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RESEARCH ARTICLE

REVISED Workplace mental health promotion in a large state organization: Perceived needs, expected effects, neglected side effects

[version 2; peer review: 1 approved, 3 approved with reservations, 1 not approved]

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v2 **First published:** 24 Mar 2021, **1**:17
https://doi.org/10.12688/openreseurope.13192.1
Latest published: 15 Oct 2024, **1**:17
https://doi.org/10.12688/openreseurope.13192.2

Abstract

Background

Work ability and mental health in the workplace is increasingly promoted in terms of workplace health management. In order to select suitable interventions at work in a concrete context, employees and managers of a large state organization (science and development sector) were asked about perceived needs, desired effects and possible side effects of health promotion interventions.

Methods

13 semi-structured interviews with managers and three focus group interviews with employees (*N* = 20) were conducted in autumn 2020 by a behavior therapist in training. The evaluation was carried out by a qualitative content analysis of the interview transcripts according to a deductive procedure and was checked by two independent raters.

Results

Most frequently, need was expressed for individual case counselling by a health expert due to the diversity of work-related problems. Managers would like to see more health-related leadership training, and a review of the various communication channels of their organization. Expected positive effects are increased self-efficacy, higher person-job-fits and reduced absenteeism. Side effects were mentioned, such as confusion of health management activities with therapy, or sensitization effects when speaking too much about

Open Peer Review

Approval Status ✓ ? ✗ ? ?

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version 2 (revision) 15 Oct 2024	✓ view		✗ view	? view	? view
version 1 24 Mar 2021	? view	? view			

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mental health in mentally healthy teams. Lack of competence with the topic of mental health was mentioned as a reason for non-participation in mental health promotion activities.

Conclusions

The role of managers in relation to mental health needs to be more defined. Side effects related to mental health activities should be considered in evaluations. Selection of health interventions should depend on the concrete needs of the organization.

Keywords
workplace health promotion, prevention, qualitative study, needs, mental health, side effects



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Author roles: Werk LP: Data Curation, Formal Analysis, Investigation, Project Administration, Writing – Original Draft Preparation; **Muschalla B**: Conceptualization, Funding Acquisition, Methodology, Supervision, Validation, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: This research was financially supported by the European Union's Horizon 2020 research and innovation programme under the grant agreement No 847386 (project H-WORK).
The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

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How to cite this article: Werk LP and Muschalla B. **Workplace mental health promotion in a large state organization: Perceived needs, expected effects, neglected side effects [version 2; peer review: 1 approved, 3 approved with reservations, 1 not approved]** Open Research Europe 2024, **1**:17 https://doi.org/10.12688/openreseurope.13192.2

First published: 24 Mar 2021, **1**:17 https://doi.org/10.12688/openreseurope.13192.1

REVISED **Amendments from Version 1**

In response to the reviewer comments we have added a paragraph in the theory section on the current state of qualitative studies on workplace mental health promotion and expanded our explanation of how our study is different from those previous studies. We have explained in more detail what our study adds to the current knowledge of this subject and included more quotes to the results section. The methods section has also been made more detailed and a couple of mistakes have been corrected relating to study size.

Any further responses from the reviewers can be found at the end of the article

Introduction

As employees' health is important for work ability and productivity, a variety of mental health-promoting training is conducted in the work context (Chu *et al.*, 2000; Czabała *et al.*, 2011). According to the person-job-fit (French, 1973) and the job-demands resources model (Bakker & Demerouti, 2017), the workplace can have a positive impact on mental health and productivity if work demands fit well with the person's capacities and the setting's resources. The person-job-fit must be evaluated individually for each employee, because employees have different capacity profiles. However, do all employees need mental health promotion training? For employees who already have a good fit between demands and resources in their workplace, there might be no need for such training. This contradicts the "one size fits all" principle. Furthermore, thinking too much about one's own stress can lead to sensitization effects and even have a negative impact on mental health (Eriksen & Ursin, 2002).

For this reason, we conducted a qualitative investigation with employees and managers from a large state organization. We asked for employees and managers perceived needs for mental health promotion at work. Since little attention has been paid to side effects of work-oriented trainings (Linden & Schermuly-Haupt, 2014), the interviewees were also asked about possible negative consequences of health-promoting trainings in the workplace.

Mental health and mental health prevention at work

Mental health problems are frequent: about one third of the general population is affected by any mental health problem (Wittchen *et al.*, 2011). Mental disorders since the early 2000s have been responsible for about twice as many incapacities to work in comparison to physical illnesses (Linden & Weidner, 2005). An average of 5.7 cases of incapacity to work per 1.000 members were recorded by a national health insurance company due to mental health problems (AOK, 2019). Under modern work demands, which increasingly require psychological capacities, persons with weak mental health often have problems in fulfilling achievements, or demands for endurance, flexibility or interactional capacities. Problems may occur in the form of work-related anxieties which often come with long absences, incapacity to work and disability (Muschalla, 2016).

Longitudinal studies have shown that conditions at the workplace have a significant influence on mental health and work coping (Chevalier & Kaluza, 2015). The German Association for Psychiatry, Psychotherapy and Psychosomatics (DGPPN) has addressed the interaction of work demands and mental health problems in a position paper that proposes preventive, curative and rehabilitative measures (Berger *et al.*, 2012). Preventive measures include strengthening the resources of employees and organizing working conditions that fit to the employee's capacities (Berger *et al.*, 2012; French, 1973). In addition, mental health was included in the workplace risk assessment of many European countries (Berger *et al.*, 2012).

In the treatment of work-related disorders and reintegration of employees on sick leave due to mental health issues, there is need to find the right person-job-fit (French, 1973). Managers are often made responsible for assessing the demands of the workplace and finding the right person-job-fit, including for employees with health problems. This is only possible in cooperation with the employee's physicians and company doctors. It was found empirically that employers have difficulties obtaining the relevant information for a stress assessment from employees (Hofmann, 2014). Mental health organizations suggest addressing the prevention of the individual and actively counteracting burdens at the workplace that result from missing person-job-fit (Berger *et al.*, 2012).

Previous programs for workplace health promotion and their effects

A recent systematic review (Bellón *et al.*, 2019) summarized findings from three randomized controlled trials (RCTs) from Finland, Japan and the USA. Only programs in group settings were found. As core interventions, stress management, social support, goal achievement and personal strengths were addressed to reduce mood disturbance symptoms.

Interventions used to increase mental health and well-being in the workplace are especially used for employees in the health system. Häggman-Laitila & Romppanen (2017) identified four studies about significant stress reducing interventions for nurse leaders: Three studies (Pipe *et al.*, 2012; Tang *et al.*, 2010; Yong *et al.*, 2011) reported cognitive techniques and mindfulness to reduce stress, mood disturbances and anxiety. The fourth study used behavioral exercises to strengthen teamwork and communication (Pipe *et al.*, 2012).

Lee *et al.* (2010) achieved significant positive effects in increasing emotional health and reducing burnout through leadership development training. Interventions have also been carried out to increase well-being in the workplace of general practitioners: four RCT studies - two with cognitive-behavioral techniques, one with mindfulness and one with health feedback and self-help information - all showed significant improvements in mental health (Murray *et al.*, 2016). Studies on stress prevention among healthcare workers (Ruotsalainen *et al.*, 2015) tested different preventive approaches within 14 RCT studies (e.g. cognitive-behavioral, participatory problem solving and decision-making, attitude change and communication). They found only short-term effects in stress reduction

and no significant improvement over six months. Other review research found 10 RCT studies of preventive interventions for health care workers with positive effects on reduced job stress and higher job satisfaction (Van Wyk & Pillay-Van Wyk, 2010). In this review only one study found medium-term positive effects on work demands and work satisfaction at 30-week follow-up (Lökk & Arnetz, 2000).

Interventions to increase mental health and well-being are also implemented in the education sector. Four studies used stress management training, school-wide coaching and mentoring support, among others (Naghieh *et al.*, 2015). Overall, the effects on work ability, job-related anxiety and burnout were small (Naghieh *et al.*, 2015). Programs for young adults in education refer in particular to positive psychology and mindfulness, with about half of the 57 studies in a systematic review (Cilar *et al.*, 2020) showing significant effects for well-being, problem-solving and stress reduction.

As we have seen, there are many quantitative studies evaluating health-promoting trainings and their effects in the workplace, but qualitative studies are still emerging. Since the 2010s, there has been an increase in the number of studies that collect qualitative data on workplace health promotion based on interviews and mainly ask about the possibility of implementing workplace health promotion activities.

A systematic review by Rojatz *et al.* (2017) analyzed the available research on health-promoting activities in organizations between 1998 and 2013. They investigated the reasons for (not) implementing health-promoting measures. Most of the 54 included studies related to the implementation phase of workplace health promotion. External factors (e.g. economic crises), a lack of coordination of the intervention and changes in external project management would make the implementation of interventions more difficult. In addition, there were organizational challenges such as special organizational structures to which the interventions had to be aligned (e.g. division of business units), organizational change or a lack of support from the management level. At the level of the intervention, the greatest challenges were the fit of the intervention with the organizational structure (e.g. thematic focus, relevance for the organisation), procedural aspects (e.g. unrealistic scheduling) and communication (e.g. too many communication channels). "Promoting the intervention" was named as a favorable factor. Sargent *et al.* (2018) conducted interviews with managers and employees in 10 Australian SMEs to investigate (non-)participation in workplace health promotion and the factors behind it. The main factor explored for non-participation was lack of time, so that activities clashed with other work schedules. Most employees did not want to take part in workplace health promotion outside of working hours (Sargent *et al.*, 2018). Saito *et al.* (2022) also focus on SMEs in their study. They conducted semi-structured interviews with managers and employees in 15 SMEs in Japan and asked about factors that promote and hinder health-promoting activities. Leadership commitment of employers was named as one of the central factors for the implementation of health trainings, which is indispensable for the successful implementation of workplace health promotion. In addition to a lack of resources, the attitude that "health management is one's own responsibility" was cited as a barrier (Saito *et al.*, 2022). Pescud and colleagues (2015) considered the views of employers in the industry in Australia on workplace health promotion and found through focus groups that they are not aware of the benefits of workplace health promotion for employee wellbeing and the importance of employee health, which is why few initiatives are implemented (Pescud *et al.*, 2015).

Side effects of mental health interventions

An aspect that has been somewhat neglected until now is that any kind of intervention may have not only positive impacts, but also negative side effects. Only recently, side effects have become a seriously discussed and investigated phenomenon in the field of psychological intervention research (Linden *et al.*, 2020; Schermuly & Graßmann, 2019). Mental health prevention intervention in organizations can have several negative side effects, such as dysfunctional sensitization of employees and managers on mental wellbeing, e.g. focusing too much on potential harms, wellbeing, and a misunderstanding of mental illness as being caused by the workplace ("I believe work has made me sick"). As another problem, unrealistic expectations may occur such as "Work must make me happy every day and if it does not, it is not the right job for me". Such unrealistic expectations may give rise to problems that would not have come up if "wellbeing" had not been induced as a major topic within a mental health campaign.

For example, frustration was reported after leadership workshops, as the implementation of the training content into everyday work was not successful because the content was too theoretical and there was a lack of support for implementation by supervisors reported (Lee *et al.*, 2010). There is a lack of evaluation of long-term effects of various mental health training programs, and it has been suggested that workplace interventions should address more specific stressors (Ruotsalainen *et al.*, 2015). Despite short-term effects for reduced stress and improvement of job satisfaction, it may be that there is no evidence of reduced staff absenteeism (Van Wyk & Pillay-Van Wyk, 2010). It was even found that there were no significant effects of workplace interventions on the long-term return to work process (Van Vilsteren *et al.*, 2015).

Some studies show strong drop-outs or non-participation (Murray *et al.*, 2016): from an original sample of 338 students in an online program, 234 dropped out because they made a conscious decision not to continue participation, or teachers withdrew students from the program (Burckhardt *et al.*, 2015). Another program had a non-response rate of 32.6% (Weinberg & Creed, 2000): reasons for non-response were the additional time required for participation in the study, and the fact that support staff and doctors in particular did not feel addressed by the topic of mental stress. A comparison of drop-outs from control and intervention groups found that all drop-outs were "healthier" participants who did not feel the

need to participate (Gardiner *et al.*, 2004). Also, interventions are particularly used by those who do not urgently need them ("preach to the converted", Holt & Del Mar, 2006).

Furthermore, interventions can have negative effects if qualified professionals with knowledge about skills and mental health promotion do not take over the management of such interventions (Cilar *et al.*, 2020).

In sum, studies until now have shown the short-term effectiveness of different workplace interventions on stress levels, job satisfaction, depressions symptoms, team climate and well-being. However, it is until now unclear which interventions are suitable for whom and which interventions also have long-term effects on work ability, RTW and absenteeism. Furthermore, drop-out and non-participation have been identified as problems, which leads to the question of how much workplace mental health initiatives are senseful and for whom.

In order to fill this research gap, this present study has been conducted as the first part of a longitudinal project that covers needs analysis, interventions and their evaluation in different organizations in Europe (H-WORK, De Angelis *et al.*, 2020). The first project step is the needs analysis, the results of which are reported here. The needs analysis aims to explore the needs for interventions to promote mental health in the workplace from the perspective of employees and managers on the basis of interview data and evaluation using qualitative content analysis. The needs analysis is followed by the implementation of the derived interventions in the workplace, their conduction and evaluation based on several measurement points. The relevance of mental health in the workplace as perceived by managers and employees, and needs for health promotion interventions are investigated qualitatively.

Research question

This study investigates attitudes and needs in relation to mental health in the workplace as perceived by managers and employees. In terms of the legally defined risk assessment (Bundesrat, 2013; WHO, 2008), information is to be gained on how this is implemented in public institutions and organizations and what support managers and employees still need and do not need within the workplace for health promotion. In contrast to previous qualitative studies on workplace health promotion, the focus here is on a public organization. Our study examines the specific needs of managers and employees for health-promoting activities. Side effects have not been taken into account in previous research on workplace health promotion and are included here.

Research questions are:

1. What are the **current unsolved problems** regarding mental health at work as perceived by managers and employees of a public institution?
2. What can be done to solve these problems and **which positive effects should result from suggested activities and interventions**?
3. What **problems and side effects** may be associated with the implementation of these proposed interventions?

Methods

The conduct of the study was reviewed and approved by Horizon 2020 and the ethics committee of the Faculty of Life Sciences at the Technische Universität Braunschweig, (ethics approval number D-2020-07). Written informed consent for participation and publication of the participants' anonymized data was obtained from the participants.

Setting

This study was carried out in a large state organization in Northern Germany, which belongs to the sciences and development sector and is self-administrated. The organization consists of six overall (administrative) departments with subunits and four research and development centres. In sum, 6418 people are employed in the organization, i.e., 243 managers and 4678 subordinate employees in research and development, and 1497 managers, employees and trainees work in administration.

Participants

All 6418 employees of the organization were informed about the project by email (through an organization-wide mailing list) and got the invitation for participation in needs analysis interviews. Two managers reported back willing to participate without being contacted personally. 15 managers, 22 employees and one security officer were in a next step invited by personal contact: from each of the organization's six departments, on average three managers were asked to participate, and asked to name employees from his/her unit who were willing to participate as well. Managers were approached personally by the occupational health manager of the organization, who acted as an internal cooperation partner. She approached the managers with whom she was already in professional contact and assumed that they could agree to participate due to their high level of commitment in the work context. They passed on the information to their teams that all employees can also take part in the needs analysis.

In sum, 33 of the 40 personally invited reported back with interest to participate. Semi-structured interviews have thus been done with 13 managers and 20 employees. The average age of the managers was M = 45.38 years (range: 32–65 years) and five out of 13 were men. Five managers belonged to the research and administration staff and eight to the administration staff (see Table 1). The organization has a total of 6 faculties for research and administration, 4 of which were represented by managers in this needs analysis. All three administrative divisions (1) Human Resources, Law and Studies, (2) Finance and (3) Facilities Management were represented by managers. The exact assignment of the managers is not mentioned for reasons of anonymization.

The average age of the employees was M = 40.1 years (range: 19-63 years) and two out of 20 were men. Seven employees belonged to the research and administration staff and 13 to the administration staff (see Table 1). All faculties in

Table 1. Sociodemographic data of the participants.

	Managers (*N*=13)	Employees (*N*=13)
Age	M=45.38 years (SD=10.62)	M= 40.1 years (SD=8.61)
Gender		
Women	8	18
Men	5	2
Organizational unit		
Research unit	5	7
Administration unit	8	13

research and administration and two of the three administrative divisions were represented by employees.

The needs analysis interview was carried out through semi-structured interviews according to guidelines and lasted about one hour. The interview guideline was drawn up by the H-WORK working group, in which the interviews were conducted, on the basis of a deductive approach of a needs analysis. The Job-Demands-Resources model and the IGLO model served as theoretical basis here (Bakker & Demerouti, 2007; Nielsen *et al.*, 2018). The interview was done by a Master psychologist (L.W.) who was presently in training as a behavior therapist, and thus well trained in interview techniques and structured exploration. The qualitative survey was done in September-November 2020. Sound recordings and word-by-word transcripts were prepared for those interviews for which consent was given. The protocols were typed up word for word by the researcher and assistants. The transcripts were not corrected by the participants, the interviewer took additional notes. The interviews were analyzed through a qualitative content analysis using a deductive approach. With the help of the MAXQDA 2020 software (a freely available alternative software is QDA Miner Lite), categories were built and the texts from the interviews were coded according to the research questions. The coding tree is available as *Extended data* (Werk & Muschalla, 2021). Cross-tabulations were calculated with kappa statistics. An inter-rater reliability of $\kappa = .63$ was determined with a code overlap of 70% between two independent trained raters. Participants were offered the option to receive a summary of the study's results after study completion.

Semi-structured interview

Interviews were conducted by a female trained Master psychologist (L. W.) who was in training to become a behavior therapist. The participants knew the aim of the study, the professional background of the interviewer and were informed about the topics in advance. Before the interview, the interviewer and the participants were unknown to each other. In the first step, the interview partners were asked for basic socio-demographic data (age, position, department, size of the team, length of employment in the organization). Using a structured interview guide, they were then asked about problems regarding mental health and well-being that occur in everyday working life. Subcategories such as communication, stigmatization, leadership, demands and COVID-19 were mentioned. Employees and managers were asked to describe ideas for solving problems and desired positive effects. They could refer to resources in the workplace and previous interventions. Concrete intervention contents, settings and designs were discussed. In the last step, the interviewer asked for possible barriers, problems and disruptive factors in the implementation of such activities and interventions. Participants were able to draw on previous experiences or freely consider what problems and side effects they could imagine. 12 manager interviews and three focus groups were conducted face-to-face, one manager interview and two focus groups took place online. The face-to-face interviews were conducted in the offices in the workplace without any other persons present.

Non-participants and drop-outs

Six participants were asked for an interview and decided not to participate. One participant withdrew from the interview after reading the consent form. The reasons are shown in Table 2.

Results

Current unsolved problems

Both employees and managers mentioned that employees need a mental health expert (who is not member of their own working team) to discuss individual work-related problems (Example quote employee: "There are simply issues that I can't or don't want to discuss with my manager because it could have a negative impact on my work. Unfortunately, the relationship of trust here is not so good. It would be good to have someone who listens to the problems and keeps them to themselves."). This problem was mentioned 29 times (Table 2). 10 out of 13 managers mentioned the problem of insufficient leadership training on healthy leadership and dealing with mental health in the workplace (Example quote

Table 2. Reasons for non-participation in the qualitative interview on needs for mental health promotion in the workplace.

Non-participants	Role in organization	Reason for non-participation
1	Manager	He said there was no need for mental health interventions, this is not a priority at his workplace.
2	Employee	He has no relation to mental health.
3	Manager	Due to COVID-19 there is a lack of time for the interview participation.
4	Manager	Due to COVID-19 there is a lack of time for the interview participation.
5	Security Officer	She reported work overload, did not want to take part in the interview in order to take care of her own mental health.
6	Manager	His team would be too small for him to make a statement about mental health as a manager.
Drop-outs	**Role in organization**	**Reason for drop-out**
1	Employee	After reading the consent form, he decided not to participate, as data collected is too personal.

manager: "That's one thing. Some employees are very open about their mental health problems. Others don't say anything, but it's noticeable in the workplace that something is wrong. I often don't know what to do. Should I speak to him, or do I scare him off? It's also about private problems that don't necessarily have anything to do with work."). This problem was not mentioned by employees. Most managers (10 out of 13) said that there were structural communication problems within the organization, with information being spread over too many different channels or being too unstructured (Example quote manager: "This is a general problem at the university. We have the information portal, the website, thousands of newsletters and then internal mailing lists. You can no longer keep track of what is being sent out and a lot of information slips through the net."). Lack of communication between the organization's management and the departments, as well as inconsistent transmission of facts were mentioned by managers less often. Only one manager out of 13 criticized the reintegration management's support in cases of employees with a long period of sick leave (Example quote manager: "She was on sick leave for months and then I didn't even know, is she talking about reintegration? What stage has the process reached? That made personnel planning more difficult."). Managers focused on their role as leaders, while employees' interest rather touched structural problems (e.g. further training opportunities). Managers and employees agreed that there was a need for individual counselling for work problems instead of a broad range of unspecific general information or seminars (Example quote employee: "We have a lot of seminars on offer, but nothing where I can get confidential advice on my own topics. The seminars are all well and good, but the application quickly falls by the wayside in everyday life.").

Expected positive effects

Managers and employees hoped for increased employee self-efficacy and problem-solving skills by means of counselling for individual problems (29 out of 33, example quote employee: "If I have a conflict with a colleague, it's no use sitting in a seminar talking about communication in general. I want to talk to someone who knows about this specifically about my colleague and how I can deal with her."). Organizational changes, such as the restructuring of information flows, reduction of bureaucracy, or identification with the organization and its mission statement, are intended to make information and interventions more accessible, reduce workload and improve cohesion (15 out of 33). Overarching expected positive effects relate to higher job satisfaction, less work overload or underload, higher person-job-fit, and reduced absenteeism (Table 3).

Possible side effects

A variety of possible side effects were mentioned within the semi-structured interviews: the counselling may be perceived as "therapy", or may raise expectations too high, although this could be avoided with only a few sessions and a focused goal (e.g. goal: "learning to work with weekly to do lists in a senseful way", but not: "healing a mood disorder", which the coachee may also have as a general health problem outside of work, example quote manager: "With these services, you have to be careful what you promise as a goal. Some employees have an underlying mental disorder that cannot be cured by university counseling. If someone goes there with this expectation, they will certainly be disappointed.", 3 out of 33). The social environment of the participants - family, friends or colleagues - could react negatively, if the behavior of the coachee changes ("Why doesn't she want to do this task? She has always carried out this task until now") (5 out of 33).

During restructuring of the information channels, information may be lost or new versions of programs could be technically overwhelming and therefore not used (3 out of 33). Example quote employee: "After four years, I have finally familiarized myself with all the information channels and know where to get what information. If that is thrown out the window again, it will take me years to find my way around.".

As the needs analysis showed that no further preventive interventions are needed in a large organization, preventive interventions might even be in danger of causing sensitization effects ("I never thought about this before, but maybe my

Table 3. Reported problems and suggested solutions for mental health issues in a large organization (research and development and administration) given by managers and employees in a semi-structured interview (*N* = 33).

Role	What is the present (unsolved) problem? (x)[1]	What has already been done? Which interventions are existing in the organization?	What should be done? IT Information & Training D Specific Diagnostics P Preventive Intervention C Curative Interventions R Rehabilitative Interventions S Structural changes in organization	Why should this be done? Which positive effect is expected?	Which problems may occur? Which side effects are expected from the activities that should be done?
Manager (*n* = 13)	Lack of sufficient counselling services for individual work problems (11)	Counselling in the field of reintegration management and addiction counselling	DPC: low-threshold individual counselling on work-related problems by qualified personnel without long waiting times	Strengthening self-efficacy, behaviour-oriented problem solving	Counselling may be perceived as therapy, there may be too high expectations, negative reactions of the environment towards behavior changes of the coachee
	Managers are not trained (enough) for mental health issues (10)		I: Inform managers about mental health at work, guidelines on competent, mentally healthy leadership I: Make the boundaries clear: managers are not doctors. Managers cannot be made responsible for their employee's health status		Managers are not trained (enough) for mental health (10x)
	Information is scattered unstructured through different channels (10)	Website, information portal, various newsletters sorted by topics	I: Reorganization of information channels, one central channel for work health issues	Easier search for specific information	Lack of information during restructuring, technical overload, getting used to the new channel
	Previous (preventive) interventions by occupational health management were not attended (6)	Mental health-related seminars are designated as low-threshold as possible ("Training for solving unsolvable problems")	I: Naming and rewriting "psychological interventions" differently, e.g. in the sense of "mental fitness" training, or "work-related counselling". I: Making a new selection of which interventions are helpful and necessary and which are not	Increased registrations for "psychological interventions"	No need for preventive offers, fear of stigmatisation when signing up in a psychological intervention
	Low cohesion in teams (4)		IT: Seminars on team cohesion, conflict solution, communication, problem-solving strategies		Remaining low cohesion in teams
	Too much bureaucracy in decision-making (3)	Responsibilities for various bureaucratic matters communicated within the university: Who is responsible for which topic?	S: Reduce bureaucratic decisions at state level, clearly separate administration from science	More time for content work, lower workload	Lack of feasibility due to laws (e.g. GDPR)
	Work overload of employees (3)		PC: Voluntary working time recording, questionnaires for self-evaluation of one's own work behavior, seminars on work-life balance and warning signs of mental overload		

Role	What is the present (unsolved) problem? (x)[1]	What has already been done? Which interventions are existing in the organization?	What should be done? IT Information & Training D Specific Diagnostics P Preventive Intervention C Curative Interventions R Rehabilitative Interventions S Structural changes in organization	Why should this be done? Which positive effect is expected?	Which problems may occur? Which side effects are expected from the activities that should be done?
	Role of middle management not clearly defined (3)		I: Guidelines for the manager's own area of responsibility: Who is responsible for what (and for what not) in the field of occupational health?		
	Neglect of person-job-fit when tasks are delegated or reorganized (2)	Job descriptions are available, employee appraisals are offered	I: Managers are informed about the importance of person-job-fit D: Employee interviews, feed-back discussions: Does your workplace fit your qualification, capacities and abilities?	Higher job satisfaction, less work overload and work underload	Lack of personnel, employees do not dare to address missing person-job fit
	Facts are presented differently at different organization levels or are not disclosed (2)	Clear or flat hierarchies, various communication channels	I: Seminars on communication of information S: greater networking between departments	Fewer conflicts, improved cooperation, better work results, greater "we" feeling of the organization members	
	Organization's management has hardly any contact with departments (2)	Not known	PC: Talks between organization's management and individual managers and employees	Identification with the organization, improved communication of all levels	Communication with organization management creates pressure, sense of supervision
	Lack of support after long incapacity to work (1)	Reintegration interviews	D: Check the fit between job-related capacities and job demands R: Workplace with degrees of freedom/tolerances for failures	Reducing periods of sick leave, easier return to work	Sensitization effects, lack of knowledge of reintegration management about matching capacities and jobs
Employee (*n* = 20)	Lack of sufficient counselling services for individual work problems (18)	Counselling in the field of reintegration management and addiction counselling	DPC: Low-threshold individual counselling on work-related problems by qualified personnel without long waiting times	Strengthening self-efficacy, behaviour-oriented problem solving	Counselling may be perceived as therapy, there may be too high expectations, negative reactions of the environment towards behavior changes of the coachee
	Lack of professional competence of administrative staff (e.g. speaking to relatives of deceased persons) (3)		I: Guidelines for dealing with specific workplace problems		
	Lack of identification with the university and its mission statement (2)	Speeches by the university management, mission statement on the website, events for all staff		Higher job satisfaction, motivation, cohesion	Too much identification could lead to overwork
	No possibility for further qualification in administration (1)		I: Communicate the natural limits of career possibilities in administration jobs right on recruitment ("realistic job preview")		

[1]Number of times the problem was mentioned

workplace makes me sick?"), or participants may be afraid of stigmatization ("This colleague went to the work coaching, I believe he has a mental health problem") (5 out of 33).

Reducing bureaucracy could fail in its implementation because laws cannot be circumvented (e.g. GDPR) (8 out of 33). Example quote manager: "The idea is not new, but we are not getting anywhere because the federate state has certain conditions that we cannot circumvent.".

In order to create a better person-job-fit, employees must communicate unbalanced demands and resources to managers and there must be enough staff, which is not the case everywhere (4 out of 33). Example quote manager: "Of course, I would like to relieve the employee of his tasks and give him what he would like to do and what he is currently better at due to his impairment. But that's not possible if we have three vacancies anyway and the whole team can't cope with the work.". The reintegration management has a lack of knowledge about matching capacities and jobs, in case there is no physician who can judge whether a health-related problem causes need for a specifically adjusted workplace. Managers are not doctors and cannot answer the question of whether an employee has work-related problems due to an illness (4 out of 33).

More communication with organization management could create pressure for the employees and too much identification with the organization could lead to overwork (2 out of 33). Example quote: "It's always a fine line and could also lead to us being in debt and the management wanting something from us. That puts the employees under massive pressure again and can trigger new problems.".

The reasons for non-participation may also add to this point: reasons for non-participation were perceived overload with the topic, having no time or not feeling competent enough to deal with the mental health of employees ($N = 6$).

Discussion

Unsolved problems and expected positive effects

Our findings show that both employees and managers who were interested in the topic of mental health at work mentioned the ***need for individual counselling and problem-solving***. In comparison to previous qualitative studies on this topic (Rojatz *et al.*, 2017; Saito *et al.*, 2022), concrete needs for health-promoting activities were identified and named by the participants, which provides valuable insights for possible intervention ideas for comparable public organizations. Previous research has focused primarily on commercial enterprises and SMEs rather than public organizations (Saito *et al.*, 2022; Sargent *et al.*, 2018). They suggested that such activities should be done when a concrete situation with the need for counselling arises, but not "preventively". Thus, individual counselling for work problems should be done instead of general global mental health information and actions. In the literature, this aspect has been discussed as well (McLeod, 2010; Rongen *et al.*, 2013) by means of individual interventions at work such as motivational interview-based health coaching (Butterworth *et al.*, 2006), stress counselling in the workplace (Cooper & Sadri, 1991), counselling programs for alcohol-related problems (Guppy & Marsden, 1997) or individual workplace training (Oakman *et al.*, 2018). They are flexibly adjustable to employees' skills and job requirements (Grant, 2005), individual stress and psychological symptoms (McLeod, 2010) and work-related issues and problems (Hughes & Kinder, 2007).

Information is also appreciated, but information must be adjusted to the needs of the recipients: e.g. managers need information about what to do when an employee is on long term sick leave, employees may need information on services that can be consulted in case of problems at work. In our investigation of a large organization with several departments and subunits here, information dissemination and information overkill were mentioned as problems. This is a structural problem that has also been reported in empirical research before: work effectiveness of health workers can be impaired by information overload in the clinical environment (Hall & Walton, 2004). In healthcare services (Wilson, 2001) and among emergency managers (Misra *et al.*, 2020), the overload of information leads to higher stress levels. In the university context, there is an immense overload of digital information and this can have a negative impact on mental stress ("technostress") and self-management capacities (Misra & Stokols, 2012).

Side effects and critiques

As a critique, it was suggested that managers have ***limited competency*** for dealing with mental health. They are not doctors and should not be made responsible for employees' health status. Mental disorders are by their nature not caused by work conditions, but work conditions can be more or less appropriate for different people with different capacities and health statuses (Muschalla, 2016).

Some managers pointed out the possibility of ***side effects*** that may occur as a consequence of information or requirements: counseling may be misunderstood as a kind of "therapy"; responsibilities for creating a person-job-fit for one's employees may be rejected due to the idea that mental health is purely a topic for physicians; and mental disorders may be confused with mental demands or healthy stress reactions (which may normally occur due to intensive work phases even if they are followed by routine work).

Side effects and possible barriers and problems in implementation that were mentioned by the interviewed employees here can be compared with other findings: extant literature suggests that managers might refuse to take responsibility for employees' mental health status or mental work ability due to own problems with mental health or work overload (Martin *et al.*, 2018). In addition, it can be difficult to strike a balance between respecting the employee's privacy and sufficient

problem exploration (Ladegaard *et al.*, 2017). In interviews, managers reported "cross pressure" between content work and leadership behavior, too little support from the organization and a lack of systematic risk assessment, which is why they would avoid addressing mental health (Ladegaard *et al.*, 2017).

In many studies on mental health interventions, side effects and negative effects have not been assessed explicitly: Murray *et al.* (2016) looked at whether drop-outs were reported, but side effects are not addressed in their systematic review. Often, non-participation and drop-outs are not reported at all (e.g. Tan *et al.*, 2014). Side effects are until now not mentioned systematically despite the fact that they can have a major impact on the effects of interventions. They should be communicated to the participants and taken into account in the evaluation (Linden & Schermuly-Haupt, 2014; Schermuly & Graßmann, 2019). Side effects in the workplace health promotion are a hitherto neglected area of research and require greater attention (Cilar *et al.*, 2020). This study makes a first start and can be used as exploratory data for further research.

Limitations

As the participations were (mainly) recruited by the occupational health manager of the organization, the participants do not provide a representative picture of the organization. Although employees from different hierarchical levels (managers, middle management, employees) and organizational areas (administration, science) were present, not all structural areas are equally represented. It can be assumed that in particular those people who have already come into contact with occupational health management, i.e. who already know about workplace health promotion and are committed to it, took part. The results can therefore be interpreted as from a prototypical representative sample, i.e. persons interested in the topic.

Conclusions

This article presents the current unsolved problems related to mental health promotion in the workplace from the perspective of employees and managers of a public institution. Workers were asked which interventions would meet their needs and what positive effects they would have, as well as which interventions they do not need. The interviews showed that employees and managers express similar needs; in particular, individual counselling and a regulation of information channels were considered most helpful by both parties. The role of managers in maintaining the mental health of employees in the workplace needs to be more clearly defined so that managers are not held responsible for the health status of their employees. Side effects, like managers' rejection of person-job fit or sensitization effects, were discussed in the context of work-related training. Further research is needed into employee work ability on an individual level, based on the person-job-fit model. In the evaluation of individual workplace training, side effects should be collected in order to better assess cost-benefit ratios. The question is "Which mental health (information) interventions fit for whom and who needs what type of support at work (if any) in order to do a good job?"

Data availability

Underlying data

The raw data collected come from interview transcripts and are subject to a high level of confidentiality and security despite anonymization. Due to this, data are reported in aggregated form in Table 2 to protect individual participants. The data are kept at the Institute of Psychology, Technische Universität Braunschweig on its own protected server and can be requested in justified cases (e.g. colleagues who want to undertake a comparative study, or a review) via the authors' e-mail addresses (b.muschalla@tu-braunschweig.de and l.werk@tu-braunschweig.de).

Extended data

Open Science Framework: Workplace mental health promotion in a large state organization: Perceived needs, expected effects, neglected side effects: Data and Qualitative Coding Tree. https://doi.org/10.17605/OSF.IO/2A3ZP (Werk & Muschalla, 2021).

This project contains the following extended data:

- Aggregated data from the qualitative interviews, and the coding tree in PDF format

Data are available under the terms of the Creative Commons Attribution 4.0 International license (CC-BY 4.0).

Acknowledgments

We thank Mrs. Ina von Zelewski for her support in recruiting participants. We have obtained her permission to be named.

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Current Peer Review Status: ✔ ? ✘ ? ?

Version 2

Reviewer Report 20 December 2024

https://doi.org/10.21956/openreseurope.20028.r47243

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?

Sabine Rehmer
SRH Hochschule für Gesundheit, Gera, Germany

The study itself is interesting and, with its qualitative research approach, provides a good starting point for generating hypotheses in relation to the research questions. First of all, I would like to thank the authors for their work. In addition to the many positive aspects, I believe that some aspects should be revised. These are presented below. I wish you all the best with the revision!

Structure and literature:
The structure of the work is clear and precise. However, the cited literature is often not very up to date, which should definitely be revised! Information on the prevalence of absenteeism and early retirement is also outdated. It should also be noted that the data from the AOK, for example, are given, but other health insurance companies also provide statistics on this.

Study design and academic value of the work:
When presenting the sample, it is not clear to what extent gender has a cross-effect with the organizational unit – please provide the assignments to gender and organizational unit in a cross-tabulation for managers and employees.
When creating the interview guide, no information on quality management is presented, for example, cognitive debriefings with representatives of the target samples or experts and, if necessary, revision of the questions. It seems unusual that the analysis was carried out purely according to a deductive approach, according to the method description. Particularly in the case of semi-structured interviews, it seems implausible that no content was mentioned that was inductively incorporated into the data analysis.
Detailed information is missing for the focus group interviews conducted with employees.
The inter-rater reliability of $\kappa = .63$ is only moderate for scientific studies and, in my opinion, insufficient.
In the presentation of the results, it is not clear how many statements the further results in columns 3-6 refer to. In addition to some statements that were mentioned by many people, many statements are also presented that refer to the mention of very few people. The presentation distorts the results.

Conclusions:
The results can only be partially traced back to a few statements, so that a generalization should be presented in a much more limited way. Also, as already mentioned, there is no information on how many statements the additional information given on the problem refers to. This should definitely be added.

Is the work clearly and accurately presented and does it cite the current literature?
Partly

Is the study design appropriate and does the work have academic merit?
Partly

Are sufficient details of methods and analysis provided to allow replication by others?
No

If applicable, is the statistical analysis and its interpretation appropriate?
Partly

Are all the source data underlying the results available to ensure full reproducibility?
No source data required

Are the conclusions drawn adequately supported by the results?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: occupational health and safety psychology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 08 November 2024

https://doi.org/10.21956/openreseurope.20028.r45554

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?

Ina Kayser
IST University of Applied Sciences, Duesseldorf, Germany

This study is a thoughtful and well-constructed examination of workplace mental health interventions, particularly in a public sector context. It challenges the idea of one-size-fits-all interventions and advocates for a more tailored approach. Despite minor areas for improvement

in terms of structure and detail, the study offers valuable insights for both researchers and practitioners interested in occupational health and organizational policy.

Major Comments

1. The study makes an excellent case for why workplace mental health interventions need to be personalized. However, a more explicit emphasis on the unique setting—a public institution in Northern Germany—would enhance the reader's understanding of why this study stands out. Public organizations, as opposed to private enterprises or SMEs, often face distinct challenges, so highlighting this context would reinforce the study's significance. Additionally, it would be helpful to position the study more clearly within the existing gap in qualitative research on workplace mental health.
2. While the literature review is comprehensive, it could benefit from a more focused synthesis to improve readability. Grouping studies by intervention types (e.g., cognitive-behavioral, mindfulness) or outcomes (e.g., stress reduction, job satisfaction) would allow readers to better identify key patterns in previous research. This would also make it easier to understand how the current study's focus on individual needs and the potential downsides of generalized interventions contribute new insights.
3. The study uses the Person-Job Fit and Job Demands-Resources models as theoretical foundations, but these models could be more fully integrated into the discussion of results. Explicitly connecting the study's findings to these models in the Discussion section would help clarify how the results contribute to or expand upon these frameworks, particularly in the context of real-world application within large organizations. This would deepen the theoretical value of the study.
4. The qualitative approach is appropriate for exploring employee and manager perspectives. However, the choice to recruit participants through the occupational health manager may introduce selection bias. It would strengthen the methodology section to acknowledge this more explicitly and discuss how it might affect the findings. Providing a more detailed rationale for why only certain departments were included in the interviews would also enhance transparency and help readers better understand how representative the sample is.
5. The Conclusion effectively summarizes the need for more individualized approaches to workplace mental health. Adding a few practical recommendations, such as encouraging modular mental health programs where employees can select relevant components, would make the findings more actionable for decision-makers. This would allow organizations to see clearer pathways to implement the study's recommendations.

Minor Comments

1. The literature review could briefly mention how the study's approach differs from existing qualitative research, especially if specific qualitative studies have directly influenced this work. This would underline the study's originality in addressing gaps that have been less explored.
2. While the Results section is thorough, it could be organized around key themes (e.g., "Unsolved Problems," "Expected Benefits," "Side Effects") to make it easier to follow. A clearer structure within the results would help readers quickly identify which findings correspond to which research question, improving the section's overall readability.
3. The qualitative content analysis is well-described, but including more information on why content analysis was chosen over other qualitative methods would strengthen the Methodology section. Additionally, explaining how codes were derived or providing a sample coding tree could make the analysis process more transparent.
4. While the study acknowledges its limitations, mentioning additional ones, such as potential

subjectivity in qualitative coding or reliance on self-reported perceptions, would balance the Limitations section. These points would provide a fuller picture of the findings' scope and applicability.

5. The discussion of potential side effects, like sensitization effects or stigmatization, is insightful. Adding a few practical examples of how organizations can address or mitigate these risks would make this discussion more tangible. For instance, brief recommendations on training managers to handle these issues or guidelines on setting realistic expectations for employees would be useful.
6. The Discussion could be slightly more streamlined by integrating comparisons with previous research throughout, rather than waiting until the end. This would make it easier for readers to see where findings align or contrast with existing studies and keep the flow of ideas more cohesive.

Is the work clearly and accurately presented and does it cite the current literature?
Partly

Is the study design appropriate and does the work have academic merit?
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Partly

If applicable, is the statistical analysis and its interpretation appropriate?
Not applicable

Are all the source data underlying the results available to ensure full reproducibility?
Yes

Are the conclusions drawn adequately supported by the results?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Inforamtion Systems, Employee well-being through IS, Acceptance, IS and health

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 24 October 2024

https://doi.org/10.21956/openreseurope.20028.r45191

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Irene Jensen
Karolinska Institutet, Solna, Sweden

This study aims at investigating employees and managers' views on work place mental health promotion. The topic is of great importance. I have, however, noted several queries that needs to be addressed. Below I have commented on small and more severe problems with this manuscript.

Introduction
I suggest that the authors rephrase the last sentence in the first paragraph "thinking to much about one's own stress can lead to sensitization effects……. The authors simplify a very complex phenomena and the reference given is quite old.
Overall, the references in the introduction and background are not the most recent ones -the manuscript would benefit from updating the references.

In the mental health section third line from the bottom first para "psychological capacities" please define what this concept refers to – do the authors mean cognitive ergonomics?
Further please define what type/diagnosis the concept mental health issues refer to. It is important in the context of workplace health promotion and from the perspective of workplace conditions affecting mental health. Overall, all used concepts including workplace health promotion need to be clearly defined in relation to this study.

References are sometimes addressing students and health promotion efforts. However, the students study environment is of importance, but it cannot be directly translated to workplaces for adults in private or public enterprises.

Method
About the sample – no inclusion criteria other than managers or employee is stated. In the interpretation of the results, it would help to know if the participants themselves have had - or suffers now from mental health problems. Since the sampling method used is self-selection it might be a biased selection with people with negative personal experiences of - not promotional activities but more of rehabilitative interventions.

It is nice to have the reasons for dropout included.

The manuscript would benefit from a more detailed report on the method including the interview guide and the analysis

Results
Fifth line first para the table ref is not correct I presume it should be table 3
As pointed out by another reviewer, the result of this qualitative study is presented in counts which is unusual for qualitative studies since the sample is not representative and no generalization to larger cohorts can be made. Please clarify and describe more about the analysis approach.

Side effects and critiques
First para second line "Mental disorders are by their nature not caused by work conditions but work conditions can be more or less appropriate for different people with different capacities and

health statuses ". This statement is not correct if you consider the vast research literature showing that work can cause mental illness – most commonly such as burn-out, depression, anxiety. As mentioned above, the authors must state clearly what they are studying by defining the concept mental health and illness as now it is too vague -the statement above is only correct when relating to psychiatric morbidity such as f ex personality disorders, schizophrenia etc.

Limitations
The author states that the results can be interpreted as from a prototypical sample. They state this on their assumption that the recruitment might have attracted mostly employees who have already been in contact with the occupational health manager but, and this is important, the authors do not know. As mentioned above the inclusion criteria should have included statements on whether they wanted people with personal experience of mental illness or not and applied in the sampling process.

Conclusions
Overall, it is unclear throughout the manuscript if they are studying and reporting on promotion or rehabilitative efforts or both, and what type of mental health and illness the study aims at. Thus, the conclusions made are not useful because of this confusion.

Is the work clearly and accurately presented and does it cite the current literature?
Partly

Is the study design appropriate and does the work have academic merit?
Partly

Are sufficient details of methods and analysis provided to allow replication by others?
No

If applicable, is the statistical analysis and its interpretation appropriate?
Not applicable

Are all the source data underlying the results available to ensure full reproducibility?
Yes

Are the conclusions drawn adequately supported by the results?
No

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Occupational health, worker health

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.

Reviewer Report 22 October 2024

https://doi.org/10.21956/openreseurope.20028.r45167

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Michael Donnelly
Centre for Public Health, Queen's University Belfast, Belfast, UK

The revised version of the paper reads much more fluently and it is more informative about workplace mental health promotion. The revisions are limited necessarily because, as the authors note in their response, the study was conducted and concluded several years ago.

Is the work clearly and accurately presented and does it cite the current literature?
No

Is the study design appropriate and does the work have academic merit?
No

Are sufficient details of methods and analysis provided to allow replication by others?
No

If applicable, is the statistical analysis and its interpretation appropriate?
No

Are all the source data underlying the results available to ensure full reproducibility?
No

Are the conclusions drawn adequately supported by the results?
No

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Public health and health services research including the evaluation of mental health care interventions and services.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 20 February 2024

https://doi.org/10.21956/openreseurope.14262.r37881

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Charlotte E Hall
Department of Psychological Medicine,, King's College London, London, England, UK

Thank you for the opportunity to review this paper which focuses on workplace mental health promotion in a large state organisation. The paper is an interesting read, but I believe some additional work/adjustments could be made to the manuscript to make it more comprehensive. I hope you find this feedback helpful; my suggestions are made below.

- The majority of the studies in the introduction seem to be quantitative or review based. For the purpose of an introduction for a qualitative study, it would be useful for the reader to know what qualitative research findings/headlines are prevalent in the literature on this topic.
- A reference to a broader longitudinal study (H-WORK) is mentioned at the end of the introduction, it may be useful to expand of what this project aims to do and is looking to achieve to better situate the methods.
- More information is needed on the recruitment of participants. For example, how were the 15 managers, 22 employees and one security officers chosen to be personally contacted? Were these amounts indicative of staff percentages or just chosen at random(?) and how were the three managers from each of the six departments chosen to be contacted?
- “Five managers belonged to the research and administration staff and eight to the administration staff.” Please could more detail be added so each of the staff departments are known as well as how many managers/employees in each. It would be useful to know which ones you were unable to get participants from.
- The table of reasons for non-participation is very useful. Another table detailing the participants ‘basic socio-demographic data’ that was collected at the start of the interviews would be good.
- Guidelines are mentioned with no supporting reference, please expand details or add reference.
- “Sound recordings and word-by-word transcripts were prepared for those interviews for which consent was given.” Were transcripts typed verbatim by the researcher, or was software used for transcription?
- Please could you justify in the text why it was chosen to use a content analysis methodology on interview and focus group data when it is more commonly chosen to use a thematic based approach and derive themes from saturated data? With this in mind, did you reach data saturation, or were new themes still emerging from the interviews/focus group data?
- The side effects mentioned in the results/discussion are very interesting.
- Additional things to note, there is variation in some of the numbers reported, please check for consistency (e.g., 6418 vs 6488 employees).

Is the work clearly and accurately presented and does it cite the current literature?
Partly

Is the study design appropriate and does the work have academic merit?

Partly

Are sufficient details of methods and analysis provided to allow replication by others?
Partly

If applicable, is the statistical analysis and its interpretation appropriate?
Not applicable

Are all the source data underlying the results available to ensure full reproducibility?
Partly

Are the conclusions drawn adequately supported by the results?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Occupational mental health

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 03 Sep 2024

Beate Muschalla

Thank you for this comment. We have added a section on previous qualitative research in the field of workplace health promotion to the theory section (line 129-162). We have provided an explanation of how the needs analysis is embedded in the project context: “The first project step is the needs analysis, the results of which are reported here, aims to explore the needs for interventions to promote mental health in the workplace from the perspective of employees and managers on the basis of interview data and evaluation using qualitative content analysis. The needs analysis is followed by the implementation of the derived interventions in the workplace, their conduction and evaluation based on several measurement points.” (line 209-214). Your question about the recruitment of participants addresses an important limitation of the study. In the first recruitment step, all 6418 employees were contacted via a mailing list. As the response rate was poor (only two managers responded), it was necessary to recruit personally. This was done by the occupational health manager, who is very well networked within the organization and approached people from her sphere of influence. Random recruitment was not possible due to the size of the organization. We have now specified this in the method and highlighted it as a limitation in the discussion (line 256-261). We have added a more precise description of the organizational structure in the method to better illustrate which sample we have reached (line 263-274). The request for the basic socio-demographic data was a good idea and we have included another table displaying this (Table 1). We have added references for the interview guide and the following sentence: “The protocols were typed up word for word by the researcher and assistants.” (l. 286-287) Regarding your question of the use of a content analysis methodlogy, this is partly for methodological reasons, and partly because

qualitative content analysis is better suited to the objectives of our project. On the one hand, the interviews were all conducted before the evaluation, so that no saturation point could be determined. Secondly, it was a major challenge in our approach to find enough participants in the first place and to conduct interviews and focus groups with them. The objective of the needs analysis here was to find out the needs of the employees in order to derive suitable interventions. Our main objective was therefore not to substantiate existing data, but to map individual needs of the organization. We have corrected the mistakenly reported employee numbers. Thank you for your comments!

Competing Interests: No competing interests were disclosed.

Reviewer Report 05 May 2021

https://doi.org/10.21956/openreseurope.14262.r26601

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Michael Donnelly
Centre for Public Health, Queen's University Belfast, Belfast, UK

This paper is described as presenting a qualitative study about perceptions regarding the important topic of mental health in workplace settings. I have noted below a number of observations and queries that need to be addressed. It is possible that many queries could be addressed by clarifying the forms of expression that are presented in the paper and increasing its English language fluency.

The introduction to the paper provides a useful overview and rationale for the study. However, there is no review or reference to qualitative studies on workplace mental health needs, interventions or potential side effects. How does this qualitative study relate to other qualitative studies on this topic? In particular, what is the scope of qualitative studies in relation to the research question that the study addressed?

In the methods section, please clarify further how employees were invited to participate in the qualitative study, how many by type of employee were invited, how many x type consented and how many x type were interviewed. What was the nature of the personal invitation? How did managers decide who to nominate to be interviewed? How many were nominated? How many agreed? Comment in this section or in the Discussion section about the extent to which the qualitative (non-probability) sample captured the range of characteristics in the employee workforce and that the review literature indicated were pertinent to the focus of this qualitative study. Please check numbers e.g. 6418 employees on page 4 and 6488 employees on page 5; '...34 of the 40 personally invited reported back...' but only 33 interviews were conducted (page 5). What 'guidelines' guided the conduct of the interviews? Please clarify the meaning of the use of the term 'qualitative survey' and how it differs from qualitative interviews. What are the sociodemographic

characteristics of the 12 managers who were interviewed and the participants of the focus groups (the abstract states 5 FGs and the paper states 3 FGs)?

The data appears to be presented in terms of 'counts' or the number of participants who stated a given view or response rather than in terms of a qualitative analysis. Did you give consideration to usual qualitative study concepts such as data saturation, the derivation of themes and supporting illustrative quotations or were these features deemed to be irrelevant? What does this paper add to existing published research, particularly to qualitative studies on this topic? The results and subsequent discussion are interesting though largely confirmatory with respect to previous research reports. Perhaps, the concept of 'side effects' in this context is a relatively novel finding and deserves greater attention. It may be beneficial for journal readers to learn how the data that is presented in this paper 'mixes' with the larger longitudinal study (of which it is part). Indeed, is it worth considering waiting until more data or richer data becomes available? It is difficult to conduct research and relatively easy to criticise study design and methodology - I hope that you find these observations constructive and helpful. Best wishes with the rest of your study.

Is the work clearly and accurately presented and does it cite the current literature?
Partly

Is the study design appropriate and does the work have academic merit?
Partly

Are sufficient details of methods and analysis provided to allow replication by others?
Partly

If applicable, is the statistical analysis and its interpretation appropriate?
Not applicable

Are all the source data underlying the results available to ensure full reproducibility?
Partly

Are the conclusions drawn adequately supported by the results?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Public health and health services research including the evaluation of mental health care interventions and services.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 03 Sep 2024

Beate Muschalla

Many thanks for this helpful advice. We have added a paragraph in the theory section on the current state of qualitative studies on workplace mental health promotion (line 129-162).

In addition, the following explanation was added to the “research question” section, which sets our study project apart from others: “In contrast to previous qualitative studies on workplace health promotion, the focus here is on a public institution and examines the specific needs of managers and employees for health-promoting activities. Side effects have not yet been taken into account in previous research on workplace health promotion and are included here.” (line 221-225). We have specified the method selection based on your comments.

In the “Discussion” section, we have added a corresponding limitation regarding the missing random sample (line 476-483). We also carried out the creation of the interview guidelines. The term “qualitative survey” was misleading here and has been replaced by “interviews”. The sociodemographic characteristics of the participants are listed in the “Participants” section of the methods section (average age, gender, research or administration).

We have also added a further table of socio-demographic data (Table 1). More sociodemographic characteristics were not collected for anonymization purposes. We have reconciled the contradictory numbers and adjusted them accordingly.

We appreciate your comments. The evaluation was carried out according to the standardized procedure of a qualitative content analysis, so that the interview transcripts were analyzed and categories were formed on an inductive basis. We have now added direct example quotes to the results section. Table 2 is a condensed presentation of the results based on the very large database, which would otherwise not be possible to depict. In the discussion section, we have explained in more detail what our research adds to the current study situation and have placed even more emphasis on side effects (line 413-417; line 470-473).

As the study was conducted three years ago due to the extended review process, there is unfortunately no data available to include more data. A longitudinal format was not planned for the needs analysis as part of the project.

Competing Interests: No competing interests were disclosed.