit the intervention despite employees' active participation. Many suggestions were limited in scope and there were rarely radical suggestions (the one radical suggestion to reverse the outsourcing was rejected). Participants were also worried and rather cautious about whether changes would increase workload and affect their ability to meet current performance monitoring targets. Indeed, this was such a concern that the researchers had to negotiate with management that during the implementation phase employees would not be penalised for missing targets due to their involvement in the intervention process or when trying out new activities as a result of the agreed changes. Thus, a bedding-in period was agreed to reassure participants that their 'performance figures' would not be evaluated negatively. Participants were told about this agreement during the scenarios workshops. But performance monitoring was so engrained in their outlook that it was challenging to get them to overcome this concern and this may have affected the nature of the changes suggested.

Bureaucracy and technology also limited the scale of the changes, as some could not be achieved without changes to IT systems or changes in other parts of the call centre that were not always willing to make the proposed changes. But some changes to IT systems and inter-team boundaries were achieved. Another issue with any job design change is the knock-on impact to pay and regrading. This limited the extent of changes, as any radical change may have resulted in regrading or changes in pay levels.

Some study limitations that limit the conclusions also exist. For instance, we did not explicitly evaluate manager or trade union responses (except in terms of gaining their support and approval for the changes) and the evaluation was relatively short term (only one month after changes were fully implemented) such that we did not examine the long-term effects of the interventions. However, a follow-up meeting several years later for Study 2 suggests a possible downside to these participative interventions. Whilst the outcomes were very positive for those who were directly involved in the intervention, and led to enhanced skills and promotion for several team members, there is a challenge in terms of maintaining the same enthusiasm and ownership as new members join the team or as ideas are rolled out to other teams. This also relates to the limited scope of the interventions, as we were unable to change the wider context, but rather changed a small part of it. A key challenge for future research and practice is therefore how to extend the reach of these interventions to the organisation as a whole so that the effects can be maintained and the key principles and learning can be passed on to future changes within the organisation.

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PART II

Evaluating organizational interventions

4

VALID AND TAKEN SERIOUSLY? A NEW APPROACH TO EVALUATING KAIZEN-INSPIRED (AND OTHER) INTERVENTION TOOLS

Christian Dyrlund Wåhlin-Jacobsen

Introduction

Sylvia: *"I think it has become a little more legitimate than in our team meeting where it's been shoes every time [laughs], 'okay, so what', where it is like here, right, it's a little more …"*

Ron: *"it goes from being complaints to becoming a project, right"*

Sylvia: *"yes"*

Ron: *"and then it's bloody suddenly valid and is taken seriously, that's [expletive] good"*

This quote is taken from a participatory intervention workshop where two participating employees[1] discussed the Kaizen-based tool evaluated in this chapter, the "Improvement Board". The employees had repeatedly discussed problems with ill-fitting work shoes in team meetings over a period of time, eventually leading the middle manager to "close down" the subject, as indicated here by Sylvia's paraphrased "okay, so what" comment. By posting an action plan on the Improvement Board about how to address their work shoe problems, the participants were able to legitimately continue discussing the shoes at their weekly board meetings, eventually leading the team to mitigate the problem by sourcing new shoes. The quote is presented here to illustrate that the successful implementation of the Improvement Board seems closely tied to its usefulness in furthering the participants' priorities: as the work shoe problem was seen as valid and taken seriously by the management, so was the Improvement Board seen as a valid tool by the employee participants.

The term "intervention tools" is used in this chapter to refer to techniques which are used in an intervention for guiding the actions of participants during pivotal tasks, such as problem identification or action planning. Often, material

objects are used to support these techniques, such as a wall-mounted board or a questionnaire. Since organizational interventions typically follow the same overall sequence of preparation, screening, action planning, implementation, and evaluation phases (Nielsen et al., 2010), the tools employed in these activities seem an important distinguishing element. For example, it is likely that some tools are better able to facilitate a given task than others (Nielsen et al., 2014), at least in certain contexts. Furthermore, because tools are often used in central intervention phases, much of the time spent by participants in intervention-related activities is shaped by the specifics of the tools. Intervention tools thus seem a relevant subject for in-depth evaluation.

However, in the various evaluation frameworks for organizational interventions that have been presented in recent years (Nielsen & Abildgaard, 2013; Nielsen et al., 2010; Nytrø et al., 2000; Saksvik et al., 2007), tools are treated as one relevant aspect out of many. When it comes to understanding how tools contribute to making an intervention effective, explanations are scarce; we lack evaluation approaches which not only specifically deal with how tools are designed to work but also how they are utilized in practice (Nielsen, 2013; von Thiele Schwarz et al., 2017). In the current chapter I will present such an approach inspired by actor–network theory (Akrich, 1992; Akrich & Latour, 1992; Callon, 1986; Latour, 2000; Law, 2009). This theoretical perspective has received significant attention within organization studies in recent years, and some recent studies have begun to discuss its implications for occupational health and well-being. I will then apply the approach in an evaluation of the Improvement Board. First, however, I will present some relevant points made within the intervention literature in relation to tools, especially Kaizen boards.

Evaluating tools in organizational-level interventions

Intervention tools and how they are implemented in specific organizational contexts has only rarely been the subject of focused description or evaluation. For example, in a review of complex organizational interventions, Egan et al. (2009, p. 4) stated that many evaluations failed to adequately describe "what exactly the intervention entailed" and "whether the intervention was implemented fully or adhered to good practice guidelines". Indeed, while many evaluation studies of organizational interventions report some data regarding the implementation process (Murta et al., 2007), the emphasis tends to be on overall matters, such as whether the intervention reached the target participants or was conducted as planned.

As previously mentioned, intervention tools are typically designed to facilitate specific tasks such as screening for problems or action planning in order to improve the health and well-being of the participants. In evaluations of intervention tools, it seems highly common to focus on this primary purpose alone. One exemption is a recent study by Nielsen and colleagues (2014), which suggests that questionnaires should not only be considered relevant for intervention studies as a means for measuring intervention effects, but also as a source of information for designing

relevant action plans. This dual-purpose use is facilitated by tailoring the questionnaires to the organization where they are to be used, for example by including questions exploring those problems which participants experience most frequently. The questionnaire can thus serve as a useful intervention tool by helping participants choose which problems to act upon, although it is not typically treated as such by intervention developers. Furthermore, it seems possible that a higher number of participants will respond to the questionnaire if the questions reflect the participants' concerns. However, it should be noted that both the questionnaire's use in the evaluation and action planning phases of an intervention are designed uses; in comparison, the quote in the beginning of this chapter of how intervention participants used the Improvement Board to highlight a topic against the wishes of the middle manager suggests that intervention tools have uses besides those they were designed for.

Another central aspect of intervention tools is the abilities tool users need to use the tool as well as their motivation for using it. These can be described as the tool's prerequisites and are set by the design of the tool. Recent theoretical developments within the organizational interventions literature have pointed to the need to consider the intervention's fit with the organization it is being implemented in and the organization members (Nielsen & Randall, 2015; Randall & Nielsen, 2012). Whether the intervention participants are able to meet the tool's prerequisites can be seen as one important aspect of this fit. For example, various studies suggest that the intended users may lack skills and training (Nadin et al., 2001), or that those users who need the intervention the most may be the least ready to receive it due to their low self-efficacy (Nielsen & Randall, 2015; Randall & Nielsen, 2012). Other studies point to the fact that the participants who engage in interventions might tend to be those who have the most resources rather than those who are most in need (Nielsen, 2013). The overall point that areas of good or bad fit between the intervention and the organizational context and the underlying reasons for these should be examined thus also seem relevant in relation to intervention tools.

Kaizen-inspired intervention tools

Kaizen boards were originally developed within the methodology of lean manufacturing to provide a structured and visual framework for decision making and follow-up on continuous improvements related to work tasks (Imai, 1986; Womack et al., 1991). The themes of purposes and prerequisites are also relevant when reviewing evaluation studies of organizational interventions using tools inspired by Kaizen boards. As many organizations have implemented at least some practices associated with lean manufacturing in recent years, the use of Kaizen-inspired tools in organizational interventions serves the purpose of providing an equally structured and visual approach to improving employees' health and well-being through an approach which is familiar to the organization members. Kaizen boards contain a main zone in which the progress of ongoing action plans

(in the form of pre-specified "Kaizen notes") is displayed. The boards typically also include a system for prioritizing which action plans to attend at any given time as some problems might be more urgent than others. Among the boards' other usual features are key indicators of productivity and production quality, though these are typically left out in cases where the kaizen board is adapted to promote well-being. The board's contents are discussed at regular board meetings following a standardized procedure, suggesting that both the employee's ability and motivation to learn and to follow such a procedure is an important prerequisite for the boards' successful use.

A number of recent studies have evaluated the use of Kaizen boards in relation to organizational interventions. Using a quantitative approach, von Thiele Schwarz and colleagues (2017) studied the use of Kaizen boards during interventions in the Danish postal service and in a Swedish hospital. They found that Kaizen boards could be modified to facilitate reaching goals that the participants felt were relevant, thereby improving the psychosocial work environment. Furthermore, employee mental health and job satisfaction at baseline was found to be positively associated with using the boards, indicating that a certain level of well-being is a prerequisite for successful implementation of Kaizen-inspired tools.

Various recent studies have evaluated Kaizen-based intervention tools in hospitals. Astnell et al. (2016) studied the contents of a large number of Kaizen notes produced by hospital employees. The employees practiced Kaizen as either a system integrating health promotion and occupational health and safety (intervention group), or as a standalone quality improvement system (control group). The study concluded that the intervention group produced a greater number of suggestions related to health promotion and occupational health and safety than the control group and that the suggestions were also of a greater variety. Strengths of the study include a clear presentation of the Kaizen methodology used in the intervention and an overview of the suggestions made by employees within the intervention. In another study of Kaizen notes, Mazzocato et al. (2016) categorized notes in several ways, based on which kind of situation triggered the note, the organizational processes addressed by the note, its complexity, and which outcomes were expected. They found that suggestions tended to target simple rather than complex problems and that the Kaizen template was only partially adhered to. The authors argue that the results were likely caused by a limited understanding of the Kaizen process among hospital staff, again pointing to the importance of meeting the tool's prerequisites if implementation is to be successful.

Other studies of Kaizen-inspired tools have used a case study methodology. Ulhassan et al. (2015) evaluated the use of visual management whiteboards in a hospital setting. The study presents examples of how the participants prioritized action plans and followed up on them, while also accounting for how and why the visual management whiteboards fared differently in two wards. One ward adopted the board because it was seen to support the participants' efforts to coordinate which members of the staff would be present at different times, while the other ward quickly abandoned it because the participants ostensibly did not feel a need

for a lean-based intervention. These findings lead the authors to conclude that the motivation on the participants' part is an important prerequisite for successful implementation of Kaizen-based tools. In an article seemingly based on the same intervention, Augustsson et al. (2015) studied implementation fidelity using Nielsen and Randall's (2013) framework for evaluating organizational interventions. Analyzing questionnaires, interviews, and Kaizen notes, the study concluded that there were substantial differences in implementation fidelity among different units of the same organization, arguing that implementation strategies should seek to create a homogenously high fidelity. The study attends to the motivations of both managers, employees, and health and Kaizen representatives, and thus provides a more detailed description of the participants' abilities to meet the prerequisites of the Kaizen board than most other studies on the same topic.

Overall, although many of the evaluations of intervention tools reviewed here examine whether the participants fulfilled the tools' prerequisites, it was rarely explored in detail why some participants were uninterested. Furthermore, the studies can generally be said to focus on whether the tools facilitated the tasks they were designed to, while other potential uses of the Kaizen boards for the participants were not studied in detail. Both of these shortcomings can be addressed through the theoretical perspective of actor–network theory (ANT), which will be introduced in the following section.

A tool-centered evaluation approach

Recent years have seen a growing interest in how technical objects shape organizational life, including the role of tools in activities such as problem solving (Bechky, 2003), knowledge sharing (Schoeneborn, 2013), and strategy work (Kaplan, 2011). A key inspiration in this development has been ANT (Akrich, 1992; Callon, 1986; Latour, 2000; Law, 2009), a theoretical approach which only recently has seen use in studies related to occupational health and well-being (Abildgaard & Nickelsen, 2013; Mogensen, 2012). Because they have both procedural and material aspects, intervention tools can be considered technical objects as well and thus relevant objects to be studied with ANT.

Within the ANT tradition, the purposes of technical objects and the procedures which must be executed to fulfill these purposes are tied together in the concept of "programmes of actions", or simply *programmes* (Akrich & Latour, 1992; Latour, 2000). Applied to intervention tools, these programmes are implicit descriptions of how change agents (the developer of a work environment questionnaire, for example) imagine users (workplace respondents) to follow certain procedures ("mark only one box for this question") in order to produce certain outcomes (a screening of potential problems related to employee well-being). In order for the tool programme to be successful, it must be complied with. The investigation of when and why the programmes of technical objects are complied with (or not) is a key concern for many studies in the ANT tradition (Akrich, 1992; Latour, 2000).

One reason why the tool programme might not be complied with is that all organization members take actions which promote their own interests, or those of groups they represent. These actions do not necessarily support the tool programme. For example, an employee might engage in Kaizen board activity in order to change the work environment, or merely because of management pressure to use the tools or risk being fired. Both of these cases could be taken to represent a success for the tool's designed use, but as the latter is done to satisfy the management, we can hypothesize that the employee participant is only likely to use the tool while being monitored. Similarly, high workloads or a sceptic stance towards the prospects of the questionnaire leading to relevant changes in the work environment could lead employees to avoid filling out intervention screening questionnaires. Circumstances which challenge tool programmes can be labelled as *anti-programmes* (Akrich & Latour, 1992). To be sure, what is considered an anti-programme is relative to the programme of the technical object under study.

Some have used the term *translation* (in the meaning of converting something from one form to another) to describe the process whereby technical objects become taken up and used (Callon, 1986; Law, 2009). The translation metaphor is used because programmes of technical objects seek to place various actors in roles set out by the object's programme, for example in how an employee becomes a "tool user" who raises well-being problems through a Kaizen-inspired tool, rather than through other means. In many cases, the tool programme and the intentions of the participants might be overlapping (e.g. to improve well-being) in which case the participants are likely to use the tool, and the mutual translation will be successful. However, participants have their own intentions and might try to translate the tool into something which can be used to fulfill these. The concept of translation thus also highlights how the *potential* uses of technical objects outnumber their designed uses (parallel to the example presented in the introduction), and how these potential uses and their significance can rarely be determined in advance, but must be studied in practice due to their contingent and contextual nature.

The prerequisites which must be met for the tool to be successfully translated into the participants' daily practice are seen within the ANT tradition as designed into the tool on the basis of a *pre-inscribed* picture of the imagined user and his or her capabilities and intentions. For instance, Kaizen boards are typically designed around the assumption that participants are willing and able to meet at certain times, follow certain procedures, and use certain terms when they discuss matters related to the intervention. It can be challenging to identify the assumptions about the imagined user and how these assumptions might fail a priori because these assumptions are often based on common and taken-for-granted understandings. For this reason, ANT scholars advise us to look for breakdowns in how the prerequisites are met in order to better understand what is taken for granted about the tool user (Akrich, 1992). For example, the capabilities and intentions of the real users may be quite varied, making it unlikely that all real users will resemble the imagined user for which the tool was developed.

Due to the non-traditional way in which ANT depicts the interaction of technical objects with the organizational context, a comprehensive example is warranted.

Let us therefore consider a company which is going through a round of lay-offs while participating in an intervention. Lay-offs can function as an anti-programme to that of the intervention, for example if participating teams are split up or closed down. But the lay-offs also create potential anti-programmes to the intervention indirectly by influencing the actions of the employees and managers who participate in the intervention. For example, managers likely have to spend time selecting employees to be laid off, consulting with employee representatives, communicating changes to the employees and reorganizing work to accommodate the new situation. The employee participants might abstain from raising issues related to occupational health and well-being, opting instead to demonstrate their value to the company by working at an increased pace. Both the participating managers' and employees' behaviour might be affected in ways which deter them from fulfilling the prerequisites of the intervention programme, hindering the successful translation of the programme into practice. Seeing lay-offs (and other contextual events) as influencing the implementation of an intervention through the various anti-programmes they entail throughout the organization thus enables a more nuanced and specific understanding of the preconditions for successful translation of the tool into practice than merely seeing the lay-offs as a negative impact on the intervention in general.

Utilizing the approach and concepts just described involves exploring both the events surrounding the implementation of the Improvement Board's tool programme, but perhaps especially the breakdowns and failures of the programme to be fully translated into the participants' practice. Therefore, the evaluation of the Improvement Board will pay special attention to the following questions:

1) Which potential anti-programmes were considered in the design of the Improvement Board, and which additional anti-programmes surfaced during its implementation?
2) Which potential uses did the Improvement Board allow other than those it was designed for?
3) Which prerequisites had to be met for the Improvement Board to work as designed, i.e. how did the real users match the imagined user that was inscribed in the tool?

In the following, the organizational setting which the Improvement Board was implemented in will be described and then the tool itself. Furthermore, the methodological strategy used to prepare the evaluation will be briefly outlined before presenting the findings of the evaluation.

The empirical case

The Improvement Board was developed for a participatory organizational intervention[2] targeting blue-collar employees in three manufacturing companies. The intervention had a primary goal of improving the health and well-being of the participants as measured by various questionnaire-based outcomes, including work

ability and need for recovery (see also Chapter 6 by Abildgaard, this volume). While the intervention comprised various elements, this study focuses on two three-hour workshop sessions held approximately two months apart, as these were the primary venue for teaching and training the participants in the use of the Improvement Board. While the intervention participants had mapped various aspects of their work which they saw as contributing positively or negative to their health and well-being at an earlier workshop session, the Improvement Board was introduced during the subsequent Action-Planning Workshop (APW) session, where the participants developed action plans to improve the balance between these positively and negatively experienced aspects. After the APW, the participants would have some time to implement the action plans. The third and last workshop session, labelled the "Follow-up Workshop" (FW), featured discussions of the participants' experiences with implementing the action plans. These discussions were meant to facilitate shared learning among the participants which they could employ in their future work with action plans. Furthermore, the FW allotted time for developing further action plans and for the participants to evaluate the intervention, including the Improvement Board.

This chapter focuses on one of the three companies, a pharmaceutical company (referred to here under the pseudonym of PharmaCorp), as focusing on one organizational setting allows for a more nuanced and thorough evaluation. PharmaCorp was chosen as a case because it was the largest of the three companies, and because there were illustrative differences in how successfully the Improvement Board programme was implemented among the four participating work teams.

The four work teams were organized in quite different ways, which, as it will be argued, seems to have contributed to the findings of the evaluation. Two teams, referred to here as teams 1 and 2, only worked day shifts, while teams 3 and 4 partly and fully worked in shifts, respectively. Furthermore, while teams 1 through 3 had a fitting number of employees for the workshop sessions, this was not the case with team 4, which was comprised of more than 50 employees. Therefore, team 4 was split up into smaller workshop groups based on the principle that employees who worked closely together should also participate in the same workshops. As a result, eight APW workshop groups and nine FW workshop groups were formed. After this split, the groups consisted of 6–17 employees and their respective line managers. It should also be noted that the members of team 4 were randomly assigned to new shifts every six months, which resulted in them changing workshop groups between the APW and FW. These changes undermine the point of attributing findings from team 4 workshops to specific workshop groups, and therefore the findings section instead indicates roughly how many team 4 workshop groups the reported findings reflect.

Description of the Improvement Board and its tool programme

The Improvement Board was designed primarily by an external consultant and organizational psychologist in collaboration with the research group behind the intervention study, which the author was a member of. The board was designed to

TABLE 4.1 Participating teams and workshop groups

Team number	Number of employee participants (workshop groups)	Board meetings held?	Notes
1	7 (1)	Yes, fixed time (in connection with weekly team meetings), meetings led by employees with line manager present	Only worked day shifts
2	17 (1)	Yes, fixed time (in connection with team meetings), meetings led by line manager	Only worked day shifts
3	11 (1)	Yes, fixed time, meetings led by health and safety representative	Some employees worked day shift only, others both day and night shifts
4	Around 50 (8/9 after reorganization)	Mostly no, varying time, meetings led by employee participants (no line managers or employee representatives present)	All employees worked day, afternoon, and night shifts on a continually rotation schedule
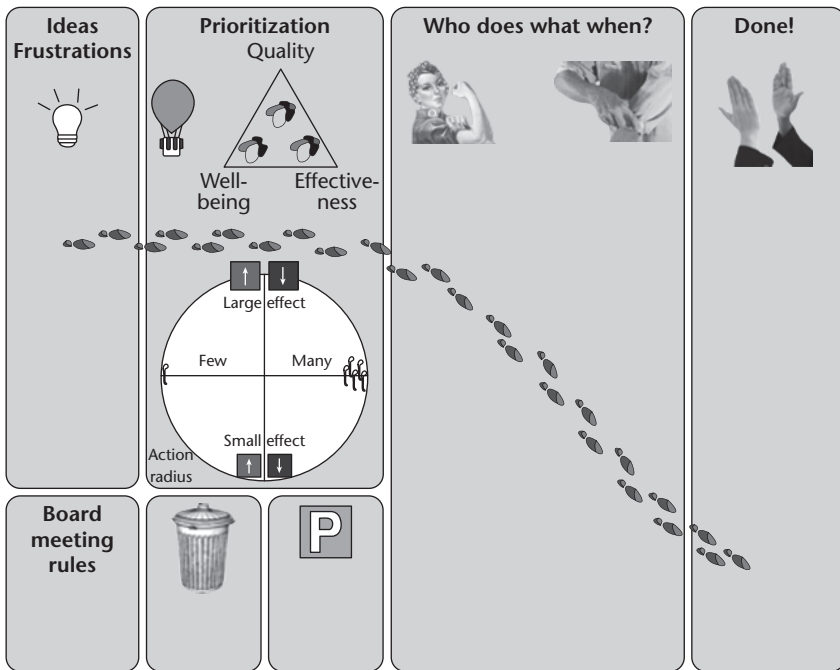
SAMI Improvement Board, NRCWE

FIGURE 4.1 Improvement Board

be used both within the workshops and outside of these. Within workshops, the Improvement Board was to guide the development of action plans on the basis of participants' ideas. The ideas were to go through a series of steps on the board before a final group decision was made about whether the action plan should be implemented and, if so, which participants would assume responsibility for implementing it. A workshop facilitator would guide the participants through this process. If learnt well, the participants would be able to develop action plans on their own in compliance with the Improvement Board's designed procedures, suggesting that the Improvement Board could become a commonly used tool by the participants to solve problems on an ongoing basis outside of the workshops.

Also outside of the workshops, the board was meant for monitoring the progress on action plans. The board would be mounted to a wall near the participants' workspace, displaying the action plans undergoing implementation and their progress. Participants were to meet for recurrent board meetings in order to discuss ongoing action plans and potentially to develop new action plans. These meetings were to be led by one of the employee participants chosen by the participants themselves. The systematic follow-up that periodic reviews of ongoing action plans provide can be seen as a measure against the potential anti-programme that participants will forget their responsibilities or perhaps neglect these if they were not held accountable. This part of the tool programme was thus quite similar to how Kaizen boards are normally used.

The Improvement Board contained various fields which were designed as a progression of steps for action plans to go through from initial suggestion to finished implementation:

1) The "Ideas/Frustrations" field was meant to hold suggestions brought up by the employees for easy recall at a later time. Also, outside of the workshops, participants could post their ideas in this field in order for them to be discussed at an upcoming board meeting, mitigating the potential anti-programme that the participants would lack relevant and feasible ideas to discuss.

2) The "Prioritization" field attempted to formalize the participants' decision-making process on action plans in order to increase the plans' feasibility, countering the potential anti-programme that the participants would develop unrealistic action plans and lose motivation for using the Improvement Board after these plans had failed. The field contained three zones which were used when discussing suggestions:

   a) The "work environment balloon" (a symbol introduced during the earlier mapping workshop) is where participants discussed which of the previously mapped problems the suggestion would target, thereby ensuring that the suggestion was apposite.

   b) The "three flies"[3] zone prompted participants to discuss which of the following three targets would be "swatted" by the suggested action plan under discussion: well-being, product quality, and productivity.

c) The "action radius" symbol encompassed what the actors were able to successfully handle with regard to the costs of and their ability to implement action plans. Action plans within the participants' own action radius were to be preferred, since organization members who were not part of the intervention could not be expected to take action in support of the plans.

3) The "Trash can" and "Parking lot" fields served as an archive for action plans which the participants decided to either discard or delay after "Prioritization" field discussions. These fields made it possible to revisit previously introduced action plans at a later time if the participants changed their minds.

4) Accepted plans were moved to a field titled "Who does what when?" and one or more participants would be solicited to assume responsibility for completing the action plan within a self-set deadline. Although assuming responsibility for the action plan was voluntary, the process of allocating responsibility and setting a deadline was thought to counter the anti-programme that action plans might otherwise be neglected because nobody could be held responsible for failing to implement them. The field had an additional function outside of the workshops, where the placement of the action plan template along a symbolic trail of footsteps would be used to signal the progress of the action plan; the further to the right, the closer the action plan was to completion. The trail provided participants with an overview of the extent to which the current action plans had progressed recently and whether the participants would soon "run out" of action plans, in which case new suggestions were to be developed. Board meetings would mostly revolve around the action plans listed in this field.

5) The "Done!" field displayed completed action plans. Participants were asked to acknowledge colleagues who had completed an action plan. Because completed action plans were kept on the board, a collection of these would be amassed over time, attesting to the effort made by the participants and the changes they had successfully helped bring about.

In addition, a field for "Board meeting rules" contained information regarding any procedural decisions made by the workshop group, for example regarding who would lead the board meetings and when they were to take place. This field was not consulted while developing action plans.

Overall, the Improvement Board was similar to regular Kaizen boards in how it provided a visual status over the action plans currently undergoing implementation, and in how it outlined the formalized guidelines for its own use. However, the Improvement Board was also different from regular Kaizen board in that it was designed as a tool that employees could use by themselves. This attribute was highlighted through the use of puns in the action board terminology, a font resembling handwriting and cartoonish symbols, whereby the Improvement Board was designed with a light-hearted style distinct from that of regular Kaizen boards and

Action plan	Resource/demand mapped:	Person responsible
	Action plan description:	Deadline

FIGURE 4.2 Kaizen note template

thought to be appealing to the employees. It was also suggested to the participants in the workshops that they should acknowledge each other's efforts to implement action plans and perhaps celebrate after having successfully implemented a pre-decided number of action plans. These initiatives were taken motivate the employees to use the board, countering the potential anti-programme that employees would see the intervention as merely "extra tasks" if the tool resembled their production-oriented Kaizen boards too closely. Furthermore, very little writing was required of the participants other than filling out the action plan templates (Figure 4.2). This choice was made in order to avoid the anti-programme of participants neglecting using the Improvement Board out of disdain or lack of the ability to write.[4]

Evaluating the Improvement Board as an intervention tool

The evaluation presented here is primarily based on the analysis of more than 56 hours of audio recordings from 10 APW sessions and 12 FW sessions. The audio recordings were transcribed and subsequently coded to identify sequences where the workshop participants gave evaluative comments regarding the Improvement Board (Charmaz, 2006). The coded sequences were reviewed and categorized based on their connection with the Improvement Board programme within and outside of the workshops. Interviews with various participants held two to three months after the FW provided supplementary information about the long-term use of the Improvement Board.

The Improvement Board programme within workshops

Overall, the programme goal of guiding workshop participants through a process of developing their initial ideas into action plans seemed to be achieved, as an average of 7.5 action plans were developed and committed to by workshop participants for each APW. The action plans developed targeted a wide range of problems in relation to, among other things, improving the equipment, work clothes, communication or the organization of work; accident prevention; arranging social gatherings; learning lifting techniques; or reducing cognitive demands

and redundant tasks. For all but the most demanding action plans, relatively short deadlines were set of one to three months, during which the employees would also carry out their normal tasks.

The board was seen by participants as easy to understand, which was illustrated by what occurred on several occasions where the process facilitator asked the participants (who had never seen the board before) to introduce the board themselves; a surprising tactic for engaging the participants in the workshop. After some hesitation, the participants would typically guess the meaning of the various fields, with the process facilitator adding comments where relevant. Participants in a team 4 workshop group stated explicitly that the procedure outlined by the Prioritization field made for relevant and detailed discussions about action plans.

Participants expressed some confusion at the lack of a clear-cut standard for how complex an action plan could be. During workshops, both process facilitators and line managers stated that in order to be manageable, action plans should not be allowed to grow too complex, thereby countering the potential anti-programme of the participants becoming overwhelmed. Instead, it was suggested that demanding action plans be broken down into several smaller action plans. However, the participants argued that subdividing the action plans too readily would lead to too many action plans to keep track of and discuss at board meetings. While the process facilitator would generally encourage the participants to find a compromise on a case-by-case basis, this suggestion did not seem to remedy the apprehension expressed by the participants.

While participants of two team 4 workshop groups felt it was easy for them to use the board due to their previous experiences with Kaizen boards, several other team 4 workshop groups took issue with how the Improvement Board was inspired by Kaizen boards. Some felt that the Improvement Board did not contribute anything beyond what they were already able to gain from the lean manufacturing Kaizen boards already in place.[5] Whereas technical or lean staff would often assume responsibility for suggestions raised through these Kaizen boards, the Improvement Board asked the participants to assume this responsibility. We also know from the workshops that the participants had the opportunity to informally voice problems directly to their manager or formally to the middle management through a joint consultation committee. As one participant stated as a reason for not wanting to use the Improvement Board: "You make yourself responsible for something you want done". Another participant remarked that the project coordinators did not listen to them; instead, "another board was just put up". Thus, while it was pre-inscribed in the Improvement Board that the users would be sufficiently experienced and motivated to use a Kaizen-inspired intervention tool, the similarity of the Improvement Board with other Kaizen boards was also problematic in some cases, nourishing the anti-programme of participants who felt that they lacked support for implementing action plans in relation to the intervention. As the examples show, not all of the real users might have felt the need for a Kaizen-inspired intervention tool; the real users were more diverse in how they viewed Kaizen boards than assumed by those who designed the tool.

One issue of less importance was that the "trash can" and "parking space" zones of the Improvement Board were used on very few occasions. Since most action plans were typically discussed at length before reaching the Prioritization field, we can surmise that many issues which potentially could lead to discarding or putting an action plan on hold had already been resolved before their prioritization came up for decision. Thus, these two Improvement Board features do not seem to represent an important benefit compared to regular Kaizen boards.

Taken together, the within-workshop sessions part of the Improvement Board programme was in most instances successful, with some minor general problems related to deciding the appropriate scope of the action plans and seemingly superfluous features. However, in some team 4 workshop groups, the programme was challenged by some participants' desire for more support and less responsibility than the Improvement Board offered; an unforeseen anti-programme and ultimately a failure of the inscribed user to match the real users.

The Improvement Board programme outside of the workshops

Outside of the workshop sessions, the Improvement Board programme was of course closely related to board meetings. Teams 1, 2 and 3 reported that their board meetings had taken place as planned in-between the APW and FW, and subsequent interviews indicate that the board meetings continued in these teams after the FW. For team 1, the board meetings were led by employees (in the presence of the line manager) and held in conjunction with the weekly meetings already in place for the team. However, for teams 2 and 3, the line manager and the health and safety representative assumed responsibility for heading the board meetings after they had observed the employees having trouble appointing a board meeting leader among themselves. Thus, the line manager and health and safety representative's actions countered an important anti-programme when the pre-inscribed notion of the employee's capabilities (or perhaps motivations) to head the board meetings failed.

Members of teams 1–3 reported having benefitted from the board meetings; for example, a team 1 participant stated that the meetings helped him remember the issues that had been raised and helped the employees complete their action plans. And, as indicated the example at the beginning of this chapter, some employees also benefitted from the potential use of the Improvement Board as a tool for legitimately raising issues that the management had previously closed down. An example of a similar potential use was found in regard to team 3, where employee participants extensively considered using the board for raising issues with their line manager during a time when he was absent from the workshop, though opting in the end not to do so.

Contrary to teams 1–3, the smaller workshop groups of team 4 generally did not hold regular board meetings.[6] Roughly half of the team 4 workshop groups mentioned in the FW that high production goals and concurrent government inspection was keeping them too busy. Furthermore, some team 4 participants

stated that the line manager would not push for Improvement Board meetings to be held as they did for meetings around the regular Kaizen board, even though they had been instructed at the beginning of the intervention to encourage the employees to schedule and attend board meetings. Employees also described that the Improvement Board was temporarily taken down during the aforementioned government inspection, whereas the normal Kaizen boards were left hanging, suggesting that the Improvement Board was less important than the regular Kaizen boards. These findings point to a gap between the motivations of the actual line managers and how they had been expected in the Improvement Board programme to support the intervention while fulfilling their normal obligations.

A second overall cause of the lack of board meetings was the shiftwork organization of team 4. Due to their changing work hours, the employees could not set a fixed time for board meetings and therefore faced the extra task of repeatedly coordinating when the next board meeting would be held. As the team's work pace was determined by which production step the pharmaceutical product was undergoing at the time, each workday would potentially be structured differently, further complicating their planning. When it was revealed in the FW that very few board meetings had been held in team 4 up to that time, the facilitators tried to get the participants to agree on a schedule for the board meetings that better accommodated the shift work plan. However, going by the subsequent interviews with the team 4 line manager and various employee participants, it seems that board meetings were a rarity even after this. While it was well-known to those designing the Improvement Board that some participants worked shifts, it was assumed that participants would be willing to make the effort to coordinate and lead the board meetings. This prerequisite clearly was not met.

The Improvement Board programme was also challenged by other circumstances of team 4's organization. First, with team 4 members being randomly reassigned to new shifts every six months, it was likely that participants who had committed to completing an action plan together in the APW would later end up on different shifts, reducing the possibilities for cooperation. A related problem was that if Improvement Boards were put up for all eight or nine workshop groups, a problem would ensue of how to position action plans for which several participants held joint responsibility if these participants were later reassigned to separate shifts. Instead, the line manager decided to put up one large Improvement Board which would hold the action plans from all workshop groups. However, the participants stated that it was not easy to identify their own action plans among the many plans from other workshop groups in board meetings. Furthermore, the "Who does what when?" field was quickly filled with action plan templates, making it impossible to show the progress of action plans through their placement in the field and leaving the participants with the impression that few action plans progressed as planned.

Second, the managers or members of technical staff were only present during the day shift, meaning that they were not available to team 4 participants who needed to consult with them over their action plans during the afternoon or night

shifts that constituted the majority of the participants' working time. While some actions plans could be completed by consulting with managers or technical staff via email, other action plans could be so technically or organizationally complex that a meeting would be required. If a participant was not successful in meeting with managers or a member of the technical staff while working a string of day shifts, it could be another three to four weeks before the next opportunity, which meant that the completion of the action plan could be delayed considerably.

Besides supporting participants' completion of action plans, it was also part of the Improvement Board's programme to guide participants' development of new action plans after the APW. However, as previously stated the employees developed 7.5 action plans on average per APW, which can be calculated as roughly 15 minutes per action plan, considering that two hours were scheduled for developing action plans in the APW. It was rare for the participants to have 15 minutes for a board meeting, and the participants thus often lacked the time to develop new action plans. This meant that while the plans developed in the APW were being completed, few new action plans were generated. Of course, if board meetings were generally not held, as was the case with team 4, no new action plans would be developed at all. It thus seems doubtful if the Improvement Board can lead shiftwork participants to sustain the development of new action plans without extra time in the form of extended meetings or workshops where suggestions can be discussed at length.

In sum, the outside-workshops tool programme of supporting the implementation of action plans through board meetings was only successful for teams that were able to have regular meetings at a fixed time. Problematic gaps were identified between the real users and how they were pre-inscribed in the Improvement Board in relation to their ability and motivation to schedule and lead board meetings. Also, the programme element of having participants develop new action plans during board meetings did not seem effective enough to promote their independent long-term use of the board. In team 4 specifically, unforeseen anti-programmes related to high workloads and government inspections challenged the Improvement Board programme, and the team's complex shiftwork organization was the cause of further anti-programmes related to difficulties in planning and conducting board meetings.

Discussion

This chapter was motivated by the need for an increased focus on tools as important intervention elements worthy of substantial and focused evaluation. In the early parts of the chapter, several criticisms were raised of how intervention tools are typically discussed in the literature. In brief, these criticisms were:

a)   An overall lack of substantial descriptions of intervention tools, suggesting that tools are generic, rather than important distinguishing elements between interventions.

b) A too one-sided focus on the designed uses of the tools, rather than a more descriptive approach attending to how the tools are used in practice.
c) An undertheorized conception of when and why participants choose to use the tools provided by an intervention.

I have argued that these criticisms can be accommodated by employing an evaluation framework using concepts from ANT. In this section, it will be discussed how the results of the evaluation might inform the design and use of Kaizen-based intervention tools, as well as how the evaluation framework presented here can contribute to evaluations of intervention tools in general.

The contribution of the evaluation to Kaizen-inspired intervention tools

In order to provide a comprehensive evaluation of the Improvement Board, it was first described how the designers of the Improvement Board sought to increase the chances of successful implementation (or *translation*) of the board's programme by taking measures against various problems and challenges that might arise as anti-programmes. Such considerations are likely very typical when developing intervention tools and they seem relevant for the overall success of the intervention, but they are rarely described in evaluations of organizational interventions, similar to how the tools themselves are rarely described in detail. This is problematic because interventions tools (and technical objects in general) reflect certain assumptions or pre-inscriptions about their imagined users. Without information about the tool designer's considerations and what happened when implementation was attempted, it is not possible to assess which of the tool's underlying assumptions were correct, meaning that an important resource for improving intervention tools in the future is passed up.

In relation to the Improvement Board specifically, the within-workshops part of the tool programme was overall successfully implemented, though some employees objected to developing and assuming responsibility for action plans on the basis that they would not receive as much support as they would if raising the problems through other means. This suggests that the pre-inscribed picture of the user was inadequate, as the participants were expected to be motivated for implementing action plans themselves. Otherwise, only relatively minor issues were identified with the Improvement Board, such as the lack of guidelines for when to split up action plans into several smaller ones, or how some fields of the board simply did not seem useful to the participants.

The outside-workshops part of the Intervention Board programme was less successful, both because of how line managers and employee representatives needed to step in in order for the board meetings to be held in teams 2 and 3, but especially because of the many unforeseen anti-programmes operating in team 4. While some of these anti-programmes were caused by unexpected events (such as periods with high workloads or outside inspections), the problems caused by the team's

shiftwork organization could perhaps have been foreseen and mitigated somewhat by the tool designers. However, it does not seem likely that the anti-programmes could have been countered by a simple change to the layout of the board itself. Instead, further support from the line manager and employee representatives could have led to more board meetings being held, and that perhaps this support was even more important in team 4 where no fixed time could be set for the board meetings than it was in the other teams.

It can also be argued that the tool designers had too optimistic expectations about the lengths to which employees would go in order to use the Improvement Board as instructed. It might be the case that board meetings were simply not held in team 4 because many employees in this team were not willing to assume responsibility for extra tasks without substantial support, and because "forgetting" about the board meetings could be done with little risk as the line manager seemed to favor prioritizing main work tasks instead. Here, some might suggest that the tool programme would fare better in other settings with more motivated participants. However, this argument does not account for why the PharmaCorp participants would be unmotivated. Based on the critical arguments made especially by team 4 participants against the Improvement Board, another perspective could be that the Improvement Board was not the participants' only means of participation, as they could for example also develop action plans within the normal lean manufacturing framework (at least for some problems). Thus, the trade-off between effort and potential improvements in the employees' health and well-being offered by the Improvement Board was not as attractive for the participants as the tool designers believed. However, for team 1 (the only team which succeeded in having employee-led board meetings over time), the Improvement Board did offer an advantage over other systems as problems raised through the intervention could not as easily be shut down by their middle manager.

Another potential explanation for the lack of board meetings is that it was simply not as easy for the participants to lead board meetings as it had been assumed when designing the Improvement Board. In practice, many participants knew some basic principles of lean manufacturing and had participated in board meetings, but only very few participants had been formally trained to lead board meetings. This aspect is similar to how the participants in the study by Mazzocato et al. (2016) were thought to lack lean skills. It is possible that the participants' lean capabilities were overestimated by the designers of the Improvement Board because many of the most-cited lean sources within the literature (such as Imai, 1986; Womack et al., 1991) are based on organizations which have come very far in their implementation of lean manufacturing practices (e.g. Toyota), or because these sources are published for commercial rather than academic purposes, and thus perhaps paint too positive a picture of how lean manufacturing is practiced *in situ*.

Summing up, it could be argued that it is important to assess whether Kaizen-inspired intervention tools provide a substantial benefit for the participants over other means of participation (formal or informal), and whether the employees have sufficient lean capabilities to sustain recurring board meetings. If led by a line

manager or employee representative, the meetings are likely to be held, but it should be noted that the participants might then participate out of obligation, rather than simply because they are motivated for it. This raises the question of whether having board meetings is critical to using Kaizen-inspired intervention tools; another solution might be simply to find a different strategy for following up on action plans, instead using the Improvement Board mainly as a guide for developing action plans in workshops.

The contribution of ANT to intervention tool evaluations

At a more general level, a number of important differences can be identified between how intervention tools are normally seen in the literature and how we might approach them from a perspective inspired by ANT.

First, in contrast to how intervention tools have rarely been described in evaluation studies in the extant literature, ANT emphasizes the need for engaging with how the implementation of tools as technical objects plays out in practice. This is important because many matters related to the implementation reveal themselves as multi-faceted and contingent when followed closely; for example, intervention participants are not passive recipients, but proactive users (Nielsen, 2013) who sometimes go beyond the designed uses of the tool in a way which actually supports successful translation of the overall tool programme into practice. The users have different interest and are likely to find different potential uses for technical objects. Whereas large-scale intervention-threatening events such as lay-offs are somewhat rare, many different and less remarkable circumstances can lead participants to renege on the requirements posed by intervention tools, as was seen in our evaluation. Although the emphasis placed on situated analyses within the ANT tradition means that many of its scholars are hesitant to generalize findings from one setting to another, it can be argued that descriptions of the implementation process are more likely to generate findings and suggestions which might inform future interventions in similar settings if they are in fact detailed and nuanced.

A second distinction can be found in how ANT stresses that the introduction of technical objects to a context is likely to expose features of both the objects and the context which might otherwise not be apparent (Akrich & Latour, 1992). For example, it is clear from the participants' problems with scheduling board meetings that the Improvement Board programme presupposed abilities and motivations on the participant's behalf which were not realistic. Similarly, the lack of board meetings held by team 4 employees might point to a more general difficulty of introducing new tasks for employees who work shifts where their manager is not present, at least as long as the employees are not clearly held accountable for taking on these tasks. These findings are examples of how interventions provide an especially relevant occasion for developing our understanding of intervention tools and of organizations in general.

Third, the ANT perspective suggests that tool designers and evaluators are responsible towards the participants to a greater extent that it is usually acknowledged

in the evaluation literature. When the Improvement Board is used by participants to produce certain actions, it *does* something – it makes a difference. Thereby, it is likely to fit well with some participants' intentions and not well with others, potentially putting some organization members at a disadvantage. For example, it is likely that team 1's middle manager (whose intention to end work shoe discussions was circumvented by the Improvement Board) did not feel as positively about the Improvement Board as the team's employees. As another example, more board meetings had likely been held if these were systematically led by managers and employee representatives, but this might not have led to increased health or well-being due to lack of time and the pre-existing availability of other formal or informal participatory channels. Instead, more board meetings could have led to an even higher workload, which the team 4 employees especially seemed so keen to avoid. This raises the overall question of whose point of view should be taken when designing and evaluating intervention tools. ANT helps us see how our choices might be "accidentally political" (Bloomfield et al., 2010), for example through how tool designers' assumptions about the imagined users are turned into an object of evaluation. The question of how to balance different stakeholder interests can of course not be answered once and for all; instead, it suggests that both tool evaluators and practitioners using intervention tools should remain reflexive about which success criteria might be held by different actors (such as employees, managers, tool designers and evaluators) in relation to the intervention and the potential tensions between these, such as:

- Compliance vs meaningfulness: can an implementation be considered successful in case some participants chose – for good reasons – not to use the tool?
- Specificity vs relevance for a larger group: is it most important that an intervention tool is relevant and practical for a selected group with a relatively high need for change, or to as large a share of the participants as possible?
- Formalization vs flexibility[7]: is it important that an intervention tool is used in a certain predetermined way throughout an organization (as argued by Augustsson et al., 2015), or is it preferable that the intervention tool is flexible enough to accommodate the local users' interests (parallel to the "What works for whom" perspective; Nielsen et al., 2014)?
- Short-term gains vs sustainability: is it most important that the intervention tool is effective at solving a perhaps pressing problem, even if the costs are relatively high, or would a more economically feasible long-term strategy be preferable whereby the intervention tool would have to function well in everyday organizational life?

   It can be suggested that the prevalence of experimental study designs with relatively short follow-up periods in the evaluation literature is likely to privilege criteria such as compliance, specificity, formalization and short-term gains because these are more likely to entail measurable effects in quantitative evaluations.

However, when evaluating intervention tools in their own rights, we are able to and should consider the qualities and shortcomings of intervention tools from a number of perspectives.

Conclusion

In this chapter, it has been argued that intervention tools deserve a central position in the evaluation of organizational interventions. As evaluation approaches targeting tools are scarce, I have presented a new approach inspired by ANT. A main point of this approach is that tools are seen as valid by participants and stably implemented in their daily practice if and only if the tools enable the participants to carry out their diverse intentions. This evaluation approach was subsequently used to evaluate the Kaizen-inspired Improvement Board. While the Improvement Board was successful in facilitating the development and follow-up of a number of action plans, issues were also identified which might inform attempts to implement kaizen-inspired tools in similar settings. Especially problematic were the Improvement Board's prerequisites regarding users' motivation and capabilities, and its use in teams with a shiftwork organization.

In closing, the chapter proposes that ANT is a relevant inspiration for evaluating intervention tools due to how it directs our attention to a number of aspects of both the tool, its implementation in the organizational context, and this context itself; aspects which might be overlooked if taking a more traditional perspective. ANT highlights how choices made while designing or evaluating tools privilege the interests and perspectives of some actors associated with the intervention over others, suggesting a need to further consider the success criteria which guide our work.

Acknowledgements

Notes

1 As the chapter revolves around well-being interventions and intervention tools, the term "participant" will primarily be used to refer to the organization members who are actively involved in the intervention. However, in certain cases it is necessary to make a distinction between what is stated by or about employees, line managers or other organizational members, and in such cases, more specific terms will be used.
2 The overall framework of this intervention is described in a design paper by Gupta et al. (2015).

3 A pun on "hitting two flies with one swat", the Danish language equivalent to "killling two birds with one stone".
4 We who developed the Improvement Board had been told by steering group members in the participating organizations that a significant proportion of the employees were dyslectic or had Danish as their second language.
5 It was noted by the team 1 line manager that the Improvement Board lacked a mechanism for prioritizing among action plans which had been agreed upon – something which was seen as a benefit of the normal kaizen board used in the company.
6 Some participants stated that they occasionally updated the Improvement Board by themselves if they felt motivated to complete the action plans.
7 In the context of ANT, the topic of objects' flexibility and identity is frequently referred to as fluidity (De Laet & Mol, 2000; Law & Singleton, 2005), a potentially relevant concept for future evaluation studies to adopt.

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5

EVALUATION OF THE PREPARATORY PHASE OF A STRESS INTERVENTION

A case study from the Australian public sector

Maureen F. Dollard and Amy Zadow

Background and aim of the chapter

Organizational interventions can be described as planned actions that aim to improve worker health and well-being through revision of the way jobs are designed, structured and managed, usually through a participatory approach where stakeholders in collaboration decide on the content and process of the tasks (Nielsen & Miraglia, 2017). Studies documenting interventions to reduce workplace stress rarely discuss the preparatory phases of the intervention including the context, mechanisms and the associated outcomes (see Awa et al., 2010; Richardson & Rothstein, 2008; Ruotsalainen et al., 2015). Organizations constitute elements that have complex, multifaceted, non-linear relationships, dependent on both time and context, making intervention implementation and evaluation difficult (Cox et al., 2007; Elo et al., 2008). Inattention to the effects of differences in intervention implementation processes, and insufficient acknowledgement of contextual differences in relation to varying environments for the interventions, may be obstacles to achieving the intended effects and threaten the internal validity of evaluation research (Goldenhar et al., 2001; McVicar et al., 2013; Saksvik et al., 2002). Limited success in organizational health interventions may be due to a failure to assess social and cognitive processes involved (e.g. employee's perception of the need for change) (Griffiths, 1999; Nielsen & Abildgaard, 2013; Nytrø et al., 2000).

Hence more attention should be given to the early (development and implementation) phases of the intervention to elucidate key base ingredients to improve intervention processes (Nytrø et al., 2000). In this sense an intervention needs to employ the basic principles of realist evaluation to determine what works for specific workers in certain circumstances (Nielsen & Miraglia, 2017; Pawson & Tilley, 1997). Accordingly intervention research needs to focus greater attention on the context and mechanisms that cause change rather than whether the intervention achieved expected outcomes (Greenhalgh et al., 2015; Nielsen & Miraglia, 2017).

Rationale for the intervention

This intervention was a pilot organizational intervention project to reduce workplace stress involving Australian public sector workers in the human service and education sectors. The intervention was guided by two main categories of mechanisms that are important components of organizational interventions, the content of the intervention and the process of the intervention (Nielsen & Miraglia, 2017). The first goal of the organizational intervention was to identify the content that needed to be included (e.g. the psychosocial and organizational risks for work stress within the work organizations) to determine what to change. The second goal was to identify important mechanisms informed by the research literature and evidence to identify how to make the change (e.g. the process). Combined together these factors were used to inform and design the intervention including the tools and methods used.

What to change (content)

To establish what to change the organizational intervention relied on two main sources of information: theories of work stress and research evidence, and stakeholder feedback relating to the specific work environment. Theories of job stress and work design such as the job demand-control (JD-C) model (Karasek, 1979), the effort-reward imbalance (ERI) model (Siegrist, 1996) and the job demands-resources (JD-R) model (Demerouti et al., 2001) have identified important job characteristics such as autonomy, job demands, task variety and social support that influence levels of work stress and burnout. These theories of work stress, and related research evidence (e.g. see Taris et al., 2003) in combination with feedback from the specific work groups, were taken together in a comprehensive multi-method approach to determine the assessment content – specifically to ascertain with greater validity which psychosocial risks and psychological outcomes were to be included in the risk assessment survey given to all participants at Time 1 (Mikkelsen & Gundersen, 2003; Theorell, 1998).

How to change (context and process)

The second goal was to develop mechanisms to make the change. This involved ensuring that the context and the process of the intervention were informed by elements of best practice in stress prevention and management. A review of the literature highlighted key elements of good practice in stress prevention intervention (EASHW, 2002; Jordan et al., 2003; Kompier & Cooper, 1999). These so-called *evidence informed* principles (Harrison, 2003) are based on both qualitative (i.e. case study material) and quantitative research. Eleven key elements derived from these sources were used to shape the organizational intervention context and processes, and inform the intervention tools and methods. These included *a philosophy of interdependence: a culture of continuous learning and trust*. Jordan et al. (2003) argue

that an organizational philosophy that recognizes the interdependent relationship between individual and organizational health, and the notion that stress prevention and management is the responsibility of every member of the organization is crucial. Promoting an organizational culture that was trusting and prepared to continuously learn (analyzing and evaluating) through improved communication, participation and feedback (see Jordan et al., 2003; Nytrø et al., 2000) was an important first step of the proposed intervention.

A further characteristic of best practice is *sustained prevention and top management commitment*. Sustainability requires top management investments in workplace improvements, and integration of prevention activities into regular management systems (EASHW, 2002). Ongoing management may include the development of codes of practice, implementation of work environment security systems and ongoing work environment surveillance (e.g., surveys) to assess progress towards goals (EASHW, 2002). Next, *a participative approach including social dialogue, partnership, workers' involvement and communication upward* was considered a critical component of the intervention. Involvement and empowerment of workers in the decision making processes can lead to increased ownership and improved organizational initiatives and outcomes (Bond & Bunce, 2000; Jordan et al., 2003). Involvement and commitment is required at all levels, employees and their representatives, middle management, and top management, and in every stage of the process (EASHW, 2002). Building bridges and trust between staff may be achieved by trained staff or by external parties (EASHW, 2002; Nielsen et al., 2002).

A further aspect of best practice was *risk assessment and task analysis*. It is argued that "an organization should never start a survey of the working environment unless there is a clear intention of taking action if indicated from the results" (EASHW, 2002, p. 122). Prompt feedback to participants is important for ongoing support and participation in the process, and to keep them informed about or involved in ongoing problem analysis activities (e.g., focus groups). Risk assessment can be informed by survey and local evidence (employee opinion surveys, grievance data) and participatory problem solving is used to evolve intervention actions (Cox et al., 2002). This process is required to ensure that interventions are tailored to meet local requirements, and to detect new risks. Analysis of job tasks for inherent or perceived hazards, and risk analysis is required prior to developing an intervention (EASHW, 2002). Risks may vary according to their level of influence (organizational, work role, and location) so that risk analysis needs to be comprehensive as well as local (Dollard et al., 2001).

Another important aspect of best practice is a *thorough planning and stepwise approach*. A necessary condition for the success of workplace stress prevention is to have "clearly defined program aims and target groups, appropriately delegated tasks and responsibilities, adequate planning, financial resources and means of action" (EASHW, 2002, p. 122). In the development of action plans for the stress prevention strategy it is important to adequately analyze the situation and the resources available. Plans should consider the needs, abilities and requirements of organizational members and both management and employees should be involved

(Elo et al., 1998; Jordan et al., 2003). Next, suitable interventions should be implemented, matching goals and means, and then evaluated. The benefits of a stepwise planning process have been previously highlighted (Kompier & Cooper, 1999) and underpin a range of approaches (risk management approach, health circles, StRess.Moderator) (EASHW, 2002).

Best practice in stress prevention and management also involves *context-specific solutions*. For solutions to be sustainable they must be developed in the specific work context with the use of local resources. On-the-job expertise is identified as the main resource in the development of an intervention (EASHW, 2002). Workers must be viewed as experts in local knowledge, and their expertise should be used in problem analysis, solution development and implementation (Cox et al., 2002). Another important aspect, that may be overlooked, is the use of *experienced practitioners*. It is widely recognized that the process of developing organizational interventions usually benefits from involving outside experts (researchers, consultants, occupational health and safety experts, trade unions) (EASHW, 2002) and facilitators particularly when issues around poor management exist (Jordan et al., 2003). It is crucial that external consultants have a recognized professional background, and insight into the current knowledge and existing evidence in the field (EASHW, 2002). While ready packaged interventions and tools should be avoided, it is important to build on the evidence base that is developing in the area. A balance between context-based risk analysis and interventions and evidence-based risk assessment and interventions is required (EASHW, 2002).

Further it is important to emphasize *work-related and worker-related prevention and management*. Strategies for intervention should be both work-related (focus on work environment source) and worker-related (to safeguard employees not initially protected by work related measures or who are subjected to specific situational stressors) (EASHW, 2002). In some cases stressors are an intrinsic part of the job (e.g., demanding clients) and cannot be removed. In these instances organizational changes combined with education and self-protection strategies may work best. It is important to distinguish between unchangeable and changeable work conditions and to focus energy on those that can be changed. Most reviews have concluded that "priority must be given to organizational and collective prevention" (EASHW, 2002, p.123).

The empirical case

Two main mechanisms operate in organizational interventions; the content which determines what to change (e.g. psychosocial risk factors, stress outcomes) and the process which identifies what mechanisms need to employed in a particular context to promote change (e.g. top management commitment) (Nielsen & Miraglia, 2017). Building upon these principles, this chapter describes an intervention that provides an example of how a system of evaluative processes can be integrated into the development of an organizational intervention structure to assess the interplay between intervention context, mechanisms and outcomes. The pilot organizational

intervention project to reduce workplace stress involved Australian human service and education workers. The first phase, the context and development of the project, involved a study group comprised of key industry leaders (health and education public sector representatives), employer representatives, and union state presidents on a fact finding mission with visits to employers, employer bodies, unions, experts, occupational health and safety (OHS) regulators and attendance at an international conference (European Academy of Occupational Health Psychology, EAOHP). Subsequently an intervention approach was developed using the Cox Griffith risk management approach (Cox et al., 2000a, 2002, 2003) that has also been adopted by the Health and Safety Executive in Britain (Mackay et al., 2004) and incorporating the best practice principles. Intervention systems were created using five layers of participation including intervention at the government, senior stakeholder, head office, department region and work group level.

The second phase, the risk management process, involved surveying participants (intervention and control groups) (Time 1 (T1)) to determine psychosocial risk factors and psychological health status. Survey content was developed by triangulating information from work stress theories (e.g. the JD-R, Demerouti et al., 2001; ERI model, Siegrist, 1996; and the JD-C, Karasek, 1979), research evidence (e.g. Taris et al., 2003), in-depth interviews with workers and organizational data (e.g. sick leave). This information was then used in workshops involving employees and management in their natural work groups to develop stress reduction action plans (see also Dejoy et al., 2010). An external facilitator convened four workshops per group over a six-week period providing education about stress factors and responses, risk assessment, risk control and established an action plan. Each work group was provided with data-driven risk reports (provided by the external researcher) derived from their work group's response to the T1 survey, along with grievance and sickness absence data. Risks were prioritized by group consensus and action plans were developed aimed to implement risk controls at a work group level.

The third phase, involving the evaluation of the intervention, included 1) completion of the same risk assessment survey after the intervention period (Time 2 (T2)) to determine changes in psychosocial risk factors and stress outcomes, 2) participant completion of a workshop risk evaluation tool to evaluate the efficacy of the workshop processes, 3) workshop facilitator completion of a rating tool after each workshop to determine the efficacy of the workshops in meeting learning outcomes and focus group sessions with the workshop facilitators throughout the six-week period to understand their key themes and conclusions, and 4) in-depth interviews with a selection of workshop participants to identify barriers and facilitators in the implementation of the intervention.

This chapter presents the development of intervention content and tools informed by work stress theory, research evidence and stakeholder feedback, as well as an intervention context and mechanisms that were developed in accordance with elements of best practice, synthesized to build and test a comprehensive organizational intervention model to improve workplace health and well-being.

Tools, methods and guidelines are outlined for practitioners seeking to develop organizational intervention models that take into account the influence of context and process on outcome patterns.

Method

Sample

Two public sector departments were involved in the study (human service workers, 20 groups; education sector workers, 18 groups). For the development phase (risk assessment) all participants were asked to complete a risk assessment survey prior to the workshops at T1 (human service workers, Intervention $n = 65$, Control $n = 75$; education sector workers, Intervention $n = 120$, Control $n = 181$). Work groups were randomly assigned evenly to either the intervention or control group. For the intervention phase only participants attending the workshops completed a workshop survey immediately following the workshops, $N = 147$ (human service workers, $n = 65$; education workers, $n = 82$) relating to the value, content, organization and process of the workshops and the impact of the workshop on intention to use the risk management approach. For the evaluation phase, the risk assessment survey was used once more at T2, following the workshop at eight weeks post T1 and involved all participants (human service workers, Intervention $n = 43$, Control $n = 48$; education sector workers, Intervention $n = 80$, Control $n = 134$). In total, for the risk assessment survey, 441 participated at T1 and 305 at T2. In both departments females were the majority (human service workers, 73 per cent; education sector workers, 79 per cent), and the typical age was 35–44 amongst the human service workers, and 45–54 within the education sector workers. Human service workers managed, administered and delivered social care services to the most vulnerable members of the community in jobs such as social work, youth work, aged care, juvenile detention. The education sector workers managed, administered and delivered education services to students in primary, secondary and special schools. Ethics approval was given by the Department of Human Services and the University of South Australia Human Research and Ethics Committees.

To identify specific stressors (i.e. for the risk assessment tool) in-depth interviews were conducted with representatives ($n = 15$) from each department, nominated by the union and the department, purposively selected to maximize representation of all employment categories and each intervention work group. Participants were asked to: (1) describe the nature of their work, how it is carried out and managed, and to (2) identify some of the key work issues (stressors) facing their work group/region at the moment. Pre-interviews were taped and detailed notes were made from these. For the human service worker sample, interviews were conducted by two researchers and key issues were determined through analysis by the principal researcher. For the education sector worker sample, key issues

leading to stress were derived from the tapes by two researchers independently and then key clusters were agreed by consensus between the two researchers. The survey tool was then drafted using insights from the qualitative inputs from the interviews, and also considering factors behind workers' compensation claims, stress leave data, with general and specific stress factors (10 factors) in each department identified in this process.

Post interviews ($n = 8$) were conducted to canvas the capacity of the work group to determine measures to address key issues, factors affecting the work groups, barriers to the implementation of the intervention and integration into the organization, facilitators in the implementation and the attitudes and expectations of the participants. The quantitative and qualitative data enabled the effectiveness of the workshops to be evaluated in terms of (1) the value, content, organization and process of the workshops, (2) intention to use the risk management process in the future, and (3) through changes in psychosocial risk factors and psychological health outcomes. Group facilitators ($n = 6$) evaluated the workshops according to the learning outcomes and also participated in a focus group debriefing following the workshop interventions. The intervention research design is shown in Figure 5.1.
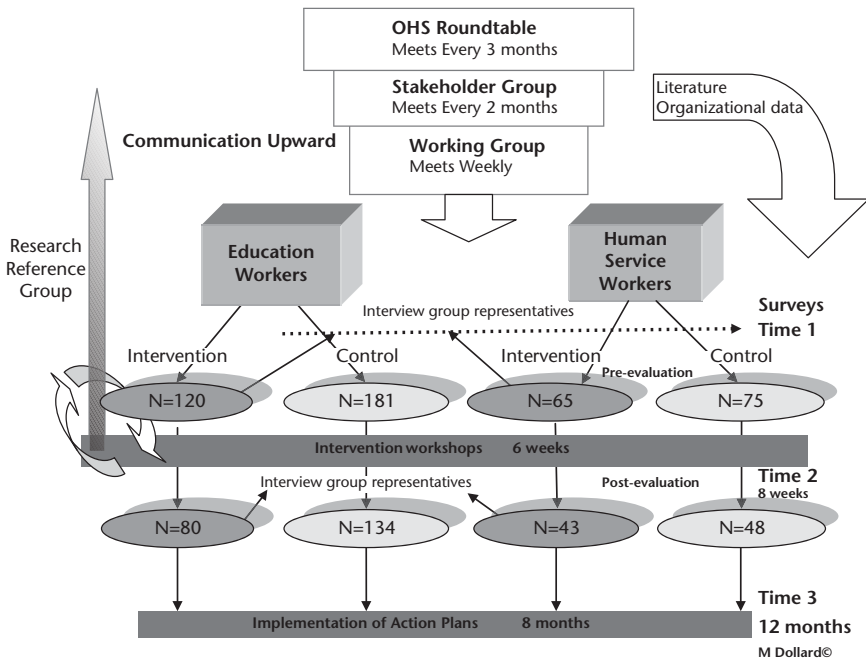
FIGURE 5.1   Process of program implementation and evaluation

Measures

Measures included a risk assessment survey tool, a workshop risk assessment evaluation tool and a workshop facilitator rating tool. The risk assessment survey tool (T1 and T2) was used to develop the content of the intervention and evaluate changes in psychosocial risk factors and stress outcomes following the workshops (see Table 5.1). The T2 data were also used to identify differences between the intervention and control groups in psychosocial safety climate (see Dollard, 2012; Dollard & Bakker, 2010; Dollard et al., 2008). The workshop risk assessment evaluation tool measured the (1) value, content, organization and process of the workshops, and (2) intention to use the process in the future. The tool is provided in Table 5.2. Workshop facilitators completed a workshop facilitator rating tool, maintaining a diary to rate how effective the units covered in the workshops were in achieving the learning outcomes required on a seven-point scale. The learning outcomes used for this tool are summarized in Table 5.3.

Risk assessment survey tool

The quantitative risk assessment survey tool was used for the development of the intervention at T1 and as an intervention evaluation tool at T2. Its content was required to be general enough for use across two departments but specific enough in parts to inform specific organizational actions. Standardized scales including the Copenhagen Psychosocial Questionnaire (COPSOQ) (Kristensen, 2000), the job content questionnaire (JCQ, Karasek et al., 1998), the effort–reward imbalance scale (Siegrist, 1996) and the management standards indicator tool (Cousins et al., 2004) were reviewed for suitability to assess identified stressors. Indicators of organizational and individual well-being were also included (psychological distress, physical health symptoms, intention to resign, morale, job satisfaction, engagement, emotional exhaustion). Objective organizational data in relation to sick leave were matched at an individual level and included in the data base (sick leave data). Stakeholders in the various committees, representatives in the fields and other researchers were extensively consulted for content and structure of the tool which led to several modifications including changes to scale response formats and item wording. The size of the instrument was confined to 100 questions to meet market research standards. The survey questions are summarized in Table 5.1. Examples of specific items for human service workers were: there is poor public perception of our work; recognition of good work is appropriate; there is a lack of back up when staff are sick, or during training/escorts. Specific items for education workers included: managing the behavior of students with difficulties; limited resources to support staff welfare; working with parents of students with difficulties.

Workshop risk assessment evaluation tool

The workshop evaluation tool as shown in Table 5.2 assessed the: (1) the value, content, organization and process of the workshops (items 1–12) and (2) intention

TABLE 5.1 Risk assessment survey (T1 and T2)

	Reliability	Items	Example
Stress factors			
Job content	$\alpha_{HS} = .75$, $\alpha_{ED} = .73$.	3	I have the possibility of learning new things through my work (COPSOQ, Kristensen, 2000).
Job control	$\alpha_{HS} = .67$, $\alpha_{ED} = .64$.	3	I can decide when to take a break (COPSOQ, Kristensen, 2000).
Quantitative demands	$\alpha_{HS} = .78$, $\alpha_{ED} = .78$.	7	I have to work very fast (COPSOQ, Kristensen, 2000).
			Does your job require you to work overtime? (JCQ, Karasek et al., 1998).
Emotional demands	$\alpha_{HS} = .78$, $\alpha_{ED} = .69$.	4	Does your work put you in emotionally demanding situations? (COPSOQ, Kristensen, 2000; Frankfurt work emotion scale (FEWS), Zapf et al., 1999).
Inappropriate workplace behavior	$\alpha_{HS} = .52$, $\alpha_{ED} = .57$.	4	In the past 12 months have experienced sexual, gender or ethnic harassment, or have been sworn, yelled at or humiliated in front of others.
Shift work		1	Do you work shift work?
Bullying		1	Bullying is defined as "repeated, unreasonable behavior directed towards an employee, or group of employees, that creates a risk to health and safety". Using the definition please indicate whether you have experienced bullying in your employment within the last 12 months.
Specific workplace issues	$\alpha_{HS} = .73$, $\alpha_{ED} = .73$.	10	These were constructed based on local knowledge (via interviews – see text for examples).
Meaning of work	$ICC_{HS} = .63$, $ICC_{ED} = .53$.	2	Do you feel that the work you do is important? (COPSOQ, Kristensen, 2000).
Communication	$\alpha_{HS} = .75$, $\alpha_{ED} = .79$.	2	At your place of work, are you informed well in advance concerning, for example, important decisions, changes or plans for the future? (COPSOQ, Kristensen, 2000).
Role in organization	$\alpha_{HS} = .58$, $\alpha_{ED} = .67$.	5	I am clear about my duties and areas of responsibility (COPSOQ, Kristensen, 2000).
Quality of leadership	$\alpha_{HS} = .91$, $\alpha_{ED} = .90$.	5	My immediate supervisor/manager is good at solving conflicts (COPSOQ, Kristensen, 2000).

(continued)

TABLE 5.1 *(continued)*

	Reliability	Items	Example
Interpersonal relationships	$\alpha_{HS} = .78$, $\alpha_{ED} = .81$.	6	I get help and support from my immediate supervisor/co-workers (COPSOQ, Kristensen, 2000).
Rewards	$\alpha_{HS} = .75$, $\alpha_{ED} = .76$.	7	I receive the recognition I deserve at work (ERI, Siegrist, 1996).
Procedural fairness	$ICC_{HS} = .66$, $ICC_{ED} = .70$.	2	Promotions and appointment processes are fair (Kivimäki et al., 2003).
Psychosocial safety climate	$\alpha_{HS} = .75$, $\alpha_{ED} = .81$.	4	T2 only; e.g., senior management show support for stress prevention through involvement and commitment (Dollard & Bakker, 2010).
Stress indicators			
Workplace morale	$\alpha_{HS} = .89$, $\alpha_{ED} = .89$.	4	The morale in my workplace is high (Hart et al., 1996).
Psychological distress	$\alpha_{HS} = .90$, $\alpha_{ED} = .90$.	12	Have you felt you couldn't overcome your difficulties? (GHQ-12, Goldberg, 1978)
Physical health symptoms	$\alpha_{HS} = .79$, $\alpha_{ED} = .81$.	6	Muscle/back/neck pain or aches (Dollard, 1996).
Work/home conflict		1	How often do the demands of work interfere with your family/home/social life? (adapted from Holahan & Gilbert, 1979).
Intention to resign		1	Have you ever seriously considered resigning from your work?
Engagement	$ICC_{HS} = .69$, $ICC_{ED} = .65$.	2	I am enthusiastic about my job (Utrecht work engagement scale, Schaufeli & Bakker, 2003).
Emotional exhaustion	$ICC_{HS} = .80$, $ICC_{ED} = .73$.	2	I feel used up (burnt out) at the end of the work day (Maslach burnout inventory, Schaufeli et al., 1996).
Job satisfaction		1	Taking everything into consideration how do you feel about your job?
Sick leave		1	Amount of sick leave in the past 6 months.

Note. ICC_{HS} = inter-item correlation for the human service worker sample. α_{HS} = Cronbach's alpha for the human service worker sample. ICC_{ED} = inter-item correlation for the education worker sample. α_{ED} = Cronbach's alpha for the education worker sample.

TABLE 5.2 Workshop risk assessment evaluation tool

This form is to be placed with other participant responses in an envelope, sealed and sent to the researcher by the facilitator. The information you provide will be de-identified and aggregated to inform the Process Evaluation of the Stress Prevention Pilot. Your information will remain confidential

Work group name: *Date:*

Q1. How many work group meetings did you attend?

Q2. To what extent do you agree with the following statements?

Response please place a tick in the box to indicate the extent of your agreement	*Strongly disagree*	*Disagree*	*Not sure*	*Agree*	*Strongly agree*
1 My contributions in the risk management process were listened to	1	2	3	4	5
2 The contributions of others in the risk management process were listened to	1	2	3	4	5
3 Participation in the process improved my understanding of work stress	1	2	3	4	5
4 Participation in the process improved my understanding of risk management	1	2	3	4	5
5 The training sessions were well organized	1	2	3	4	5
6 I found the process worthwhile					
7 The facilitator handled discussions within our group competently	1	2	3	4	5
8 Materials were useful	1	2	3	4	5
9 I was involved in the interventions implemented by my work group	1	2	3	4	5
10 I feel confident that my work group can address stress factors when we return to the workplace	1	2	3	4	5
11 I think my work group will need assistance to address stress factors when I return to my workplace	1	2	3	4	5

(continued)

TABLE 5.2 *(continued)*

Response please place a tick in the box to indicate the extent of your agreement	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
These questions are about what you will do in the future. Please place a tick in the box that corresponds with your answer					
12 How likely do you think the work group will use the risk management process to deal with work stress?	Extremely unlikely	Unlikely	Unsure	Likely	Extremely likely
13 I believe the use of the risk management process to deal with work stress in my organization is	Extremely unwise	Unwise	Unsure	Wise	Extremely wise
14 To what degree is it true that most people whose opinions are important to you think you should deal with incidents of work stress using the risk management process?	Extremely untrue	Untrue	Unsure	True	Extremely true
15 How much control do you have over using the organizations risk management process?	No control	Little control	Unsure	A lot of control	Complete control
16 How easy is the risk management process to use to prevent and resolve work stress?	Extremely easy	Easy	Unsure	Difficult	Extremely difficult
17 I feel confident in using the risk management process to deal with work stress.	Extremely true	True	Unsure	Untrue	Extremely untrue
18 To what extent do you feel equipped to deal with work stress (utilizing the risk management model)?	Not at all equipped	Poorly equipped	Unsure	Equipped	Extremely equipped
19 How would you rate your ongoing capacity to determine stress factors and implement controls to reduce workplace stress?	No capacity	Low capacity	Unsure	Adequate capacity	Extremely high capacity

to use the process in the future (items 13–19) with items based on Bandura's self efficacy theory (SET) (Bandura, 2012), the theory of planned behavior (TPB) (Ajzen, 1988, 1991) and previous research (e.g., Randall & Gibson, 1991). *Intentions to use risk management process* was the dependent measure (item 12). Predictor variables were: *attitude toward the risk management process* (item 13); *subjective norm toward the risk management process* (item 14); *perceived behavioral control for using the risk management process* (items 15 and 16 reversed); *efficacy beliefs* (item 17 reversed); *overall self-efficacy judgements* (item 18); *capacity* (item 19).

Workshop facilitator rating tool

At the conclusion of each workshop facilitators rated how effective the units covered in the workshop were in achieving the learning outcomes required (see Table 5.3), on a seven-point scale from 1 = extremely ineffective to 7 = extremely effective. Following the completion of the workshops this information was used in a four-hour focus group debriefing with the facilitators on the workshops ($n = 6$) to review and validate key themes drawn from the facilitator's comments.

Procedure

Risk assessment survey tool

The risk assessment survey tool was administered at T1 and T2 using telephone interviews conducted with all participants.

TABLE 5.3 Workshop units and learning outcomes

Units	Outcomes
1. Demystifying stress	Participants can explain stress
2. Using the risk management process	Work group can use systematic risk management process for stress
3. Identifying stress	Determine factors that have the potential to cause stress
4. Assessing and determining measures to address stress	Determine stress risk and measures to reduce risk
5. Determining and finalizing measures to address stress	Use the hierarchy of controls – eliminate or reduce stress risk, to finalize risk controls
6. Establishing an action plan	Document an action plan
7. Reporting and early response to stress-related issues	Describe incident reporting for stress, early response and support services
8. Work group reflection	Describe how action plans will be implemented, monitored and reviewed and debrief regarding the experience

Capacity-building workshops

Based on the Cox and Griffiths risk management approach (Cox et al., 2002) workshops were designed to involve employees and management in their natural work groups to develop stress reduction action plans (see also Dejoy et al., 2010). An external facilitator with expertise in organizational psychology or related area convened workshops for a maximum of 16 hours, 4 x 4 weeks over a 6-week period. Facilitator guidance material was developed prior to the workshops to ensure a standardized approach across groups (see WorkSafe Victoria, 2007). Workshops provided education about stress factors and responses, risk assessment, risk control and establishing an action plan. An overview of the content of the sessions and learning outcomes is shown in Table 5.3.

Each work group was provided with data-driven risk reports (provided by the external researcher, MD), derived from their work group's response to the T1 survey, along with grievance and sickness absence data. Risks were prioritized by group consensus, and action plans were developed aimed to implement risk controls at a work group level; where local control was not possible or where further resources were required, actions were elevated to the higher level Regional Steering Committee.

Workshop evaluation

At the completion of the workshops, the workshop risk assessment evaluation tool was disseminated to participants. Participants were instructed to place their responses with others in an envelope, to be sealed and sent to author by the facilitator (see Table 5.2). At the conclusion of each workshop facilitators completed the workshop facilitator rating tool rating how effective the units covered in the workshop were in achieving the learning outcomes required. The learning outcomes used in this tool are summarized in Table 5.3.

Focus groups

Facilitators participated in a four-hour focus group debriefing on the workshop ($n = 6$). Key themes and conclusions drawn from the facilitator's comments were validated by the facilitators themselves.

In-depth interviews

Pre- and post-workshop interviews with participants were conducted. For the in-depth interviews conducted after the intervention ($n = 8$) most of the interviews were conducted with human service workers ($n = 7$) and only one interview was conducted with an education sector worker because at the time most staff were on annual leave.

Results

Risk assessment

For each intervention work group, a risk assessment was conducted to gauge the relative importance of each identified stress factor (how well it correlates with stress indicators) and its prevalence (frequency/extent to which the issue exists) (Cox et al., 2002). Since the correlations are likely to be unreliable given the small group size, the strength of the factor was determined via correlations from departmental data and the prevalence by the group mean. Table 5.4 rates the strength and prevalence of stress factors. The key risk factors for stress in the human services workers were specific workplace issues (top three of ten items were: expectations for accountability and high work standards are increasing, there is poor public perception of our work, there is a lack of back up when staff are sick, or

TABLE 5.4 Stress risks

		Human service workers			*Education sector workers*		
		Hazard			*Hazard*		
		Strength	*Prevalence*	*Risk*	*Strength*	*Prevalence*	*Risk*
1.	Job content	1	0.78	0.78	3.5	0.56	1.96
2.	Job control	1	1.66	1.66	3	1.75	5.25
3.	Quantitative demands	9.5	2.16	20.52	7	2.35	16.45
4.	Emotional demands	1	2.54	2.54	4.5	2.52	11.34
5.	Inappropriate workplace behavior	1	0.44	0.44	1	0.36	0.36
6.	Bullying	3	1.03	3.09	7.5	0.52	3.90
7.	**Meaning of work**	**8.5**	**0.46**	**3.91**	**5.5**	**0.23**	**1.27**
8.	Communication	1	1.59	1.59	0	1.18	1.18
9.	Role in organization	1	1.30	1.30	0	1.07	1.07
10.	Quality of leadership	1	1.24	1.24	0	1.06	1.06
11.	Interpersonal relationships	3	1.05	3.15	7	0.91	6.37
12.	Career development, status, pay (rewards)	5	1.50	7.50	3.5	1.29	4.52
13.	Procedural fairness	2	1.73	3.46	1	1.23	1.23
14.	Workplace issues	11.5	2.39	27.49	8.5	2.19	18.62

Note: Job content, job control, meaning of work, communication, role in organization, quality of leadership, interpersonal relationships, career development, status, pay (rewards) and procedural fairness were reverse scored. Hazard strength is the average number of significant correlations with the outcome measures at T1 (9) and T2 (8) using both forward and stepwise regression techniques. Hazard prevalence is the mean score for each scale, adjusted for the number of items in each scale. Risk is the product of strength and prevalence. Risk gives an indication of how widespread the effect of an intervention would be which focused on that risk factor (because it takes into account strength – the probability of the experience of the stressor being associated with adverse effects and the prevalence of the factor, Cox et al., 2002).

during escorts/access, or training) and general issues such as quantitative demands, rewards-career development and the meaning of work. The key risk factors for stress in education sector workers were specific workplace issues (top three of ten items, e.g., at my school: my job requires me to manage the behavior of students with difficulties, there are high expectations to manage an increasing volume of work (e.g., a crowded curriculum), I am required to work outside of normal working hours) and quantitative demands, emotional demands and interpersonal relations. Bullying was also strong hazard for both departments.

Evaluation of intervention

Workshop attendance

The majority of participants, human service workers 67 per cent, and education sector workers 72 per cent, attended the workshops. For those who missed workshop sessions, the reasons for non-attendance were work commitments (47 per cent), being on leave (15 per cent) or not being given enough notice (15 per cent). For the human service workers, only 34 per cent of participants attended all four sessions compared to 78 per cent of the education sector workers.

Workshop value, content, organization and participation

The workshop participants, using the workshop risk assessment evaluation tool, agreed or strongly agreed, that the intervention work groups were worthwhile and well organized, that the materials were useful and the facilitator handled the sessions competently (see Figure 5.2). They agreed (agree to strongly agree) that their contributions and others were listened to, that they were involved in developing interventions and that participation improved their understanding of stress and risk management (see Figure 5.3).
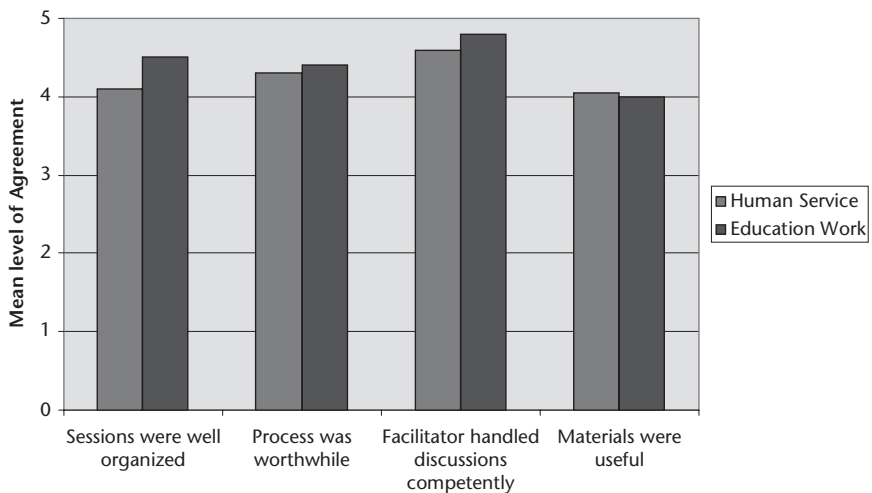
FIGURE 5.2 Organization, facilitation and session materials
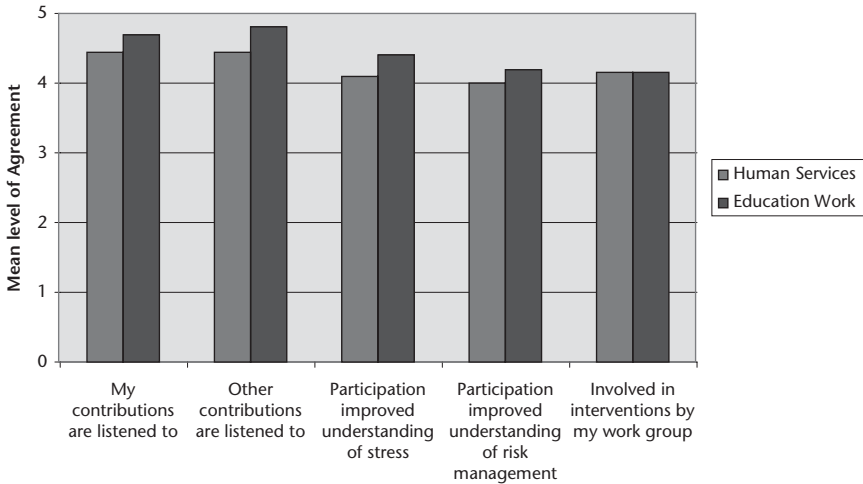
FIGURE 5.3   Contribution and participation in the sessions

Impact of workshops on learning outcomes

Across both departments, using the workshop facilitator rating tool (see Table 5.3 for a summary of the learning outcomes used in this tool) facilitators uniformly rated the workshop units as effective in "achieving the learning outcomes required" (human service workers, with 35 ratings, 2 missing, averaged 5.54 on an effectiveness scale from 1 to 7; education sector workers, with 28 ratings, 3 missing, averaged 5.71).

Impact of workshop on intention for work group to use the risk management process

The workshop risk assessment evaluation tool data indicated that participants felt that they had adequate capacity and they were confident to determine stress factors and implement controls, although they did agree that they may need assistance in the future (Figure 5.4). There was agreement by participants that the use of the risk management process to deal with work stress is wise (see Figure 5.5). The major-ity of participants reported that it was likely/extremely likely that the work group would use the risk management process to deal with work stress in the future. Participants reported on average a lot of control in the process and that the risk management process was easy to use.

For theory testing (SET and TPB) it was first noted that all theoretically derived measures were correlated with the dependent variable work group intention to use the risk management process in the future. We regressed the dependent variable on all of the other measures and found that being confident in using the risk management process ($\beta = .27$, $t = 2.68$, $p < .05$) and perceived control over the risk management process ($\beta = .27$, $t = 3.49$, $p < .001$) were the most important factors in predicting perceived work group intention to use the process in the future, $F(7, 133) = 7.54$, $p < .001$, with the model accounting for 26 per cent of the variance.
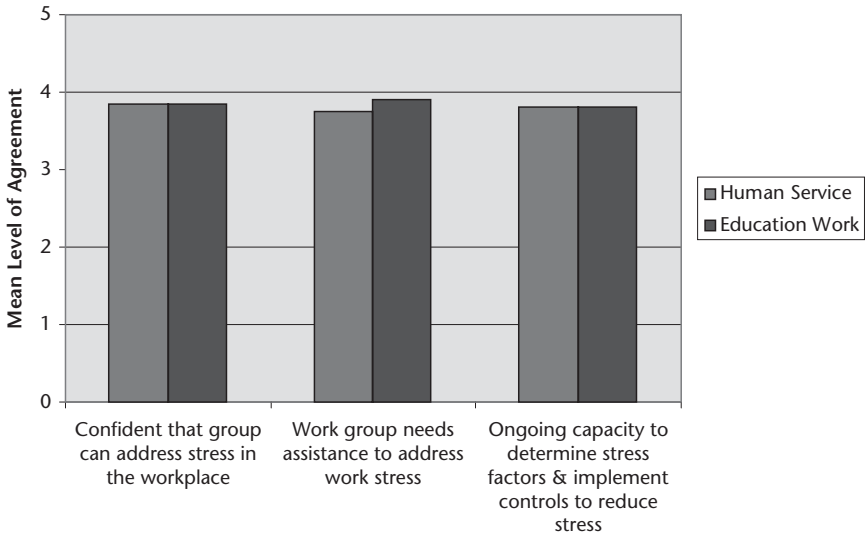
FIGURE 5.4 Addressing future stress in the workplace
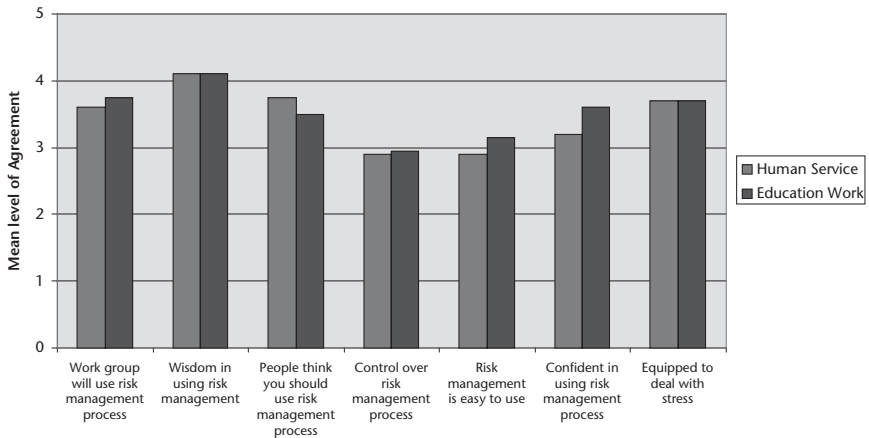
FIGURE 5.5 Risk management process

Post-workshop qualitative evaluation

Qualitative evidence obtained at the workshop from participants following their attendance at the facilitated workshops shows that participation in the workshops led to very favourable reactions by participants about the participative nature of the sessions, and their improved understanding of stress and risk management. The organization, facilitation and session materials were similarly rated very positively. Participants thought that it was wise to use the risk management process, but the level of control and ease of use of the process was rated less favorably.

Evidence from the interviewees post-intervention revealed the following:

i.   *Capacity of risk management process to enable work group to adequately raise and discuss the issues.* Overall responses indicated agreement that the stress factors identified by the respondents in the initial interview were addressed by the work groups. Further participants felt that the discussion within the work group enabled them to understand the many sources of stress. Some comments were: "it has assisted a better understanding of where the sources of stress are from"; "as the group was comprised of [my] team, it enabled an in-depth discussion of the sources as they all have a good understanding of the stressors".

ii. *Capacity of work group to determine measures to address key issues.* There was consensus that the work group could determine measures to address key issues to some extent. Some comments were "there was good discussion around measures"; "the facilitators were good"; "able to provide a number of recommendations that people felt would reduce stressors". However a majority of respondents clearly identified limitations in implementing controls at a local level: "within the action plan developed, very few issues could be addressed by staff alone. Our group came up with a total of 22 action items, most of these were outside the staff's control and more in the hands of senior management". In sum, while the work groups were able to identify measures, limitations were clearly identified concerning implementation of controls at a local level, as was the need for a number of issues to be resolved at a senior management level.

iii. *Factors affecting work groups.* Most issues raised related to a lack of communication about the project/process, short notice and scheduling of the work groups. The impact of this was that some participants missed out on work groups, some had to come in on days off and the hasty implementation itself added stress.

iv. *Barriers to the implementation of the intervention and integration into the organization.* Responses pointed to a range of possible barriers. Most related to the capacity of the workforce ("no funding", "staff turnover", "skepticism about ability to roll out such a program"), negative perceptions of other people ("a significant proportion are cynical and jaded"), and some skepticism that managers and others would not have an attitude conducive to implement the project (e.g. "lack of commitment at a regional level"). Some of the comments were also framed as potential barriers not expectations (e.g. *if* there is a lack of good will).

v.   *Facilitators in the implementation.* Facilitators were clearly identified as the facilitators themselves, awareness that stress is an issue, communication, good will on behalf of the regional executive and participants, the OHS Act and the potential for the validation of issues across locations.

vi. *Attitudes/expectations.* Overall the expectations/attitudes expressed in relation to the project were positive: "high expectations that the items identified will

be actioned within a reasonable time frame"; "believes that the issues raised will be addressed"; "worthwhile"; "good value"; "a good thing"; "left with positive feelings that the company cares enough about their employees to engage in a project of this kind"; "very happy with actions of the managers".

vii. *Other*. At a team level, a number of positive changes were reported: "greater awareness of stressors in general"; "greater support for each other"; "as team leader it was an opportunity to hear from all members of the team on issues that weren't on my radar"; and "saw the chance to air views and issues as 'therapeutic'". Comments regarding facilitators were positive: "facilitators were great/found the external facilitators to be very good – very switched on about OHS and broader workplace issues". However there were also some concerns expressed: "the Steering Committee was 'floundering' a bit in terms of knowing what their role is"; "felt that mechanisms should be put in place to facilitate feedback on the process"; "don't believe there will be significant change happening at a management or organizational level"; "there is general resistance to doing business differently due to staffing and budgetary demands and constraints". Future actions were highlighted: "like to see some action within the next couple of months or believes that it will never happen"; "will be very happy if the action items get acted on"; "would like to see a scheduled follow-up to the program to evaluate its success".

In sum, interviewees reported favorably about the facilitators, about the positive impact of the pilot in teams, and that overall the intervention was a good thing. However there was some trepidation about whether the changes will occur, and the need for action on action plans, feedback from the Steering Committee and the evaluation of the overall program was emphasized. In conclusion, interviewees reported quite favourably about the risk management work group process to identify key issues, barriers and facilitators, and significant learnings about the process of adequate preparation for the intervention were identified (e.g. scheduling, resourcing).

Focus groups

Evidence from the facilitators was gathered in a focus group and key themes and conclusions drawn from their comments were validated by the facilitators themselves. They confirmed that the risk management approach was a useful framework to analyse stress factors and develop counter measures, that participants especially valued consultation about the action plans and open communication in groups, that participants were concerned that the action plans may not be implemented, and that for organizational integrity and the development of trust facilitators believed it was critical that action plans were implemented as discussed.

Impact of workshop on stress factors

Repeated measures (ANCOVAs) were used to test whether differences could be observed between the intervention and control group on the selected stress factors (interpersonal relations) and outcomes (morale, psychological distress, emotional exhaustion, physical health and engagement, job satisfaction and intention to resign), all assessed at T2 using matched data from the T1 and T2 surveys. Table 5.5 shows improvement in workplace morale for the human service workers relative to no improvement for the control group indicating an intervention effect. However for the education sector workers, there was a significant decrease in morale. For the human service workers interpersonal relations also improved for the intervention group. However there were also increases in interpersonal relations in the human service workers control group. To determine whether session attendance or perception of the sessions impacted upon the results numerous group (how many sessions attended; whether sessions were rated favorably), interactions were conducted and the results did not change. In sum there were some limited intervention effects of the capacity-building risk management workshops on selected stress factors and health and well-being.

Impact of workshops on (PSC)

Post-workshop there were no differences between the intervention and control groups on PSC items for the human service workers (see Figure 5.6). For the education sector worker sample, an unrelated sample t-test showed one difference, the control group reported that contributions to resolving work health and safety

TABLE 5.5 Pre- and post-workshop comparisons of stress factors and morale

		Intervention			Control		
Factor		N	Mean	t-value	N	Mean	t-value
Human service workers							
Interpersonal relations	Pre-workshop (T1)	43	18.51	3.87**	45	18.29	3.60**
	Post-workshop (T2)		20.86			20.09	
Workplace morale	Pre-workshop (T1)	43	9.56	2.72**	47	10.13	−.55
	Post-workshop (T2)		10.65			10.38	
Education sector workers					*Control*		
Interpersonal relations	Pre-workshop (T1)	78	18.82	1.21	132	19.72	1.75
	Post-workshop (T2)		19.41			20.22	
Workplace morale	Pre-workshop (T2)	79	11.66	−2.57*	132	12.06	−.14
	Post-workshop (T2)		10.92			12.09	

Note: *p <.05 **p <.01.
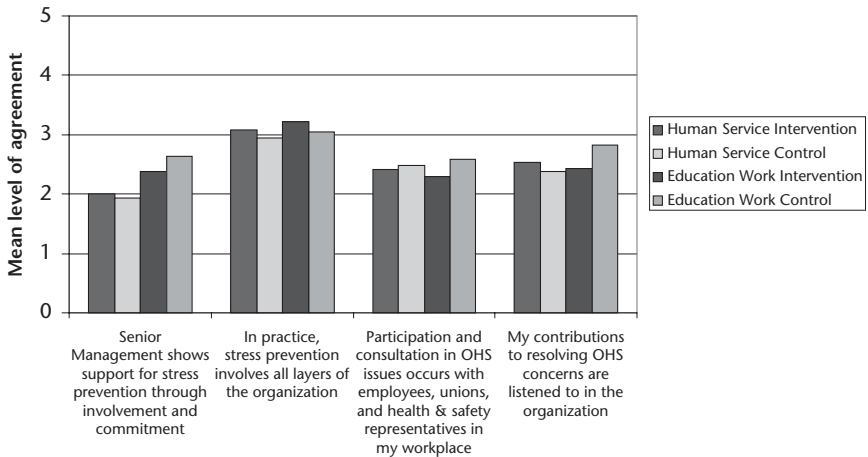
FIGURE 5.6 PSC elements of the approach (Time 2 Survey)

concerns are listened to in the organization, at a higher level than the intervention group. The result was in the opposite direction than expected. A potential explanation is that there may have been starting differences in PSC between the intervention and control group at the outset (which could not be examined as T1 data were not available) (see Dollard & Gordon, 2014; Dollard & Karasek, 2010).

Discussion

The aim of this chapter was to describe and evaluate the development, implementation and evaluation stages of the preparatory phase of a pilot stress prevention intervention project. Specifically we described the: (1) context, (2) risk assessment process and 3) intervention (capacity-building workshops), and evaluated the intervention for its value and effectiveness, and impact on stress factors. Overall there was strong support for the effectiveness of the workshop implementation and the fundamentals of the project, with good compliance with elements of good practice. This evidence will be discussed triangulating the findings with the literature.

Risk factors

Consistent with much of the literature we found that worker psychological health was related to the intrinsic nature of the work, in other words the operational aspects of the job such as managing the behavior of difficult children in schools, or working with difficult clients to achieve their goals in the human service sector and to more general work and organizational factors. This finding is consistent with numerous other studies finding that work stress is not just an outcome of intrinsically stressful jobs but is also linked to the way work and organizations are designed.

Effectiveness of intervention-capacity building workers is necessary but not sufficient for change!

The capacity-building workshops were viewed favorably by participants in terms of the content and utility of the risk management process. Participants agreed that the risk management workshops enabled them to identify stress factors and determine and implement measures to address stress factors. In accordance with SET and TPB theory we found that perceived work group intention to use the process in the future was associated with all theoretically derived measures. In accord with SET theory in particular, intention to use the risk management process was affected by control beliefs (efficacy). Further these factors were also rated generally lower than others, indicating that more work may be required to help develop a sense of control and confidence in implementing the risk management process, to guarantee its use in the future. This is not surprising as it is the first time that work groups had used this procedure and were empowered to control stress in their environment. We found that the intervention led to an increase in interpersonal relations in the human service worker sample, but this was for both the intervention and control group, so improvements cannot be ascribed to the work group intervention. While morale increased in an intervention group compared to the control, in the education sector worker sample it significantly decreased. Moreover no effects were found for psychological distress, emotional exhaustion, physical health, and engagement, job satisfaction and intention to resign, all assessed at T2. This is to be expected, as the groups did not train in personal stress reduction techniques and concrete action plans to reduce stressors were yet to be implemented.

Essential elements of prevention strategy

A key aim of the evaluation was to assess the elements of the intervention against international standards of best practice in stress prevention. Elements espoused in the literature are evidence informed and are relevant to both the development and implementation phases of the intervention. Here we integrate the elements developed and adopted as principles of best practice by the study group with those set out in the introduction to develop an evaluation framework against which to evaluate the intervention evidence:

1. *A philosophy of interdependence: a culture of continuous learning and trust*. A philosophy of interdependence between individual and organizational health and responsibility at all levels was clearly embodied in the framework and design of the project (Nytrø et al., 2000).
2. *Sustained prevention and top management commitment*. The study is a stand out in the literature because of the extent of political and management will and buy-in to the project. Support of top management through involvement and commitment is widely considered as the most important element of any intervention project because without it resources are threatened, and the longer

term integration of ideas into regular policy is limited. The whole project was stimulated by a timely context and political will of top management in the participating organizations. As illustrated by the PSC responses, this involvement and commitment is not yet perceived by the employees. Moreover, participants and facilitators expressed some skepticism about whether the action plans would be implemented.

In terms of sustained prevention, the risk management process is not a one off action and instead consists of evaluating the effectiveness of a range of interventions and is central to the cycle of continuous learning and improvement in the work environment (Cox et al., 2000a, 2000b; Jordan et al., 2003). Studies have demonstrated that participatory work improvement methods need to be successfully integrated into the work routine and formal structure of the organization to be maintained after the project period and to have long-lasting effects (Mikkelsen & Saksvik, 1999; Mikkelsen et al., 2000). It is beyond the evaluation of this aspect of the project to comment on the sustainability of the processes, but capacity building of staff in human resource management practices including leadership and management capability and accountability, and in the knowledge and skills to identify and tackle stress, is a big step in the right direction:

3. *A participative approach – social dialogue, partnership, workers' involvement, communication upward*. The study was designed using participative approaches. Qualitative input from worker participants and other stakeholders helped to influence the content of the evaluation tool enabling the identification and clarification of factors contributing to work-related stress. The work groups themselves involving managers and workers were the site of strong participation in understanding the problem and in solution generation. This quality relates to the study group element of a "positive work group climate – colleague and manager support". Interpersonal relations increased in both departments through work group process, but this was not significantly more so than improvements also noted in the control group. Although this change could not be specifically ascribed to the intervention, all participants (intervention and control) had consented to engage in the project, and this may have led to a more positive perception of support from colleagues and supervisors (the so called Hawthorne effect). No net changes in morale were noted.

    The quality also relates to "involves all layers of the organization", a PSC item, and participants across both departments clearly agreed with this quality in the intervention (and incidentally in the control group so this is not specifically an outcome of the intervention).

    Finally this quality relates to "participation and consultation with employees, unions and health and safety representatives – a bottom up approach". This element is a strong feature of the project. There was significant agreement from workshop participants, that during the workshop their, and other, contributions were listened to, and that participation improved their understanding of stress and stress risk management. Participants felt that they were

able to discuss issues openly, and that they were able to determine actions to address stress factors in the workplace. Participants considered that the participatory risk management approach was a suitable way to address the problem (Nytrø et al., 2000).

However these positive reports pertain to the stress workshops and are not generalized by participants to a higher level or at a more abstract level (i.e. to OHS in general). In other words there is only ambivalent agreement that "my contributions to resolving OHS concerns are listened to" and that "participation and consultation in OHS issues occurs with employees, unions and health and safety representatives in my workplace". This demonstrates that such an approach can work in an environment which has not previously supported OHS or has effective OHS system, processes and committees in place to support it. Participatory processes can be built to support the program. Other research utilizing employees as their own experts in identifying work problems, and developing action plans has observed these as key motivators for organizational improvement and increased control in the work situation (Mikkelsen et al., 2000):

4. *Risk assessment and task analysis.* A criticism of previous interventions is that many adopt a one size fits all approach to stress management rather than tailoring the intervention to identified risks and problems within the organization (Kompier & Kristensen, 2001; Saksvik et al., 2002). In this study, risks were clearly identified at a local level through local inputs, analysis of data at a local level, and the work group process of triangulating survey data with data from summaries of sickness data, incident injury reports, workers compensation claims, critical incident reports and grievances. In accord with the study group element "risk identification, risk assessment and implementation of risk controls at organization and work unit levels", action plans were developed and aimed to implement risk controls at a work group level, and where this was not possible or where further resources were required, actions were elevated to a higher level via the regional steering committee. This latter process also presumably would lead to identifying common themes across work groups that could result in organizational policy/procedure or resourcing changes.

5. *Thorough planning and stepwise approach – a stress prevention strategy.* There was six months of consultation with the tripartite project work group prior to the establishment of the workshops. This extensive consultation process enabled stakeholders to resolve problems as they emerged.

6. *Context-specific solutions.* Workers were viewed as experts in their own environment and were the main resource in determining risk and developing action plans. They also informed the pilot evaluation survey tool so that local issues could be captured, and feedback from the survey was given to the local work groups to consider in determining risk factors and specific solutions.

7. *Experienced practitioners and evidence-based interventions.* An experienced researcher was engaged to assist with the formulation of the evaluation tool, the content of which was shaped using evidence-based stress factors and

outcomes, themselves suggested by multiple theoretical perspectives. The researcher also provided survey reports back to work groups and analyzed the data. Experienced facilitators with expertise and knowledge in conflict resolution were also employed to facilitate the work groups to use the risk management process and to resolve potential conflict between supervisors and workers co-participating in workshops.

8. *Work-related and worker-related prevention and management.* Both departments have in place a range of worker-focused stress management strategies (i.e. employee assistance programmes). The aim of the risk management approach was to look mainly at work environmental factors, although the possibility of actions focused on the workers was not precluded.

In sum the key ingredients proposed at the outset of the study tour were implemented in various degrees. In turn these elements are consistent with contemporary work stress prevention themes and guiding principles espoused as good practice (EASHW, 2002; Jordan et al., 2003).

Research design

Further the design also included qualitative techniques to better understand the results of participatory organizational interventions (Mikkelsen & Gundersen, 2003) and to illuminate quantitative results (Landsbergis & Vivona–Vaughan, 1995), used grounded analytic processes to inform intervention theory (Saksvik et al., 2002) and undertook pilot work to investigate the cultural maturity of an organization (Saksvik et al., 2002).

Time of testing post intervention

It must be emphasized that the evaluation here describes the preparatory phase of the intervention, and participants' evaluation of the workshops. Longer term evaluation is needed for determining the impact of the action plans.

Barriers and facilitators or lessons learned

Even though the workshops were rated positively there were many lessons to be learned about the content and process through further consultation with the facilitators and the work group members. In relation to the implementation of the intervention a lot can be learned about the importance of adequate preparation and communication about the project to potential participants (Kompier & Kristensen, 2001), providing an adequate lead up time for work scheduling and back filling resources to ensure that volunteers can participate. While on the one hand there were timeline and resource imperatives to implementing the intervention, on the other hand these pressures led to reduced participation and increased stress for some participants. A workshop for project work group members and the Steering Committee was additionally convened to raise and resolve ongoing issues.

Additional published research on the intervention post action plan implementation is reported in Dollard and Karasek (2010) indicating how PSC developed in the intervention through implemented actions moderated the impact of job resources on mental health outcomes (PSC enabled job resources to be used to moderate mental health effects). Moreover, PSC as assessed directly at T2 was subsequently found to give rise to better intervention implementation (more group attendance at workshops, more change due to the actions implemented, greater extent of action implementation, higher extent of being listened to and improved trust). Further, above any intervention metric, PSC best predicted reduced psychological distress and emotional exhaustion, increased engagement and job satisfaction, reduced intention to leave and sickness absence (Dollard, 2012).

Conclusion

In conclusion the utility of capacity-building workshops to introduce the risk management process was verified as participants reported very favorably about the process, to identify key stress issues and develop appropriate controls through action plans, the facilitators and the content, and overall considered the approach as appropriate for the problem. Although a necessary component for organizational change, the capacity-building workshops in and of themselves did not lead to significant changes (this awaits action plan implementation) in stress factors, organizational or worker well-being (although there were anecdotal reports of a positive impact in teams). Participants expressed some trepidation about whether changes would occur, and reiterated the need for action on action plans, feedback from the Steering Committee and evaluation of the overall program. It is absolutely vital from an organization integrity perspective that actions are implemented and that this is communicated to the participants. This in turn should improve worker perceptions about top management support. Like other organizational intervention projects key barriers and facilitators were identified, and significant learnings about the process of providing adequate lead up time for the intervention are clear (e.g. early work scheduling, resourcing). High levels of stress in the education and health sectors in general justifies continued resourcing and diligence in implementing, and ongoing review and monitoring, of action plans (Nytrø et al., 2000) and tripartite caucusing on emerging problems. This should help to prepare a culture ready to integrate an effective approach to preventing the impact of stress in each organization.

Practical tips

- Inform the intervention processes using the key elements for best practice in stress prevention.
- Promote top management involvement and commitment and use a grounded participatory approach to involve stakeholders in the decision-making process leading to increased ownership of initiatives.

- Use risk assessment and combine qualitative and quantitative investigations to identify stress factors, including local context, to develop action plans for workshops.
- Evaluate the workshops against the essential elements of prevention strategy and include the value, content, organization, process and the impact using a variety of measures (surveys, focus groups, in-depth interviews).

Acknowledgements

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6

TRICKS OF THE TRADE

Practical advice from the PIPPI project for evaluating organizational interventions

Johan Simonsen Abildgaard

Introduction

Evaluating complex organizational-level interventions is known to be a daunting task (Murta et al., 2007; Nielsen, 2013). Organizational interventions typically take the form of long-term projects which often target multiple domains and outcomes at once, simultaneously affecting several different organizational layers. For researchers tackling such a project, having a toolbox of various qualitative and quantitative techniques at their disposal for capturing and evaluating the processes and events taking place is a virtual necessity. To potentially further complicate matters, many, if not most, organizational interventions depend on a high degree of employee participation (Holman & Axtell, 2016; Mikkelsen & Gundersen, 2003; Nielsen, 2013; Sørensen & Holman, 2014), as both the design and content of the interventions is tailored to the specific organization by negotiating with those it will impact. While adapting interventions to fit the context (Nielsen & Randall, 2015) makes sense from a practical point of view and in relation to implementation success, it does not make them easier to evaluate.

Conducting an evaluation of an organizational intervention is an endeavour in both following scientific methodological principles and in applying practical craftsmanship for collecting data in a concrete setting. When faced with such a complex and monumental task, it is essential to have useful tools in the form of concrete strategies on hand. These strategies can be viewed as what sociologist Howard S. Becker in methodological terms has labelled "tricks". "A trick is a specific operation that shows a way around some common difficulty, suggests a procedure that solves relatively easily what would otherwise seem an intractable and persistent problem" (Becker, 1998, p. 4). Having a set of such tricks on hand can help researchers address persistent or recurring problems that accompany a

replicable procedure. These "tricks" are not of the dodgy variety of course, but refer in this context to convenient yet exacting methods for translating concepts from abstract models into practical usage for the complex reality of interventions. As scientific reporting of organizational interventions often focuses on technical details such as randomization, specification of hypotheses, bias, and spill-over (O'Shea et al., 2016), the practical tricks that have enabled researchers to actually conduct the study and share their findings are not reported on, becoming lost in a sort of "black box" in which procedures cannot be identified. Due to this lack of dissemination of practical knowledge, I feel privileged to be able to share with intervention researchers and practitioners some of the tricks that make the evaluation of organizational interventions possible.

To demonstrate these tricks, I will present examples from an organizational intervention and shed light on the guiding principles, or tricks, that I and my colleagues used to transform the interventions abstract evaluation framework into practical solutions. Specifically, I present and discuss how the Nielsen and Abildgaard (2013) framework was applied in the "Participatory Physical and Psychosocial Intervention for Balancing the Demands and Resources Among Industrial Workers" (PIPPI) project (Gupta et al., 2015). I will present five generic and applicable tricks to guide an evaluation and its data collection and show in detail how and why we used them in PIPPI. To further contextualize the presented tricks and demonstrate their usefulness and generalizability, I will also show how the tricks have been used elsewhere in the evaluation of interventions.

The PIPPI project was initiated as a result of a governmental research grant given to fund an array of projects aiming to improve work ability and reduce intention to retire among at-risk work groups such as long-haul drivers, meat cutters and cleaning staff. To address the problems faced by the specific target population of the PIPPI project, namely industrial machine operators, an interdisciplinary organizational-level intervention project was designed based on principles from participatory ergonomics and occupational health psychology, which led to the evaluation covering many topics (e.g. physical strain, safety practices, need for recovery, managerial quality, work ability, quality of intervention components). Since a feature of the PIPPI intervention was that the participants themselves were asked to prioritize which aspects of their working conditions they wanted to change, we did not pre-define these aspects prior to the intervention. Another feature of the PIPPI intervention was that it utilized activities that targeted various levels, such as the individual, group, leader, and organizational levels (following the IGLO model, see Nielsen et al., 2017). While organizational interventions such as PIPPI are not easy to evaluate, it is much easier to do with the right tools at hand.

This chapter covers the challenges of evaluating organizational interventions, especially as they were encountered in the PIPPI programme; addresses the key features from the Nielsen and Abildgaard framework that were used; and presents the tricks we used to apply them in PIPPI. Finally, I will discuss the challenges and pitfalls in evaluating organizational interventions.

The complex nature of organizational interventions

Organizational interventions have been 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). Though a central defining feature of this process is that it is implemented on the organizational level, organizational interventions almost always involve activities on several levels. To achieve the magnitude and breadth of change typically called for in an organizational intervention, they are often comprised of components that target the organizational level (e.g. through human resources (HR) practices), leadership and managerial level (e.g. training of line managers), the work group level (e.g. screening and action–planning workshops) and individual employees (e.g. through coaching). The multiple layers of activities pose challenges for both those with the more practical role of carrying out the implementation and those who are conducting the evaluation in more of a research capacity. One particular difficulty brought on by the use of multiple levels concerns the fact that, although interventions are primarily implemented on the group and organizational levels, the effects on health and wellbeing are frequently measured on the individual level. Though it is possible to do this, a complication is that the link between what is implemented on higher levels and what develops at the individual level in terms of wellbeing needs to be accounted for.

The practice of evaluating organizational interventions becomes what Rittel and Webber (1973) have labelled a *wicked problem*, which is a type of problem that they describe as hard to define and solve due to its changing and ambiguous nature. In other words, the intervention processes change over time and interact with the context in which they are implemented. In this sense, a more precise term for evaluating organizational interventions would be a *messy problem*, as it can be solved with some degree of success, but the results are not always neat and polished. Especially due to the complexity of evaluating participatory processes, the effects on multiple layers and how the factors interact, one needs to have the right tools at their disposal in order to rein in the messiness and carry out a useful and comprehensive evaluation.

The necessity of frameworks

To address the messiness and cope with the complexity of evaluating organizational interventions, it is essential to utilize an appropriate evaluation framework. A core framework that has been used in several applied frameworks (see, e.g., Fridrich et al., 2015; Nielsen & Abildgaard, 2013; Randall et al., 2012) is realistic evaluation approach (Nielsen & Miraglia, 2017; Pawson, 2013; Pawson & Tilley, 1997). A core component in realist evaluation is context-mechanism-outcome (CMO) configuration, which is based on the theoretical concept that an intervention will (or won't) work in a specific context through various mechanisms

to achieve a certain outcome. As contexts vary and mechanisms lead to different outcomes in different contexts, the use of a CMO-based framework accounts for the fact that interventions are not easily generalizable and will likely function differently if transferred to a different context.

A related conceptual approach that is often applied to interventions is *programme theory* (Kristensen, 2005; Rogers et al., 2000). In programme theory, a series of linked theoretical assumptions are made about the underpinnings of the intervention, which provide a hypothesized explanation for why certain outcomes are probable. For example, in a simple mechanistic intervention addressing safe heavy lifting practices, the programme theory would be relatively easy to establish and test: awareness of the programme → participating in the programme (i.e. learning about proper lifting techniques) → changed behaviour (i.e. engaging in proper lifting techniques) → decreased back pain (Kristensen, 2005, p. 208). The problem of establishing clear programme theories in more complex participatory interventions is that we often do not have a complete picture beforehand of which aspects of work are most suitable to target or even, at times, what outcomes are most desirable. Programme theory can thus help us arrive at a more nuanced understanding of change processes during interventions, but it may not necessarily better equip us to actually conduct the evaluation in practice. Similar conceptual frameworks include intervention mapping (Bartholomew et al., 1998; Eldredge et al., 2016), the Kirkpatrick training evaluation model (Kirkpatrick, 1998), and various mixed-methods evaluation approaches (Nastasi et al., 2000; Rallis & Rossman, 2003).

The problem of applying a theoretical framework to the messy reality of interventions

The central challenge of evaluating organizational interventions is that they are multifaceted and difficult to grasp and examine; various frameworks are available but they are often too abstract to directly apply. In the rest of this chapter, I will briefly present the components in the PIPPI intervention programme, the evaluation framework and programme theory we had in place beforehand, and the tricks we used to bridge the gap between the abstract framework and the practical intervention.

The PIPPI intervention programme

The PIPPI intervention programme was a cluster randomized trial with individual, group and managerial/organizational components. Readers interested in a more detailed description are encouraged to read our article on the design of the intervention (Gupta et al., 2015), the chapter by Wåhlin-Jacobsen in this volume, or, for those who read Danish, the comprehensive "how to" guide on this by Wåhlin-Jacobsen and colleagues (2017). PIPPI was implemented in three industrial production companies, each producing a different type of goods (medicine, food

and plastics). The companies and participating production sites varied in regard to their size and organization. The participants at each workplace were cluster randomized into control and intervention subgroups. The project lasted 24 months, with the research team setting up the workshops for the first year and training the participating companies to run the PIPPI programme for the control group the second year. It contained the following components that were to be evaluated.

Workshops

The core intervention component in PIPPI consisted of three consecutive workshops on the workgroup level. These were a screening workshop, an action-planning workshop and a follow-up (implementation) workshop. Work groups (often composed of employees from the same teams or shifts) of between five and ten employees participated as a group in the series of workshops together with their line manager. The workshops were led by a research assistant or an organizational psychologist. In the visual mapping workshop the PIPPI program was generally described along with a presentation of the visual work environment screening tool, accompanied by group discussions about which aspects of work are strenuous and which are positive. The goal of the action-planning workshop was mainly to come up with concrete solutions to the problems identified during the visual mapping workshop (see Wåhlin-Jacobsen in this volume for an in-depth treatment of the action-planning tools). The follow-up workshop included reflection about the process up to that point, revisiting the screening results and assessing the ongoing action plans to determine their degree of implementation and the potential need for further activities to address the identified problems. For the three companies a total of 73 workshop sessions were held during the first year.

Prior to the three main workshops, information meetings were held, during which the employees were informed about the PIPPI project and its activities. An ambassador workshop was held with relevant operational-level stakeholders at the companies (shop stewards, team leaders and safety representatives) to ensure their support for the programme and to coordinate efforts. After the first year, a training workshop was planned at each company to prepare them to take over the PIPPI activities at their companies for at least another year.

Organizational resource audit

Prior to the workshops, the research group conducted an analysis of the support systems and resources available for employees, which led to a report indicating which resources could be incorporated into the action planning and which resources were lacking. The support systems encompass both formal support structures such as HR programmes and health and wellbeing initiatives as well as informal practices used in the day-to-day management of employee health and wellbeing (such as talking to employees).

Weekly meetings

In the action-planning workshops, the participating work groups deliberated on how to monitor the implementation process. Their decision was to include discussion about PIPPI in their normally scheduled meetings, such as their weekly team meetings. This would enable them to regularly monitor the progress of PIPPI activities and, if needed, recalibrate the action plan to address developing problems or reallocate resources.

Individual sessions

In addition to the team and organizational components, all of the participating employees were offered the opportunity for an individual screening of their individual demands and resources with their line manager. These interviews utilized an abbreviated individual version of the tools from the screening and action-planning workshops. The reasoning behind having individual sessions was to ensure that issues important for individual employees were addressed and not only collective issues (following the IGLO model).

Ergonomic consultation

When ergonomic challenges were encountered that required technical knowledge beyond their competence level, the work group had the opportunity to call in an ergonomic consultant who would help identify the cause of the strain and offer solutions. They would also be taught techniques for identifying and solving ergonomic issues on their own in order to address potential future problems before they become serious.

Goals of PIPPI

For developing the evaluation we took the project goals of the PIPPI intervention programme as the starting point. The primary goals of PIPPI were to improve work ability, lessen the need for recovery and, subsequently, decrease the intention and perceived need to retire among industrial employees (see Gupta et al., 2015). In addition to these ambitious goals there were also a number of more or less explicit secondary goals for the PIPPI project.

   One of these goals was to integrate participatory ergonomics and occupational health psychology in one organizational-level intervention in order to provide an even wider range of potential issues to address and help resolve. A second aim was to provide an initially structured and standardized package that was to be adapted to the context over time, with the intention that the participating companies would continue with the approach after the project work was over. Third, in light of previous studies of process evaluation, we were interested in conducting

an even closer evaluation of the process, which would allow us to analyse specific events during the workshops. The fourth goal of PIPPI was to produce a set of novel process tools for the workshops and to then assess their use and effects.

The evaluation framework of PIPPI

The PIPPI evaluation framework draws on the Nielsen and Abildgaard (2013) framework (see Figure 6.1) developed originally for the project "Participatory Intervention from an Organizational Perspective" (PIOP) (Nielsen et al., 2013). The Nielsen and Abildgaard framework has been developed to evaluate organizational-level interventions that involve several consecutive phases (initiation, screening, action planning, implementation and evaluation), which is a common design (Nielsen et al., 2010). In the framework, emphasis is put on the impact of thoughts, values and beliefs regarding the intervention (operationalized as mental models), the behaviour of actors in relation to intervention activities, as well as the context, during each phase of the intervention.

   The framework focuses especially on how organizational interventions are situated in an organizational context and includes both the general characteristics of the work being carried out and the workplace (omnibus context) and the discreet
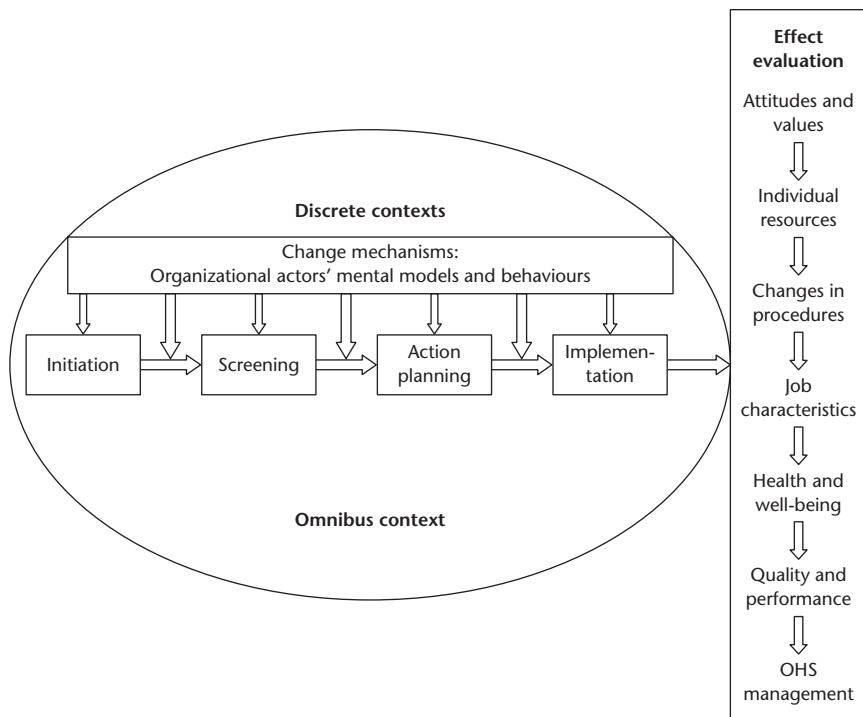
FIGURE 6.1 The Nielsen and Abildgaard (2013) evaluation model

contextual events that take place during the event (discreet context). As it is noto–riously difficult to anticipate the discrete contextual events as well as the aspects of the omnibus context that will be relevant, PIPPI applied a broad approach to evaluating the organizational context, which will be presented in the remainder of this chapter.

Programme theory of PIPPI

In the early stages of the PIPPI project a detailed programme theory was developed on the basis of the evaluation framework and the planned intervention activities (see Figure 6.2). The activities were listed along with how they were expected to directly and indirectly affect working conditions, organizational efficacy, employee wellbeing, long-term work ability and intention to retire.

The complexity of the programme theory in part stems from the fact that PIPPI consists of a large number of interrelated components that are working together to create diverse outcomes. The task of evaluation is not made simpler by numerous elements being included in long chains of potential causality. The Nielsen and Abildgaard framework draws on the logic of the Kirkpatrick training evaluation model (Kirkpatrick, 1998), based on the premise that changes in the
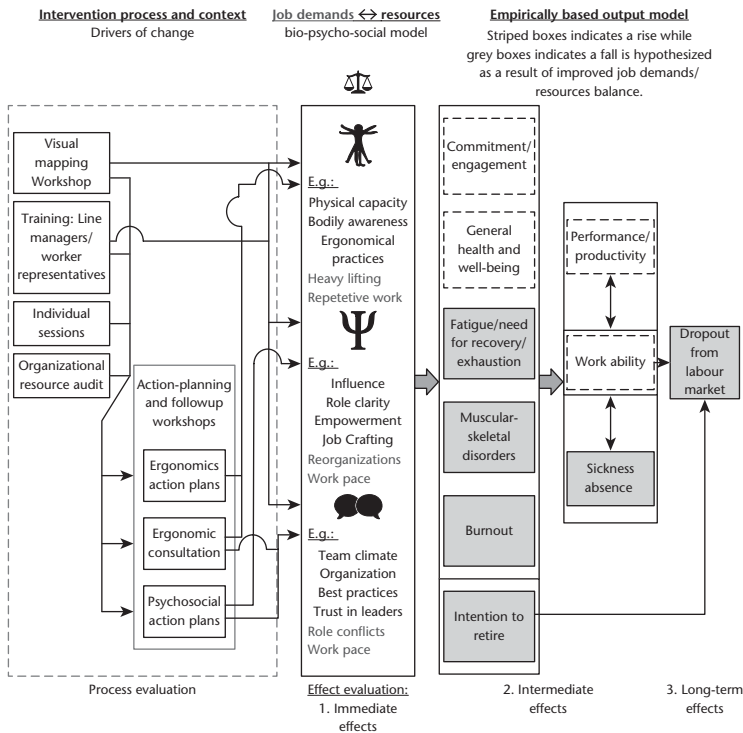
FIGURE 6.2   Early draft of the PIPPI programme theory

work environment and wellbeing need to be preceded by participating in development activities and undergoing changes in behaviour and cognition. This logic is mirrored in the Nielsen Abildgaard model and the PIPPI programme theory through their incorporation of a chain of early process evaluations of immediate, intermediate and long-term effects. The Nielsen Abildgaard model also considers the organization from a stratified perspective, as the intervention is evaluated on the individual, group, managerial and organizational levels. The challenge of evaluating extended chains of causal links is not uncommon for organizational interventions, and it was especially complicated for the members of the PIPPI research group. The large number of diverse components and the span of organizations, departments and subgroups to consider forced us to prioritize how and to what extent each aspect was to be evaluated. The solution to these problems was to use an array of strategies to make the messy reality and the abstract framework meet.

Strategies for data collection and analysis

When considering strategies for evaluation and data collection, one often encounters suggestions for large-scale plans and prototype project outlines (Creswell & Plano Clark, 2011). Although adhering to a set of standard guidelines can be relevant, its usefulness for researchers is likely to be limited because of its generic nature. To illustrate, it is common for evaluations of organizational interventions to use a mixed-methods approach, combining qualitative data (predominantly of the intervention process) and quantitative data (of both process and effect). Using a combination of data sources to piece together the implementation and outcomes of the intervention in this way is a clear strength compared to single-method evaluation, where the uncertainty about unassessed aspects is obviously substantial. Though using mixed methods is the prescribed approach, a number of aspects are still difficult to determine, including how to prioritize data collection, which methods are to be used to what ends, and how much time and energy to spend on collecting each data source (see for instance Abildgaard et al., 2016). A simple solution might be to encourage researchers to collect as much data as possible during the project, but such a strategy could lead to less time being available for actually publishing the results, difficulties producing a coherent evaluation, and having wasted time collecting unnecessary data while key data components go unmeasured. These risks are arguably related to a knowledge gap in the literature – between the strongly practice-oriented books on implementation (such as Kotter, 1996) along with those on data collection (for instance Brinkman & Kvale, 2015) and the more abstract and general texts on evaluation methods (in this case Nielsen & Abildgaard, 2013). What is lacking, and what this book chapter presents, are methodological strategies for conducting evaluations of organizational interventions, focussing specifically on how to transform and link abstract programme theory and evaluation model components with concrete data collection activities.

Methodological tricks to turn abstract models into practical activity

In the following sections I will present the tricks we have applied in the PIPPI evaluation. They were not all explicitly thought of as applied "tricks" at the beginning of the project, as many of them emerged through the cooperation of our research group that included individuals who had experience with conducting organizational interventions and who had knowledge of and interest in a number of scientific fields and questions. These tricks have been identified and articulated by me, post-hoc, by considering the guiding principles we used in making the jumps from the evaluation model to the program theory, then to the data collection, and finally to the analysis. In the PIPPI project we used a "pinpoint data collection" trick to ensure that key elements were comprehensively documented, a "follow the conventions" trick to enable us to meet the professional standards and norms of our scientific community, and a "drenching" trick to capture emerging and novel phenomena. Besides these major strategies, we used a "be perceptive" trick to improve our understanding of the organizations in the project and a "be aware of what you chance upon" trick to capitalize on additional data sources and opportunities for further analyses.

There are likely to exist other tricks that are equally useful and relevant as those presented here. The ones in this chapter should serve as a guide and an introduction to a way of thinking where the intervention, the scientific principles and the data collection are all considered to be in play at the same time. Becoming aware of and strategically applying tricks such as those presented here should make the evaluation experience easier and hopefully produce data that are more useful and rich.

"Pinpoint data collection"

As each intervention is unique and has specific aspects that researchers are particularly interested in documenting and analysing, it is essential to prioritize such aspects of interest in order to enable more minute analysis. These aspects will often both be the most pronounced intervention components as well as the scientifically most interesting part of the intervention. When a specific aspect of an intervention is of particular interest, collecting sufficient data on it ensures that subsequent documentation and publication is possible. An effective and often used way to apply this trick is to make use of multiple sources when documenting each aspect. This can be done, for example, through a mixed-method approach where questionnaires as well as interviews are relied on. Being able to turn to quantitative and/or qualitative approaches in order to best shed light on a research question and comprehensively document the key aspects is an advantage for reaching the goals of data collection.

An example of the usefulness of using "pinpoint data collection" is from the project for which the Nielsen and Abildgaard (2013) framework was developed, an organizational intervention in the Danish postal service (the PIOP study; see

Nielsen et al., 2013). The project group was particularly interested in developing a tailored questionnaire for postal workers and examining which aspects of their work were perceived as problematic or positive by employees and managers. This led to the project investing substantial resources into conducting standardized cognitive mapping interviews (Harris et al., 2002); these involved a total of 17 managers and 56 employees and included follow-up interviews a year later to investigate, among other things, possible changes to their cognitive maps. The extensive cognitive mapping interviews became the basis of publications on the topic of tailored questionnaires (Nielsen et al., 2014) and on the theoretical considerations concerning the nature and definition of the "work environment" (Abildgaard & Nickelsen, 2013).

Examples from PIPPI

In regard to the PIPPI project, the research group determined that the key intervention component had been the series of three workshops at the workgroup level. In these workshops, "screening" and "action planning" took place as well as the planning and initiating of the "implementation". These elements are also central in the European Union workplace risk assessment directive (European Commission, 2014) as well as central in many organizational interventions (Nielsen et al., 2010), making them an obvious choice to focus on in our evaluation along with how these core activities were completed and perceived in PIPPI.

In accordance with the realist evaluation model, we were interested in being able to analyse the aspects of the work environment that were identified as problematic in the assessment, how the process of identifying them as such took place, which plans were made to address these areas, and how these plans were implemented and their perceived efficacy. A lot of effort was therefore needed to ensure a comprehensive evaluation of the workshops. This trick, through the use of multiple data sources, allowed us to capture multiple facets of the workshops.

The main type of data source for evaluation of the workshop was audio recordings. These were made of each workshop session to ensure that all of the discussions were captured, which made it possible for us to later apply any of a number of analyses, from a micro-level conversation analysis of the discussions on specific action plans to a macro-level analysis of what work environment issues workers at the different companies had identified. The recorded material is vast, spanning approximately 180 hours of audio recordings, which makes it difficult to transcribe, code and analyse it in its entirety. With some time and effort, however, salient aspects of interest were gleaned from this source by the research group.

Another data source was in the form of evaluation forms, which we administered in connection with each activity to enable comparisons between the workshops at the different companies and to make it possible to include the assessments of the quality of the workshops in statistical models of process and/or effect evaluation. The evaluation forms included between 10 and 13 items (depending on the workshop in question), such as "To what extent has your team leader supported

you in today's workshop?" Both participants and facilitators, again as per the pin-point trick, filled out the evaluation forms for each activity to make validation and comparisons possible.

A member of the research team attended almost every workshop session as an observer who would sit quietly in the back of the room and take notes. The reason for gathering observer notes was to supplement the audio recordings with additional aspects such as nonverbal information (posture and body language).

A further application of the pinpoint trick was to photograph the visual tools used in the workshops (the action plans on the action-planning board and the work environment map) to ensure comprehensive assessments of what was mapped and which action plans were initiated. Although the photographs, unlike the audio data, were not used as primary data material for separate analysis, they do provide a supplemental source of information on the action plans and mapped demands, making it much easier to get an overview. Furthermore, the overall authenticity of our information collection is likely to improve through the use of photographs, as it enables us to consult the actual maps and plans that the groups developed (which also served as the workshop minutes) rather than having to try to interpret the content of the written documents based on the audio data.

With workshop assessment being at the core of the PIPPI evaluation, we also utilized the pinpoint trick by including questions about the workshops in the follow-up interviews and questionnaires in order to obtain as much information as possible on the workshops and their reception among employees. In interviews after the first year of PIPPI, we asked questions related to the actual workshops, such as "What do you think about the collaboration with your coworkers in the PIPPI workshops?" as well as questions about the outcome of the workshops, such as "Which action plans have been implemented as planned?" and "What impact have the implemented plans had?". In the follow-up questionnaire we included 33 items related to the workshops, such as "The action plans addressed the most important issues" (some of these are scales adapted from Randall et al., 2009), to supplement the data from the in-progress workshop evaluation forms.

"Follow the conventions"

The evaluation of organizational interventions is a very time- and resource-consuming process. During the three-year span of the PIPPI project, two research assistants worked full time on the project in addition to the senior research staff and support staff who assisted with the survey administration, data management and statistical consultation. While this seems like it should be enough human resources to smoothly take care of everything, just taking care of the basic PIPPI project activities[1] was still a substantial task. To conduct a comprehensive evaluation whose results could contribute to the ongoing discussions in the scientific literature about organizational interventions and their effects, we employed a trick that would ensure maximal evaluation at a lower resource cost: it was simply to

follow standard practice. We did not need to re-invent the wheel, as it were, by developing every tool and method, but instead relied on established practices, which would make some of the methodological decisions much simpler.

Examples from PIPPI

In two particular cases this strategy was employed. The first was in regard to a questionnaire battery employed at baseline, after 12 and 24 months, which consisted mainly of established validated scales. This questionnaire covered potential effects of improved physical working conditions, including scales on exertion and strenuous work tasks (Holtermann et al., 2010); improved psychosocial working conditions, as measured in the Danish national AH2012 cohort survey (Det nationale forskningscenter for arbejdsmiljø, 2013); team climate using the team performance indicator (West et al., 2004) and scales for collective efficacy (Zaccaro et al., 1995); and transformational leadership (Carless et al., 2000). Also, the primary outcomes for the study (as presented in Gupta et al., 2015) regarding work ability (Ahlstrom et al., 2010) and need for recovery (Garde et al., 2012) were taken from established validated measures.

The trick was also used in regard to the semi-structured interviews with employees and managers. Following the practice of several previous interventions (Aust et al., 2009; Nielsen et al., 2008, 2013), we conducted the interviews about the intervention processes as semi-structured interviews. A random sample of employees, as well as all of the line managers, were invited as interviewees. A key argument for our choosing this particular design instead of other equally valid options was that it was a tried and tested approach which could capture relevant and detailed information on our topics – and it was also an approach that we knew would stand up to scrutiny and be acceptable to, for instance, journal reviews.

"Drenching"

A clear insight from having participated in several organizational intervention projects is that you can never determine beforehand which factors will turn out to be most important in the intervention. Organizational interventions, as mentioned, are typically complex, involving multiple levels of the organization, and will undoubtedly bring about many changes, affecting, for example, management, tasks and customers. Another challenge which we faced in PIPPI relates to participatory interventions. In this type of intervention it is not possible to predict in advance what the focus of the intervention will be or how consistently it will deal with the same issues across organizations and subgroups. A practical solution, or a trick in Becker's words, is to use a broader data collection process in the evaluation to ensure that, regardless of what aspects the participants choose to work on and what external influences may force the intervention to shift focus, enough substantial information is available for conducting a credible evaluation. Such "drenching" is not by any means an elegant solution but it makes it possible

to seek out answers to numerous questions that may arise post-intervention. In the literature, numerous examples exist which suggest that such strategies have been used to enable researchers to analyse complex, especially participatory, interventions in great detail. Notable examples include Aust and colleagues (2010) who, by using a large questionnaire battery (Pejtersen et al., 2010) and post-intervention interviews, were able to analyse multiple aspects of how an intervention can lead to a deteriorated work environment due to failed expectations. Another strategy, reminiscent of drenching, was utilized in a study by Holman and Axtell (2016) in which relatively broad concepts were applied to a number of activities, such as feedback, psychological contract and changes in job task, to provide a detailed analysis of the organizational intervention.

Examples from PIPPI

In PIPPI especially, the collection of two data sources relied on a drenching trick, the interviews and the questionnaire. The interviews included questions about changes that had occurred since the start of the PIPPI project, such as "Has the organization of work tasks changed?" and "Have there been certain tasks/ occurences that have received a lot of attention?". Such questions produced an enormous amount of heterogeneous data, but also made it possible for us to identify the larger occurences relevant for interpreting the results of PIPPI as well as tendencies reported by numerous informants. The interviews followed a semi-structured approach (Brinkman & Kvale, 2015), a format ideal for drenching in that the interview guide consists of a set of predefined categories related to the information being sought and, also, in that it allows for asking follow-up questions and slightly adapting the questions during the interview when certain aspects turn out to be particularly interesting.

Although asking broad questions may be difficult in a questionnaire, we were able to utilize two instances of drenching in our questionnaire. The first was through our use of a set of questionnaire items taken from a previous Danish study, "Work Environment and Health", a study that had been designed to monitor the working conditions of the Danish working population via biannual representative questionnaire-based assessment (Det nationale forskningscenter for arbejdsmiljø, 2013). These questionnaires included a battery of generic questions about psychosocial working conditions, such as "Do you have an influence on who you work with?" and "Are all employees treated justly in your workplace?". In total, 17 items from this survey were included in the PIPPI baseline and follow-up questionnaires to gather a broader overview of the participants' psychosocial working conditions. A second instance of drenching was our use of generic outcome measures, captured through eight items, including "Over the last year my workplace has become an overall better workplace" and "Over the last year we have focussed more on work environment, work ability, and wellbeing". Though such items tell us little about what has specifically changed and why, they are expected to be able to capture any major change trends that other, more narrowly focussed tools would likely miss.

"Be perceptive"

Another trick, related to drenching, is to "be perceptive", which refers to keeping a constant and general eye out for factors that may be influencing the mechanisms behind the intervention. This is not in itself a strategy aimed at arriving at specific results about the intervention but instead, as described in the Nielsen and Abildgaard (2013) framework, aimed at understanding the working mechanisms of the intervention as well as what role they have in the greater context. This strategy is inspired by an array of approaches in the organizational sciences, from Edgar Schein's process consultancy (Schein, 1999), to the organizational development movement (French et al., 2005), and organization studies (Weick, 2012). The notion underpinning this trick is that gaining an in-depth knowledge of the dynamics of the organizations in question will help researchers in understanding the context of the implementation as well as the interplay between the context and intervention. Furthermore, becoming attuned to the particular organizational dynamics and peculiarities surrounding an intervention can lead to novel hypotheses and potential new avenues of research. This trick proved very useful, for example, in our evaluation of another intervention project, the PIOP project (Nielsen et al., 2013). To begin with, we became aware of a not-uncommon negative attitude among staff towards an earlier well-being survey they had taken, but what was more interesting is that we also discovered that the employees and their line managers seemed to view the tailored questionnaire developed in the PIOP project as significantly more useful. This difference in attitude towards the two questionnares led us to more closely investigate the usefulness and character of the tailored questionnaire.[2] The results demonstrated that the tailored questionnaire was seen as inherently more practical and useful for guiding subsequent action compared to the company's generic wellbeing survey (see Nielsen et al., 2014).

Examples from PIPPI

During PIPPI we made efforts to "be perceptive" about the context of the organizations and the interventions, which involved spending a large number of hours in the factories that participated in the project. Though we could have focussed strictly on collecting the agreed-upon data and then returned to our research institute, we were often invited to see the production facilities and used such opportunities to get a better understanding of the production process and the context. Interviews were used as well to a similar purpose, as they not only enabled us to gain factual information about the questions we posed but also gave us an intimate understanding of the cultures that permeated the companies and departments participating in PIPPI. During workshops we would also often make use of the breaks to chat with participants, which shed light on how their workplace functions. Finally, our research group would spend a substantial amount of time discussing particular cases after returning from the facilities, sharing puzzling observations and generally trying to make sense of what was going on in PIPPI and the companies we were dealing with.

These attempts at a broader understanding of what was happening to a large extent informed our general research direction and, more specifically, guided our formulation of additional research questions. Although I must admit that "be perceptive" is not a very specific piece of advice, its value lies in its generalness – as putting an effort into being perceptive and continually monitoring the environment in which the intervention is undertaken is a very sound research investment.

"Be aware of what you chance upon"

Once the process of collecting data in an organizational context is underway, another simple but useful trick is to be attentive to relevant and unexpected information and avenues that might appear. When designing an intervention programme and tailoring an evaluation to match the goals and components of the intervention, it is not possible to anticipate many of the needs and opportunities that will arise when one is in the field. The trick is simply to remain aware and receptive to the ongoing developments in your surroundings; in this sense there is a considerable practical aspect to the "being aware of what you chance upon" trick. This strategy was used, for example, in the PIOP project, in which one of our goals was to measure the job crafting behaviours (i.e., how employees tailor their own work tasks and interactions) of postal service mail carriers. When we presented the steering group with a set of items (a translated version of the Tims et al., (2012) job crafting scale), they made it clear that some of the items were not suitable for their employees and they wanted them to be more "blue collar" related. While we could have chosen to discard the job crafting questions in the study, we instead took the opportunity to develop a more blue-collar-oriented job crafting scale (published in Nielsen & Abildgaard, 2012). In this way we ensured that relevant items were included in the study (as job crafting was a concept of relevance to the project) and also paved the way for using job crafting items in future research projects with blue-collar populations. Being aware of potential opportunities not only helps with getting the results from your study published but also ensures that, as with the case of the PIOP job crafting scale, the context becomes an integral part of the research.

Examples from PIPPI

An example of awareness paying off in PIPPI occurred when we realized that every participating company recorded sickness absence data. As registry data provide methodological advantages over questionnaire-based data collection in that it can limit common method bias (Podsakoff et al., 2003; Podsakoff & Organ, 1986), encountering this type of data was potentially useful for the outcome of PIPPI. Another example is that several of the companies had decided to expand the PIPPI project beyond its initial scope and timeframe. This opportunity, to study the long-term developments and adjustments in the program, is likewise something that we did not plan for, but capitalized on once we became aware of it.

Thoughts on the tricks

In the preceding sections I presented five separate tricks that can be used by research-ers to address some of the central challenges in prioritizing what to focus on and how to prioritize resources when evaluating organizational interventions. These tricks, as well as others, will hopefully function as shortcuts that free up time and resources – which are often prized commodities when it comes to working with organizational interventions. In this sense, I hope the tricks will benefit present as well as future intervention researchers and practitioners in their quest to collect better and more useful data for determining ways to improve the efficacy of interventions.

Three of the tricks, "pinpoint data collection", "follow the conventions" and "drenching" are predominantly aimed at ensuring a comprehensive evaluation according to the preset evaluation model, whereas the remaining two, "be percep-tive" and "be aware of what you chance upon", concern a more general approach of being attentive and receptive to potential new avenues of intervention research. The tricks presented may seem to be five entirely separate strategies, but in prac-tice they are interlinked, as manifestations of being in a general evaluative frame of mind. In PIPPI (as well as the preceding PIOP project), the combined application of all of these tricks was what made the project succeed.

Problems and pitfalls when evaluating organizational interventions

Though the tricks presented here may make it seem simple to apply a framework to a specific intervention, there are at least three substantial risks that evaluators need to be aware of. The list of challenges presented below is by no means exhaus-tive or relevant in all cases, but they represent various issues that are commonly encountered when evaluating organizational interventions.

Know your paradigm

To be begin with, some of these tricks assume that the evaluator knows what sci-entific community the project is based in. It might be obvious for many researchers but it can in fact be difficult sometimes to discern whether a project like PIPPI is a participatory ergonomics, occupational health psychology or organizational development project. Though the difference can seem academic, a slight shift in what professional field the evaluation is linked to can lead to substantial changes in what evaluation steps need to be taken. The "follow the standards" trick, in particular, relies on knowing which fields we are deriving the standards from. For instance, in the social constructionist organizational sciences it is viewed as prob-lematic to sample interviewees at random (as the standard there would be to pick the interviewees most relevant to the research question), whereas in more positiv-istic inspired fields of occupational health psychology and public health, random selection is viewed as the best solution as it reduces potential sampling bias.

Collecting versus analysing data

Another potential pitfall is that the data collection tasks can become so comprehensive and time consuming that the scale of the actual publication and dissemination of the findings dwindles in comparison to that of the project and data. In metaphorical terms, researchers need to balance the "fishing" and the "cooking". Though much material and relevant data is needed to provide accurate, detailed and thorough evaluations, it takes an enormous amount of time to transcribe and categorize qualitative material, and to clean and merge numerous quantitative data sources. For PIPPI we were fortunate to receive a grant to support our writing about the enormous amount of data material, and we still have enough data for more papers than we will ever be able to write on the project. In hindsight we might have been better off spending less time in the field "on the fishing boat" gathering data, and more time "home in the kitchen" analysing and writing about the data collected.

The allure of simple solutions

When following conventions, there is a clear risk of becoming lured in by seemingly simple solutions that end up being problematic in the long run. With PIPPI this has been the case with our use of single items instead of relying on longer scales. The background to this was that, on the one hand, we were working with a substantial number of employees who were not particularly literate (as well as several non-native speakers) – which recommended the use of questionnaires that were as short as possible. On the other hand, we wanted to measure as many constructs as possible and provide a comprehensive evaluation. A solution that might seem to serve both purposes was to include as many constructs as possible but by using a smaller number of items or, at the extreme, only single items to capture them. But there are reasons why a seemingly ideal solution can be too good to be true.

Though full scales and single items might seem psychometrically similar in large populations, when assessing smaller samples in organizational interventions where relatively small between-group differences are of interest, it is dangerous to reduce outcome constructs to depending on single items due to the loss of variance. If a construct is measured by a single item with a five-point scale, to observe any differences over time, the measure of the construct needs to change (in theory) at least by 20 per cent. If one uses a scale of five such items the (again theoretical) minimal change needed for the scale value to change is 5 per cent as there now are 20 different possible values. The implication is that single items are such coarse measures that, with a small sample, one needs to see unreasonably large changes before such change is statistically detectable.

Another inherent risk when using single items concerns potential ceiling and floor effects. In PIPPI specifically we became aware that the single item of work ability had a very high baseline value (8.4 on a scale of 0 to 10) and high variance. This suggested that not only was it improbable that improvements in work

ability could be measured using the single item, since so many scored close to the maximum value, but also that large individual differences were likely over time with such a high variance. This methodological problem led us to use additional measurement points at 8, 10, 20 and 22 months for the primary outcomes in order to reduce the uncertainty of the single-item work ability measurement. This choice naturally led to substantially more survey-administration work for both the participating companies and the research group. In hindsight the use of a slightly longer questionnaire with a longer, more robust work ability scale at baseline and follow-up would have been much less of a hassle for all involved, and would have likely produced a more useable and accurate measurement of the work ability of employees.

Concluding remarks

In this chapter, I have shed light on a number of central issues that researchers who undertake complex evaluations need to be aware of. First, in order to manage having a limited amount of resources for evaluation, the potential contributions of each data collection task need to be taken into consideration. Second, it is important to think ahead about what type of publications and reports need to be made, as this should guide the nature of data that is needed for collection. Third, data collection priorities should be in line with the priorities of the intervention so that the important aspects are thoroughly covered by the process evaluation. Fourth, and most importantly, establishing a link between the abstract evaluation framework and the practical reality of an evaluation (such as PIPPI) is essential. These challenges are commonly experienced when adhering to a realist evaluation approach, such as the Nielsen and Abildgaard (2013) framework is built upon. Instead of choosing a simpler and less interesting route, I hope researchers and practitioners find our bag of tricks from PIPPI to be useful in their own attempts to identify "what works for whom in what circumstances?" (Pawson & Tilley, 1997).

To sum up the advice from this book chapter: consider what aspects of the intervention are the core components to be evaluated. Be conscious of which professional communities are the target audience for the subsequent publications. Following a clear predefined plan in which one is attentive to the context, culture and organizational processes can provide opportunities for novel research, leading to advances in our understanding of organizational interventions and especially their implementation and its effects on working conditions and employee wellbeing.

Acknowledgements

Notes

1 The research assistants in the PIPPI project for instance not only handled evaluation tasks but also participated in developing the intervention components and facilitated the majority of the workshops.
2 For the Nielsen et al. (2014) paper, data were also in part collected using the "pinpoint" trick described earlier.

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PART III

New directions

7

SUPPORTING PARTICIPATORY ORGANIZATIONAL INTERVENTIONS

New opportunities, roles and responsibilities for researchers and OSH professionals

Robert A. Henning, Michelle M. Robertson and Alicia G. Dugan

Background

Employees bring specialized knowledge of themselves, their coworkers, their jobs and work organization which places them in a unique position as subject matter experts to contribute to occupational safety and health (OSH) intervention design and implementation efforts in at least four important ways (Robertson et al., 2015): (1) identification and prioritization of the OSH problems and issues; (2) identification of root causes of these OSH problems and issues; (3) creation of targeted intervention approaches to address these OSH problems and issues; and (4) support and refinement of OSH interventions once they are implemented. Not only are employees knowledgeable about many of the complex interactions among physical design factors in their workplace, how their work is organized and the psychosocial conditions in which they work, employees also have an understanding of how their lifestyle and a wide range of influences outside of the workplace can affect their safety, health and wellbeing. Additionally, employee participation in intervention design efforts is known to result in a sense of ownership and "buy-in" that raises the level of participation in any resulting intervention, and this adds to their sense of meaningfulness of the intervention (Tsutsumi et al., 2009). Lastly, active participation in intervention planning and implementation can be considered salutogenic (health enhancing) and beneficial in its own right because it provides new opportunities for feedback and feedforward control necessary for the self-regulation of behavior (Henning & Reeves, 2013; Henning et al., 2016).

For those organizations interested in establishing a sustainable healthy workplace program for the continuous improvement of OSH, a hierarchical taxonomy was created to show how successive additions of employee participation in program activities can contribute to program effectiveness (Henning et al., 2009; Robertson et al., 2015). As shown in Figure 7.1, at the lowest level of this

five-level participatory hierarchy are well-intentioned "top-down" OSH initiatives that originate from management, sometimes in consultation with OSH professionals. Employees were not involved with the identification and prioritization of OSH problems or issues, nor with the design of these interventions to address these OSH problems or issues. Interventions developed in this "top-down" manner are not expected to be fully effective for several reasons. One is that interventions proposed by management will not have benefitted from employee expertise, and at this lowest level of participation, employees cannot make substantive adjustments to address noted shortcomings which could spell failure. As explained below, the lack of participatory involvement also makes it less likely that employees will be motivated to support the intervention, and there is also the risk of rejection or even outright opposition.

Moving upward in the participatory hierarchy, employee participation in the intervention design process increases because employees now have opportunities to expand or refine an OSH problem that management has decided to target, and are also given opportunities to make adjustments to any intervention plan put forward by management. At this mid-level position in the participatory hierarchy, however, the role of employees is limited to consultation only, and this makes it highly unlikely that either the focus of an intervention or its implementation plan can be influenced or changed by employees in any major way.

At the very top of the hierarchy, in a fully participatory program, the comprehensive forms of management support for employee participation go well beyond employee consultation found at the mid-level of the hierarchy. Here, employees
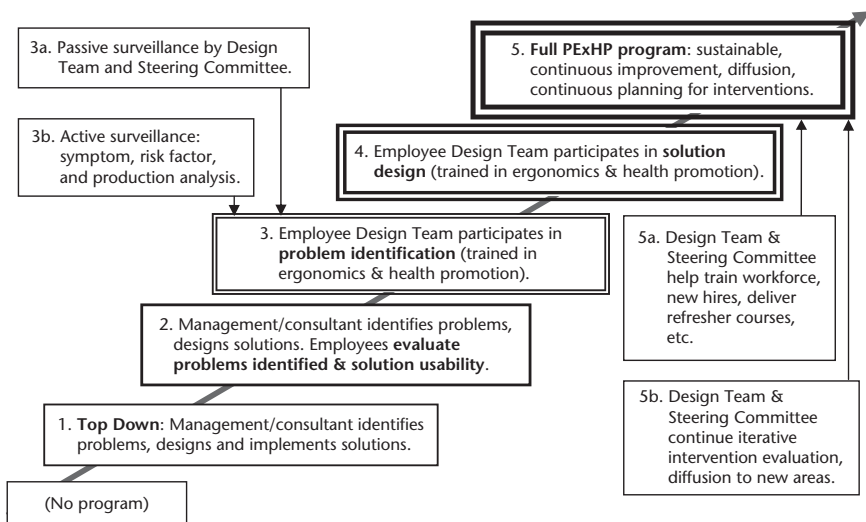
FIGURE 7.1   A hierarchical taxonomy showing how employee participation can vary widely in an occupational safety and health program that is based on participatory ergonomics (PE)

are given access to existing surveillance data and can initiate additional data collection efforts, are able to prioritize OSH problems/issues, and also take a lead role in intervention design and implementation efforts to address these priorities. Employees are also granted access to subject matter experts pertaining to an OSH problem or issue (e.g., indoor air quality experts) to gain a more thorough understanding of factors contributing to it, and later in the intervention design process when selecting among intervention alternatives. Forms of management support are more programmatic at this level of the participatory hierarchy because employees must be able to meet regularly over long periods to engage in OSH problem/issue identification and intervention design in addition to having access to subject matter experts. This sustained level of participatory activity as part of a program dedicated to continuous improvement can be contrasted with static or stand-alone participatory projects for which employee participation ends upon project completion (Haims & Carayon, 1998).

Training opportunities abound in participatory intervention design efforts

OSH professionals are well positioned to help an organization move upward in the participatory hierarchy by providing training that is tailored to each level of the organization. At the employee level, which is the focus of this chapter, the challenge for OSH professionals is to offer an appropriate mix of training and expertise that does not undermine active participation on the part of employees in intervention design efforts. For example, there are numerous opportunities for employees to benefit from OSH training and skill development when they are substantively involved in OSH problem/issue identification and prioritization at the earliest stage of intervention planning. Such training and skill development on the part of employees helps to build competence and readiness within an organization to advance upward in the participatory hierarchy (Robertson et al., 2015). According to a cybernetic model of behavior (Smith & Smith, 1987) that offers a comprehensive behavioral model based on control theory, comprehensive training that occurs at the behest of management to address a designated OSH problem (Schein, 1999) will not contribute much to an upward trajectory in the participatory hierarchy because such top-down initiatives lack control dynamics initiated by employees. Both feedback and feedforward control dynamics are integral to learning (Smith & Smith, 1966; Smith et al., 2014) in this context. For example, if employees request ergonomics training for an intervention design effort, training that is provided in a timely manner is a source of feedback to employees that can be used to guide and improve the ongoing intervention design effort. Training that occurs outside of this feedback control dynamic or that is significantly delayed would not contribute to the synergistic outcome of improved intervention design. Regarding feedforward control in which employees are seeking to develop an intervention solution that can prevent an OSH problem from developing, training provided in this context allows employees to combine knowledge of their past

feedback control experiences with new knowledge gained about OSH science to better inform selection of solution activities. Similar to the formation and use of mental models to guide behavior, use of the "forward model" (Smith, 2002) in feedforward control activities is strengthened and updated based on the quality and sources of feedback available during these design activities. What this means in the context of employee training for intervention design is that training cannot be delivered as a "one and done" event, and instead needs to be provided in response to training needs that become evident to employees as the intervention design process moves forward.

Another reason that OSH professionals should try to optimize feedback control of OSH training activities from the perspective of employees is that this can increase employees' motivation to stay involved in OSH activities and initiatives and also be more willing to engage in new activities. Behavior involving feedback control has reciprocal effects on individuals that enhances self-regulation in subsequent behaviors (Henning et al., 2014), and perceived control is also known to increase employee involvement, commitment, performance and motivation (Spector, 1986). In order for training to support employee self-regulation in the context of participatory OSH intervention design efforts, training therefore needs to be delivered in the context of an ongoing intervention design activity. Furthermore, it is well established in the training literature that an opportunity to apply new knowledge can substantially strengthen a person's ability to transfer what has been learned to problems at hand (Gorden, 1994; Goldstein & Ford, 2002). In contrast, training that is delivered on a schedule dictated by upper management is not likely to similarly benefit employees because the training would occur outside of any feedback or feedforward control processes that employees have initiated or are currently engaged in.

Opportunities for research translation and dissemination via participatory design efforts

A major challenge for OSH professionals is to determine the best ways to support intervention planning and design efforts (von Thiele Schwarz et al., 2015). Expert advice must be provided in a way that also facilitates a process of discovery on the part of employees. For OSH experts, this is harder than it may seem because it is only natural to recommend solutions that were found to be successful elsewhere or which are scientifically based. However, this risks undermining employee self-regulation and self-efficacy that can develop during problem/issue identification and intervention design activities, and also their sense of ownership over any resulting intervention that is eventually implemented. The counterintuitive conclusion is that OSH professionals need to use their expertise to support employee participatory design activities rather than use it to solve OSH problems on their own as the highly trained expert. There is therefore an opportunity and need to develop a set of recommended practices that OSH professionals can use to support employee participation in intervention design efforts. This would not only

involve determining the most effective ways of providing relevant OSH informa-
tion to employees in what could be considered dissemination of OSH science at
the grass-roots level, but also would involve determining the most effective ways
of supporting employee self-regulation and self-efficacy throughout the interven-
tion design process.

In an effort to develop recommended practices for OSH professionals, tak-
ing a user-based approach in which interventions originate from those who are
intended to benefit from it (i.e., in this case, employees) is consistent with one of
two major approaches within the field of dissemination and implementation sci-
ence (Wandersman et al., 2008), the other being a source-based approach where
researchers (i.e., the sources) create interventions and seek the most effective ways
to transfer them to users after an evidence basis is established, which represents a
top-down approach. Dissemination and implementation (D&I) science is a rela-
tively new area of study. Dissemination science is defined as research on how
intervention information is created, packaged, transmitted and interpreted among
all possible stakeholders, and implementation science is defined as research on
strategies that incorporate interventions into sustained practice (National Institutes
of Health, 2017). D&I science is a high priority for the largest funders of health
research in the USA (e.g., NIH, CDC, AHRQ), who recognize the need to
ensure that a higher proportion of the evidence-based health interventions that
have been scientifically developed are translated into practice, and at a faster speed
than is happening currently (Balas & Balas, 2000; Rabin et al., 2008). A primary
D&I goal is to develop a scientific understanding of how intervention approaches
previously determined as effective in research-to-practice demonstration projects
can best be disseminated for more widespread real-world impact, and also what
the barriers and facilitators of successful implementation are. For example, D&I
science would offer evaluation methods for guiding the improvements in the
design or messaging of interventions, or developing strategies to scale-up success-
ful OSH pilot interventions to benefit all employees in the same organization, or
in multiple organizations.

D&I science recognizes that, in contrast to conventional academic research,
participatory approaches (e.g., community-based participatory research [CBPR],
or workplace-based participatory action research [PAR]) preempt the problem
of having poor generalizability by carrying out intervention research in real-
world practice settings with larger, more representative samples of intervention
participants (e.g., employees) as well as implementers (e.g., OSH professionals,
researchers, etc.). Also, because participatory approaches engage intervention end-
users as research collaborators, the likelihood of uptake following study completion
is increased as well as diffusion, the spread of information regarding the inter-
vention through end-users' social networks (Jagosh et al., 2012). Additionally,
participatory intervention design methodology provides a key means of attaining
translational goals and evaluating essential D&I outcomes such as degree of adop-
tion, fidelity, cost, penetration and sustainability (Chaudoir et al., 2013; Proctor
et al., 2011), which can also provide valuable information to policymakers and

other key decision makers (Schillinger, 2010). Therefore, D&I science can be used to inform and guide the development of practices that OSH professionals can use to support employee participatory intervention design efforts.

Providing expert support to employees engaged in participatory intervention design efforts

Researchers in the Center for the Promotion of Health in the New England Workplace (CPH-NEW), a research-to-practice center funded by the United States National Institute for Occupational Safety and Health (NIOSH), have conducted a series of field studies seeking the right balance between providing expert OSH guidance and supporting employee control over intervention planning, design and implementation (Punnett et al., 2013; Robertson et al., 2015; Dugan et al., 2016; Nobrega et al., 2017). This research is aligned with NIOSH's Total Worker Health® (TWH) initiative which focuses on "policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness prevention efforts to advance worker wellbeing" (NIOSH, 2017). CPH-NEW researchers have concluded that achieving the desired levels of integration in TWH initiatives depends on involving employees in participatory intervention design efforts.

A comprehensive programmatic approach to OSH and TWH has been developed by CPH-NEW; the Healthy Workplace Participatory Program (HWPP). The HWPP incorporates features found in successful participatory ergonomics programs in which employees play a central role in designing workplace interventions (Van Eerd et al., 2015). In early field tests of a participatory ergonomics framework used for planning OSH interventions, in which a health promotion focus was added to benefit worker wellbeing, small groups of five to eight frontline employees were recruited to function as "design teams". These design teams met regularly to design interventions after identifying and prioritizing their own OSH problems and issues (Henning et al., 2009). Design teams received rudimentary training on ergonomics as well as health promotion principles and methods, and then were introduced to the concept of integrated interventions that consider making changes to work organization as well as employee behavior. They also received a summary of the health and safety status of their fellow workers gathered through a baseline survey, and in some cases group summaries of physical assessments and company safety and health records. After a program facilitator helped the design team prioritize health and safety problems/issues following review of available OSH data, she guided the design team through a seven-step intervention design process that focused on the health/safety problem or issue that had been selected. The resulting intervention design was later proposed to a program steering committee which had been formed to review the intervention proposals and to implement those that seemed worthwhile.

A number of shortcomings were noted in early field tests of the original sevenstep intervention design process and proposal review process (Henning & Reeves,

2013; Nobrega et al., 2017). One shortcoming was that employee design teams tended to move too quickly through the first intervention design steps, resulting in the premature selection of an intervention plan before engaging in a thorough analysis of root causes and other contributing factors of the OSH problem/issue being targeted. This rush to adopt an intervention plan also precluded time for training on OSH principles specific to the identified OSH problem/issue, which in most cases would benefit the design efforts. This partly explains another critical shortcoming of this initial approach, which was that the resulting interventions did not always qualify as integrated interventions because they did not address both the organization and the individual worker as the agents of change. Rather, the primary focus was often on changing employee behaviors (e.g., weight loss initiatives) and not on workplace design factors or aspects of work organization that were contributing to the OSH problem or issue (e.g., erratic work schedules). Another shortcoming of a rushed design process was that sometimes the program steering committee chose not to implement the proposed intervention, an outcome that was demoralizing to design team members.

CPH-NEW researchers concluded that the seven-step design process needed more structure to overcome the abovementioned shortcomings. These and other shortcomings were addressed through participatory action research (PAR) (Henning et al., 2009; Punnett et al., 2013) involving researchers, program facilitators and program representatives from each of four diverse work organizations: a small realty and property management firm, a medium-sized non-profit organization, a state agency and a state correctional facility. A description of the iterative design process that was used to develop a set of tools for establishing and maintaining a HWPP is published separately (Nobrega et al., 2017). CPH-NEW provides a freely available on-line set of tools to establish and support a HWPP, including the assessment of organizational readiness for a participatory TWH program to help plan implementation efforts, as well as a survey instrument to assess the physical and psychosocial factors affecting employee safety and health that can serve as a starting point for participatory intervention design efforts (Warren & Dugan, 2011). Guidelines are also provided for forming a program steering committee and for forming an employee design team. Design teams are typically made up of front-line workers but can be formed at any level of the organization. Training guides and tools for program oversight and management are also provided (CPH-NEW, 2017).

Providing balanced expert support in employee participatory intervention design efforts

One of the primary goals of the PAR effort to develop the HWPP toolkit was to bring additional structure to the original seven-step intervention design process. This not only provides more opportunities for employees to contribute their knowledge and expertise at each step in the design process, but also provides more opportunities for OSH professionals and subject matter experts (e.g., facility managers)

to be brought in to share their specialized knowledge and expertise, thereby expanding the employees' knowledge, skills and abilities in relevant areas.

In general, an OSH professional needs to gauge the degree of existing organizational support for participatory programs, and to tailor their professional interactions and forms of programmatic support accordingly to advance employee participation. For instance, the OSH professional can help devise ways of communicating to upper management the importance of allowing workers to assume a role in project evaluation, a theme that the HWPP program facilitator will continuously emphasize. Although OSH professionals and subject matter experts are not expected to function as the HWPP facilitator, their support activities must be complementary. Some specific skills OSH professionals should bring to this effort include the following: the ability to respect employees as subject matter experts and treat them as partners in collaboration, the ability to lead focus groups to help employees prioritize OSH problems and issues, the ability to lead brainstorming sessions in which the critique of any ideas brought forth is postponed until after the brainstorming session has concluded, the ability to translate OSH research findings into plain language, and the ability to use adult learning models in which employees are given ample opportunities to apply what they learn to the design of interventions (Gorden, 1994).

More specific advice on how OSH professionals can support employees who are engaged in a participatory intervention design process, including highlighting opportunities for D&I associated with OSH training, is presented next in relation to each step of the structured intervention planning process developed by CPH-NEW. Many of the training and support activities described below would also be applicable to other participatory intervention design processes and programs (e.g., Ipsen & Jensen, 2010; Van Eerd et al., 2015).

Once the employee design team in the HWPP has decided which OSH problem or issue to focus on, a trained program facilitator with a suitable level of OSH training and experience helps the design team use the Intervention DEsign and Analysis Scorecard (IDEAS) Tool. As shown in Table 7.1, the IDEAS Tool offers a structured process of intervention design and implementation in seven steps. Training materials, worksheets and quick reference guides to support the design process are freely available on the CPH-NEW website (CPH-NEW, 2017) and elsewhere (Robertson et al., 2015).

IDEAS Step 1: Identify Health & Safety Problem/Issue and Contributing Factors. In this first step of the intervention design process, a design team of usually five to seven front-line employees is asked to break down a high-priority OSH problem/issue into sub-issues, making it easier to generate a fairly comprehensive list of the workplace design factors, employee behaviors and external factors (e.g., economic conditions, family life) that might contribute in some way to each OSH sub-issue. IDEAS Step 1 is essentially a root causes analysis in recognition that most OSH problems or issues have multiple contributing causes. The facilitator works with the design team to ensure that, after a number of health/safety sub-issues are

TABLE 7.1 Goals for each of the seven steps of the IDEAS intervention planning process

IDEAS step	Step goals
IDEAS Step 1: Identify Health and Safety Problem/ Issue and Contributing Factors	Identify the root causes of a health & safety problem/issue by generating a list of things that contribute to it or are a source of it.
IDEAS Step 2: Set Measurable Objectives & Brainstorming Solution Activities	Generate sets of activities, with each set of activities offering a full or partial solution to the main health & safety problem/issue identified in Step 1.
IDEAS Step 3: Set Selection Criteria for Evaluating Solution Activities and Interventions	Develop a set of important aspects to consider when each proposed solution activity is evaluated in Step 4. These same key performance indicators are used in Step 5a to rate proposed interventions.
IDEAS Step 4: Apply Selection Criteria to Solution Activates & Create Three Intervention Alternatives	List all of the activities for each of three intervention alternatives based on sets of activities from Step 2. Also, to evaluate the scope, benefits, resources and obstacles of each intervention using criteria from Step 3.
IDEAS Step 5a: Rate Intervention(s)	Provide key information and preliminary ratings to the Program Steering Committee so that a business decision can be made about the proposed workplace interventions for employee health, safety & wellbeing.
IDEAS Step 5b: Rate and Select Intervention(s)	Decide on which intervention(s) to implement, or develop a new intervention(s) as needed.
IDEAS Step 6: Plan and Implement Interventions	Develop a schedule of activities for successful implementation of an intervention.
IDEAS Step 7: Monitor and Evaluate Interventions	Collect information on the effectiveness of an intervention, both during the early stages and in its later, more-developed, form to guide further decisions regarding the intervention.

identified, a healthy mix of organizational design factors and employee behaviors are identified and listed as potential contributors.

OSH professionals can assist the design team in IDEAS Step 1 by providing evidence-based knowledge or insights about sub-issues or root causes that are unknown to the program facilitator and/or members of the design team. This new information must be presented in a way that complements knowledge offered by design team members. In general, the substantive involvement of front-line employees in the earliest stage of intervention planning, when the root causes of a OSH problems/issues are first being considered, is key to developing interventions that are well received by employees (Van Eerd et al., 2010) and have a high degree of relevance. In order for members of a design team to feel comfortable in speaking

openly about sensitive issues without fear of retribution, OSH professionals need to confirm that the information design team members share will be treated in a confidential manner, and will not be shared with management without permission. Even with this assurance, gaining complete trust cannot be expected over the short term. Employees may also need to meet privately with OSH experts in special sessions and without immediate supervisors present in order to discuss sensitive health and safety topics as possible contributing factors or root causes of an identified health or safety problem or issue. Nielsen et al. (2006) reported that employees appraise external occupational health practitioners more positively when there is a directive approach and a focus on individual issues. Consistent with D&I science, involvement of employees in the prioritization of OSH problems/issues for IDEAS Step 1, as well as identification of root causes, ensures that interventions are perceived as relevant to potential adopters and are responsive to employee concerns.

IDEAS Step 2: Set Measurable Objectives & Brainstorm Solution Activities. The design team sets measurable OSH objectives for an identified OSH problem/issue, or sets of objectives for sub-issues/concerns, and then brainstorms solution activities that will help achieve those objectives. The healthy mix of organizational design factors, employee behaviors and external factors that were captured in IDEAS Step 1 as contributors to OSH problems/issues or sub-issues/concerns can all be considered when developing solution objectives. Changing from the problem focus in IDEAS Step 1 to a solution-seeking focus in IDEAS Step 2 is challenging for most design teams, particularly when using the IDEAS Tool for the first time.

OSH professionals can assist the design team in IDEAS Step 2 by helping the design team transition from the problem domain to the solution domain. This can be accomplished by sharing a scientific understanding of underlying OSH problems or issues as well as sharing evidence-based variables that are known to affect/predict human behavior, expected health and safety impacts, and also possible performance-design interactions in relation to work organization. In general, this represents an ideal opportunity for OSH dissemination and training. However, it is equally important not to ask design team members to engage in intervention design efforts without first providing rudimentary training on ergonomics fundamentals. Without some ergonomics training, CPH-NEW researchers have found that design team members are more likely to focus primarily on behavioral changes that employees can make rather than also considering workplace and work organization design factors that could be made in combination with behavioral changes, consistent with an integrated approach to TWH (NIOSH, 2017). Also, OSH professionals need to lay out a range of options for solution activities that employees can choose from rather than recommending specific solutions. Consistent with D&I science, when a design team is allowed to brainstorm solutions to OSH problems or issues, this allows for the development of interventions that are appropriate and acceptable and which are tailored to a particular population, setting, and problem/issue (Chaudoir et al., 2013). Ensuring that the interventions have qualities that are appealing to end-users can also prompt diffusion, which is distinct from dissemination in that it is a passive,

unplanned and uncontrolled process by which users spread information about the intervention to potential users in their social networks in such a way that potential users are drawn to use the intervention (Rogers, 2003; Rabin et al., 2008; Dearing & Kreuter, 2010).

IDEAS Step 3: Set Selection Criteria for Evaluating Solution Activities and Interventions. The design team establishes the criteria on which solution activities will later be evaluated, either alone or in combination with each other, in order to determine their suitability for being included in a proposed intervention alternative (usually three intervention alternatives are developed, which may have overlapping solution activities). All criteria should be measurable. This set of selection criteria are based on standard practices in management planning and decision making, and so can convey critical business case information to the program steering committee when decisions about which intervention proposals to adopt and implement are being made (Warfield, 1971, 1977; Thompson, 1980; Robertson & Rahimi, 1990). A strong business case significantly increases the likelihood that the program steering committee and/or upper management will conduct a favorable review of the intervention proposals (Yazdani et al., 2015b), and also increases the likelihood that an intervention will become permanently integrated into the organization's management systems (Yazdani et al., 2015a). There are four key performance indicators that must be considered for each proposed solution activity in IDEAS Step 3: 1) scope, in terms of what proportion of employees within the organization would benefit, 2) benefits/effectiveness, in both the short-term and long-term, such as improved employee safety and wellbeing, any cost savings, improved job performance, increased employee morale and lower job turnover, 3) obstacles/barriers, essentially anything that could prevent or impede successful implementation, such as resistance to change on the part of employees or management, or anticipated lack of funding, and 4) resources/costs, which are general estimates of personnel time and other resource costs that may need to be adjusted up or down by the program steering committee later on in IDEAS Step 5B. These same key performance indicators are used to evaluate intervention outcomes and effectiveness in IDEAS Step 7 (e.g., a reduction in injury rate), and can also be used to develop process measures for adapting the intervention as needed (e.g., measuring employee compliance with a new procedure to determine if the procedure is acceptable, and if not, to adjust the procedure).

OSH professionals can assist the design team in IDEAS Step 3 by helping the design team develop the specific selection criteria that will serve as key performance indicators of solution activities that could address the OSH problem or issue at hand. There are a number of training opportunities when employees are setting these criteria. In terms of setting criteria for scope, for example, design team members may naturally assume that a proposed solution activity would benefit all employees but an OSH professional may be able to cite published research evidence indicating otherwise. In relation to benefits/effectiveness of solution activities, the OSH professional can assist in by providing information regarding both short- and long-term benefits, thereby supporting employee feedforward control over this

aspect of the design process. In relation to obstacles and barriers to solution activities, the OSH professional may suggest administering a short survey to gauge the extent of employee or organizational resistance to change, or to gather information useful for planning communication initiatives to counter anticipated resistance to change. When the design team is guided through the evaluation of each proposed solution activity in terms of key performance indicators in IDEAS Step 3, this process maps onto important D&I constructs and concepts. More specifically, when the design team evaluates interventions in terms of *scope*, this is analogous to the D&I outcome of penetration, the proportion of people who receive the intervention out of the total number eligible (Proctor et al., 2010). *Effectiveness* is aligned with the D&I concept of needing to establish scientific credibility via an evidence-basis for the intervention's efficacy in improving health or preventing illness. The evaluation of *obstacles/barriers* is related to implementation, as well as *cost/resources*, and is especially important given direct impacts key D&I outcomes of adoption and sustainability (Chaudoir et al., 2013).

IDEAS Step 4: Apply Selection Criteria to Solution Activities & Create Three Intervention Alternatives. The design team is asked to come up with three intervention alternatives. This involves choosing, and in some cases combining, solution activities generated in IDEAS Step 2 based on the selection criteria generated in IDEAS Step 3. Creating three intervention proposals significantly increases the likelihood that one of these proposals, or some combination thereof, will be approved and implemented by the program steering committee which will welcome this added flexibility.

OSH professionals can assist the design team in IDEAS Step 4 by offering them a pragmatic strategy to develop the three intervention alternatives. One strategy can be to create intervention proposals that progressively vary in terms of resource demands: (1) a low-cost intervention solution, (2) a high-cost intervention solution and (3) an intervention solution with a cost that is in-between the other two. Alternatively, or in addition, the three intervention proposals could vary in terms of scope, or vary in terms of their short- and long-term impacts on safety, health or wellbeing. The OSH professional may also be able to help the design team choose a combination of solution activities that balances cost considerations with short-term impact by proposing a small pilot study for one of the intervention alternatives. It is important for the OSH professional to allow enough time for design team members to think through the ramifications of any proposed intervention alternative. Employees are known to be able to identify potential unanticipated consequences of a solution activity, allowing rejection of many activities that have a high probability of failure (Van Eerd et al., 2010). These design activities afford many training opportunities for the OSH professional; for example, building awareness of programmatic considerations that are normally outside the purview of front-line employees, such as the personnel costs involved with a proposed change to work organization.

IDEAS Step 5A: Rate Interventions. The design team transfers their three intervention alternatives to a worksheet that allows side-by-side comparisons by

the steering committee. The design team also assigns an overall rating to each intervention alternative. The worksheets from earlier IDEAS steps can serve as the basis for a formal presentation of the intervention design process, and can also be shared with the program steering committee if background information is needed about each intervention alternative; for example, to view the root causes of a health/safety problem/issue identified in IDEAS Step 1 that a proposed solution activity is designed to address.

OSH professionals can assist the design team in IDEAS Step 5A by helping the design team rate the three intervention alternatives. They may also suggest ways to further refine the alternatives, provide insights on management perspectives on business case thinking and also on how the program steering committee might react to each of the intervention alternatives. Consistent with D&I science, the process of rating intervention alternatives inevitably prompts the design team to discuss and gain consensus on which intervention alternatives have the most appealing features such as simplicity, trainability, observability, relative advantage, compatibility, feasibility, adaptability, affordability, perceived effectiveness and scientific credibility; all important characteristics linked to D&I success (Chaudoir et al., 2013; Rogers, 2003).

IDEAS Step 5B: Rate and Select Intervention(s). The program steering committee and possibly other key organizational decision makers review the intervention alternatives and then select the most appropriate one(s) for implementation. Collaboration between the program steering committee and design team is expected in order to refine an approved intervention, or some combination of interventions, and to assist with their implementation and evaluation. Implementation may involve iterative design of the intervention as needed, which makes it possible to refine the intervention approach while it is in process if it is found to be less effective than anticipated. Iterative design of the intervention (also known as "tweaking") may greatly improve its chances for success, or if necessary would allow for suspension of the intervention approach until it can be significantly improved and more fully supported.

OSH professionals can assist the design team and program steering committee in IDEAS Step 5B by helping promote collaboration to refine the intervention alternatives. A collaborative and iterative intervention design and refinement process that allows adjustments to an intervention over time is known to result in more solid "buy-in" from all parties, and is considered prerequisite for a sustainable program (Haims & Carayon, 1998). If managed successfully, front-line employees can become enthusiastic partners in collaborative planning efforts with management, and vice versa.

IDEAS Step 6: Implement Intervention(s) (which can also be merged with IDEAS Step 5B). The program steering committee and other key stakeholders consider how to implement the selected interventions. Resources for implementation are allocated and a starting date is set. Management develops specific plans for how to track intervention effectiveness, including the selection of metrics and an assessment schedule.

OSH professionals can assist the design team and program steering committee in IDEAS Step 6 by helping choose the metrics for intervention evaluation. At minimum, all of the key performance indicators identified in IDEAS Step 3 should be well represented in this evaluation effort because the design team and program steering committee are already well prepared to interpret the impact of the intervention in these terms. In addition, including some process measures as part of the evaluation can support iterative design of an intervention in IDEAS Step 7; for example, to determine if the intervention is reaching the number of employees anticipated (the key performance indicator "scope"), and if not to adjust some aspects of the intervention accordingly. OSH professionals may need to assist with evaluation efforts, including the development and pre-testing of appropriate measures and the use of sampling techniques because evaluation of OSH interventions may be an area that the facilitator or program steering committee lacks expertise in, or are too busy to handle. The involvement of OSH professionals can also guarantee the confidentiality of any data collected. As mentioned earlier, the OSH professional can help devise ways of communicating to upper management the importance of allowing workers to assume a role in project evaluation, such as developing survey items for use in pre-and post-intervention evaluation (Dugan et al., 2016). It is worth noting that in a study comparing conventional survey measures with survey measures that were developed via PAR, the employee-tailored questions were found to provide better data about the intervention than the conventional survey measures (Nielsen et al., 2014). Consistent with D&I science, the OHP professional in IDEAS Step 6 can assist with the simultaneous assessment of the intervention's efficacy and its implementation outcomes, an approach Curran et al. (2012) refer to as an effectiveness–implementation hybrid design. Conducting a process evaluation of the intervention while observing and gathering information about the intervention's impact on relevant outcomes was proposed by Curran et al. (2012) as a way to accelerate the translation of research into practice; this would also support an iterative intervention design process that is needed to enhance the quality of outputs and outcomes through feedback and feedforward control over time (Haims & Carayon, 1998).

IDEAS Step 7: Monitor and Evaluate Intervention(s). The design team and steering committee can hold joint meetings, several independent meetings or communicate via email to review the effectiveness of the intervention implementation. The intervention is adjusted as needed through an iterative design process.

OSH professionals can assist the design team and program steering committee in IDEAS Step 7 by helping interpret any process measure findings, such as participation levels, or other early indicators. One possible role is to lead a process evaluation about how the intervention was communicated and whether the intentions driving the intervention may or may not match the way the intervention activities are subsequently perceived by the employees. Collection of interview and survey responses along with objective correspondence (memos, emails, etc.) can be used to determine employees' perceptions of how effective the communication of the organizational intervention is or was, and also if workplace

improvements or changes were perceived and understood and also attributed to the project (Nielsen & Randall, 2013). Findings may recommend either changes to the intervention consistent with an iterative design approach or that the IDEAS process be repeated for this health/safety problem/issue based on the new information revealed through this evaluation effort. It is possible that a new understanding of contributing factors or complex interactions among the solution activities will be gained, suggesting major changes to the intervention. Program steering committee involvement at this juncture also serves to build management commitment and engagement (Henning et al., 2009). Consistent with D&I science, supporting participatory design of interventions increases the likelihood that interventions will be designed with characteristics (e.g., feasibility, compatibility) that capture the attention of potential adopters and prompt the diffusion of intervention information throughout levels of a social system over time (Dearing & Kreuter, 2010). OSH professionals can guide the design teams and program steering committees in active dissemination efforts by providing input into the packaging and messaging of research findings and products, helping to identify networks of potential adopters and their opinion leaders, and pinpointing media channels for spreading intervention information widely (Carpenter et al., 2005).

Expert support for training as a key component of a participatory program

One critical activity which is part of preparing an organization to be ready to adopt a participatory program is to communicate aspects of the programmatic plan across all levels of the organization in a way that articulates the purpose of the program, roles and expectations, action items, mechanisms for project support, and when/how feedback on any particular intervention's status will be communicated. Specifics on the process of program start-up and execution must be transparent and in place as action items in this programmatic plan before the program is implemented. Part of building organizational readiness is effectively communicating the expectations of the participatory intervention program and communicating the requisite commitments from senior managers and supervisors (Lehman, et al., 2002; Jones, et al., 2005; Weiner, 2009). Such communications would also articulate the need to provide the appropriate resources and time needed for the design team to meet regularly, receive training, and be involved in the participatory design process, something that will take time before the first intervention is designed. An assessment tool has been developed by CPH-NEW to assess organizational readiness for a HWPP that can help identify obstacles to program implementation. The OSH professional can be of assistance here by working with and facilitating the tailoring of the communication messages through the appropriate organizational channels to ensure that the right message is being communicated and understood at each level of the organization. For instance, supervisors should receive communications tailored to their needs and concerns such as providing specific role descriptions stating the expectations of senior managers, the program steering committee and

the employee design team. Concurrently, communications to employees as part of design team recruitment will also inform the workforce of the overall program plan, expectations and desired participation level. The organizational readiness assessment tool and some model communications (e.g. informative memos) can be downloaded from CPH-NEW HWPP Toolkit website (CPH-NEW, 2017). All of these communication activities can be used to build upon the various mental models that may exist among the workforce and to foster the development of a shared mental model of the participatory program (Nielsen & Randall, 2013).

Whenever training of any form is provided by OSH professionals, the purpose of the training should be provided along with the expectations of who should participate. Messages should also detail the importance of training to the overall intervention design process, and the logistics involved such as who will conduct the training, the time requirements and resources needed, and where the training will take place (Lehman, et al., 2002). Project-related training programs, which include an orientation to the benefits of employee participation, should be provided to senior managers jointly by the OSH and HWPP facilitator so they understand what their workforce and the design team will be learning. These training and orientation efforts allow for a common language to be established among the workforce regarding the participatory process and lay the foundation for organization-wide training that could benefit later at other worksites. It is interesting to note that rarely are supervisors (in <35 percent of reported projects) and senior managers (in <12 percent of reported projects) trained in the participatory process (including ergonomics and teamwork) (Van Eerd et al., 2008). The OSH expert may have a sense of how the existing OSH-related trainings given by the organization can be integrated with new trainings related to the employee participatory intervention design process, and who may be a key change effort leader within a given organizational culture.

A case in point: Providing expert support to a design team versus a Kaizen team

CPH-NEW initiated a four-year field study in 2011 to compare two different ways of involving employees in participatory intervention design efforts using the seven-step IDEAS Tool at two matched state facilities (Cherniack et al., 2016). The programmatic approach at one facility featured a series of short-lived (four to six months) Kaizen teams made up of representatives from upper management, supervisory staff and corrections staff volunteers. Each Kaizen team was charged with designing an intervention targeting one of four health priorities that had been identified earlier through a participatory process with a study-wide steering committee made up of corrections staff and representatives from management and employee unions: physical environment/ergonomics, physical fitness, weight management/nutrition and safety/injury reduction. The workplace ergonomics intervention was directed toward procurement policies and facility design. Each Kaizen team was disbanded after its proposed intervention plan was implemented and evaluated.

The second programmatic approach at a separate facility consisted of establishing a design team and program steering committee that was to remain active over the three-year period as part of a HWPP (CPH-NEW, 2017). The design team was asked to target the same four health priorities that Kaizen teams did but in any order and not necessarily sequentially. The design team also had significant discretion to weight the four interventions in terms of precedence and intensity. Both the design team and Kaizen teams were able to enlarge their representativeness and self-education by inviting participation from subject matter experts. A comprehensive analysis of process and outcomes measures from both programs is reported elsewhere (Dugan et al., 2016). General findings were that both programmatic approaches had strengths and weaknesses. The participatory intervention design efforts targeting the physical environment/ergonomics evolved quite differently at the Kaizen and design team sites. Since the utilization of content experts may have differentially impacted intervention outcomes, the process at both sites is reviewed here in order to clarify how best to support participatory intervention design efforts for both programmatic approaches.

Both the Kaizen team and the design team identified poor indoor air quality (IAQ) as a high-priority physical environment/ergonomics problem. Poor IAQ at their respective facilities was viewed as a major contributor to discomfort and illness. Subject matter experts, who were university researchers separate from the study team, were brought in on separate occasions to help the design team or the Kaizen team assess the IAQ at each facility. Different professional personnel were engaged at each facility and there was no cross communication.

One way the subject matter experts provided support was to help create and analyze a brief targeted survey that assessed employee perceptions of the environmental conditions in their facility and aspects of health and wellbeing related to these conditions. Another was to conduct a walk-through inspection at each facility to assess environmental conditions such as the general cleanliness of the facility, and to assess the functionality of the heating, ventilation and air conditioning (HVAC) system such as any sign of exhaust or supply vents being blocked by dust accumulation. In some cases it was discovered that prisoners had blocked supply vents to their cells to prevent cold air from entering, and there were also instances of blocked exhaust vents due to a lack of regular maintenance. Following completion of the walk-through inspections, the subject matter experts prepared a summary report and also met separately with the Kaizen team or design team respectively to discuss intervention options and to make some recommendations. For example, preventive maintenance was recommended because blocked air vents created instabilities in the automatic controls of the HVAC control system, contributing to wide swings in air temperature or inadequate air changeover.

From this point, the contribution of content experts took different courses. The Kaizen team had a circumscribed time span. Its top-to-bottom representation led to task specific actions recommended by the content experts. For example, discrepancies between formal documentation of cleaning and air filter replacement and perceptions of poor air quality could not be resolved collaboratively and iteratively

but required default to the HVAC professionals. There was documentation of poor cooling compliance. The recommendation for a new system was dismissed due to fiscal constraints on the state level. In the end, only the most modest recommendation, more efficient duct vacuums were the single significant attainment. However, the design team worked on IAQ problems for a full year. The use of experts was targeted and more directed to increasing the capacity of the design team. The State Department of Public Health was engaged to train corrections officers in HVAC maintenance. The result was a scheduled maintenance regime that was internal to the facility. Similarly, study team experts were engaged to assist in developing and evaluating short pre- and post-surveys to document change. Finally, the design team took a multi-level approach to interventions, beginning with internal and no-cost maintenance, offering a secondary contingency of distributed duct sensors and reporting by corrections staff, and finally recommending system replacement. The latter was dismissed initially, as was the case at the Kaizen team site. In the absence of an integrated organization-site management-line worker structure, the design team worked iteratively with a facility steering committee. Although it was unanticipated and perceived as a deferred option, after a series of design team proposals and modifications, the agency peremptorily responded by replacing the entire HVAC system in that facility.

Although there were many other factors at play, the two IAQ outcomes were widely discrepant, with the design team achieving success beyond its expectations and the Kaizen team achieving only limited success despite high-level inputs. This discrepancy may be explained in part by the design team having more time to make use of information provided by the subject matter experts, and not being limited to a four to six month lifespan. In contrast, when the subject matter experts presented their intervention options and recommendations to the Kaizen team, the options involving major HVAC system upgrades and repairs were dismissed due to the organization's inability to make large capital investments at that time, and the inability of the time-circumscribed team to iterate, amend and work through alternative proposals. Kaizen teams have greater decision authority to either approve or disapprove interventions because of representation by upper management, and this accelerated the decision-making process. In contrast, design team members consisting of only corrections staff (and not supervisors and managers) were able to receive advice from the subject matter experts and then work on their intervention proposals over multiple meetings, resulting in more fully developed proposals that were later submitted to the program steering committee. On the surface, the Kaizen team commanded higher level resources and content experts, but the design team was able to integrate the content experts into their own internal program.

It is possible that the differences in how expertise from subject matter experts was able to be used in these two programs may partly explain the different intervention outcomes. In the initial steps of the IDEAS planning process, if front-line employees have independent access to these experts this may allow more time to develop a stronger business case for each intervention proposal. This interpretation, which underscores the importance of access to OSH professionals over time, is consistent

with reports from front-line employees in another multi-year study that examined the pros and cons of program design differences (Nobrega et al., 2017). Two sites had independent design teams made up of front-line employees who met independently and then submitted intervention proposals to a program steering committee. Another two sites had a mixed-level design team, similar to a Kaizen team, consisting of front-line employees, supervisors and managers with authority to design and implement interventions. Interview findings revealed that front-line employees who were part of a mixed-level design team were less likely to speak up about sensitive issues, in part because of supervisor and management presence. Supervisors and management representatives on these mixed-level teams also tended to dominate the intervention planning process, in some cases dismissing ideas and suggestions made by front-line employees. It is possible that additional guidelines or structure are needed when the IDEAS planning process is used by Kaizen teams in order to prevent the Kaizen team from moving forward in the IDEAS planning process without sufficient participation of front-line employees. For example, it may be necessary to allow front-line employees to meet separately with outside experts to enable more effective use of their expertise during some steps in the intervention design process.

How support of employee participation contributes to organizational learning and program sustainability

The conceptualization of organizational learning put forward by Haims and Carayon (1998) depends on organizational commitment to a cybernetic learning process of continuous improvement. In their case study, program assistance from university researchers as outside facilitators was no longer needed at the end of this process (Haims & Carayon, 1998). Through use of action research, Haims and Carayon provided evidence that the support of a cybernetic learning process is necessary for the development, success and long-term sustainability of a participatory ergonomics program. Support for cybernetic learning requires that support systems, policies and procedures are in place to support feedback control on the part of employees as they take steps to address health and safety hazards. However, achieving program self-sufficiency does not imply expertise from OSH professionals is no longer needed. On the contrary, active engagement by employees in participatory intervention design efforts can increase the demand for such expertise as a resource that needs to be readily provided by management in an established participatory program (Robertson et al., 2015).

There are a number of ways that OSH professionals and subject matter experts can promote organizational learning in conjunction with supporting employee participatory intervention design. One straightforward way is to promote self-regulation on the part of the design team by being responsive to any requests for information and guidance while not undermining the design team's autonomy over this information-gathering process. Ideally, the OSH professional establishes a working relationship with the design team members in the joint search for insights and answers, which will create more opportunities for information exchanges that

benefit design team members' understanding of OSH principles and approaches relevant to their present situation. Such exchanges also help the OSH professional tailor the training to the specific needs at hand.

Social tracking relationships, in which two or more individuals function in a joint manner to control a system and/or each other, are relationships that need to be supported in order for discovery and learning to occur throughout an organization (Haims & Carayon, 1998; Carayon & Smith, 2000; Smith, 2014). Specifics about the nature of social tracking relationships (Smith & Smith, 1987; Henning et al., 2014) can provide insights on how organizational learning can be promoted during participatory intervention design. In general, program facilitators, OSH professionals and subject matter experts should take every opportunity to promote forms of social tracking that support organizational learning because this contributes to a more sustainable participatory program.

There are three distinct modes of social tracking (Smith & Smith, 1987): (1) imitative social tracking, (2) parallel linked social tracking and (3) serial–linked (or series–linked) social tracking. *Imitative social tracking* occurs when behavior is imitated or modeled, such as in training situations where the trainer closely tracks the error behavior on the part of the trainee in order to adjust the difficulty level depending on how well the trainee is doing. Imitative social tracking also is the basis of the modeling behaviors that maintain organizational culture. *Parallel-linked social* tracking occurs when those involved can exert direct control over a system and also directly receive feedback about how the system is responding to all control inputs. Although parallel-linked social tracking offers all participants an opportunity to control a system and to see how the system subsequently responds, which can increase reliability through human redundancy, this social tracking mode can also result in confusion and role ambiguity because, depending on what communication is available among participants, it is not always possible to determine whose control inputs are causing the system to change (Sauter & Smith, 1971), and in some cases this results in participants working at cross purposes, with control actions cancelling each other out. *Serial-linked social tracking* occurs when control actions, and/or the feedback necessary to achieve and maintain control of a system, depend on communication exchanges between or among other people, as in the chain of command found in supervisor-subordinate task relationships. Advantages of serial-linked tracking can include role specificity and a clear division of labor while disadvantages include the risk of loss of control due to delayed control actions or the delayed communication of feedback following control actions, because the control actions and/or feedback is relayed through one or more persons. A more complete description of social tracking can be found in Henning et al. (2014).

Specific ways that OSH professionals and subject matter experts can support social tracking to promote organizational learning can be described in the context of design team activities. First, due to the fact that the design team is made up of employees who are representing their coworkers during the intervention design process, design team members are encouraged to regularly interact with coworkers to better represent their interests. In the case of IDEAS Step 1 for example,

information gathered from coworkers can be used to expand the list of sub-issues or factors contributing to OSH problems or issues. However, information gathering alone on the part of design team members is not enough to support the serial-linked social tracking needed for organizational learning to occur. Serial-linked social tracking depends on these coworkers receiving feedback in response to any input (e.g., suggestions) they have provided that were acted upon (or not) in a design team meeting, such as if the suggestion was adopted, dismissed or how the issue is being further considered. The responsibility for providing such forms of feedback falls in part on individual design team members but regular organizational communications could also serve to "close the feedback loop" and also reach employees more systematically, such as announcing the current focus of design team activities in a weekly employee newsletter, or creating a website that provides regular updates. Tailoring these communications and choosing the appropriate pathways to support organizational learning represents an interesting challenge for OSH professionals. Another point worth considering is that providing coworkers with status information as feedback is not as desirable as providing status information that is also actionable. For example, a design team member could share information about some of the contributing factors being considered, and ask coworkers to help rank them in order of importance prior to the next design team meeting.

Therefore, in addition to building readiness for change at the start of a participatory intervention design effort, it is also necessary to establish dynamic closed-loop feedback control over the intervention planning process itself from the perspective of employees who are not part of the design team. The presence of dynamic closed-loop control is understood to motivate further social interaction (Smith & Smith, 1987), in this case between design team members and other employees. Providing feedback which is actionable is also consistent with creating organizational readiness for change, where communicating about the intervention effort and explicitly stating its purpose, who needs to be involved, and what the expected outcomes may be provides the context for this intervention effort, something that has been noted as essential for any type of workplace change initiative (Cummings & Worley, 2015). Using new forms of media as a means to promote serial-linked social tracking activities during the intervention design process is also worth considering. A pilot study examined the effectiveness of using a web-based communication system in which all employees in an organization were given an opportunity to contribute to IDEAS Step 1 (Zweber, 2013). Although the evaluation period of this new system was very limited, there were signs nonetheless that it was feasible to gather input for IDEAS Step 1 and support social tracking. In addition to broadening the outreach capability of a design team, effective use of electronic communication systems could significantly reduce communication delays that are known to disrupt all forms of social tracking (Smith & Smith, 1987; Smith et al., 2014). Both the design team and program steering committee can be asked to help identify other forms of communication at a particular worksite, and OSH professionals can assist in correctly designing these systems to promote social tracking through consistent and regular messaging.

Concluding remarks

This chapter provides evidence-based practices that OSH professionals can consider using when supporting employees engaged in participatory intervention design efforts. A rationale was provided for why OSH professionals should be circumspect about assuming the lead role in efforts to fix OSH problems or to address OSH issues, unless of course these are immediately life threatening. Evidence from the dissemination and implementation science literature pertaining to user-based models corroborates the idea that support of employee participation in intervention design efforts by OSH professionals has the potential to be one of the most effective ways to achieve research-to-practice goals and the translation of OSH science. Employees can gain a systems perspective of the multiple contributing factors to OSH problems/issues, acquire skills and abilities needed to design integrated solutions to OSH problems or issues, learn how to work as a team and to collaborate with management on OSH problems/issues, and can benefit from improved self-efficacy/competency (Greene et al., 2005). Therefore, supporting employee participation in intervention design activities is in the best interests of both employees and organizations over the long term.

Cybernetic principles were reviewed to help explain underlying feedback and feedforward control behaviors that need to be supported in intervention design efforts, and also how to support social tracking relationships that will determine the extent of organizational learning that can occur. These serve to highlight the many opportunities OSH professionals have to provide training on OSH principles and approaches to small team of employees who are engaged in a structured intervention design process. Training that is provided by OSH professionals and subject matter experts that is responsive to needs that arise throughout this design process will ensure that interventions are perceived as relevant to potential adopters and responsive to their concerns. There are ample opportunities for OSH professionals to adopt practices consistent with D&I science and cybernetic principles when disseminating OSH science at the grass-roots level as a way to increase intervention effectiveness, communication and uptake, and to promote the organizational learning necessary for continuous improvement of employee safety, health and wellbeing.

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8

APPLYING AN INTEGRATED APPROACH TO WORKPLACE MENTAL HEALTH IN SMES

A case of the "too hard basket" or picking some easy wins?

Angela J. Martin and Anthony D. LaMontagne

Background and aim of the chapter

The prevalence and impacts of common mental health problems such as depression and anxiety among working adults has been recognized as a significant global predicament (OECD, 2012). Workplace interventions that address this problem have evolved from many different disciplines including public health, psychiatry/ psychology and management. In order to realize greater benefits for individuals, employers and society, we have argued for an integrated intervention approach to dealing with mental health at work (LaMontagne et al., 2014), using a systematic approach that draws on research and practice in an interdisciplinary way. Evolving from three distinct disciplinary threads, we have articulated an integrated approach with the following core areas of action:

1) to protect mental health by reducing work–related risk factors for mental health problems;
2) to promote mental health by developing the positive aspects of work as well as worker strengths and positive capacities;
3) to address mental health problems among working people regardless of cause.

A defining feature of the integrated approach is the mutually reinforcing nature of these three principles. It may also offer efficiencies in implementation as well as preventive synergies, similar to those that have been realized through integrated approaches targeting cancer prevention other aspects of workplace health (LaMontagne et al., 2014).

Although the principles are broadly applicable, in any intervention approach, some tailoring to context is important (Nielsen & Miraglia, 2017). For example,

strategies employed in small and medium-sized enterprises (SMEs) are likely to differ from those applied in a large public organization or a corporate entity. In this chapter, we explore the potential to apply an integrated approach in SMEs. After providing an overview of the development of frameworks and guidelines for mental health-related interventions, we discuss features of SMEs that can make it challenging to implement an integrated approach as well as noting a number of "easy wins" for beginning to address the three core principles of an integrated approach to workplace mental health. Finally, we advocate for occupational health researchers and practitioners to move SMEs out of the "too hard basket" and expand the evidence base around "what works for whom" (Nielsen & Miraglia, 2017) in the SME context.

Overview of an integrated approach to workplace mental health

Although it is beyond the scope of this chapter to review the empirical evidence supporting the integrated approach to workplace mental health, we direct readers to a recent summary of this evidence (e.g. LaMontagne et al., 2014). Essentially, as can be seen in Figure 8.1, the protective focus of the first thread aims to identify and address factors that can undermine the mental health of employees – and therefore encourages employers to fulfil their responsibility to provide a safe and healthy working environment. The overall goal of the second thread is to complement the risk reduction approach by promoting those characteristics that can strengthen individual and organizational health and can lead to high levels of positive wellbeing. To some extent this complementarity is already apparent; for example, understanding of the importance of job control has evolved from two sides of the same coin. Low job control was identified in public health research as an important risk factor for mental health problems (thread 1), and the promotion of autonomy (or high job control) is a common strategy in positive approaches (thread 2). Maintaining this dual protection–promotion emphasis can benefit workplace mental health in many ways, not least in encouraging organizations and their representatives to examine the strengths and weaknesses of their working environments, to keep a more "balanced scorecard" in relation to monitoring the performance of their various systems, policies and practices, and to properly identify and mobilize the resources available in their organizations to build workplaces that are not just safer and fairer but are also more attractive to and engaging for employees.

The third thread can complement the first two in various ways. An important aspect of managing mental illness as it manifests at work is mental health literacy (MHL). Workplace mental health literacy refers to the knowledge, beliefs and skills that aid in the prevention of mental disorders in the workplace, and the recognition, treatment, rehabilitation and return to work of working people affected by mental disorders (Jorm et al., 1997).
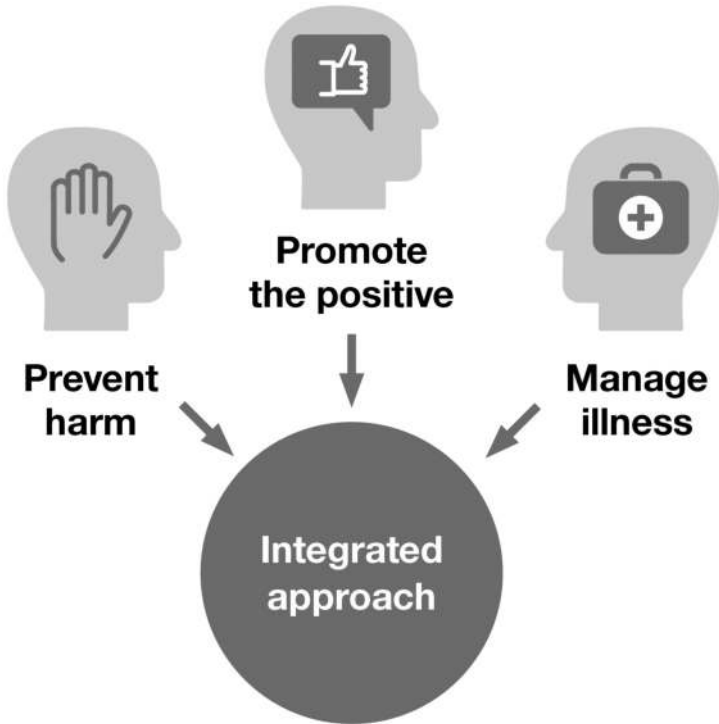
FIGURE 8.1   The three threads of the integrated approach to workplace mental health

Certain knowledge and awareness aspects of MHL relate directly to the other two threads. For example, the workplace MHL strategies we have piloted highlight that poor working conditions and job stress are modifiable risk factors for common mental health problems, and (where applicable) that there are legislative occupational health and safety (OH&S) mandates to protect psychological as well as physical health. This builds employee awareness of, and employer commitment to, the need to address working conditions (linking to thread 1). Workplace MHL can also highlight the protective value of resilience in relation to mental disorders, building motivation for and commitment to positive approaches (linking to thread 2). In addition, starting where organizations are receptive (e.g., MHL training, thread 3) can provide the encouragement/incentives to employers (near-term improvement in MHL) needed to sustain employer interest and commitment to the improvement of working conditions and job quality over the longer term (thread 1). This could help provide entrée into workplaces that might not otherwise consider job stress or other mental health interventions on their own, increasing the reach and uptake of an integrated approach.

Guidelines to assist organizations in implementing an integrated approach to workplace mental health

Using the Delphi consensus methodology, a number of studies have sought to establish stakeholder (managers, workers and workplace health professionals) consensus around practical recommendations for organizations who wish to take action in each of these areas. Guidelines for preventing common mental health problems (Reavley et al., 2014); promoting positive mental health (Davenport et al., 2016), providing mental health first aid to a co-worker (Bovopoulos et al., 2016) and returning to work from a mental illness (Reavley et al., 2012) are freely available. These guidelines (links and core content summarized in Table 8.1) were developed in Australia but similar practical guidance is available internationally. Proponents of an integrated approach to workplace mental health would recommend these to all organizations as best practice strategies. Organizations should be encouraged to consider implementing these in combination so that all three threads of the integrated approach are addressed.

The Canadian Standard for psychological health and safety in the workplace, the National Institute for Occupational Safety and Health (NIOSH) total worker health model and the Health and Safety Executive (HSE) management standards for job stress are evidence-based resources that provide a range of strategies that can be used to inform the development of an integrated approach to workplace mental health. A review of international best-practice guidelines identifies significant resources are available but application and uptake remains a challenge (Memish et al., 2017). Uptake of evidence-based approaches is likely to be affected by issues of stigma similar to those concerning mental illness in general, such as a persisting view of job stress as an individual weakness (Page et al., 2013). These barriers may be more acute in SMEs, with many businesses having no dedicated human resource management or occupational health function (Martin et al., 2009). Hence the need to explore how SMEs can be engaged in workplace mental health interventions and how well existing guidance materials suit this work setting.

As helpful as these guidelines for organizations are, one of the challenges of developing them is to make them sufficiently specific as to be useful, while remaining broad enough to be relevant to organizations of various types and sizes. Implementation research is needed to answer questions such as: what factors facilitate or hinder implementation? What levels of support do various types and sizes of organizations need to implement integrated approaches? What is practically achievable for organizations implementing their own programs (Nielsen & Miraglia, 2017)? In the absence of such an evidence base, we begin to explore the nature of the SME work setting, outlining relevant extant research and identifying some of the issues that may impact the implementation and evaluation of such guidelines.

TABLE 8.1 Guidelines for organizations consistent with an integrated approach to workplace mental health

Core thread of the integrated approach to workplace mental health	Complementary guidelines	Key recommendations
PREVENTING HARM	Preventing mental health problems in the workplace **www. prevention. workplace-mentalhealth. net.au**	• implementing a mental health and wellbeing strategy • developing a positive work environment • balancing job demands with job control • rewarding employees' efforts • creating a fair workplace • provision of workplace supports • managing staff during times of organizational or role change • managing mental health–related under-performance • developing leadership and management skills • providing mental health education to employees • employee responsibilities in preventing mental health problems
PROMOTING THE POSITIVE	Guidelines for promoting positive mental health in the workplace **www. superfriend. com.au/ resources/ promoting-positive-mental-health-in-the-workplace/**	Ensuring the organization has a mental health and wellbeing strategy Developing a work environment that promotes positive mental health • respectful interactions • care and concern for others • altruistic behavior • positive approach to work Positive leadership style • involve employees in problem solving and decision making • provide negative feedback in a positive way ensuring that the employee feels validated by using statements that emphasise flexible, two-way problem solving Communicating effectively • provide managers with access to additional support (e.g. training, coaching, feedback) to develop their communication skills as necessary • provide regular, ongoing opportunities for employees to give feedback to management

(continued)

TABLE 8.1 *(continued)*

Core thread of the integrated approach to workplace mental health	*Complementary guidelines*	*Key recommendations*
		Designing jobs for positive mental health
		• ensure jobs are designed to promote positive mental health by allowing appropriate levels of self-direction and autonomy, ensuring alternative work arrangements are adequately resourced
		Recruitment and selection of employees
		• use competency–based recruitment and selection practices to recruit employees that fit the role
		• ensure that there is a good fit between employees' interpersonal and emotional competencies and the requirement of the position they hold
		Supporting and developing employees
		• managers should assist employees to develop new strengths at work by having conversations about areas in which employees would like to develop strengths
		• employees should identify and apply their strengths at work by actively reflecting on what they are good at
		Balancing work and life demands
		• accommodate reasonable requests from employees for flexible workplace arrangements
		• employees should ensure that they use any flexible work arrangements so that they can enhance their own positive mental health
		Positive mental health and wellbeing initiatives
		• provide employees with a variety of positive mental health and wellbeing programmes that are consistent with the mental health and wellbeing strategy
		• Leaders should themselves be active participants in these programmes and should also support public initiatives that raise awareness of positive mental health and wellbeing in the workplace (e.g. mental health week, mindfulness training)

MANAGING ILLNESS	Providing mental health first aid to a co–worker mental health first aid guidelines **https://mhfa. com.au/ sites/default/ files/mhfa_ workplace_ guidelines.pdf**	• recognizing signs and symptoms of mental health problems at work • understanding how work can contribute to mental health problems • how to approach a colleague or direct a report you are concerned about • implement appropriate mental health training for employees and managers • understanding the pros and cons of disclosure of a mental health problem at work • how to talk to co–workers about an employee with a mental health problem • how to give information and support • understanding reasonable adjustments
MANAGING ILLNESS	Helping employees successfully return to work following depression, anxiety or a related mental health problem **http:// returntowork. workplace- mentalhealth. net.au/**	Have a policy around return to work for employees with a mental health problem • promote awareness and a clear understanding of the policy to all employees, and should ensure that it is implemented, supported and promoted by all stakeholders • ensure that everyone understands their responsibilities relating to return to work, that everyone has the skills and knowledge to put their responsibilities into practice, and that the policy is implemented consistently for all affected employees Foster an environment that supports mental health • the organization should foster a supportive work environment that is conducive to good mental health and the enhancement of mental wellbeing • the organization should be committed to reintegrating all workers with a mental health problem and should make this known to both employees and supervisors • Mental health training should be provided for supervisors and colleagues to ensure a supportive work environment and decrease stigma surrounding mental health problems, while providing further training for supervisors to enable them to support employees with a mental health problem to remain in or return to work

TABLE 8.1 *(continued)*

Core thread of the integrated approach to workplace mental health	*Complementary guidelines*	*Key recommendations*
		• the organization should never assume that an employee diagnosed with a mental health problem needs to take leave to recover and should support employees with a mental health problem to stay in work and prevent long-term sickness absence • the organization should encourage employees with a mental health problem to obtain treatment *Actively manage absence* • the organization should maintain an appropriate level of regular contact with the employee • the organization should make sure that the employee understands their responsibility to keep it informed of the reasons why they are absent from work and, when known, how long the absence is likely to last *Actively manage return to work* • the organization should have a coordinator who facilitates employees' return to work. This person should be someone who is acceptable to the employee • the return-to-work coordinator should consider the approach to managing return to work that they would take if an employee had a physical illness, as many of the principles will be the same for a mental health problem • the return-to-work coordinator should agree with the employee exactly who else, if anyone, might need to know about their mental health problem, and what information they need to be provided with • with written consent from the employee, the return-to-work coordinator should also contact the employee's healthcare provider • the supervisor should make reasonable adjustments for the employee in the workplace. These should remove any barriers that prevent an employee from fulfilling their role to the best of their ability • the supervisor should examine the employee's work role to determine whether there are any factors in the workplace that may have contributed to their mental health problem. This includes thinking about how the workplace or the person's workload may be contributing to the problem and considering if any changes can be made

- a return-to-work assessment of both the job and the employee's mental health should take place
- if there are signs of a relapse, the supervisor should review options for making further adjustments and talk realistically with the employee about the best way to move forward

Develop a return-to-work plan

- a clear written return-to-work plan should be developed and agreed to by everyone affected by it, should be flexible and adjustable and should last for a sufficient time period to allow the employee to recover
- the plan should be monitored to ensure that tasks and hours remain appropriate and sufficient supports and resources are available

Involve the employee

The employee should:

- talk to their supervisor and raise any concerns they might have about their return to work
- learn the symptoms and triggers of their mental health problem
- identify perceived barriers and prioritise solutions for a safe and early return to work
- discuss with a healthcare professional about how to approach their return to work and manage their mental health problem in the workplace
- ask for support when they need it, whether from family, colleagues or supervisors, and should have an agreed plan with their supervisor to manage the possibility of relapse

Encourage support from others

- Colleagues should welcome back the employee who is returning after sick leave due to a mental health problem and should not avoid talking with the person for fear of saying the wrong thing
- colleagues should be respectful of a fellow employee's confidential mental health history and should not pry for details about it
- family and friends should be aware that positive emotional and practical support can assist the employee's recovery and return to work, while negative interactions outside the workplace can affect the employee's ability to return to or remain at work

Understanding the SME context

Despite the fact that most working people are employed or self-employed in SMEs, this work context continues to be highlighted as lacking adequate applied research attention to inform how such guidelines might effectively be implemented. Before we move to a discussion of intervention strategies that have been deployed and evaluated in an SME setting, we provide a brief overview of the nature and associated challenges of the SME context.

SMEs account for 99.9 per cent of all businesses in the UK (Department of Business Innovation and Skills, 2010) and 99.2 per cent of all businesses in Australia (Australian Bureau of Statistics, 2010). Figures are similar in the USA, where the nation's 6 million SMEs represent 50.2 per cent of its private-sector employment (US Small Business Administration, 2008). SMEs are responsible for a large proportion of the growth in new jobs, and their smaller size allows them greater flexibility to accommodate market demands or respond to competitive dynamics, thus making them integral to continued global economic growth.

While 56 per cent of workers in the USA are employed by a small business, only 4.6 per cent of small worksites offer comprehensive health promotion programs in the US (Newman et al., 2015). Strategies that are routinely implemented in larger organizations such as employee assistance programs, MHL programs and stress management training can be difficult to put into practice in smaller enterprises who do not have specialized "knowledge, competence and financial resources to carry out interventions" (Lindstrom, 2004, p. 95; Martin et al., 2009).

One size doesn't fit all

When considering how the integrated approach to workplace mental health may apply in this setting, a fundamental point to highlight is that SME is an umbrella term for a wide variety of individual and organizational forms of working including:

- entrepreneurs (start-ups)
- sole traders, or "own-account" self-employed
- contractors
- freelancers
- family businesses
- partnerships
- micro businesses with less than 5 employees
- small businesses with less than 20 employees
- medium-sized firms with less than 200 employees

Although the definition of SME differs worldwide, the main criterion used in Organization for Economic Co-operation and Development (OECD) countries is number of employees (OECD, 2004). General agreement exists between the USA, UK, Australia and Europe regarding the definition of small firms; that is, most are

managed by their owners, who contribute most of the operating capital and are responsible for the principal decision-making of the firm. Whilst the number of employees is often used as a cut-off for these categories (and these do vary by jurisdiction), a fundamental distinction to be made is "are they an employer?". Once an enterprise has employees it will have some regulatory requirements for OH&S that necessitate a formalized approach to some extent, depending on the legislative requirements in the jurisdiction regarding the number of employees and different expectations regarding what is "reasonable" in terms of OH&S prevention and control activities.

If the business does not have employees, the integrated approach can still apply to an individual or partnership targeting themselves with interventions via self-education and self-management. There is also considerable scope for thinking about SME client networks, supply chains or business to business (B2B) groups as "communities" for mental health promotion activities. Entrepreneurial "clusters", including those based in co-working spaces, may also be an important mechanism to consider in finding ways of reaching those who are self-employed.

What do we know about mental health issues in SMEs?

Self-employment has been described as a "double-edged sword" (Prottas & Thompson, 2006). On the one hand, major stressors can stem from the risk of business failure, fluctuations in market forces, changes in government policy, taxation and regulatory administrative demands and financial stress associated with significant personal debts involved in financing the business. Staff management pressures, long hours and few periods of recreation leave are also commonly reported (Jamal, 2009; Schofield et al., 2011). Known antecedents of stress and depression among SME owner/managers include responsibility for the financial security of their employees and families and feelings of loneliness and isolation that business ownership can foster (Gumpert & Boyd, 1984). Long working hours, poor work/life balance, work overload and multiple or ill-defined work roles which prompt role conflict are precipitants of job stress and depression within SMEs (Rauch & Frese, 2007). On the other hand, the self-employed can experience greater independence, decision-making freedom, time flexibility, higher expected earnings and personal fulfilment. Greater control over work, more decision authority and positive psychological resources such as higher levels of optimism may reduce entrepreneurs' and SME owner/managers' risk of job stress (Prottas & Thompson, 2006), essentially buffering the impact of working in a high-pressure environment. Indeed, there are some interesting contrasts in this population, with LaMontagne et al. (2012) observing that Australian self-employed workers had both the highest level of job control *and* the highest prevalence of long working hours (>50 per week).

Managing depression-related sickness absenteeism, presenteeism and associated productivity loss among SME owner/managers and their staff may be very challenging because the size and structure of SMEs can make responsibilities related

to human resources difficult (Cocker et al., 2012). Absence increases co-worker workload and as most SME employees value their co-worker relationships, they may continue to attend work when ill (known as presenteeism) to avoid damaging them (deKok, 2005). The "family" environment which is often fostered within SMEs may increase presenteeism rates as a sense of obligation to the business motivates employees to continue to work when sick (Wilkinson, 1999). Small teams cannot compensate for absent co-workers as easily, and business owners are unlikely to be replaceable, which may decrease tolerance for sickness absence, and increase presenteeism and associated lost productive time (Cocker et al., 2012).

What motivates SMEs when it comes to workplace mental health research and practice?

SME engagement with workplace mental health interventions and the research that seeks to examine their efficacy is a challenge that is gaining greater recognition in the literature. For some time it has been recognized that SMEs are difficult to engage in evaluation research due to owner/managers' perceived lack of time to participate and a limited budget to implement programs (Eakin et al., 2001, 2010).

Newman et al. (2015) reported a worksite wellness intervention targeting small businesses where they provided free, company specific advice in design and execution. They enrolled 260 businesses from a range of economic sectors, detecting "substantial" modifiable health risks at baseline and demonstrating some willingness to participate when provided with guidance and access to resources. However, only 21 per cent responded to the follow-up survey and the researchers recommended more thoroughly examining the motivations of small employers and including multiple approaches to engagement.

As they do in larger organizations, managers' attitudes and capabilities are likely to play an important role in the success or failure of such interventions (Cleary et al., 2008; Martin, 2010). It has been noted that SME owner/managers are often preoccupied with the daily activities of the business, leaving them little time for lengthy consultation with employees and implementation of training and skills programs (Panagiotakopoulos, 2011). SMEs are also less likely to have internal capacity for human resource specialists or workplace health professionals or the resources to dedicate toward external consultants.

They are more likely to be motivated by "company-success" related factors than "humanitarian" factors (Hughes et al., 2011) or "moral responsibility" factors when implementing workplace health promotion programs. Newman et al. (2015) note that barriers to adoption include direct and indirect program costs, lack of employee interest, lack of management support, lack of program expertise, uncertain returns on investment (ROI) and privacy concerns. The lack of a strong business case specific to this sector means owner/managers may remain unconvinced such strategies are worth their time or money. This may go some way to explaining why strategies employed by larger organizations, such as employee assistance programs (EAPs), mental health literacy workshops, stress management

training and return to work (RTW) programs are difficult to implement and are infrequently adopted by SMEs (Lindstrom, 2004).

Acknowledging these SME contextual insights and practical challenges as critical background, we now turn an examination of the three threads of the integrated approach to workplace mental health and the guidelines that support its implementation. We look at these guidelines with respect to how they may interface with the SME context and their likely level of implementation difficulty.

Moving out of the "too hard basket": Some "easy wins"?

As there are few studies specific to workplace mental health conducted within the SME sector, particularly randomized control intervention trials, we draw practical insights in this part of the chapter from a study led by the first author that sought to evaluate a workplace mental health promotion in SMEs – the Business in Mind (BIM) project. Preliminary results from this trial show high levels of acceptability to participants. Efficacy results regarding decreased psychological distress for participants in the telephone-supported version of the intervention are encouraging (Martin et al., forthcoming). The study protocol and difficulties recruiting participants have both been described elsewhere (Martin et al., 2009, 2015). The BIM project illustrates some "easy wins" in promoting workplace mental health in the SME sector and may assist others developing similar programs. The video materials (total 60 minutes over five chapters of content, featuring business owners' stories and expert commentary) and resource kit file are publically available at www.businessinmind.edu.au

Preventing harm

The job stress prevention literature provides considerable empirical evidence regarding work-related risks to mental health. Strategies to reduce or eliminate these risks are known as primary or universal prevention, and involve intervention at the level of work organization as well as the individual. Job strain (high demands and low control) predicts elevated risks of common mental disorders, including after accounting for other known risk factors (Bonde, 2008; Stansfeld & Candy, 2006; Theorell et al., 2015). Other job stressors, either individually or in combination, that have also been shown to influence mental health are job insecurity, bullying or psychological harassment, low social support at work, organizational injustice and effort-reward imbalance (LaMontagne et al., 2010; Stansfeld & Candy, 2006).

Whilst SME owner/managers may experience high job demands, such as multiple role responsibilities and long working hours, as outlined above, they often have significant autonomy and job control. According to the demand-control model, these jobs are called "active jobs" (Karasek, 1979), which are likely to positively challenge incumbents, leading to learning, the development of active coping patterns and increased feelings of mastery (Karasek & Theorell, 1990a, 1990b). Active jobs may prevent perceptions of strain as individuals feel equipped

to effectively cope with them (Karasek & Theorell, 1990a, 1990b; Theorell & Karasek, 1996), thus mitigating the risk of job stress, burnout and depression. However, this shortage of SME-specific evidence leaves occupational health literature and small business researchers and policy makers without an understanding of the relative impact of work-related psychosocial factors in the development of depression within themselves and their employees.

Table 8.1 shows key action areas for organizations wishing to implement a strategy for workplace prevention of common mental health problems (Reavley et al., 2015). Although formation of a committee to design, implement and monitor a mental health and wellbeing strategy may be beyond the capabilities of a small business, as can be seen in the guidelines, there are many factors that can be targeted for prevention in all work settings. Whilst formal approaches such as documented policies and strategies may be infeasible for SMEs, informal approaches can still be very effective. In addition, SMEs are likely to be much "closer" to their staff and potentially more aware of their psychosocial stressors, and being more "agile" they can implement changes quickly.

The primary concern with prevention strategies is firstly for employers to be fully cognizant of their legal requirements to provide a safe work environment, including any requirement to ensure the mental health and wellbeing of employees by assessing and controlling risks. Having a system for psychosocial risk assessment in place (e.g. some means of assessing employees' perceptions of factors such as a sense of control in their job, feeling fairly treated, adequately rewarded for effort and being well supported) may seem challenging but a range of free tools are available. This process can be formal and quantitative or less formal involving team and individual discussions where agreement on issues and responsive risk-management actions can be documented and implemented. However, best practice in prevention goes well beyond legal compliance and SMEs are encouraged to build on initial efforts at risk assessment and management with broader approaches to creating mentally healthy jobs and work environments that will suit their size and structure.

A strategy for preventing work-related harm to mental health can be as simple as recognizing the potential for harm and having a guiding statement that connects mental health and wellbeing to all aspects of the business. Employees could be briefed at induction about key aspects of their role, how it will be determined if they are performing well and what to do if problems are encountered. Acknowledging that mentally healthy employees are an asset to the business and opening channels for discussing issues if they arise sets up an expectation that stressors will be identified and managed. Whilst smaller employers may not have policies, medium-sized employers may have means to embed mental health-related content in a policy review or create a new policy and templates are available in the public domain to assist.

Leadership and management training for business owners and team leaders are essential and options include coaching, education and professional development. As these are often time intensive, brief and flexible options are important. There is

no reason why an SME cannot provide education on mental health and wellbeing and discuss expectations for mutual responsibility with their staff as there is a wide variety of free educational resources are available to embed into regular staff training sessions or team meetings (if held), or broken into small "pieces" that staff or team leaders can engage with in a self-paced manner over time (e.g. Heads Up program: https://www.headsup.org.au/training-and-resources/educational-programs/beyondblue-resources).

Sole traders can engage in self-education regarding workplace mental health and wellbeing (online resources are available, e.g. Lifeline self-help resources: https://www.lifeline.org.au/get-help/self-help-tools; Heads Up: https://www.headsup.org.au). Other options for prevention include joining a professional networking group that brings mental health and wellbeing to the table for discussion. All regions have small business support services and networking groups who may be able to organize guest speakers or facilitators. Those sole traders and entrepreneurs who understand that their own mental health and wellbeing is a major asset to their business could create a personal wellbeing plan that includes a risk assessment of modifiable working conditions, strategies to address those risks and a plan to monitor progress. This is more intensive and business owners may need coaching or structured support to do this.

Two work-related risks to mental health targeted in BIM were long working hours and interpersonal (in)justice. Consistently long working hours are a known risk factor for mental ill-health (Milner et al., 2015) and a commonly reported issue for SME owner/managers. Workplace incivility is also a major psychosocial hazard in Australian workplaces, with workplace bullying and harassment reported to occur at higher rates in Australian compared with other countries (Butterworth et al., 2013). BIM attempted to target these two risk factors with prevention strategies delivered through the content of three of the intervention chapters labelled "coping with stress", "positive relationships" and "creating balance".

Considering that most SMEs do not usually provide wellbeing programs, business owners in the BIM study were introduced to stress management training through a chapter on "stress and coping". Introductory material was provided in the resource kit which drew on cognitive behavioural therapy techniques for positive re-framing of cognitions and education about the role of key wellbeing factors – physical activity, social support, sleep quality, relaxation – was provided and modelled by business owners in the video. A module on "positive relationships" aimed to enhance effective communication skills and supervisor social support provision. Finally, "creating balance" aimed to alert participants to the risk of long working hours and find a more harmonious work/non-work balance.

Promoting the positive

Positive psychology is defined as the study of "the conditions and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions" (Gable & Haidt, 2005). Strength-based methods are applied to identify what

is being done well, rather than only trying to identify and fix what is "wrong" in an individual, group or organization (Schaufeli, 2004). It includes methods such as future inquiry, a hybrid of future search and appreciative enquiry modalities, which acknowledges the views of all relevant stakeholders, generates respect for what has been done well, identifies a shared aspirational view of the future and plans steps to move in that direction (Blewett & Shaw, 2013). A key point here is that the term "wellbeing"' does not refer to the absence of the negative; instead, wellbeing is most correctly defined and measured as the presence of positive feelings and functioning.

Positive mental health can also buffer against job stressor-related mental illness (Page et al., 2014) and job stressor exposures can erode wellbeing as well as increasing the risks of mental ill-health (LaMontagne & Milner, 2016). Importantly, positive approaches aim to promote the positive aspects of work and worker capabilities, including wellbeing. Some key approaches involve developing positive workplaces by establishing positive leadership practices, optimizing the meaningfulness of work and building a positive organizational climate (Cameron & Caza, 2004). The newness of positive approaches is reflected in its being the least commonly applied in organizational practice (Page & Vella-Brodrick, 2012) compared to the other two threads of the integrated approach to workplace mental health.

The promise of positive approaches is also clearly supported by established knowledge of the substantial positive influences of good quality work on mental health and wellbeing. In addition to the income and socio-economic position that paid work can provide, it can also positively impact adult socialization, the development of identity and the extension of social connections beyond family and neighbourhood groups (LaMontagne et al., 2010; Marmot Review Commission, 2010). Furthermore, work can provide purpose and meaning, thus enhancing both self-efficacy and self-esteem, both of which protect and promote mental health. This highlights the need for positive approaches to address eudaimonic (meaning and purpose) as well as hedonic (positive emotional or happiness) aspects of workplace wellbeing (Keyes, 2005).

As can be seen in Table 8.1 there are many factors that can be targeted in SMEs to "promote the positive", some of which overlap with the prevention guidelines such as having a strategy for mental health and wellbeing and creating a work environment that is respectful, positive, caring and supportive. Leadership approaches that involve people in problem solving and ensure open and safe communication processes that prevent problems are also essential creating a positive work environment.

Using strengths-based approaches to organizational development and understanding job design and person–job fit may be more complex for SME owner/managers and could require some human resource management expertise/support. As outlined in the prevention section, promoting autonomy and flexibility are also good strategies for reducing the risk of work-related harm to mental health. A key issue for SMEs is overcoming any operational constraints that may represent barriers to implementation of these strategies. Flexible work arrangements are also discussed in relation to the third thread of the integrated approach to workplace

mental health, responding to illness. Whilst sole traders may not have to deal with these issues, there is still capacity to promote their own understanding of these factors for mental health self-management and providing support to others in the business community.

As SME owner/managers must be able to develop business management strategies that allow them to adapt quickly to sudden change in economic conditions, the BIM program considered it important to teach participants a process which requires creative forethought to imagine various different scenarios and develop the means to avoid them (Cocker et al., 2012). Hence, BIM included an introduction to the concept of psychological capital (PsyCap) which has begun to be embraced within the research literature on entrepreneurs (Baron et al., 2013). This construct is conceptualized as a second-order variable comprised of hope, optimism, resilience and self-efficacy related to one's work (Luthans et al., 2007b). Previous research has demonstrated that PsyCap is positively related to wellbeing and job satisfaction (Avey et al., 2010; Cheung et al., 2011; Luthans et al., 2007a) and negatively related to job stress and tension (Avey et al., 2009; Baron et al., 2013). In addition, research has shown that PsyCap is a malleable resource that is developable via brief training interventions (Luthans et al., 2008, 2010).

Business owners can be encouraged to see their mental health and wellbeing as a business and personal asset. Like social and financial capital, psychological capital is an essential capacity for business success. Whilst there is no regulatory requirement to protect one's own health and wellbeing at work for business owners, there is a strong case for self-management or coaching in psychological capital. There is some evidence of a performance related return on investment for the psychological capital intervention (face to face and online versions), although this has not been specifically targeted to the SME sector.

Optimism seems to be a critical PsyCap component in predicting indicators of SME owner-manager wellbeing (Dawkins et al., forthcoming). Research has suggested a curvilinear relationship between trait optimism and outcome variables where very high levels of optimism may constitute too much of a good thing, leading to underestimation of potential risk (Peterson and Chang, 2002). This may mean that highly optimistic individuals continue to expose themselves to tremendous amounts of work stress, because they optimistically assume they can handle such risk factors.

Mechanisms for improving PsyCap were embedded in the BIM intervention chapter "positive growth" in which participants were taught basic processes for analyzing business goals to build their PsyCap. This included building a sense of "realistic optimism" by reflecting on past successes and strengths and building pathways for overcoming obstacles for future success.

Managing illness

As outlined in the introduction, an integrated approach to workplace mental health also involves responding to mental illness effectively regardless of cause. Arguably the most common approach here to early intervention and treatment

for mental health issues in the workplace is EAPs. An EAP involves subsidized or fully sponsored counselling provided by in-house or outsourced psychologists or social workers. It is unknown what proportion of SMEs provide EAPs. If costs are prohibitive, SME owner/managers may consider joining an industry focused EAP with other businesses partnering on costs. Alternatively, the business owner may consider funding employee support services on an as needs basis. If cash flow to support such activities is a problem, providing access information and options for free professional support in the community and encouraging staff to talk to their GP if mental health is a concern (regardless of work-related or otherwise) can be effective ways to provide support.

MHL interventions are a public health approach to dealing with the high prevalence of mental illness among the working population. Programs such as Mental Health First Aid (MHFA), aim to improve mental health literacy by developing knowledge and skills in how to recognise common mental disorders and provide "First Aid" support until professional help can be obtained, increasing understanding about the causes of mental disorders, improving knowledge of the most effective treatments and reducing stigma (Kitchener & Jorm, 2006). There is evidence of the effectiveness of MHFA from various studies including two randomized-controlled trials conducted in workplace settings (Jorm et al., 2010; Kitchener & Jorm, 2004). The knowledge and skills to have conversations or encourage help-seeking is relevant for a wide spectrum of mental health issues, from generalized distress to suicide prevention. Suicide prevention strategies (Milner et al., 2015) are increasingly being delivered via workplaces.

The MHFA program has recently been further tailored to the needs of workplaces with guidelines that outline strategies for providing mental health first aid to a co-worker or employee (Bovopoulos et al., 2016). These guidelines are included in Table 8.1. MHFA training is relatively inexpensive, and is being developed as an online course which would appear relatively easy for an SME to implement. As mentioned earlier, peak bodies or SME clusters may be able to facilitate delivery in groups of SMEs if they are particularly small.

Other approaches to addressing mental illness as it manifests in the workplace focus on organizational culture and attitudes in relation to mental illness stigma and norms around disclosure of a mental illness. Mental health stigma in workplaces is a pervasive challenge, just as it is in broader society (Highet et al., 2002). Unsupportive organizational culture and norms around depression disclosure are a contributing factor. Managers' and leaders' attitudes play a central role in changing these norms and are a priority target for intervention (Martin, 2010). An online program targeting leaders has been developed to reduce the stigma of mental illness and provide a template for an action plan leaders can create that suits their organizational context (Shann et al., forthcoming; http://learn.beyondblue-elearning. org.au/leadership-online/).

The role of organizational culture in improving RTW from a mental illness-related absence has also been recognized (Reavley et al., 2012). The return to work guidelines in Table 8.1 were created to provide organizations with suggestions for

creating optimal conditions for a sustainable RTW after an absence due to a mental illness. Once again, a policy can be developed if required and templates are available but some training of affected stakeholders will be required if this approach is taken. As with the previous guidelines reviewed above, a supportive work environment and education/communication about mental health, help-seeking and sources of help are fundamental pillars for an integrated approach to workplace mental health.

Reasonable adjustments to facilitate RTW can be made to most jobs but they need to be agreed by affected parties and be feasible, which may be challenging in SMEs even though guidance material about work adjustments for mental health issues is available. Some business owners may be willing but unsure about how to accommodate a worker with a mental health problem (compared to knowledge about physical accommodation), or these accommodations may be seen as too complicated to put in place (Andersen & Brinkmann, 2012).

Another area of potential difficulty for SMEs is the role of the RTW coordinator. While large organizations are likely to have a staff member in this role, smaller organizations are not likely to do so. The "employer representative" discussed in these guidelines (Reavley et al., 2012) is likely to be the business owner, who may also have to act as the RTW coordinator, human resources professional and/or supervisor. In this case, it may be advised to have RTW processes supported by a health professional or rehabilitation consultant. Koopmans et al. (2008) found that absences from work for mental health issues and rates of return to work from mental health disorder are lower in businesses with less than 75 employees. They suggest that contributing factors are fewer opportunities for part-time return to work and a lack of structured protocols to inform management of long-term sickness absence in SMEs.

In the sole trader/partnership situation, any absences from the business may be difficult to manage as business owners are difficult to replace for long periods. Many business owners report difficulties taking time off due to operational issues and may be more inclined to work through mental health difficulties as noted earlier. Strategies for managing periods of absence or reduced hours working in the business may be particularly difficult for business owners. These issues need to be considered in initiatives being developed around managing mental health and work attendance aimed at GPs/family physicians/primary health care providers (e.g. the Fit note concept).

Participants in the BIM study were provided with a chapter on "managing mental health" which contained basic psychoeducational material presented in a way designed to reduce the stigma associated with mental illness (i.e. business owners are interviewed about their mental health). Information about how mental health can impact the bottom line of a business and some information about signs and symptoms of common mental health disorders and the importance of timely help seeking is presented. Participants could essentially screen themselves for indicators of depression, anxiety and substance abuse to discuss with a health professional. They were also provided with guidance about how to promote help-seeking among employees. However, more complex issues of returning to work or

continuing to work with a mental illness was not a focus in the BIM project apart from stories of recovery embedded in the videos.

Conclusion

Our review of the BIM project in relation to the integrated approach to workplace mental health shows that it is possible to implement an integrated approach to workplace mental health in the SME context. The crux is, that for any work context, it is important to prevent harm, promote the positive and address mental illness regardless of cause – this might be achieved by formal or informal means. Preventing harm and managing illness have some regulatory and legislative context if the business is an employer and promoting the positive can include building on what is working well in a business in terms of promoting wellbeing. We have argued for an integrated approach to workplace mental health in order to realize synergies that can be gained from protecting and promoting mental health at the same time as managing mental illness as it manifests at work. For example, MHL activities targeted at business owners may result in help-seeking by a business owner, which may indirectly reduce psychosocial risks for employees involving interpersonal relationships with their boss at work. Help-seeking that results in effective treatment may develop emotional intelligence and communication skills that can be used to assist employees, clients or colleagues with mental health issues, or to role-model stress management approaches.

There are a number of strategies SME can use to protect and promote their own mental health and that of their employees. Evidence-based guidelines, such as those reviewed in this chapter, can assist organizations to design and implement an integrated approach to workplace mental health. Whilst some of the actions contained in these guidelines may not be feasible for implementation in smaller businesses, our review suggests there are many that are. There are now considerable resources available for self-education of business owners, many government health and safety regulators have health and wellbeing advisory services and a range of non-governmental organizations and charitable organizations provide information regarding mental health and work. However, processes for knowledge brokerage are urgently needed in the SME sector, which represents the most common employment setting in the global economy. There is a particular role for curation and translation of occupational health research and resources for SMEs. Greater engagement by those working in SMEs with these resources will produce benefits for owner/managers and their businesses as well as broader society, as economies are strengthened by improvements in the health and productivity of the SME workforce.

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9

SUPPORTING INTERVENTIONS

Enabling senior management to enhance the effectiveness of a training program for line managers

Henna Hasson, Caroline Lornudd,
Ulrica von Thiele Schwarz and Anne Richter

Background and aim of the chapter

Organizational health interventions are planned actions designed to reach groups of employees in a uniform way by changing the way work is designed, organized, or managed (Nielsen et al., 2010n). Targeting the work itself and/or the organizational context in which the work is undertaken means that organizational interventions become – or need to become – a key concern for senior management (Nielsen & Randall, 2013; von Thiele Schwarz & Hasson, 2013). The senior management group, a group of managers on a higher organizational level, are responsible for the corporate strategies and governance of the organization. Hence, they make decisions about issues such as strategies, organizational changes, and policies that have a long-term impact on the organization (Karanika-Murray et al., 2015). These decisions are then realized through the way daily operations are designed, organized, and managed. Thus, without the involvement of senior management, an organizational health intervention has little chance of being implemented and sustained in an organization (von Thiele Schwarz et al., 2016). We know little about senior management's role and even less about how their involvement can be facilitated. Concrete suggestions are lacking in the current literature for how senior management can be supported so that they can help facilitate the implementation and longevity of health interventions that target the work and/or the workplace.

This chapter presents an intervention designed to support senior management groups. The current intervention was conducted in conjunction with a line manager training program in the health care sector. The aim of the line manager training was to improve their ability to lead the implementation of new initiatives. Health care is a dynamic context in which new treatments and procedures are constantly implemented so that patients receive the most efficient and safest care. Each new

treatment or procedure implemented requires a change in behavior and working processes for the staff involved. This means that staff are working in the context of constant change. Thus, in this context, line managers affect employees' well-being not only through their general leadership but also with how they manage change. In turn, the immediate surroundings in which line mangers operate influence how they coordinate and implement change. Senior management help shape this immediate environment and hence can have a great impact on line managers' opportunities to lead change. With this in mind, senior management often need interventions that help them to better support their line managers. Such support can be a stand-alone intervention for senior management groups to improve their own structures and processes around organizational health issues. Another option to support senior management is to design an intervention that is aligned with an occupational health intervention on another organizational level – a so-called supporting intervention (von Thiele Schwarz et al., 2016). This was the case in our study: the senior management intervention described in this chapter was designed to create a supportive environment for line manager training in implementation leadership so that the implementation of new practices considered employee well-being.

The chapter contributes to the current research and intervention practice in two ways. First, the current literature recognizes the importance of senior management in the success of occupational health interventions. However, how senior management can be supported has largely been neglected in the organizational intervention literature. The chapter presents a practical application of a theory-based intervention to support a senior management group. This is one necessary step in advancing the knowledge on how senior management groups can change their behaviors to facilitate occupational health interventions. Second, despite it being recommended that one combine interventions on multiple levels in an organization, the most common approach is still interventions on either the individual employee level or organizational level. Thus, we know very little about how interventions on multiple levels can be combined and aligned. This is particularly true for senior management support. The current chapter contributes to filling this research gap by describing how a senior management intervention can be part of a larger occupational health intervention.

Rationale for the intervention

Senior managers have described their role in occupational interventions as being responsible for allocating resources (Nielsen & Randall, 2013) and being a role model through their attitudes and actions toward the intervention (Giga et al., 2003; Randall et al., 2007). They are essential to generating and maintaining managers' and employees' commitment (Hill et al., 2011) and compliance with the intervention (Biron et al., 2012). Similar results have been found when investigating organizational change in general: senior management's involvement and building of support and acceptance for a change is crucial for the success of the change (Kotter, 1995; Lindström, 1995; Yost et al., 2011).

An interview study that we conducted with senior managers (such as CEOs), human resources (HR) professionals, and line managers during the implementation of a web-based multilevel occupational health intervention illustrated how different stakeholders perceived their own and other's roles (Hasson et al., 2014). Senior managers described two roles for themselves: making the formal decision to implement the intervention and inspiring others to use the intervention. They expressed that it was important that senior management showed engagement, noted the advantages of, increased the knowledge about, and made the line managers comfortable with the intervention. Largely, they acknowledged the impact they had on the intervention's ability to lead to improvements in employee health through the manner in which senior management paved the way for the intervention in the organization. When HR professionals and line managers were asked about senior managers' roles, they agreed with the senior managers'opinions. They also emphasized that senior managers must make sure the intervention stays a priority. Hence, senior managers must continuously provide concrete signals that the intervention is to be prioritized (e.g., giving feedback on the process or results of the intervention). To summarize, senior management is essential in providing a supporting context for line managers and employees to be able to participate and implement occupational health interventions.

However, in practice, the support from senior managers is often perceived as insufficient (Nielsen et al., 2010a), which can have detrimental effects on the intervention. One example is the "trickle-down" effect, in which the commitment of middle and line managers is negatively affected. For instance, if line managers are not allocated the necessary resources to implement the occupational health initiatives that have been decided upon, they are considerably less enthusiastic about the intervention (Saksvik et al., 2002). Similarly, our interviews with senior managers in the above-mentioned study showed that senior managers seldom participated in the intervention themselves, even though they described themselves as important role models. In addition, they rarely actively engaged in prioritizing the intervention in the organization. Instead, they allowed someone else, usually HR representatives, to take complete responsibility for monitoring and giving feedback on the intervention process. This meant that communication related to the intervention came solely from HR, not senior management, which gave others the impression that it was no longer "on the table". The fact that senior management "talked the talk but did not walk the walk" was one main reason for the widespread disappointment among line managers and HR professionals concerning how senior management failed to fulfill its role in relation to the intervention (Hasson et al., 2014). Thus, a discrepancy seems to exist between how senior management verbally reports its role in occupational health interventions and to what extent that role is actually manifested in actions.

The empirical case

The setting for this study was a regional health care organization in Stockholm, Sweden. The organization encompasses care that includes primary, psychiatric,

rehabilitation, and acute hospital care. The supportive senior management intervention described in this chapter was part of a project investigating a line manager training program to foster implementation leadership in the local health care organization. In the project, we employed a non–randomized design with two line manager training intervention groups and a control group without any training (Richter et al., 2016). In the two intervention groups, line managers received the same leadership training, but they differed regarding the amount of support that was offered to other actors in the organization (i.e., one group was offered a supportive senior management intervention but not the other). In the first training group, the line managers belonged to the same health care division, and a supporting intervention was conducted with senior management (see Figure 9.1, which illustrates the timeframe and interventions for the senior management group and line managers). In this intervention group, senior management had decided that all line managers would participate in the training to improve their implementation leadership in relation to a newly introduced electronic system for care planning. The goal with the supporting intervention for senior management was to create a favorable environment for line manager training (e.g., it would be prioritized, different levels of management would have similar mental models around it, and the collaboration between senior management and line managers in implementing the new electronic system would be optimal). The senior management group was composed of nine members. The majority had dual roles as second line managers in one of the subdivisions, thus managing 4 to 15 line managers, and a member of the senior management group represented the whole organization. This is a typical construction of a senior management group in a health care organization.

   In the second training group of line managers, the managers volunteered for the training and therefore came from different divisions of the health care organization. In this group, no support was offered to other actors in their divisions. One of the aims of the project was to evaluate whether the support offered to the other actors
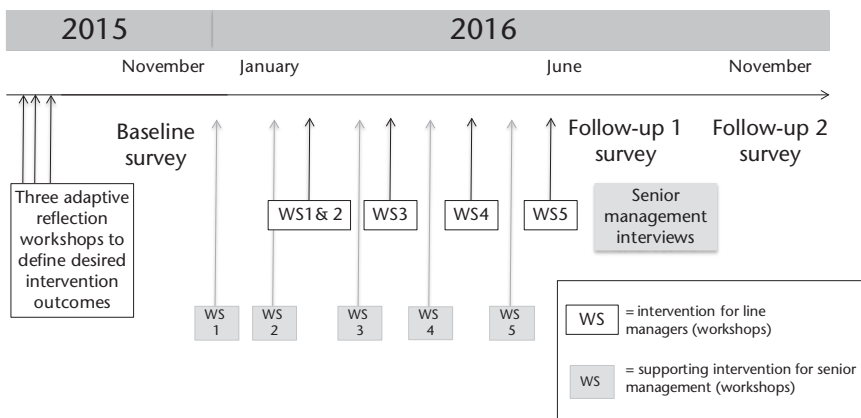
FIGURE 9.1 Timeframe and interventions for the senior management group and line managers

in conjunction with the line manager training would result in better outcomes for the line managers and employees compared to line managers who had no specific support from their senior managers. For further information about the project, see Richter et al. (2016).

Development of the senior management intervention

In 2015, two of the authors (AR and HH) were approached by the senior management group described above, requesting help with the implementation of a new electronic system to facilitate care planning. HH and AR met the senior management group on five occasions to clarify the organization's needs and obtain an overview of the planned change process. To start, the senior management group decided that all 31 line managers would be given the opportunity to participate in the line manager leadership training program. Meanwhile, they realized that the senior management also needed to develop its knowledge and behaviors about implementation leadership so that it could better support the line managers. Thus, it was decided that an intervention similar to the line managers' but adapted to the function of a senior management group would be offered to them. Because the aim of the senior management intervention was to create support for the line managers, the set-up was promptly arranged around the line managers' intervention (see Figure 9.1). The interventions for the senior management group and the line managers followed the same structure and were based on the same theoretical framework. The content and activities of the workshops were developed based on three sources of information: (1) scientific literature, (2) national experts in leadership training and implementation, and (3) knowledge from the local stakeholders (e.g., senior management and line managers in the health care division). The literature search concerned leadership, leadership development, implementation, and change (the search was conducted in spring 2015 in PsychInfo, PubMed, Web of Science, and specific journals such as *Implementation Science*).

The views of national experts and local stakeholders were collected through a structured adaptive reflection methodology. Adaptive reflection is a technique originally used in higher education to create a common understanding of learning goals and activities (Savage, 2011). It was used to define the desired outcomes of both the line manager and senior management interventions from the participants' and experts' perspectives. For a more detailed description of the method and its application in this study, see Chapter 2 in this book. We conducted a total of three adaptive reflection workshops: experts ($n = 8$), senior managers ($n = 9$), and line managers ($n = 31$), respectively. Separate workshops were organized to ensure that openness was not restricted by organizational boundaries or the level of previous knowledge on the topic.

Content of the senior management intervention

The literature search gave us information regarding the type of leadership regarded as the most effective in facilitating change (i.e., transformational leadership and

contingent reward) (Bass & Riggio, 2006; Gardner et al., 2010). In the implementation and change literature, we found strong support for the behavioral-focused approach to implementation (Michie et al., 2014). This implied that each change process is defined through new or modified behaviors of, for example, employees or line managers for a change to be implemented. Thereafter, behaviors of other stakeholders, such as senior managers, are defined as those required for line managers and employees to be able to perform their behaviors. This has been denoted *diagonal alignment* (von Thiele Schwarz & Hasson, 2013) or *interlocking* (Glenn & Malott, 2006). Alignment is a concept from organizational behavior management that describes how processes in an organization are structured so that they provide employees with the opportunity to perform the tasks they have been asked to perform. Thus, the role of senior managers is to ensure that they encourage and support the key behaviors of middle and line managers and, if needed, restructure processes and structures.

Thus, the content of the line manager program was based upon a combination of leadership theory (transformational leadership and contingent reward) and behavioral change theory (the behavior change wheel) in relation to the stages of implementation (from exploration to sustainment) (Aarons et al., 2011) and the notion of alignment (von Thiele Schwarz & Hasson, 2013).

The expert group, line managers, and senior management described desired intervention outcomes. Here, behaviors such as being able to motivate employees, create engagement, evaluate the change, give feedback, be systematic, be role models, and handle resistance were highlighted as important. These outcomes were well aligned with the leadership behaviors identified in the literature.

First, a general prototype for the line manager training program was developed. Thereafter the prototype was modified to fit the senior management group's function, roles, and tasks. Thus, the two interventions overall followed the same logic and were based on the same theories. Whereas the line manager program more heavily emphasized tools for transferring new routines into desired behavior changes among the staff, the senior management intervention focused on how to support line managers in this implementation work. Thus, the overall theme of the intervention workshops was the same as for line managers but was adapted to the role of the senior management group.

The senior management intervention consisted of five half-day workshops. The workshops took place both prior to and concurrently with the line manager workshops to logically follow the activities of the line manager training (see Figure 9.1). The main topics of the workshop were inspirational communication on the benefits of the electronic system for care planning, support of the line managers in implementing the electronic system, identification of obstacles and handling resistance concerning the electronic system, and the maintenance of the implementation (Table 9.1). The results of the adaptive reflection exercise were continuously used as basis for discussions and examples in each workshop.

Even though the overall content of the senior management intervention was pre-planned, we also acknowledged the purpose of the senior management intervention of being a supporting intervention for the line manager training, and

TABLE 9.1 The topics of each workshop in the senior management intervention

Workshop 1 Implementation and motivational inspiration	Workshop 2 Supporting implementation	Workshop 3 Identifying obstacles and matching strategies	Workshop 4 Identifying obstacles and matching strategies	Workshop 5 Sustainment
Leadership and implementation (FRLM and behavior change wheel)	Follow-up on the between workshop assignment	Follow-up on the assignment	Follow-up on the assignment	Follow-up on the assignment
Role of senior management in change and in transfer of training	Overview of the content of the line manager training	Report on the line manager training	Report on the line manager training	Report on the line manager training
Training in inspirational and motivational communication	Training of intellectual stimulation to support implementation and overcome resistance	Redefining the change object	Analyzes of senior management behaviors to enable and facilitate behavior change on other levels	Action plan follow-up and revision
Introduction of a between workshop assignment	Introduction of a between workshop assignment	Analyzing target behaviors, identifying hindering factors	Create an action plan	Intervention sustainment: measuring change, conducting adaptations, senior management role
		Introduction of a between workshop assignment	Introduction of a between workshop assignment	Review and action plan for transfer of training

therefore, we included the opportunity to adapt the content when needed. Thus, as the ultimate aim of the senior management intervention was to support the line managers, the content of the workshops needed to be flexible so as to address topics, situations, and challenges that emerged in the line manager intervention. One example was adverse reactions among line managers concerning the electronic system that was to be implemented. It was unclear to line managers how employees should actually use this new system. As a consequence, this required the senior management group to take time and reflect in Workshop 3 about the use of the system and its future use in the organization. The workshop leaders facilitated this discussion, in which senior management defined the object for the implementation through identifying concrete behaviors that employees had to perform for the electronic system's implementation. This discussion resulted in a follow-up exercise in senior management Workshop 4 and informed the actions to be taken by senior management in the future.

Pedagogical approach in the workshops

The theory of experiential learning (Kolb, 1984) and research on transfer of training (Blume et al., 2009) influenced the pedagogical approach in all workshops. The goal was to increase the chance that new knowledge and training skills would be applied in practice. The theory of experiential learning suggests that learning occurs in a four-stage learning cycle: (1) a concrete experience; (2) forms the basis for observation and reflection; (3) which leads to abstract conclusions drawn from those reflections and/or from relevant theory; and (4) which in turn stimulates new actions (Kolb, 1984). In this learning cycle, factors such as behavior modeling and feedback that have been identified as influential in the transfer of training are easily integrated (Noe & Colquitt, 2002; Salas & Cannon-Bowers, 2001). The theory of experiential learning focuses on a mutual influence between theory and practice. Combination of theory and practice manifested at several levels in the senior management intervention. First, the ongoing implementation of an electronic system made up the practical case for all theoretical applications, discussions, and exercises throughout the intervention. Additionally, in each workshop, how the focus of the workshop matched the needs the line managers had expressed in the adaptive reflection session was emphasized. Third, the steps of the learning cycle were incorporated in each specific topic of the intervention. For example, when the different subdimensions of transformational leadership and contingent reward were introduced, we started with a video clip (step 1), followed by a reflection in the group (step 2), and presentation of the leadership theory (step 3). As the fourth step, the group practiced learning in a role-playing exercise, including constructive feedback from the workshop leaders and the participants. This allowed the participants to reach a more advanced understanding about how to act in accordance with leadership theory. Role play serves as behavior modeling, which has been found to facilitate transfer (Taylor et al., 2009). Opportunity to practice is also a factor that has been shown to facilitate transfer. Therefore, participants received

between-workshop tasks focusing on practicing specific leadership behaviors such as taking the opportunity in everyday work situations to discuss the electronic system in an inspirational and motivational way.

Participants' experiences

We interviewed a total of six senior managers two months after the last session of their intervention. Thematic analyses were conducted (Braun & Clarke, 2006) with three main analytic topics in mind: reported changes in knowledge and behaviors among the senior managers, aspects of the intervention that were particularly supportive, and potential suggestions for future modifications of the intervention to optimize learning and transfer of learning.

Knowledge and behavioral changes

The senior management group expressed two main areas where their knowledge and behaviors had seen changes: the way they understood implementation processes and the managers' and employees' reactions to change. Changes in these areas had contributed to the senior management group communicating in a more coherent fashion with the organization, which in turn seemed to shorten the time to realize some change processes.

   The respondents described that they learned a general model for implementation that they could apply in different situations for subsequent implementations and changes. Specifically, they mentioned the usefulness of the behavioral perspective. They realized that it was also useful for a senior manager who is not normally involved in the daily operations to plan an organizational intervention on a concrete behavior level rather than solely as a general vision. Putting goals on employee behavior level enabled them to communicate the planned change to the line managers and employees with practical messages on the desired work processes that were to change at the operative level. With these behaviors in mind, the implementation was perceived as more concrete and manageable, and it was easy to check whether different actors within the senior management group and at different levels in the organization had the same understanding. Moreover, they also stressed that it was a valuable learning experience to conduct a thorough analysis of the change process together and be committed to the same vision, hence understanding what the hindering factors were and identifying strategies tailored to this particular challenge.

   The intervention gave them the knowledge and courage they needed to manage negative reactions from managers and employees. The implementation at hand (i.e., the new electronic system) was perceived as challenging. It was one of the largest changes so far implemented in the organization and, thus, an important one. The implementation was troubled by adverse reactions from line managers and employees along the way. At the onset of the intervention, the senior management group expressed that they almost felt like giving up. They realized that they

had backed off from their decision to implement the system when they had faced negative reactions from managers and employees. During the intervention, they realized that these behaviors of adjusting after the complaints had not made the implementation process smoother. Rather, it made the direction unclear for line managers as well as employees when they received different information in different units. Moreover, they also reflected on how this could even have contributed to the prolonged period of negative reactions. Instead, they now described how they had learned to stay on track while at the same time continuously listening to employees and line managers, using that information to make improvements to their implementation process. It required courage to reflect and analyze rather than directly take actions. This was expressed by one of the senior managers as follows:

> We have probably been very nice and very inclusive and democratic, which is good. But I think that can cause ambiguity. Because somewhere there is still a decision that must be followed . . . So you have to be inclusive and democratic, but we must also take responsibility. Who makes decisions and ensures that they are followed? It is the senior management team who has to stand for it.

Their communication had changed substantially after the training. They realized the importance of being inspirational in addition to being informative. Moreover, the development of a shared mental model of the implementation of the electronic system within the group of senior management (i.e., the goal as well as what behavioral changes this implementation meant) made it easier to communicate to the line managers and employees in a similar fashion. This also resulted in a behavioral change in how they communicated. Within the senior management group, they clarified to a higher extent what they meant with different terminologies and checked that they all had the same understanding of the phenomena at hand. In regard to the rest of the organization, they described a clear difference in their way of communicating. They described that they planned the communication more thoroughly in term of to whom and when to send out which information. In addition, they wrote scripts and rehearsed with the aim of being aligned when communicating with their subdivisions.

When asked about any results in the organization after the intervention, the senior managers described how some of the change processes took a shorter time after they changed the communication approach. Because the senior management group started communicating one clear message and firmly stood behind it, the process became shorter because employees accepted the change faster. The senior management group put more time into constructive analyses of employee reactions rather than putting their time into complaining about how difficult the change was:

> We talk about problems . . . and it's easy to keep on talking about that . . . And then you know that we have talked about that a lot of times before, but it does not feel that we have a good way to tackle the problems. And then you could actually very fast

> *move on, if you just had this as a habit, you could very quickly identify, oh well, we have a problem here! And it's often about getting people to do what you want them to do. Then it's no use sitting here and talking about how bad it is for half an hour and we'll do it again in six months, but then we would directly do an analysis to understand what the problem really is.*

Valuable parts of the intervention

When asked which part of the intervention was particularly supportive, the senior managers focused on the moments when they actually needed to challenge themselves, such as role-playing. While the role-playing of communicating inspirationally was perceived as being outside the senior management's comfort zone, it was also described as one of the most beneficial elements of the intervention. It was a learning experience both to be engaged actively in a role-play scenario but also to observe other senior managers improving their skills. One manager illustrated this when talking about the role-play scenario wherein the senior management had the task of communicating the implementation of the electronic system as inspirational and motivational as possible:

> *To see the others and . . . [laughs] they're like . . . it's natural and you have seen them and talked that way. For others, it was like . . . [laughs] a personality change. And it was so fun to see! . . . How would this person ever be inspiring [laughs]? And then it was amazing. So you felt like this is really contagious.*

They also perceived the structured way to handle change as valuable. The systematic approach with the behavioral perspective offered them tools for each step in the process. Starting with an analysis of concrete behaviors and thereafter analyzing together the potential hindering factors and matching strategies and activities based on the identified hindrances was a useful way of organizing the process. That enabled them to communicate the target behaviors and the upcoming change process to the line managers and employees in a unified fashion. A manager described this as follows:

> *It's about behavior analysis and sorting (barriers) and strategies when you think about whether it's due to motivation or competence . . . That I thought was very good; that kind of analysis I have never done before.*

The intervention also contributed to them feeling empowered as a group and nurtured a sense of belongingness. They described that the implementation at hand was now perceived as a responsibility for the group as a whole and not just for some of the senior managers who were more involved in the implementation. All activities in the intervention that made them solve problems and work as a group contributed to this feeling.

Suggestions for further developing the senior management intervention

When asked about which parts of the intervention could be further improved, the senior management group expressed that the aim of the intervention could be communicated more clearly. Some of the managers perceived that their intervention was too focused on the line manager training rather than the senior management group. They felt that the focus should have been more on how they could work more efficiently as a group rather than how they could support the line managers in their implementation leadership. They had a hard time understanding why they needed to know so much about the line manager training in relation to practical training exercises for themselves. There was also a wish for time to do individual action planning and improve individual leadership skills.

Whereas some argued that the line manager training took up too much focus, others wanted to know even more about what the line managers were doing during each training session. These managers perceived that because the line managers were learning something new, that could also start reactions and processes among them, which the senior management needed to handle. Therefore, some argued the analyses and follow-up to these reactions could have been an even stronger element in the intervention.

Some also would have preferred to have the whole senior management intervention before the line manager training in order to be even better prepared to support and lead the line managers. In their opinion, this would have made it easier to identify challenges ahead and predict upcoming questions from the line managers, which would have enhanced their credibility as leaders.

Lessons learned

This chapter presented an intervention designed to support senior management groups. This was a so-called supporting intervention, implying that the primary aim was to pave the way for another intervention. In this case the other intervention was a line manager implementation leadership training program. Thus, the starting point for the current senior management intervention was the line managers' training, and the focus was on how the senior management group could support the line managers in applying the learned knowledge and skills in their everyday work.

When interviewing the senior managers, they perceived that the focus of the intervention as a supporting intervention was somewhat troublesome. They greatly appreciated the intervention but wished that the intervention was focused more on their specific needs rather than concentrating on the line manages. They felt a need to be supported in their internal work processes. There were issues that the group needed to solve before they were able to attend to the needs of the line managers, which was also reflected in their views about the timing of the intervention. The original assumption was that interventions running about the same time for

senior and line managers would enable transfers of learning from both interventions and allow interactions between the managerial levels (see Figure 9.1 for the timeframe). For example, this could offer opportunities for feedback from the line manager group to the senior manager group and vice versa. The goal was to create effective communication channels between the organizational levels so that the senior management group would be able to respond to issues raised within the line managers' training program. Moreover, assignments between the workshops were aligned between the managerial levels so that they would support each other. However, the senior managers wished that their intervention would have been conducted entirely before that of the line manages so that they would have been more prepared for reactions and issues raised by the line managers. One learning experience from the project is that senior manager interventions, when conducted as supporting interventions, require greater changes involving preparing the senior managers if conducted well in advance compared to other interventions. Having the senior management intervention before would have given them more time to tackle the most crucial moments in the process before starting with the line managers. However, this also implies a risk of the senior manager group having changed their focus by the time the actual intervention starts.

Our results might also indicate that the senior management group seldom engaged in internal development interventions and reflections on their function, role, and task. In fact, the senior managers expressed a great need for this type of intervention. This could imply that the senior management group actually needed a program for their internal work and were not yet ready to focus on line manager support. It calls for thorough analyses regarding whether a senior management group is ready to be a part of a supportive intervention or being a target for a primary intervention. The later focusing more on helping the senior management group in their internal work. Thereafter, the communication regarding the focus of the intervention needs to be clear so that senior managers have a common understanding, together with the consultants or researchers, of what the intervention will target.

The overall content of the two interventions (i.e., that of the line managers and that of the senior management group) were similar. The same leadership theories and implementation models were used in order to create alignment. The specific content was then tailored to the functions and needs of the two groups while also allowing some flexibility. In our experience this was a well-functioning setup. The senior managers appreciated having the same type of content. It offered them the same knowledge as line managers, using the same language and terminology, and therefore facilitated more effective communication between the two about the changes at hand. The same practical tools were used for change planning, which also created alignment in the work and communication practices. We also learned that certain flexibility was necessary. The workshop leaders needed to have the opportunity and capacity to adapt the intervention based on issues raised by the participants and unexpected challenges. This required a balance between both planned and emerging themes and consequent adjustment of the pedagogical tools.

The topics in the intervention were described as interesting, relevant, and valuable. The senior management group perceived that they gained new knowledge during the intervention in several areas, which in turn resulted in some new behaviors the group performed. The two main areas where their knowledge and behaviors had changed were a systematic approach to implementation with a behavioral perspective and their responses to managers' and employees' negative reactions to change. Changes in knowledge and capabilities in these areas had contributed to the senior management group communicating in a more coherent and persistent fashion, which in turn seemed to shorten the time to realize some change processes. These descriptions could indicate that the training had some beneficial impact on the work of the senior management group. However, we only interviewed the participating senior managers and not, for instance, line manages or employees, so these findings need to be interpreted with some caution. Also, the interviews were conducted two months after the intervention and, thus, do not highlight whether the described changes in knowledge or behaviors were sustained over time.

One part of the intervention that was most appreciated was the practical training in terms of role playing. The senior managers appreciated the opportunity to practice their leadership behaviors. They described how liberating it was to admit that they were not experts in all matters and that they could and should practice to improve their leadership. It seemed that there was a level of trust within the senior management group that enabled them to practice in this way. At the same time, some of them expressed that the trustworthiness line managers and employees perceived in the senior management could be jeopardized if the senior managers were not perceived as experts with answers to all questions. Thus, there appears to be a fine balance between being a senior management group in development and presenting an image to the organization of being a highly experienced and professional.

There was also a wish from the senior managers to do more individual action planning and improve their individual leadership skills. In the present intervention, the senior management group was the main target. The intervention had a goal of improving the group's function in relation to the line manager training program. The focus was indirectly also improving the skills of individuals in the group (e.g., in training of inspirational communication). Here the dual role of the members of the senior management group becomes visible, as the majority of the managers in the group were also second-line managers. This makes the wish for individual leadership training legitimate. A suggestion for future senior management interventions is to consider the balance between training the group and the individuals in the group. For instance, individual coaching and action planning might be offered as a complement.

Conclusion

This chapter provides a practical example of a theory-based intervention for training a senior management group. This intervention was a so-called supporting

intervention (i.e., it was used to support a parallel intervention for line managers). The chapter gives an example of how a senior management intervention can be part of a larger organizational intervention. The current intervention could also be used in the future by itself for supporting a senior management group.

The advantages of the current approach were that:

- The overall content of the two interventions (i.e., that of the line managers and that of the senior management group) were similar. The same leadership theories and models were used in order to create alignment. The specific content was then tailored to the function and needs of the two groups;
- There was some flexibility in the content of activities in the intervention. Opportunity to adapt the intervention based on issues raised by the participants and unexpected challenges was important, which required a balance between planned and emerging themes and consequent adjustment of the pedagogical tools.

Based on our learning in the current intervention, we recommend future supporting interventions to carefully consider the following:

- The timing of the intervention – the current senior manager intervention might have had greater chances of preparing the senior managers if it had been conducted well in advance of the line manager intervention. Starting with the senior management intervention would have given them more time to tackle the most crucial moments in the change process before starting with the line managers.
- Focus on senior managers or line managers – the goal of the intervention was to improve the functioning of the senior management group in relation to the line manager training program. There was a wish to have more focus on the internal roles and processes of the senior management group rather than the relation to line managers. However, opportunites for senior managers to engage in internal development interventions might be few and far-between and so future interventions should consider conducting a thorough analysis of the senior management group's readiness before deciding on whether to focus on being a supportive intervention or being an intervention that improves internal work.
- The balance between individual and group development – in our intervention the senior management group was the target rather than the development of the individual leadership of the members. Some individuals in the senior management group, however, desired more individual training. In future senior management interventions it might be relevant to consider also training the individuals, for instance, with individual coaching and action planning.

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10

LEADERSHIP AND TEAM DEVELOPMENT TO IMPROVE ORGANIZATIONAL HEALTH

Georg F. Bauer and Gregor J. Jenny

Aim and background: Logic of the intervention

The first part of this chapter provides arguments as to why leaders and their teams are particularly feasible and effective units for promoting health in organizations – and why a capacity-building approach is required. We show what is needed to build the capacity of leaders and their teams to address health-related issues in their immediate working environments. Specifically, we propose a shared mental model to reflect and talk about the relationships between work and health in a balanced way. This shared mental model allows leaders and their teams to select, measure and report key job demands, job resources and health outcomes in teams. Overall, a salutogenic perspective underlies this approach (Bauer & Jenny, 2013, 2017); our leadership and team development (LTD) interventions are strongly resource-oriented and aim to strengthen a sense of coherence (SoC) in regard to the intervention as well as to the experience of work in general.

The second part of the chapter shows how capacities of leaders and their teams are developed in practice. It provides an overview of the LTD intervention architecture, that is, the combinations and sequence in which elements of the intervention are implemented. Further, we describe the stepwise practical application of specific tools and methods. To further facilitate the translation into practice, the practical implementation is illustrated and discussed based on a case study in a municipal administration with 170 employees.

The third part of the chapter briefly discusses the evaluation of the LTD intervention. Based on the context, process and outcome (CPO) evaluation model, we outline related indicators and present their application in regard to the case study.

Choosing the level of intervention: Leaders and teams

Organizational interventions address psychosocial factors on the levels of the individual, group, leader or organization ("IGLO", Nielsen et al., 2013, 2017).

Interventions at the individual level and at the organizational level both have their strengths and limitations. The individual approach can help employees to better cope with situations that are either unchangeable or highly resistant to change. Individual job crafting has been shown to be effective in enhancing employees' personal job resources. However, job crafting seems to be less effective in reducing job demands (Tims et al., 2013). Also, individual coping is not sufficient in over-demanding work situations that affect larger numbers of employees, such as individual work units or entire organizations. Organizational-level interventions can be very effective if key structures, such as working hours, part-time work or group work, or firm-wide strategies, such as aligning company goals with employee values, are successfully implemented. However, there often is resistance towards such large-scale structural changes. Also, it is difficult to change the organizational culture in an organization-wide top-down process. Not surprisingly, overall organizational-level interventions have produced mixed results (Karanika-Murray & Biron, 2015).

Here, the intermediary level of groups (or "teams", as we will refer to them in this chapter) and their team leaders come into play (Nielsen et al., 2013). Theories of stress, health and well-being contain an element of interaction between person and environment (Bliese et al., 2017). This interaction has both a perceptual and behavioral side: individual factors affect both the perception of an environment and how an individual acts within an environment. Teams are the social entity in organizations where this interaction takes place most directly and in which job demands and job resources are collectively perceived and reproduced. Thus, this immediate, shared team environment constitutes an ideal starting point to collectively reflect and act upon issues of the working environment that affect employees' health.

There are additional arguments for addressing organizational health issues through a joint LTD approach. First, leadership styles have been shown to have a substantial influence on the health of employees (Gurt et al., 2011) and, thus, should be regularly optimized on the team level where they manifest. Second, a list of job demands and resource indicators applied in research show that many of them potentially relate to the team level (Schaufeli & Taris, 2014). For example, the six dimensions underlying the Health, Safety and Environmental (HSE) Management Standards for work-related stress (Brookes et al., 2013; Edwards et al., 2008) comprise demands, control, role clarity, peer and managerial support and transparency in regard to organizational change; these dimensions can potentially be addressed and optimized by leaders and their teams.

A third reason why an LTD approach represents an important avenue for addressing organizational health issues is that teams and their leaders also constitute a feasible and effective level of interventions. Teams can analyze the situation-specific sources of job demands and job resources and develop local, team-specific solutions. These solutions should be feasible and effective as team members know best what will work well in their own local context (Bauer et al., 2014). Team interventions also allow for a maximum, collective participation that

is possible neither on the individual nor on the organizational level. This high level of involvement increases the ownership and acceptance of the proposed changes and has proven to be an important principle of healthy, successful organizational change initiatives (Tvedt et al., 2009). From a salutogenic perspective, participation is believed to strengthen the SoC as a key personal health resource (Antonovsky, 1987; Jenny et al., 2017).

Finally, the leader-team dyad is a constituting element of the established, hierarchical power structure of organizations. Working through this structure will promote the acceptance of organizational interventions and will increase the likelihood that the activities will be sustained beyond the duration of an organizational intervention project.

As stated above, individual factors, such as skills, motivation and the values of team members, including the team leader, will influence the team-level job experience (Bakker & Demerouti, 2016; Jenny & Bauer, 2013) as well as the success of team solutions. Equally, organizational factors, such as structure, strategy and culture, will have a considerable impact on job demands and resources. Thus, it is important that an LTD approach also addresses the individual and organizational levels. However, starting organizational interventions from the intermediary, shared team level is expected to facilitate both individual and organizational changes. Self-intended individual changes are more likely to occur when they are shared with and supported by the immediate, relevant social environment of the team. Linking proposals for organizational improvements developed by various teams can facilitate bottom–up organizational changes. Even in cases where such proposed changes cannot be implemented, understanding what is not changeable and why will increase the acceptance of such unchangeable boundary conditions in the organization. Acceptance has shown to be one strategy for developing resilience in employees and in organizations (Bond & Bunce, 2003).

Follow a salutogenic capacity building approach: Principles

The previous section explained why a joint LTD approach to improving health in organizations is promising (Nielsen et al., 2013). As organizations consist of many teams that are changing dynamically regarding their composition and working conditions, centralized, expert-driven interventions would be difficult and expensive to implement. Instead, the capacities of leaders and of their teams need to be built up to improve the psychosocial factors at work. As argued above, actions developed by teams to improve their working situation should consider the three interrelated levels of individual employees, teams and overall organization.

Certainly, this approach needs to address potential difficulties of working through team leaders on organizational health issues. Initially, leaders might be limited by their understanding that health is a personal issue outside the responsibility of an organization; thus, they might not perceive the need to address these issues within their team (Jenny et al., 2011, 2015). Even if leaders understand their own role and the role of their team in creating health-promoting working

conditions, they might not see it as a priority issue to which scarce resources should be invested. They might hesitate to adopt new ways of engaging their team as this may take additional time, threaten their control and/or break established routines. Finally, supervisors, line managers and other work unit leaders often fear that employee surveys assessing working conditions in their teams could have negative consequences, such as revealing poor leadership or creating unrest. Besides these motivational aspects, the capacity-building approach also needs to address the potential lack of skills for addressing psychosocial factors at work. According to the second European Survey of Enterprises on New and Emerging Risks (ESENER), 77 percent of European companies observe the presence of at least one psychosocial risk factor in their working environment. This survey also showed that a lack of technical support and guidance was the strongest barrier for addressing psychosocial factors (Milczarek & Irastorza, 2012).

Further, the health of team leaders themselves is particularly challenged as they are "sandwiched" between the need to balance the interests of the company and those of their team members on a daily basis. Thus, their own occupational health circumstances need to be addressed first. Research on health-oriented leadership shows that leaders who are mindful regarding their own health tend to have healthier employees (Franke et al., 2014).

On the team level, there might be similar skepticism regarding a joint LTD approach. Team members may question the legitimacy of a company addressing the seemingly personal health issues of employees; they may also hesitate to take responsibility for a joint LTD approach or perceive themselves as lacking the necessary procedural knowledge and time for an LTD process.

Thus, capacities of both leaders and of their teams need to be built up incrementally. Our capacity-building approach refers to general capacity-building principles that we have defined for the organizational context. Hereby, capacity building is an intentional development process that should do the following:

- specify both the process of "building" and the desired outcome of "capacities";
- comprise multi-level interventions in organizations;
- refer to systemic thinking by viewing organizations as complex social systems in which reciprocal relationships and multiple perspectives need to be considered;
- enable organizations and their members to deal with internally defined health issues independent from external support (Hoffmann et al., 2014, p. 109).

On these grounds, we have defined three specific principles to guide the implementation and evaluation of a capacity-building approach for LTD:

1. Create legitimacy of health as a joint topic and goal at work
2. Strengthen resources and solutions orientation
3. Promote participation and multi-perspectivity

These principles also refer to the model of salutogenesis (Antonovsky, 1987). In this model, SoC constitutes a key personal resource for health. SoC consists of three related dimensions: comprehensibility, manageability and meaningfulness. Antonovsky postulated that SoC is built up by the experience of consistency in life, a balance of underload-overload and opportunities to participate in decision-making. Our LTD principles are related to such (work) life experiences and SoC as follows: legitimacy of health, as a joint topic and goal, is particularly fostered through a shared mental model (presented below), which is expected to create consistency and, thus, comprehensibility. Building on existing resources in teams and developing joint solutions to reducing job demands and strengthening job resources is a key strategy for establishing a good underload-overload balance and, thus, manageability. Broad participation of employees and the sharing of multiple perspectives in the LTD process will promote the experience of participation in decision-making and, thus, meaningfulness.

Choosing a shared mental model: Two faces of work

Offering a shared mental model of organizational health through all levels of an organization is expected to facilitate a structured reflection, communication and exchange of different perspectives on work and health. Repeatedly referring to this model through all phases of the LTD process over time creates a strong common ground and point of reference. We propose a shared mental model of the "two faces of work", referring to a narrative dating back to the early twentieth century. Kurt Lewin (1920) addressed the role of work and occupational psychology at the time in view of the tension between socialism and "Taylorism" (a method of increasing productivity through rigorous division of labor). He noted that one's work and occupation is a two-faced matter: on the one hand, it is a means for living and on the other, it gives one a purpose in life – something that is demanding but can be equally fulfilling. Our field experience shows that such a two-faced model still resonates well with the everyday experience of employees and managers. The great advantage is that it shows the work experience in a balanced way – overcoming a purely negative focus on risk factor and stress as well as a euphemistic, purely positive focus on job resources and work engagement fostered by positive psychology. We combined a generic health development model that balances pathogenic and salutogenic health development processes (Bauer et al., 2006) with the well-established job demands-resources model (Bakker & Demerouti, 2007) with its two parallel motivational and health-impairing processes. We further emphasized the element of interaction between person and environment, as outlined above, to produce an expanded mental model of the two faces of work (Brauchli et al., 2015; Jenny & Bauer, 2013).

This mental model supports the reframing of work and health issues as shared individual and organizational phenomena that tap into underlying knowledge and beliefs. It is part of building a narrative of both job resources and job demands and of work engagement and work stress. This "story of work and health" is
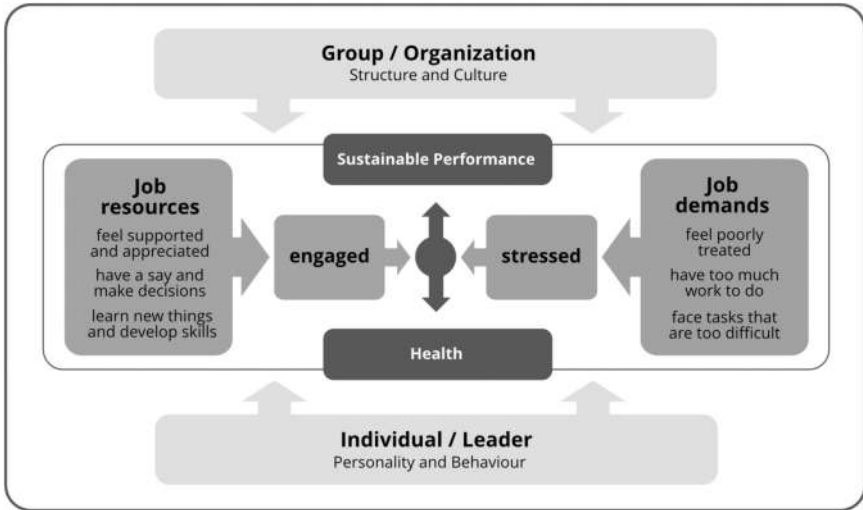
FIGURE 10.1   Shared mental model of organizational health (Corporate Health
Solutions GmbH)

designed to be as comprehensible and meaningful as possible to leaders and their
team members as well as to the various other stakeholders dealing with work
and health in a company. This can also be viewed as a process of "sensemaking"
through labelling and categorizing the stream of work – and intervention –
experiences (Weick et al., 2005). The larger goal is to embed this narrative
into the team's and organization's culture by continuously applying the model's
labels and categories and having them validated in a shared, participatory social
experience. They should become what Schein (2010) calls an "espoused belief"
or a new "truth" (Nonaka & von Krogh, 2009).

Choosing a measurement model and indicators

To show that job demands, resources and health are a shared reality of all leaders
and employees, a broad survey of these issues is recommended. The breadth and
balance of the applied scales sets the initial scope of discussion about organizational
health issues. There is evidence regarding key psychosocial factors at work; this
is exemplified by the reviews underlying the Management Standards for work-
related stress (Bond et al., 2006; Brookes et al., 2013). In Table 10.1, we split
the Management Standards' indicators into job resources and job demands and
added three further indicators for skill development, task variety and qualitative
demands. In the center of the mental model (Figure 10.1) and the survey are
engagement and stress at work: people are generally very familiar with these two
affective states, and they therefore represent an appropriate entry point for analysis
and reporting. From here, the causal chain is followed "backwards" to the job

TABLE 10.1 Basic indicators of the shared mental model

Job resources	Engagement	Stress	Job demands
Control, role clarity, skill development, task variety, peer support, managerial support, transparent change	Positive activation	Negative activation	Quantitative demands, qualitative demands, negative relationships

Health and performance
Psychological well-being, exhaustion

resources and demands that trigger these effects and then to the individual and organizational factors that influence the level of job resources and demands. We further condensed the job resources and job demands into a ratio index to facilitate a standardized, integrative comparison of working conditions across teams and across time (Jenny et al., 2015).

Invariance analysis with a similar set of job resources and demands and a range of positive and negative health outcomes showed that the relationships between job resources, demands and health outcomes were similar for different organizations from various branches of business, for employees with and without managerial functions and for employees of both sexes (Brauchli et al., 2015).

Practical implementation of the intervention

This section shows the practical implementation of the general intervention approach outlined above. These recommendations are based on repeated testing of this intervention through our consulting center and research group in diverse companies and the resulting evaluations and practical lessons learned from these experiences.

CASE STUDY OF A MUNICIPAL ADMINISTRATION: GENERAL CONTEXT

To facilitate the practical transfer of our experience, we will illustrate the practical implementation via a specific case study. The organization is a municipal administration with 170 employees responsible for 11,000 citizens in the municipality. The municipality and, thus, the administration have grown rapidly over the last ten years; the municipality is in the Canton of Zurich, which offers affordable housing in a suburban environment. The municipal administration is organized into six divisions, each with a division head, one of whom acts as the director of the administration.

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> The municipality became interested in taking part in the intervention after receiving a mass mailing by our research team seeking companies in the region of Zurich to participate in an intervention pilot study. This study aimed to examine the feasibility, success factors and outcomes of a leader/team development approach. For evaluation purposes, a wait list control group design was applied. Thus, half of the divisions and teams of the municipality were immediately involved in the intervention (group A), whereas the other half received the intervention 11 months later (group B).

Overview: Intervention architecture

Organizational interventions typically apply various elements, such as information events, surveys, training and workshops. Within these elements, different tools are used, including questionnaires, PowerPoint presentations and moderation techniques. The intervention architecture defines the combination and sequence of these intervention elements and determines on which levels – those of the individual, leader, group or organization – they are applied (Fridrich et al., 2015).

Regarding the sequence of intervention elements, organizational interventions take place in three or five phases (Nielsen et al., 2010). Here, we follow the three phases proposed in the earlier published evaluation model for organizational interventions: the preparation phase, the action phase and the appropriation phase (Figure 10.2). The following sections describe which intervention elements, methods and tools are used in each of these phases.

Preparation phase

Aims: The preparation phase aims to fit the intervention to the specific context of an organization and to secure the commitment of key stakeholders for the overall intervention.
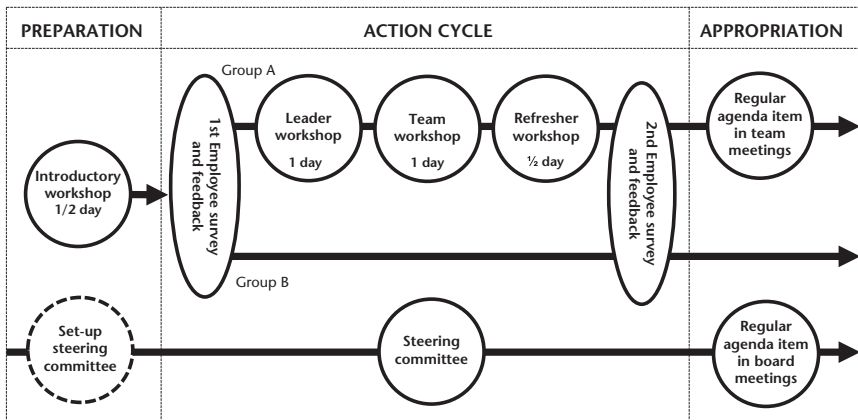
FIGURE 10.2 LTD intervention architecture

a)   Fitting and contracting with internal organizational health specialists

Mostly, organizational interventions are proposed to companies by outside consultants. As direct access to the top management is often difficult to obtain, external organizational health specialists typically meet with internal specialists in charge of organizational health issues (e.g., specialists from a company's human resources or health and safety departments). The consultant initially holds one or more meetings with the internal occupational health specialist for the purposes of contracting and of fitting the intervention to the company. In these meetings, the following issues in particular must be addressed:

- *Previous experience*: What actions have been taken previously to improve organizational health? What worked well and why? What did not work well and why?
- *Value proposition*: Present the mental model and the LTD approach: how could this model help the company in its current situation? What would be the added value specific to the company?
- *Fitting/linkage*: How can the intervention be fitted to the company? How can it build on existing structures, such as regular division and team meetings, and on routine processes of improving communication and collaboration within teams? Can it be linked to ongoing or planned organizational change initiatives (e.g., leadership development training, re-teaming and reorganizations)?
- *Force field analysis*: What factors are currently hindering and supporting the implementation of this intervention? What individuals would be important supporters or inhibitors of the intervention?
- *Scoping*: How many teams should be involved initially in the intervention? Which leaders/teams would be particularly needed and, at the same time, be ready to go? What is a realistic timeline for implementing the intervention in the company?
- *Creating readiness*: How and when should the top management, key supporters and inhibitors as well as the team leaders be involved in order to attain their buy-in?
- *Role clarification*: What role does the internal organizational health specialist want to play in the intervention beyond being the internal project manager?

To get to the next step – conducting a workshop with the top management – sometimes an additional meeting with a member of the top management is needed, in which the above issues are further clarified.

b)   Gaining top-down commitment: Presentation or workshop with top management

In order to gain top-down commitment from senior personnel, the owners, general managers and other executive-level managers need to be involved through (at least) a presentation of the intervention approach or, preferably, by a workshop offering more intense interaction. The external and/or internal organizational

health specialist can facilitate this session. They will present again the mental model of work and health and the general intervention approach of LTD. Among the open issues listed above, the value proposition and the creation of readiness particularly need to be addressed at the top management level. This is best done by allowing the top management to jointly define company-related goals to be achieved by the intervention. Depending on the degree of skepticism towards the intervention and the readiness to be personally involved in the LTD process, additional elements from the workshop for team leaders (described below) can be offered to the top management as well. On an operative level, the top management needs to decide the scope of the intervention: how many teams should be involved in the intervention and at what time? Finally, this group will determine the composition and role of the steering committee described in the next section.

c)   Set-up steering committee

From the beginning, organization-wide learning about the LTD approach as well as long-term maintenance and dissemination beyond pilot teams must be assured. For this purpose, a steering committee should be set up early in the process. The team's composition should include persons identified during the contracting as potentially supportive or disruptive to the intervention; it should also include the internal and external organizational health specialists and representatives of team leaders and of team members involved in the LTD process. Finally, a representative of the top management should be involved to assure continuous exchange of information and support by the top management.

d)   Information event for team leaders and their teams

To achieve the buy-in of the team leaders and of their teams, they need to be informed about why the company wants to participate in the intervention, the goals that will be pursued, the model of two faces of work and the related survey of the employee perspective of work and health. Also, the course of the intervention and the respective roles of the team leaders and of their teams need to be clarified. A member of the top management should provide this information to show that top management supports and has adopted the intervention approach.

CASE STUDY OF A MUNICIPAL ADMINISTRATION: PREPARATION PHASE

The human resources manager at the municipal council contacted the research consultants by phone following a mail-out to local companies offering them the opportunity to take part in the pilot project. This led to the researchers receiving an invitation to present an outline of the proposed project during

a one-hour meeting with the board of the municipality. The board consisted of six division heads; the human resources manager and an employee representative also regularly participate in the board meetings.

Each division was comprised of several teams, all of whom had a designated team leader. The board decided which divisions would take part in the initial series of interventions (hereafter referred to as group A; participating divisions included education and family affairs, social services and elderly care, retirement home) and which divisions would constitute the wait-list control group (group B; construction and public utility, public services and safety, finances and real estate). The wait-list control divisions received the intervention 11 months after the initial interventions were undertaken. One particularly large division was considered to be in special need of the LTD due to its high absenteeism rates and fluctuation of employees. It became clear during the board meeting that this division's problems were the trigger for the municipality's participation in the project in the first place. Consequently, this division was included in group A so that it could benefit immediately from the intervention. The human resources manager was appointed as internal project leader of the LTD intervention. The board appointed a steering committee consisting of the following: the director of the municipal administration, the employee representative of the board, the internal project leader and two division heads from intervention group A. A division head of intervention group B joined only much later, when the implementation for control group B was planned.

To demonstrate their own commitment and to immediately benefit from the project, the management board decided to take part in a half-day workshop on organizational interventions. During this workshop, the board gained knowledge about the underlying mental model of work and health and how job demands and job resources can be assessed and improved by an LTD process. The board members applied this process to the board itself by reflecting on their own work situation and how it could be enhanced. Also, they developed their own vision of a healthy organization and developed corresponding goals for the project. Specifically, they determined that the project should enhance the following dimensions in their organization: commitment of employees, satisfaction of employees, engagement of employees, efficiency of public services and attractiveness as an employer. The director of the municipal administration informed all team leaders and teams about these aims and the planned course of action.

Action phase

Aims: The action phase has the triple aim of enhancing motivation, skills and actions of leaders and of their teams to improve job demands, job resources and related health outcomes. Specifically, it aims to make work and health issues visible as a shared experience, to jointly talk about these issues and to develop specific

actions to improve the balance between job demands and job resources on the individual, team and organizational levels. Beyond these immediate improvements, the intervention aims to build the capacity of leaders and their teams to continuously address psychosocial factors in the work environment in the future. As shown above in Figure 10.2, the action phase follows the four steps of analysis, action planning, enactment and monitoring, all of which are described below in detail.

a)   Analysis: Survey of job demands, job resources and health in teams

To assure a broad, shared assessment of key job demands, job resources and health outcomes in teams, a written, standardized survey is recommended. To assure complete anonymity, sending a team-specific link to an online survey hosted by an outside agency without individual identifiers is advisable. Ideally, the results are analyzed automatically, presented along with benchmarks of a larger representative sample of employees as well as comparisons between the results on the team and company levels. An additional comparison of the results between teams can facilitate discussions and mutual learning between team leaders. In any case, results should be reported only when a previously agreed-upon minimum participation rate (e.g., 30 percent) and number of employees (e.g., $n = 4$) is achieved to avoid biased results or possible exposure of individual participants. Comprehensibility and meaningfulness of results can be assured by linking the results to the underlying mental model of organizational health.

The order in which results are reported typically follows the hierarchy of a company. First, top management is generally given the opportunity to review a summary of the results, particularly if the survey has been conducted across several teams. This summary may include comparisons of the results between divisions of the company. Next, division heads may report the results to their team leaders, jointly reflecting on observed differences across teams. Finally, team leaders are asked to present and discuss the results with their teams after they have taken part in the leadership workshop described below. In each of these stages, those responsible for presenting the results are advised to facilitate a discussion about expected and unexpected results as well as desired and undesired findings.

b)   Action planning: Workshop with team leaders

This full-day workshop has the triple aim of addressing the job demands and job resources experienced by the team leaders themselves, facilitating mutual support between leaders and enabling them to learn how to facilitate the same type of workshop within their own teams. Although team leaders usually do not work together as a team, they share the same leadership tasks and, thus, can learn from and support each other in this role.

To build the capacity of the company for such a process, initially, the internal or external organizational health specialist may facilitate the team leader workshop. During the workshop, team leaders review their own survey results. They discuss

the results, add additional job demands and resources that they would like to address and jointly develop action plans to improve their own working situations. As for the team level described below, these actions cover three levels: what each leader can do himself/herself, what the leaders can do as a group and what needs to be changed on a higher, organizational level. As the following team-level workshop applies the same steps and tools, these will be described in more detail below.

The self-experience of a participatory improvement process is designed to encourage team leaders to apply the same process with their own teams. Also, the team leaders' superiors should be at least partially involved in the team leader workshop as both leadership levels then experience the added value of exchanging perspectives about organizational health issues across hierarchies. At the same time, the superiors can learn to run such workshops with their team leaders in the future. In any case, it is important that the team leaders report to their superiors on the types of actions they developed at the leader level and particularly at the organiza-tion level to get the support of their supervisors for implementation.

c)   Action planning: Workshop with teams

This workshop aims to address the teams' job demands and job resources. The team leaders moderate the workshops themselves to build their related capacity and to increase the likelihood that the leader and their team will routinely address organizational health issues in the future. The team leader is expected to moderate the workshop while being an active participant in it and co-developing ideas for improvement of the working situation. The team-level workshops consist of the following steps and related tools:

- *Team vision and aims*: To set a positive, solution-oriented tone and an attractive, energizing goal for the workshop, leaders first develop a vision with their team based on the "miracle question". They say, "Imagine that a miracle has hap-pened overnight. All undesired demands at work have disappeared. Just like that. And the job resources have flourished. Because you are asleep, you do not know the miracle has happened. When you come to work the next morning, in what specific ways will you notice that the miracle happened?". The team works with the leader to draw a sketch of this ideal reality – encouraging all to think beyond daily routines and restrictions (see Figure 10.3). Based on this vision, specific aims for the joint LTD process can be derived and put into writing.
- *Complete and prioritize job demands and job resources*: Team leaders present an overview of the main survey results to set a broad initial scope of issues for the LTD process to address. The team selects key issues from the survey and writes them on cards. These issues are supplemented with additional job demands and resources that the team members view as important. These quantitatively and qualitatively produced topics are clustered into common, overarching themes. Finally, all participants can vote to select the top three to five themes to be pursued further.
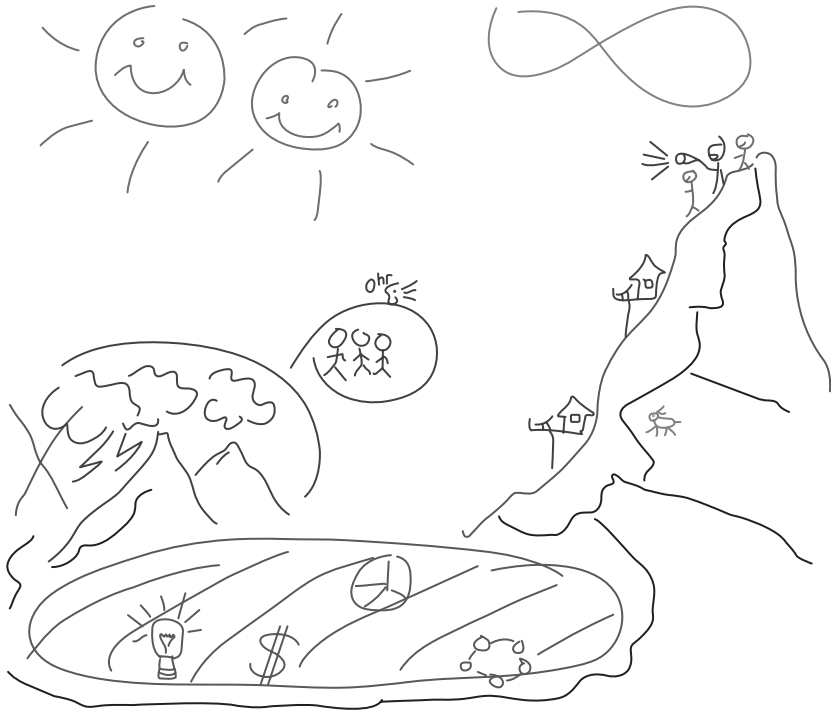
FIGURE 10.3 Example of a team vision (Corporate Health Solutions GmbH)

- *Reformulate demands as positive future states*: To generate readiness for change towards positive, desired goals, teams reformulate negatively appraised demands into positive future states. For example, the wish to eliminate unclear, conflicting roles might be reformulated as a wish for clearly defined roles in the team.

These first three steps are best implemented with the participation of the entire team to ensure that team members directly share experiences and create a common understanding of their circumstances. For the next steps, work sheets are distributed in the room. This allows team members to walk around and to work on those issues of particular concern where they can make the greatest contribution.

- *Specify resources and positive future states*: In order to develop specific solutions, teams describe the specific situations in which each respective theme becomes important. For example, the wish for clearly defined roles is most relevant when starting new projects as a team.
- *Brainstorming of possible solutions*: To facilitate the generation of innovative ideas, teams are encouraged to brainstorm possible solutions (see Figure 10.4).
- *Develop and prioritize actions for improvement*: Next, team members select those solutions from the brainstorming phase that have a high likelihood of being implemented and a high potential for making a difference. As in the

brainstorming phase, this step needs to take into account the three levels of individual, team and organizational solutions (see Figure 4). To assure the implementation of the actions, team members define the target group, the person in charge and the desired deadline. Finally, participants decide which of the actions are most important and, thus, should be implemented first.

A full-day workshop is needed to go through all these steps. The workshop can be split up into several sessions if it is not feasible to involve the whole team for an entire day. This stepwise approach also allows leaders to involve different people in the various sessions or to use gaps between sessions to consult team members who cannot participate directly in the workshop.

To facilitate the moderator role of the team leaders, they should obtain a clear timetable, written instructions and the printed workshop material needed for these steps.

d)   Enactment: Actions to improve job demands and resources

After the team workshop, it is important that the team leader present the actions developed with his or her team to his or her supervisor. The team leader's presentation will focus on the actions on the organizational level that require top-down endorsement or support to be realized. However, to demonstrate that the team assumes a shared responsibility for organizational health issues, the team leader should also show the complementary actions on the team and individual levels.

FIGURE 10.4   Example of brainstorming of actions and concrete action plan (Corporate Health Solutions GmbH)

In the case that multiple team development workshops take place simultaneously across teams at the same location, it has shown to be very stimulating if representatives of each team present their teams' most important actions to the top management during a joint meeting at the end of the workshop day. This approach enables top management to experience the engagement of their employees in improving the working situation and, at the same time, demonstrates senior management's commitment to implement the proposed organization–wide actions as far as possible. In any case, the internal project leader must ensure that the top management regularly reports on progress made regarding organizational-level actions. Likewise, team leaders will regularly review progress with the person put in charge and/or during team meetings.

e)   Monitoring: Controlling actions and changes in outcomes

To assess whether the participatory improvement process and the resulting actions have had the desired effects, a follow-up survey of the key job demands, job resources and health outcomes is recommended. The follow-up period may range between 6 and 12 months depending on the scope of the actions and the amount of time needed to deploy their effects. The results are reviewed in the same hierarchical order as in the first survey, again reflecting which of the changes observed since the first survey are expected or unexpected and which are desirable or undesirable. Further, they explore possible explanations for the results.

In addition, a second round of the leader-level and team-level workshops is implemented. At the beginning of these refresher workshops participants review which actions were implemented on an individual, team or organizational level and what changes the actions created. They also reflect on which actions could not be implemented or did not work and why that was the case. If the follow–up survey results are already available, participants can use them to select new issues to be addressed and to update their actions.

A final exchange between the teams and the top management completes the action phase. During this meeting, top management reviews the progress up to this point and the newly proposed actions. They also can renew their general commitment and explain which proposed actions they will implement on the organizational level.

CASE STUDY OF A MUNICIPAL ADMINISTRATION: ACTION PHASE

In group A, the whole action phase from analysis until the follow-up monitoring with a refresher workshop lasted nine months. In this group, 130 of 172 invited employees (76 percent) took part in the employee survey. Twelve team leaders and their division heads participated in the initial workshop. This

workshop took place over a full day and was held outside the offices of the municipal administration in order to provide a fresh, inspiring environment that would facilitate new perspectives. The external organizational health specialists moderated this workshop.

Three weeks after the leader workshop, the full-day team workshop took was undertaken by six teams simultaneously. All of the teams met in one place, where they received an introduction to the aims and procedures of the workshops by the director of the municipal administration and the external organizational health specialist. Next, each team leader went through the workshops with their team. When needed, they could draw on the support of the external organizational health specialist and the division heads, who circulated amongst the teams. As the LTD approach aims for actions to improve the working conditions equally on the individual, team and organizational levels, team leaders encouraged the team members to address all three levels. To broaden the teams' sense of ownership over the actions taken, team leaders made sure that various team members were put in charge of implementing various actions. At the end of the day, all of the teams met together and reported on the most important actions that had developed on the team and organizational levels. The board member gave immediate feedback on the extent to which these actions were feasible. In group B, the intervention followed the same regime, though it took place 11 months later.

In both groups, team leaders were responsible for ensuring that the persons in charge of specific actions at the team and individual levels were upholding their responsibilities. Division leaders encouraged team leaders to regularly review the progress of the actions during their regular team meetings.

Seven months after the initial leadership and team workshops, a refresher workshop took place involving groups A and B. The first half of the full-day event was devoted to the team leaders. They reviewed how their own work situations had changed since the first workshop and how effectively they had been able to develop and implement actions for improving the work situation in their teams. The leaders jointly catalogued the specific improvements they had experienced due to the project. Examples of these observed improvements include the following:

- Improved dialogue and open communication in their teams and in the company as a whole
- Noticeable support by top management for organizational health issues
- Stimulated discussions and mutual appreciation and support in teams regarding organizational health issues
- Improved participation of all employees
- Appreciation of feedback of team members
- Optimistic, motivating team climate

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Also, leaders recorded what they were committed to do to keep the LTD process alive after the externally supported project is terminated. Examples include the following:

• Remain in close dialogue with employees
• Show interest in employees and build trust
• Be attentive regarding employees and actively involve them
• Devote time to these actions
• Promote team events, strengthen "we-identity"
• Solve problems

During the second half of the day, all of the teams met together. The team leaders reported on what they had discussed in the morning, particularly what they had committed to do in the future. Afterwards, each team leader individually reviewed with his or her team how well the intended actions had been implemented, what positive effects they had, and what additional actions were needed to address new or remaining issues.

The division heads were in charge of implementing the organization-wide actions that had been developed by the teams. To support this, the management board used its annual two-day retreat for reviewing, clustering and coordinating the action plans across the divisions.

Appropriation phase

Aim: The appropriation phase aims to ensure the continued improvement of psychosocial factors at work through ongoing LTD processes. If the LTD intervention has only been implemented in some pilot units, the additional aim is to roll-out this intervention to all teams in the company, learning from these pilots. To assure continuation of the LTD processes in the company, the steering committee could be continued, or the management board itself could include this approach as a regular agenda item of its routine meetings. Similarly, on the team level, reviewing current working conditions and the need for adaptations could become a regular agenda item of team meetings.

CASE STUDY OF A MUNICIPAL ADMINISTRATION: APPROPRIATION PHASE

The municipal administration conducted the last company-wide employee survey 12 months after the refresher workshop of group A and one month after the refresher workshop of group B. The steering group of the project, together with the entire management board of the company, reviewed the results of the longitudinal changes of working conditions and health outcomes.

They also reviewed the process evaluation results summarized in the section on evaluation further below. Overall, the management board was satisfied with the results of the project. As the board had already reviewed the organization-wide actions during its last retreat, it renewed its commitment to regularly review the progress of these actions. Further, it decided to make sure that the divisions and teams frequently address employee health issues as part of their ongoing team development efforts.

To clearly communicate this commitment to all employees, the director invited all employees to a final joint dinner to inform them about the project and to celebrate its completion. The outside consultants presented the project's evaluation results and described the actions that the team leaders had developed during the refresher workshops to keep the LTD process alive. Finally, the director expressed his appreciation of the engagement of the company in the project and stated his commitment to continuing to systematically address organizational health issues in the company.

Evaluation of the intervention, of the tools and of the methods

The CPO evaluation model structures the systematic evaluation of this intervention approach. The article by Friedrich et al. (2015) provides an overview of established scales and indicators to be applied in organizational interventions.

The CPO model involves the continuous collection of *context data* through each intervention phase on the individual, leader, group (team) and organizational
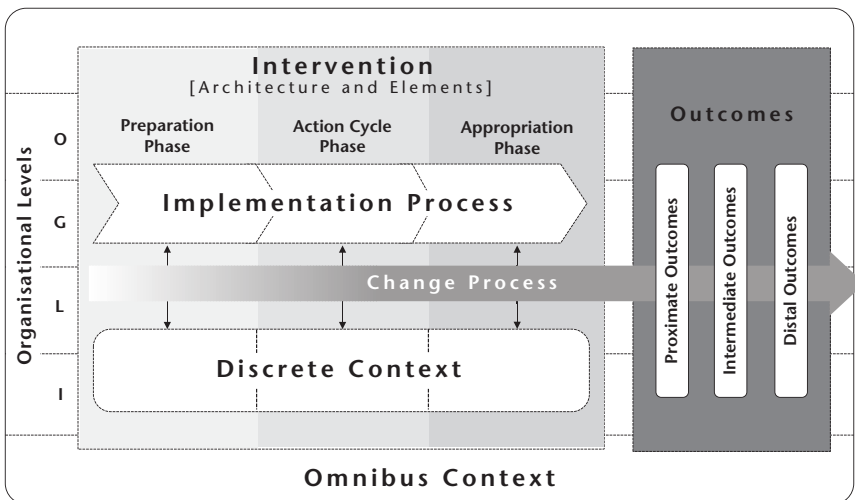
FIGURE 10.5 CPO model

Source: Fridrich et al. (2015)

levels. The omnibus context describes the general intervention setting (e.g., the current economic situation of a company) whereas the discrete context refers to "specific situational variables that influence behavior directly or moderate relationships between variables" (Johns, 2006, p. 393). Context data (e.g., data collected via a log-book) help not only in the initial design of the intervention but also in assessing why certain parts of the intervention work better than others or display varying effectiveness across divisions.

Regarding the *implementation process*, both the quantitative and qualitative aspects of the process should be assessed. Basic quantitative indicators include the duration of key intervention elements and the respective number of participants. In addition, we routinely ask participants if the appropriate persons (with regard to function, hierarchy and affiliation in the company) participated in the respective workshop and how they perceived the quality of the workshop. Further, we recommend that the outcome expectancies of the leader and team workshops be measured as this implementation process indicator has been shown to be a good predictor of intervention outcomes (Fridrich et al., 2016; Füllemann et al., 2016). Finally, we developed a scale that measures whether the LTD principles introduced above are addressed during the intervention. Repeated use of this scale allows an assessment of the degree to which these principles have been considered over time – an indicator of increasing capacity for an LTD process.

Regarding the *change process*, the authors of the CPO model argue that it is difficult to directly observe this process (e.g., of individual learning or organizational change) directly. Thus, it is recommended that the *outcomes* gradually emerging from the change process be measured. In the context of the current chapter, proximate outcomes could include changes in job resources and job demands, intermediate outcomes could include changes in average work engagement and stress levels and distal outcomes could include changes in health and performance.

Certainly, in routine interventions outside an evaluation research context, a focused selection of key evaluation indicators is needed. In any case, a qualitative logging of the intervention context is recommended in order to adequately build on or react to changes in the context. As a key process indicator, measuring the outcome expectancies is recommended.

CASE STUDY OF A MUNICIPAL ADMINISTRATION: CONTEXT, PROCESS AND OUTCOME EVALUATION

Context: The general, initial omnibus context of the municipal administration was described at the beginning of the case study. Regarding the discrete context of the project, two important changes occurred during its implementation. First, the internal project leader was absent for a long period due to illness. To fill this gap, the director handed leadership of the project to another member of the management board. This high-level assignment

demonstrates the significant support for the project shown by the director from the beginning of the project. Second, the previous director left the municipal administration in the middle of the project. The new director put an emphasis on enhanced direct communication and exchange with his employees. He seemed to realize that the ongoing, participatory, dialogue-oriented project could help him to achieve this intended cultural change.

Implementation process: Regarding the degree of implementation, the leadership workshops reached all leaders, and the team workshops reached all 13 teams. Of all employees, 76 percent filled out the baseline survey, and 83 percent filled out the last survey, reflecting a continued high level of interest in the project. In the team workshops of group A, 54 percent of the employees participated; in those of group B, 81 percent participated. Regarding the quality of the implementation, in group A, 100 percent were satisfied with the composition of the workshop participants; in group B, 94 percent were satisfied. Participants in group A rated the workshop quality significantly higher than those in group B and were significantly more satisfied with the actions developed during the workshop. Overall, 181 different actions for improving work and health were developed by the 13 teams in groups A and B, and 50 additional actions were developed during the refresher workshop. Again, outcome expectancies in group A were significantly higher than those in group B.

Outcomes: In group A, we observed a significant decrease in job demands and a significant increase in self-rated performance in the intermediate survey nine months after baseline and one month after the team-level refresher workshop had been completed. In the third and final survey, we observed significantly increased work engagement and self-rated performance compared to the baseline. Comparing the baseline and the third survey in group B one month after the refresher had been completed showed a significant increase in the team optimization scale, particularly regarding awareness and communication about work and health issues.

These differential effects might be explained by the differences in the context in these two groups. Group A initially had higher levels of job demands compared to group B, and these demands were successfully reduced during the project. The differential effects can be further explained by the observed differences in quality-related indicators of the implementation process. Group B scored lower regarding the overall workshop satisfaction, satisfaction with the developed actions and the outcome expectancy. Besides the initially lower level of the team optimization scale, these differences might also be explained by the fact that group B expressed less need for change and little familiarity with the experience of going through a participatory workshop. As a first success, the value of the team optimization scale in group B rose over time. It can be assumed that this improvement will be a good basis for improving the working situation of this group in the next phase.

Conclusions

The intervention approach presented here is based on a shared mental model of organizational health, a related measurement model with focused survey-based indicators and capacity-building principles for continuous LTD. As this model and the principles are repeatedly used throughout the process on all levels of an organization, they support the comprehensibility, manageability and meaningfulness – and, thus, the overall coherence – of the intervention for all participants.

In addition, the intervention approach follows a relatively standardized procedure. This further increases the manageability of the implementation of the intervention. At the same time, this standardization makes it easier for the intervention approach to be clearly communicated to and replicated by others.

Regardless of the standardized architecture of the LTD process, it can be and must be fitted to the respective company. Also, the standardized architecture guides and enables the prioritization of organization- and team-specific issues and allows groups to develop their own solutions. The highly adaptive and self-determined nature of this generic intervention approach makes the intervention meaningful and supports the development of ownership as well as of capacities for the LTD process. Further, working through existing, hierarchical leader-team structures facilitates the long-term appropriation of this process.

As the generic, adaptive intervention approach only depends on the pre-existence of leader-team structures in organizations, it seems generalizable to diverse economic sectors and companies. Even if a team structure initially is not present, the LTD approach can be used as a starting point to bring together individually operating employees in groups and, thus, to generate a new, coherent team structure that can provide a supportive future social climate at work by regularly bringing together these newly created groups.

As shown in the introduction, the LTD process positions itself at the intermediary level between individual-level self-optimization and organization-wide organizational development approaches. In the future, it will be interesting to investigate the extent to which it is possible to promote a company-wide, employee-oriented culture by starting on the intermediary level of LTD. However, LTD processes might also facilitate individual change processes.

To facilitate the broad dissemination and self-determined implementation of the LTD process across many companies, we are currently developing a web-based e-coaching application that virtually supports the LTD process in teams (www.wecoach.ch; currently only available in German). The e-coach is primarily used by the team leader. However, it involves the team in monitoring job demands and job resources and in developing actions for LTD, and it collects structured feedback about the quality of the team development process moderated by the team leader and of the actions developed by the team. As individual team leaders can use the e-coach without involving the whole organization, we expect this to facilitate the

dissemination and adoption of LTD processes across organizations. As the e-coach by default collects rich CPO data, systematic evaluations across teams and organizations will support the future improvement of LTD interventions.

Practical tips for readers on how to use tools, methods and interventions

- Train leaders for LTD by first allowing them to undergo the intervention themselves as employees and workers.
- Apply a shared mental model throughout the entire process, showing how work and health are related and conveying a basic vocabulary.
- Ensure that the shared mental model provides a balanced view of both job demands and job resources as well as work engagement and stress.
- Use indicators and a survey tool that relates to the shared mental model.
- Assess outcome expectancies as an important process factor related to the success of LTD projects.

Acknowledgements

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EPILOGUE

Critical reflections and the way forward

Andrew Noblet and Karina Nielsen

The purpose of the following epilogue is four-fold: (1) to reflect on what the chapters in this book say about the factors that can help intervention effectiveness, (2) to discuss the factors that contributors identified as undermining intervention effectiveness, (3) to consider the gaps in existing research, and (4) to discuss the direction of future investigations in this area. The first two sections will have important implications for planning and managing organizational interventions, especially in terms of the steps that researchers and practitioners can take to maximize intervention sustainability while minimizing threats to effective change. The third and fourth sections will focus on the way forward and will highlight where future research action is required.

Factors that enhance intervention effectiveness

Contributors to this book identified four factors that were critical to the achievement of positive intervention outcomes. These included participatory decision-making and the co-creation of knowledge, multi-level management support, strong alignment between the intervention and the context, and institutionalizing interventions. In the following section, we draw on examples from the relevant chapters to elaborate on the benefits of these factors and to illustrate what they may look like in practice.

Participatory decision-making and the co-creation of knowledge

A prominent theme identified by a number of the contributions was the critical role that stakeholder participation plays in intervention effectiveness. This was especially the case in Part I where each of the three chapters focused heavily on the methods and tools that organizations can use to engage key stakeholders and

work with them to plan, implement, and evaluate work-based interventions. In Chapter 1, for example, Ipsen et al. respond to evidence that there's a dearth of information regarding how intervention researchers or consultants can collaborate with workplace "actors" to transform initial problem identification into tailor-made interventions. The authors draw on empirical data from two projects where high-involvement Fishbone workshops were used to help employees and managers undertake the initial problem identification and issue analyses and then to use the insights gained from these methods to develop appropriate strategies. In this context, the participatory processes and methods were both an intervention in and of themselves (i.e., they are deigned to empower organizational members to take greater control over their immediate working environments, thus helping to foster higher levels of motivation and self-efficacy) as well as a means for developing "fit-for-purpose" interventions (i.e., improving work processes and systems).

Similarly, in Chapter 3, Axtell and Holman drew on case studies undertaken in two call centres to demonstrate how a job redesign program based on participatory processes could be planned and implemented in a setting that is typically very resistant to participatory job design initiatives. In this case, employees participated in all stages of intervention development (including screening, action planning, and implementation) with the results from both studies showing that changes in job characteristics, particularly job resources (i.e., job control, participation, skill utilization, feedback), were an important mechanism through which participative job redesign interventions can lead to improvements in outcomes valued by employees (i.e., well-being, job satisfaction) and employers (i.e., performance).

Although implied in Chapters 1 and 3, von Thiele Schwartz et al. (Chapter 2) emphasize the importance of all parties not only participating in the decision-making process but actually working together to co-create new knowledge, ideas and ways of operating; "while participation is important, ensuring that key stakeholders work together to co-create ideas and strategies is critical for the decision-making process to be truly participatory." This chapter outlines a structured process (referred to as cocreated program logic [COP] process) whereby organizational stakeholders collaborate with interventionists (researchers or consultants) to develop the intervention goals and corresponding strategies and outline the mechanisms through which the strategies are designed to achieve those goals (referred to as the program logic). The COP process is therefore a valuable process for developing interventions as well as informing how the intervention should be evaluated.

Multi-level management support

The support and involvement of senior personnel has long been recognized as being a critical ingredient in the effectiveness of health-related organizational interventions (e.g., Kompier et al., 2000; Nielsen et al., 2010; Noblet & LaMontagne, 2009) and organizational change programs more generally (e.g., Armenakis et al., 1993; Holt et al., 2007). Consistent with this view, the contributions to the current book indicated that management support is required at least two levels: the

executive or corporate-wide level, and the line management level. Importantly, these contributions shed light on how the support and ongoing commitment of personnel at each of these levels can be achieved.

In relation to the executive personnel (owners, CEO, directors, general manager), support at this level is generally regarded as a prerequisite for organizational interventions and, accordingly, is often one of the first steps in the intervention planning process (Nielsen et al., 2010; Noblet & LaMontagne, 2009). Yet despite the importance of gaining and maintaining support at this level, guidance on how to secure "boardroom buy-in" is under-researched, especially in the context of organizational health interventions. Dollard and Zadow (Chapter 5) contribute to the dialogue on this issue by outlining how they gained the support of key organizational leaders as well as broader industry stakeholders (notably employer and employee representatives) in the preparatory phase of a job stress prevention intervention involving Australian-based public sector employees. Here, the authors recognized that helping senior personnel to understand how job stress could be addressed at the organizational level – in terms of what to change and how to change – was an important part of the preparatory phase. As a result, a "study group" was formed comprising leaders from the organizations taking part in this study, employer representatives, and union state presidents. The study group participated in a fact-finding mission, including visiting individual organizations, employer bodies, unions, experts, and occupational health and safety (OHS) regulators. Tellingly, this approach led to the development and an intervention plan that was supported by the participating organizations and incorporated best practice stress prevention principles, including drawing on risk management processes for identifying and addressing organizational stressors and involving both employees and managers in the development of stress reduction action plans.

Bauer and Jenny (Chapter 10) also describe the methods they used to gain the commitment and buy-in of owners, general managers, and other executive-level personnel. In this case, the researchers use a case study involving a municipal council to explain how they arranged to meet with the executive team and present an overview of the proposed intervention (a capacity-building program for teams and their leaders). This presentation can also be offered as a workshop and includes expanding on the mental model of health and work that underpins the intervention, explaining how the program can add value to the organization and recognizing where and how it can build on existing structures and processes. Depending on the degree of readiness to take part in the program, the researchers also work with the senior managers to set goals and decide on the number of teams to be involved in the intervention.

While gaining the support of top managers is pivotal for initiating organizational interventions, often the people who are responsible for implementing these initiatives are lower down the managerial hierarchy (i.e., middle and work-unit managers). Yet simply being directed to carry out or even oversee organizational change cannot guarantee that lower level managers will become genuinely committed to the change. With this in mind, efforts are also required to ensure that

department managers, line supervisors and team leaders understand and support the rationale behind the intervention and have the knowledge and skills to manage their implementation. Hasson et al. (Chapter 9) demonstrate how this can be done in their study focusing on "supporting interventions." In this instance, a training program for more senior managers was designed to help participants understand and support a leadership development program for line managers. The need for the supporting intervention is especially important in this case as the development of new leadership competencies is heavily influenced by the way in which line managers themselves are led (e.g., the amount of autonomy they receive, the level and quality of feedback). The Bauer and Jenny study (Chapter 10) adopts a similar approach, although in this case the intervention aims to enhance the capacity of teams to continually identify and address the demands they face. Work-unit managers are an integral part of the team and hence their support and commitment (and that of each team member) were generated largely by involving them in the leader-team development (LTD) initiatives, in particular the LTD workshops.

Strong alignment between intervention and context

The introduction to this book highlighted that an important guiding principle when developing organizational interventions is to ensure that there's a close fit between the intervention and the context in which the intervention is undertaken. That is, rather than adopting a "one-size-fits-all" approach whereby interventions are taken from one organization and applied to another, program coordinators must ensure that the form and function of the intervention is tailored to the unique needs of employees and the organization in which they work. At the same time, coordinators need to carefully consider the processes and methods used to plan, implement, and evaluate organizational interventions and select those techniques that closely match the constraints or opportunities presented in the organization.

Contributors to the current book indicated that there were a number of ways in which high levels of contextual alignment could be achieved. The first is to adopt the high-involvement, participatory-based planning techniques discussed at the beginning of this section. The chapters by Ipsen et al. (Chapter 1), von Thiele Schwarz et al. (Chapter 2), and Axtell and Holman (Chapter 3) all reinforced the view that key stakeholders such as employees, managers, human resources (HR) staff and other specialist personnel have an intimate understanding of how the organization operates – the nature of the work undertaken, the way in which systems and structures are configured, the market-related challenges it faces – and they therefore need to play central roles in identifying the problems or issues to be addressed by the intervention. These and subsequent chapters by Dollard and Zadow (Chapter 5) and Henning and colleagues (Chapter 7) also stressed the need for organizational stakeholders to be heavily involved in defining the goals of the intervention and then formulating the strategies for achieving those goals. As noted by von Thiele Schwarz and colleagues (Chapter 2), this collaborative decision-making is not only critical for establishing a physical fit with the organization's

operating structures and systems, but is also necessary for achieving a philosophical fit. "Philosophical" in this context relates to the organization's goals and values, and is therefore an important measure of the strategic and cultural compatibility of the intervention.

Another way in which high levels of intervention fit can be achieved is by developing an appropriately timed monitoring and evaluation plan. As per Dollard and Zadow (Chapter 5), such a plan needs to include both outcome and process evaluation, draw on qualitative and quantitative data collection techniques, and be undertaken on an ongoing basis so that if there is a lack of compatibility between the intervention and the surrounding context, the fall-out is minimized by identifying the lack of fit early in the intervention's lifecycle. A further benefit of a thorough monitoring and evaluation program is to help coordinators make well-informed decisions about how the intervention and/or the associated implementation methods should be modified in order to achieve a better fit.

A third strategy for generating strong operational and cultural alignment between the intervention and the organization is to ensure that the new systems or practices become "institutionalized" into the everyday operations of the organization. Institutionalization is a term frequently used in the organizational change and development literature (Armanakis et al., 2000; Jacobs, 2002) and refers to the consolidation phase of the change process. Institutionalization is crucial for intervention sustainability and will be discussed in more detail below.

Institutionalizing interventions

A major criticism of any work-based intervention – whether they are directed at individual employees or the organization – is that they are often seen as one-off projects that fail to out-live the involvement of the external researchers/consultants and have negligible long-term impacts on the organization or its members. According to a number of the contributions to this book, a key to achieving both contextual alignment and long-term effectiveness is to ensure that the intervention is institutionalized into the everyday operations of the organization.

The overarching goal of the supporting interventions developed by Hasson and colleagues (Chapter 9), for example, was to ensure that line managers could develop and consolidate their leadership competencies in an environment where their direct supervisors understood and reinforced their newly developed skills. In this way, the supervisory support was critical for line managers to bed-down the new competencies and ensure these were applied on a consistent basis. Likewise, a key goal of the team and leader-directed intervention developed by Bauer and Jenny (Chapter 10) was to ensure that the participating work units developed the capacity to identify and address issues when and as they arise. As a result, teams are not reliant on outside "experts" to find a way forward but instead can achieve sustained effectiveness through having the skills and confidence to continually adapt to their changing circumstances. Finally, a recurring theme in the first three chapters in this book was the need to focus on current work tasks and processes and to

use the knowledge and experiences of the employees and managers involved, to identify ways of improving these tasks/processes. Providing the outcomes benefit both the employee (e.g., through improved job satisfaction and self-efficacy) and the organization (e.g., reduced error rates, increased customer satisfaction) then the interventions are much more likely to become the new way of working.

Dollard and Zadow (Chapter 5) also recognized that institutionalization encompasses both the change itself as well as the processes and methods for developing and evaluating those changes. Participatory decision making, for example, is not just a process that is employed to develop interventions, but needs to become integrated into the work routines and formal structures of the organization. Similarly, von Thiele Schwarz and colleagues (Chapter 2) stress that long-term, organization-wide improvement in employee well-being cannot be achieved unless health and well-being become a priority of the organization and are taken into account everyday decision-making.

The above examples highlight that organizational interventions might start out as a set of processes or activities that have been developed with the aide of external researchers/consultants. However, in order for them to have a lasting impact on employees and the organizations in which they work, interventions need to become embedded into the very fabric of the organization; that is, the organization's vision and values, their policies, systems, and practices.

Factors that undermine intervention effectiveness

The factors that undermine or threaten to derail organizational interventions can in many ways be seen as the opposite of those characteristics that promote or strengthen intervention effectiveness. For example, highly centralized decision-making systems that prevent participatory-based intervention design; disengaged executives that pay lip-service to issues involving employee well-being and are not genuinely supportive of initiatives that have the potential to disrupt organizational systems and practices, or superficial planning processes that fail to take into account the nature of the job and the job context and result in initiatives that continually clash with the operational needs of the organization.

While the lack of stakeholder participation, managerial support and other intervention-enhancing characteristics are often cited as major barriers to intervention effectiveness, the contributions to the current book also referred to more deep-seated, underlying attitudes and actions that are not only damaging in their own right, but have knock-on effects for participatory decision making, collaborative planning techniques, management support and the like. These issues are covered in more detail in the following section.

Organizational cynicism

Contributions to the current book raise concerns about employees' cynicism towards the organization to adequately address the work-based sources of poor

health and well-being. Typically, cynicism directed at the organization and its leaders is fueled by the belief that senior management lack the integrity and/or capacity to implement initiatives designed to identify and tackle adverse working conditions (Andersson & Bateman, 1997; Dean et al., 1998). That is, executive-level personnel do not take employee well-being seriously; that they see organizational interventions as a passing fad (a "program-of-the-month" initiative); that they are more interested in meeting production deadlines, sales quotas, and other operational targets, and; that they won't provide the necessary time, funding, and other resources to methodically plan, implement, and evaluate the interventions. Overall, these views represent a major loss of faith in the organization and give rise to the belief that the changes espoused by senior management will not occur (Armenakis et al., 1999).

Examples of the impact of organizational cynicism was evident in the chapters by Axtell and Holman (Chapter 3) and Dollard and Zadow (Chapter 5). In the first case, managers from one of the studies had rejected the suggestion from the participating teams to reverse an outsourcing decision that had been made prior to the study commencing. Those teams subsequently became disengaged from the intervention process and were unwilling to implement changes in connection with the intervention. Not surprisingly, the job redesign initiative did not lead to an improvement in job characteristics or well-being among those teams. In terms of the Dollard and Zadow chapter, while participants taking part in the capacity building workshops were very positive about the risk management process – to identify key stress issues and develop appropriate controls through action plans – they also expressed cynicism about whether the action plans would be implemented and whether the desired changes would actually occur. Cynicism towards organizations and their leaders is common place in many organizations (Bommer et al., 2005; Cole et al., 2006), however, levels are likely to be elevated in state-funded human service organizations like those taking part in the Dollard and Zadow study where large-scale restructuring, job shedding, cost-cutting, and other efficiency-oriented strategies have been prevalent for the past 15–20 years (Noblet & Rodwell, 2009).

A key reason why greater attention needs to be directed at addressing organizational cynicism is the potential impact that cynical attitudes and behaviours can have on the capacity of organizations to address adverse psychosocial working conditions and the associated health outcomes (e.g., job stress, burnout). As alluded to in the cases above, cynicism towards organizations and their leaders is characterized by a range of negative emotions (e.g., frustration, apathy), attitudes (e.g., dissatisfaction, intention to quit) and behaviours (e.g., reduced citizenship behaviours, and employee turnover) (Andersson & Bateman, 1997; Dean et al., 1998). When experienced at a group or organizational level, the dissatisfaction, detachment, and a sense of hopelessness that the situation can or will improve can undermine any attempts to engage employees in the collaborative design initiatives discussed in the current book and to use workers' ideas and insights to co-create strategies that improve work tasks and systems. Cynicism directed at leaders and the organization

overall therefore represents a significant barrier to organizational change readiness and in the longer term can undermine efforts to enhance the well-being of employees and the environments in which they work.

Distrust and power imbalances

Similar to organizational cynicism, a lack of trust and significant power imbalances can reduce employees' willingness to share ideas and perceptions in an open and frank manner. This issue is especially problematic for participatory intervention design processes such as those described in the first three chapters of this book. For example, Ipsen et al. (Chapter 1) note that "Typical issues are related to organizational power and mutual trust that affect the relations between management and employees. Trust issues will naturally curb the openness of the participants, thereby impeding knowledge sharing."

Issues of trust and power imbalances were also raised in the Axtell and Holman's study involving the call centres (Chapter 3). Employees feared that they'd be penalized if the introduction of the job redesign strategies resulted in reduced performance. As noted by the authors, such was the magnitude of this fear, that the researchers themselves were forced to take action:

> Indeed, this (the fear of being penalized) was such a concern that the researchers had to negotiate with management that during the implementation phase employees would not be penalized for missing targets due to their involvement in the intervention process or when trying out new activities as a result of the agreed changes. Thus, a bedding-in period was agreed to reassure participants that their 'performance figures' would not be evaluated negatively.

While employees' fears were not realized in this case, the example does illustrate that the concern raised by employees and the underlying distrust that appeared to be driving this fear, could be a more significant issue in other workplaces. This would be particularly true in cases where there was considerably more pressure to maintain volumes and/or quality of performance and where employees were reluctant to voice their concerns to management, even with the support of an advocate.

One-size-fits-all approach

A lack of alignment between the intervention and the context is one of the few examples of where the absence of the facilitating factors was explicitly referred to by contributors as a barrier to effective intervention development. The Martin and LaMontagne study (Chapter 8) in particular, highlights the lack of research attention given to the specific needs of small-medium sized organizations (SMEs). The authors also lament the lack of information on how guidelines for protecting

and promoting mental health in the workplace should be implemented in SMEs. The absence of tailored information and advice is especially noteworthy given that SMEs account for over 99 per cent of businesses in the UK and Australia and that most working people are employed or self-employed in this sector.

Poor alignment was also identified as a barrier to reaching the target population in the chapter authored by Wåhlin-Jacobsen (Chapter 4). Here the author evaluated Kaizen-inspired "Improvement Boards" using mixed methods evaluation techniques to identify the circumstances in which the Improvement Boards were more or less successful. While the Improvement Board was successful in facilitating the development and follow-up of a number of action plans, they were only beneficial for teams that were able to have regular meetings at a fixed time. More specifically, they did not work so well in contexts where there was shift-work and periods of heavy workloads created by high production goals and concurrent government inspections.

Major gaps in knowledge

Examining the factors that help or hinder the planning, implementation, and evaluation of organizational interventions has helped to identify areas where further research is required. The first of these gaps in knowledge is a direct extension of the factors identified as undermining intervention effectiveness. Specifically, there is a lack of information and guidance on how researchers and practitioners can work or even engage with organizations where there are high levels of cynicism towards the organization and its leaders, where employees seriously doubt the integrity of key authority figures and where the distrust and power imbalances make it difficult to even initiate a conversation about strategies to improve health and well-being. As recognized in the Introduction to this book and the broader organizational change literature (Armenakis et al., 1993; Dean et al., 1998), concerns about the motives or competencies of senior personnel represent a major source of resistance to change. Yet, while these concerns suggest that an important first step in building healthier and more satisfying working environments in these organizations is to identify ways of breaking down the "them and us" mindsets and building trust between organizations and their members, there is a general absence of information on how this can be achieved. Further research is therefore required to develop evidenced-based strategies for reducing cynicism and other negative attitudes towards leaders and their ability to bring about the required change.

Another area requiring greater research attention is how to undertake organizational interventions in specific contexts. This need relates to the overall lack of research examining "what works for whom in which circumstances" (Nielsen & Miraglia, 2017) and was highlighted as a particular issue in several contributions to the current book. Martin and LaMontagne (Chapter 8), for instance, point out that while the vast majority of people are employed in SMEs, guidelines for planning, implementing, and evaluating workplace mental health initiatives fail to take into account the unique needs or capacities of this sector. Their research exploring

the potential to apply an integrated approach to protecting and promoting mental health among SMEs makes an important contribution to the literature involving SMEs, especially in relation to the integrated approach to protecting and promoting workplace mental health, however, the authors recognize the clear need for continued research in this area. Likewise, Wåhlin-Jacobsen (Chapter 4) found the Improvement Board workshops were only successful for groups who could have meetings at a fixed time. Heavy workloads, complex rostering schedules, and middle managers shutting down ideas were major barriers to the success of these workshops. These issues raise the more general concern of how do researchers/practitioners undertake organizational interventions in high demand – low-resource working environments where the very conditions that make it difficult for employees to take part in planning meetings and attend workshops (e.g., heavy workloads, tight deadlines, inadequate support, lack of human resources) are the same conditions that pose an ongoing threat to their health and well-being.

In addition to exposing specific contexts where further research is required, this book also highlighted specific intervention tools and techniques that needed to be examined more closely. In Chapter 6, for example, Abildgaard outlines five practical strategies for evaluating complex organizational interventions while also highlighting potential pitfalls. These strategies are in response to the lack of information on how to link program theory and evaluation models with concrete data collection activities. While the chapter goes some way to addressing this shortcoming, the author readily acknowledges that other strategies need to be examined as well. Similarly, in Chapter 4, Wåhlin-Jacobsen recognizes that although frameworks for planning, implementing, and evaluating organizational interventions follow a similar sequence and comprise a relatively uniform set of steps or phases, the specific tools and techniques used in each phase can vary significantly. Yet these tools and techniques are rarely the subject of in-depth evaluation and given that the tools can have a significant influence on the outcomes associated with the phase in question (e.g., problem identification, action planning), more research in this area is needed.

In Chapter 1 of this book we argued that the gaps between research, practice, and policy should be closed and that this could happen through evaluating organizational interventions using realist evaluation. The evaluation methods presented in this book focused on evaluating a specific tool (Kaizen) in Chapter 4 by Wåhlin-Jacobsen, complex interventions (Chapter 6, Abildgaard), or the evaluation of the preparatory phase (Dollard and Zadow, Chapter 5). Although these chapters provide valuable input to evaluation that may be of use to occupational health practitioners, organizations, and researchers, more is needed to understand organizational interventions at the policy level.

The final research gap relates to the way in which organizational interventions are typically designed. Despite almost all intervention frameworks emphasizing that change is both cyclical and incremental and that prior learning informs future learning, most studies only report on the first revolution of the "plan–do–check–act" cycle. That is, there is little information on how the knowledge gained from

initial intervention efforts contributed to the form and function of subsequent interventions. The need to track organizational interventions over multiple cycles is critical in situations where senior management and other key stakeholders are reluctant to tackle the deeper, more problematic issues – at least in the first instance – but are prepared to "test the waters," addressing less-challenging matters where "quick wins" can be gained. The knowledge and confidence gained from the initial efforts can then improve the organization's readiness to address more problematic issues in follow-up strategies. Monitoring interventions over multiple cycles can also be beneficial in complex and sometimes unpredictable operational and organizational settings where determining the types of changes required is difficult and a more incremental approach enables change agents to work out the most appropriate combination of options as the organization continues to adapt to a range of regulatory, economic, political, and social forces. From a researcher's perspective, the incremental approach to intervention development and evaluation is more time consuming and therefore costlier. However, given the rise in internal and external environments that are simultaneously complex, dynamic, and unpredictable, gaining an accurate understanding of the benefits and pitfalls associated with the intervention cannot be achieved unless interventions are planned, implemented, and evaluated on a cyclical basis (Todnem By, 2005).

Future directions and concluding comments

This book presents recent work from some of the world's leading researchers in the field of organizational intervention research. When viewed together, these contributions provide a snap-shot of the current literature in this area and, in particular, shed light on the factors that can facilitate the development of effective and sustainable interventions or undermine these efforts. While characteristics such as participatory decision-making, multi-level management support, strong alignment between the intervention and the context, and institutionalizing interventions can contribute to positive outcomes, negative attitudes directed at the organization and its leaders (including organizational cynicism and distrust) jeopardize efforts to tap into the knowledge and expertise of employees, to develop a shared understanding of the problem, and to co-create interventions that are both effective and sustainable. The current book also helped to identify important gaps in the literature and to establish where future research attention in this field needs to be directed.

Determining the direction of future organizational intervention research needs to take into account existing gaps in the literature as well as the types of conditions that are likely to dominate the business landscape in the short to medium term. There are clear signs that working in complex, dynamic settings where demands are high, resources are low and continuous change is a natural state will be a challenge confronting researchers and practitioners well into the future (Armenakis et al., 1999; Todnem By, 2005). In this context, identifying "what works for whom in which circumstances" is an important overarching goal and, accordingly, change agents need to have a large "toolbox" of methodological conventions and

techniques that can enable them to match intervention content and processes to the needs of the organization, regardless of the size of the organization or sector/ industry in which the organization operates. At the same time, priority should be given to focusing on the particular challenges faced by SMEs, which are under-represented in current research, and identifying the types of strategies and associated resources that can lead to sustained change in this sector. Along similar lines, atten-tion also needs to be directed towards generating knowledge to help organizations with low levels of change readiness, especially where there's a long history of failed change efforts and where maladaptive attitudes such as cynicism and distrust are pervasive and threaten to stymie or derail any attempts to generate genuine partici-pation, collaboration, and commitment among stakeholder groups.

The "doing more with less" mantra that dominates organizational decision-making in organizations across most sectors, coupled with the complex and dynamic nature of contemporary working environments, raises the need to invest in lines of research that can "help organizations help themselves." Focusing on leaders and their teams (as per Bauer and Jenny [Chapter 10], Hasson et al. [Chapter 9]), as well as specialist personnel such as OSH practitioners (see Henning et al. [Chapter 7]), and intervening at the organizational–individual interface is therefore an intuitively logical strategy. This is particularly true given the current climate where the com-plexity and volume of demands are increasing and where there are often concomitant reductions in the resources available to respond to and address these demands. In this context, there is little alternative but to learn how to make the most of existing resources. The type of research outlined in this book can play a valuable role in facili-tating that learning and hence there is clear evidence that organizational intervention researchers represent an important part of the capacity-building process.

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INDEX