

# Occupational health and safety management: managers' organizational conditions and effect on employee well-being

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## Abstract

**Purpose** – Knowledge regarding the importance of the psychosocial work environment for health and well-being in the workplace is extensive. However, more knowledge is needed about how the managers' organizational conditions are related to what occupational health and safety management (OHSM) is actually conducted and how this relates to the work-related health of employees. The aim of this study is therefore to investigate if managers' organizational conditions are associated with the conducted OHSM, and if the conducted OHSM is associated with the psychosocial work environment and well-being of the employees.

**Design/methodology/approach** – An electronic questionnaire was sent to managers and their employees working in 10 different organizations in Sweden, resulting in 1,097 valid responses. Structural equation modeling (SEM) was used to analyze the results.

**Findings** – The SEM analysis showed that managers' conditions were related to employee well-being via OHSM and psychosocial work environment (job demands and job resources).

**Originality/value** – This study contributes to the existing literature in the field of OHSM by placing explicit focus on the role of organizational conditions for conducting OHSM. By studying not only the link between work environment and health, but also focus on the underlying organizational structures for OHSM, provides additional possibilities for prevention of the increasing work-related illness. As such, this paper contributes to a more holistic perspective in the field of OHSM.

**Keywords** Occupational health and safety management, Systematic work environment management, Psychosocial work environment, Organizational and social work environment, Well-being

**Paper type** Research paper

## 1. Introduction

The purpose of occupational health and safety management (OHSM) is to improve the physical and psychosocial work environment, and thereby increase the work-related health and well-being of employees (Reese, 2018). It is expected or required of employers in most countries to manage physical as well as psychosocial occupational risks (Cox *et al.*, 2000; International Labour Organization, 2023). In Sweden, where this study was conducted, employers are required by law to perform OHSM (SFS, 1977:1160). Despite OHSM being more or less mandatory, the knowledge regarding the effectiveness of OHSM is limited, especially with regard to the psychosocial work environment and well-being at work.

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The employer and its managers are responsible for conducting OHSM (SFS, 1977:1160), but their organizational conditions for conducting OHSM have received limited attention. Organizational conditions may consist of time, financial resources, or support and commitment (Hellman *et al.*, 2019; Masi and Cagno, 2015; Sjöberg Forssberg *et al.*, 2022), but more knowledge is needed on how these organizational conditions may influence the work-related health of employees.

The aim of this study is therefore to investigate if managers' organizational conditions are associated with the conducted OHSM, and if the conducted OHSM is associated with the psychosocial work environment and well-being of the employees.

One of the most important contributions of this study is to place explicit focus on the role of organizational conditions for conducting OHSM. Studying not only the link between work environment and health, but also focusing on the underlying organizational structures for OHSM, provides additional possibilities for the prevention of the increasing work-related illness.

### *1.1 Background and literature review*

*1.1.1 Psychosocial work environment and health in working life.* Mental illness is on the rise globally and mental health diagnoses are increasing (Leka *et al.*, 2015; Leka and Jain, 2017; World Health Organization, 2022). For both society and organizations, job strain entails large costs (Cocker *et al.*, 2016; Hassard *et al.*, 2018; Leka and Jain, 2017), as job strain has been linked to several different diseases and diagnoses (Harvey *et al.*, 2017; Stansfeld and Candy, 2006). The work environment has been singled out as a central factor in promoting health and well-being and preventing sick leave (Le *et al.*, 2021; Leka and Jain, 2017; Nappo, 2019).

Research on the psychosocial work environment is extensive and several different models have been developed to describe aspects of the work environment and how these are linked to employee well-being. Some of the most influential models are the job demand-control-support model (Karasek, 1979; Karasek and Theorell, 1990), the effort reward imbalance model (Siegrist, 1996) and the more recent Job demands-resources model (Bakker and Demerouti, 2007, 2017). Simplified, these models distinguish between two different types of factors in the work environment: demands and resources. Demands concern factors that have a negative impact on the individual and contribute to increased stress and reduced well-being, and can consist of, e.g. insufficient time, or too many tasks. Resources concern factors that have a positive impact on the individual and contribute to reduced stress and increased well-being, and can consist of, e.g. autonomy, social support or appreciation. Resources can also be used to manage demands and thereby create a balance that protects against unhealthy strain and reduces the risk of ill health (Bakker and Demerouti, 2007, 2017; Hobfoll, 1989). An imbalance between demands and resources, also known as job strain, has been linked to both mental and somatic ill-health such as burnout, depression, coronary heart disease or musculoskeletal complaints (Harvey *et al.*, 2017; Stansfeld and Candy, 2006). In a work setting, it is thus advisable that a balance exists between demands at work and the resources available.

*1.1.2 Laws and regulations regarding work environment and work environment management.* In Sweden, there is extensive legislation regarding the work environment and employees' health and safety, in line with current legislation in the European Union (European Agency for Safety and Health at Work, 1989). The Work Environment Act (SFS 1977:1160) forms the very basis and aims to prevent accidents and ill health at work and to contribute to a good working environment. In addition, there are approximately 70 different provisions that regulate different aspects of the work environment and for different professions. The physical and ergonomic work environment is regulated in several different provisions, concerning work equipment, noise, chemical work environment risks, etc. A set of provisions is specifically dedicated to the Organisational and Social Work Environment

(AFS, 2015:4) and takes its starting point in existing psychosocial work environment models. For example, section 9 describes that “The employer shall see to it that the tasks and authority assigned to the employees do not give rise to unhealthy workloads. This means that the resources shall be adapted to the demands of the job.”

Although the main responsibility for the working environment lies with the employer, employers and employees need to collaborate to create a good working environment. The systematic OHSM in Sweden is regulated by the provisions *Systematic Work Environment Management* (AFS, 2001:1). OHSM covers all parts of the work environment and, in addition to being systematic and planned, must also be a natural part of daily work. In the provisions, the systematic work is described as a continuous process, illustrated as an annual wheel and consists of four recurring activities: (1) investigate, (2) assess risk, (3) implement and (4) control. Although the law imposes responsibility for the work environment on the employer, the OHSM is usually delegated to the first-line manager (Molin *et al.*, 2020). Some examples of common OHSM activities that can be found in the provisions and that have been examined in previous research deal with work environment policy, routines and documents, risk assessment, incident reporting and occupation health services (Bergman Bruhn *et al.*, 2023; Nordlöf *et al.*, 2017).

*1.1.3 OHSM and managers' organizational conditions.* Despite extensive knowledge about which aspects of a work environment can reduce stress and contribute to better employee well-being, and despite a developed system of laws and provisions to regulate the work environment, it seems to be difficult to achieve a good work environment (Frick, 2014; Sjöberg Forssberg *et al.*, 2022; Vinberg, 2020).

Firstly, relatively few studies have investigated whether the systematic OHSM that is carried out actually has an effect and the overall picture is diffuse. Some studies show that systematic OHSM is associated with fewer workplace accidents (Karimi *et al.*, 2020; Kim, 2021) and an improved physical work environment (Karimi *et al.*, 2020). Studies have also shown that systematic OHSM can contribute to increased safety thinking and increased performance (Hoque and Shahinuzzaman, 2021; Nguyen and Vu, 2023; Nkrumah *et al.*, 2021). Other studies do not find that systematic OHSM is associated with fewer workplace accidents and safety performance (Dewi and Wardani, 2022; Ghahramani and Salminen, 2019; Musungwa and Kowe, 2022). Secondly, the literature reviews of the field indicate that laws and regulations of the work environment can contribute to a better work environment, but that this mainly applies to the physical work environment (MacEachen *et al.*, 2016; Robson *et al.*, 2007; Tompa *et al.*, 2016). Systematic OHSM is often more applicable and easier in relation to identifying and measuring technical and physical work environment risks, as well as improving and documenting these (Frick, 2014; Jespersen *et al.*, 2016a, b). The organizational and social work environment is often assessed using questionnaires and dialogues but is more difficult to risk assess and check.

Several studies have focused on factors for a successful implementation of OHSM. Organizational factors that seem important concern organizational size, creditworthiness and safety culture (da Silva and Amaral, 2019; Nordlöf *et al.*, 2017) and also the support and commitment of top management, the commitment of employees, budget, clarity of what to do, skills and training, support systems (da Silva and Amaral, 2019; Mambwe *et al.*, 2021; Savković *et al.*, 2019; Tejamaya *et al.*, 2021). Studies have found that the manager is central to the implementation of systematic OHSM and that their involvement is decisive for how well the OHSM is carried out (Bergman Bruhn *et al.*, 2023; Justesen *et al.*, 2017; Molin *et al.*, 2021). However, the organizational factors identified as vital for successfully conducting and implementing systematic OHSM are often lacking in managers, resources are insufficient, routines and documentation are missing, and employee participation is lacking (Dellve *et al.*, 2008; Masi and Cagno, 2015; Mellor *et al.*, 2011; Saksvik and Quinlan, 2003; Sjöberg Forssberg *et al.*, 2022). Several managers also state they do not have time for OHSM (Frick, 2014;

Hellman *et al.*, 2019; Larsson *et al.*, 2016). The study by Dahler-Larsen *et al.* (2020) suggests that systematic OHSM increases the likelihood of acting on psychosocial risk assessments. A systematic review suggests that interventions targeting supervisors could result in increased OHSM, improved work environment and health-related outcomes (Sinelnikov *et al.*, 2020). It seems plausible that the organizational conditions managers have for OHSM can thus have significance for the OHSM activities that are carried out and in the long term possibly for how the work environment and well-being are experienced by employees.

### 1.2 Present study and conceptual model

The research conducted so far in the field of OHSM seems to lack a holistic and integrated perspective, where the managers' organizational conditions for OHSM are examined in relation to the well-being of employees. Instead, research seems to have mainly focused on different parts of this relationship. Some research has focused on factors important for implementing and conducting the OHSM. Other research has focused on the effects of OHSM but usually in relation to injuries or accidents. This gives a fragmented understanding of this relationship. An exception is a study by Bayram and Ünğan (2020) that investigated organizational conditions in terms of budget in relation to accident costs via OHSM. However, their study did not investigate the psychosocial work environment, which is rarely in focus in previous research despite a vast amount of literature showing its importance for job strain, well-being and mental illness (Harvey *et al.*, 2017; Stansfeld and Candy, 2006). Research is thus needed where managers' organizational conditions and OHSM are examined in relation to the psychosocial work environment and well-being of employees. The present study is an attempt to provide such knowledge.

The conceptual model of the study is illustrated in Figure 1. The study will investigate if the organizational conditions managers have for conducting OHSM increase the OHSM activities carried out in the workplace. The study will also investigate if the OHSM activities carried out in the workplace are associated with the psychosocial work environment, in terms of increased resources and reduced demands, or if such activities contribute to the well-being of employees regardless of the psychosocial work environment. Finally, the psychosocial work environment, in terms of demands and resources, will be investigated in relation to employee well-being. Well-being is a broad concept encompassing several different dimensions, including the presence of positive experiences and the absence of negative

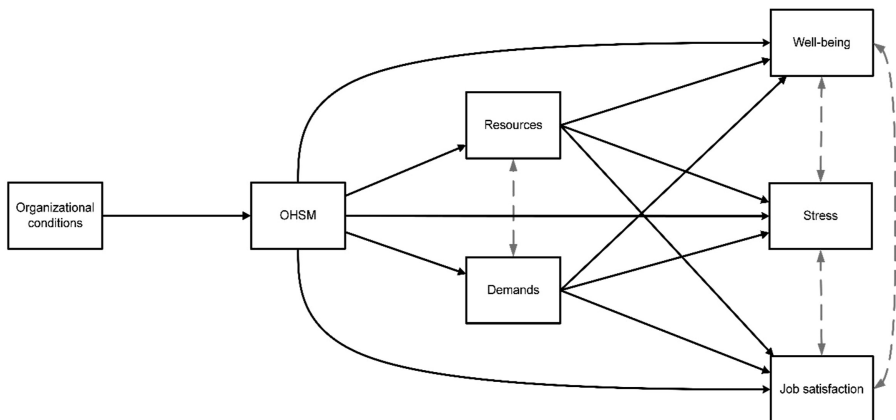


Figure 1.  
Conceptual model

Source(s): Authors' own work

experiences (Cotton and Hart, 2003; Danna and Griffin, 1999; Horn *et al.*, 2004; Van De Voorde *et al.*, 2012). Well-being can also be differentiated between general well-being and context-specific well-being (such as related to work) (Warr and Nielsen, 2018). Because of this multidimensionality, we chose to investigate three dimensions of well-being: general well-being, stress and job satisfaction.

## 2. Methods

### 2.1 Sample and procedure

The material in this paper was based on questionnaire data from 10 different organizations in Sweden: eight municipalities, one industrial company and one recruitment and staffing company. An electronic questionnaire was sent to all employees' work e-mail in the participating organizations during spring 2021 ( $N = 9,457$ ). After two reminders, the questionnaire had been answered by 3,159 (33%) (206 managers and 2,953 employees). In this study, a manager was defined as an employee with personnel and budgetary responsibilities. All questionnaires were coded so that each respondent was connected to the organization in which they were working and to their immediate manager, which made it possible to link each employee to their manager.

The survey contained four different areas in line with the previously described model: organizational conditions for OHSM, OHSM, psychosocial work environment and well-being. Employees rated their well-being, their psychosocial work environment and the OHSM activities undertaken at their workplace. Organizational conditions were assessed by the manager and their responses were aggregated down to their direct reporting employees. However, this aggregation process could not be performed for the entire sample as some managers did not respond while their employees did. These "incomplete" respondents were removed from further analysis, and the final sample for the study therefore consists of 1,097 employees, with organizational conditions for OHSM as aggregation from their closest managers' rating (37% of the responding employee-sample). Of the included employees, 227 (21%) were men and 856 (78%) were women, working in different organizations of various sizes and sectors, representing both blue-collar and white-collar employees. Their average age was 48.5 years ( $SD = 10.8$ ), and 500 (46%) had a university degree while 470 (43%) had a secondary degree.

This research has followed the ethical guidelines stipulated in the Helsinki declaration, and in line with the ethical application granted by the Swedish Ethical Review Authority. All data have been stored according to the General Data Protection Regulation (EU, 2016/679).

### 2.2 Measures

**2.2.1 Organizational conditions for OHSM.** Managers' organizational conditions for OHSM were investigated using 12 items developed for this study. The items were developed based on interviews with managers, HR and OHS representatives about their OHSM and their organizational conditions for OHSM. To authorize the developed items, the questionnaire was discussed with a reference group consisting of both researchers and practitioners (see [Appendix](#)). The conditions concern aspects such as time, budget, discretion, role clarity, support, etc. An example item is: "I have sufficient time to work with questions related to the work environment." Response options ranged from "To a very high extent" (5) and "To a very low extent/not at all" (1) on a five-point Likert scale.

**2.2.2 OHSM.** Eleven items developed for this study were used to investigate OHSM (see [Appendix](#)). The investigated activities concerned workplace meetings devoted to health and safety, safety inspections, incident reporting, wellness activities, etc. An example item is: "To what extent is the following carried out where you work: Workplace meetings (formal

meetings devoted to health and safety)?". Response options ranged from "To a very high extent" (5) and "To a very low extent/not at all" (1) on a five-point Likert scale.

*2.2.3 Psychosocial work environment.* Demands at work were investigated using two scales (quantitative demands, work pace) from the third version of the Copenhagen Psychosocial Questionnaire (COPSOQ) (Berthelsen *et al.*, 2020; Burr *et al.*, 2019). An example item is: "Do you have to work very fast?". Job resources were investigated using seven scales (influence at work, horizontal trust, vertical trust, social support from supervisor, social support from colleagues, predictability, and recognition) from the third version of COPSOQ (Berthelsen *et al.*, 2020; Burr *et al.*, 2019). An example item is: "Do you have a large degree of influence on the decisions concerning your work?". The items are answered on a five-point Likert scale, ranging from "Always" (100) to "Never/Hardly ever" (0).

*2.2.4 Well-being.* Three different measures were used to capture well-being, of which two were from the third version of COPSOQ (Berthelsen *et al.*, 2020; Burr *et al.*, 2019). The first scale, stress, consists of three items. An example item is: "How often have you been tense?". The second scale, job satisfaction, was measured using four items. An example item is: "How pleased are you with your job as a whole, everything taken into consideration?". General well-being was investigated using the Swedish version of WHO-5 (Topp *et al.*, 2015) which consists of five items. An example item is: "Over the last 2 weeks, I have felt cheerful and in good spirit." The items are answered on a six-point Likert scale, ranging from "All the time" (5) to "At no time" (0). The response range was recoded to correspond to the 0–100 range of the COPSOQ-scales.

### 2.3 Statistical analyses

All statistical analysis has been made with R (R Core Team, 2023) version 4.2.3 and the lavaan package (version 0.6–15; Rosseel, 2012). For the assessment of scale reliability, the psych package was used and the mice package (version 3.15.0; Buuren and Groothuis-Oudshoorn, 2011) was used for imputations. An initial analysis was done to evaluate potential violations of the model. The skewness and kurtosis (see Table 1) all fell within  $-2$  and  $+2$ . However, in assessing multivariate normality Mardia's kurtosis coefficient was 71.97 with a critical ratio of 11.38. As this indicates a violation of multivariate normality a robust estimator (Satorra-Bentler chi-square; Satorra and Bentler, 2010) was used (Finney and DiStefano, 2013). Intercorrelations of the measures are all well below 0.9 suggesting no multicollinearity (see Table 1).

Inspection of the data showed that several respondents had missing values. As such, imputation using predictive mean matching (pmm) was used.

## 3. Results

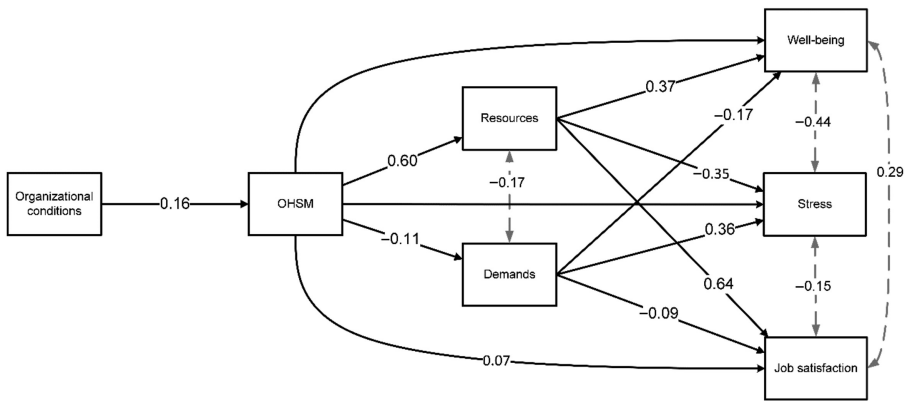
The conceptual model shown in Figure 1 was evaluated using structural equation modelling. Using criteria from Kline (2016) the model fit indices for the tested model showed good fit ( $\chi^2(5, N = 1,097) = 8.96, p = 0.111, CFI = 0.998, TLI = 0.991, RMSEA = 0.027, CI90\% [0.000, 0.054]$  and  $SRMR = 0.013$ ). The highest correlated residual is 0.057, as it is below 0.1 it suggests that there is unlikely to be problems with local fit.

The tested model is presented in Figure 2. A significance level of 5% was used, and Figure 2 only displays significant standardized path coefficients. Non-significant regressions or correlations are shown but have no value presented. The results of the analysis of the SEM-model are presented in Table 2 and generally show that the investigated relations were significant at a significance level of 5%. Exceptions were the relations between OHSM and general well-being and stress, which were non-significant. Demands were related to all three well-being outcomes: general well-being

Variables	<i>M</i>	<i>SD</i>	Skew	Kurtosis	1	2	3	4	5	6	$\alpha$	$\omega$
1. Organizational conditions for OHSM	3.69	0.61	-0.26	-0.31							0.89	0.90
2. OHSM	3.19	0.79	0.00	-0.36	0.16***						0.89	0.90
3. Resources	66.77	15.24	-0.60	0.46	0.14***	0.58***					0.91	0.92
4. Demands	48.93	18.46	-0.64	0.69	-0.02	-0.07	-0.22***				0.82	0.86
5. Job satisfaction	69.00	18.89	0.10	0.01	0.11***	0.46***	0.69***	-0.20***			0.86	0.87
6. Well-being	54.38	22.74	-0.33	-0.49	-0.02	0.28***	0.41***	-0.27***	0.46***		0.89	0.91
7. Stress	35.73	24.11	0.42	-0.51	-0.04	-0.23***	-0.41***	0.43***	-0.43***	-0.55***	0.85	0.85

**Note(s):** \*\*\* =  $p < 0.001$ ,  $\alpha$  = Cronbach alpha,  $\omega$  = McDonald omega  
**Source(s):** Authors' own work

**Table 1.**  
Descriptive statistics,  
correlations and  
estimates of scale  
reliability for the  
measures



**Note(s):** Errors and non-significant coefficients not shown. Correlations shown as grey dashed lines

**Source(s):** Authors' own work

**Figure 2.** Tested structural equation model with standardized path coefficients at the significance level of 5%

Relations	Unstandardized coefficients (b)	Standardized coefficients	Standard errors
<i>Regressions</i>			
Organizational conditions → OHSM	0.202***	0.161	0.036
OHSM → Resources	11.903***	0.603	0.528
OHSM → Demands	-2.472***	-0.106	0.742
OHSM → Well-being	1.999	0.063	1.092
OHSM → Stress	0.486	0.015	1.023
OHSM → Job satisfaction	1.675*	0.069	0.726
Resources → Well-being	0.595***	0.372	0.057
Resources → Stress	-0.558***	-0.350	0.057
Resources → Job satisfaction	0.783***	0.638	0.040
Demands → Well-being	-0.234***	-0.173	0.038
Demands → Stress	0.478***	0.355	0.039
Demands → Job satisfaction	-0.088***	-0.085	0.026
<i>Covariances</i>			
Resources ↔ Demands	-36.628***	-0.172	7.093
Well-being ↔ Stress	-187.444***	-0.440	15.528
Well-being ↔ Job satisfaction	81.133***	0.293	9.328
Stress ↔ Job satisfaction	-41.703***	-0.158	8.933
<b>Note(s):</b> * = $p < 0.05$ , *** = $p < 0.001$			
<b>Source(s):</b> Authors' own work			

**Table 2.** SEM summary table showing standardized and unstandardized regression and covariance coefficients (N = 1,097)

( $\beta = -0.17$ ), stress ( $\beta = 0.36$ ), job satisfaction ( $\beta = -0.09$ ). Resources were related to all three well-being outcomes: general well-being ( $\beta = 0.37$ ), stress ( $\beta = -0.35$ ), job satisfaction ( $\beta = 0.64$ ). OHSM was related to both demands ( $\beta = -0.11$ ) and resources ( $\beta = 0.60$ ), and to one of the three well-being outcomes (job satisfaction;  $\beta = 0.07$ ). Conditions for OHSM were related to OHSM ( $\beta = 0.16$ ).



#### 4. Discussion

This study aimed to investigate if managers' organizational conditions are associated with the conducted OHSM and if the conducted OHSM is associated with the psychosocial work environment and well-being of the employees.

The results showed that the psychosocial work environment was associated with the well-being of employees, which is in line with previous research (Harvey *et al.*, 2017; Stansfeld and Candy, 2006). More specifically, the results showed that demands at work reduced job satisfaction and general well-being while increasing perceived stress. Job resources showed a reversed relationship to the well-being outcomes, i.e. job resources increased job satisfaction and general well-being, while decreasing perceived stress. Interestingly, demands at work showed relatively weak associations to well-being outcomes, and strongest to perceived stress, while job resources generally showed stronger associations and strongest to job satisfaction. The results also displayed a negative association between demands at work and job resources. This could imply that job resources to some extent reduce demands at work, but that job resources mostly have a positive influence on their own in contributing to well-being. This is mostly in line with the argument of the job demands-resources model (Bakker and Demerouti, 2007, 2017).

The results further showed a weak association between OHSM and job satisfaction. However, OHSM mostly had an indirect association with the well-being of employees, via psychosocial work environment, suggesting the paths went via demands at work and job resources. The findings suggest that OHSM increases job resources and reduces demands at work. It is noteworthy that even if the associations to demands at work and job resources both were significant, the association to job resources was much stronger, suggesting that OHSM mostly address and reinforce job resources, which also, in turn, have a stronger effect on the well-being outcomes. Potential reasons for this finding might be that it is harder to address demands at work and that these are created or reinforced by factors outside the organization (such as market situation, competitive exposure, etc.). Further, there may be a reluctance to address aspects such as work pace out of fear of loss of production (Hamja *et al.*, 2019; Hasle *et al.*, 2012). This finding is particularly interesting, as much of the OHSM literature is concerned with identifying and handling risks at work (Dahler-Larsen *et al.*, 2020; Frick, 2014; Jespersen *et al.*, 2016b), but these results suggest that OHSM rather address job resources. It is possible that activities aimed at attending and reducing risks at work unexpectedly might increase job resources. For instance, meetings to discuss risks at work may also increase the social climate at work.

Finally, the results showed that the organizational conditions managers have for OHSM were associated with employee well-being, via OHSM and psychosocial work environment. Previous research has shown the centrality of the manager for how well OHSM is conducted (Bergman Bruhn *et al.*, 2023; Justesen *et al.*, 2017; Molin *et al.*, 2021), and several factors have been identified as important for OHSM (da Silva and Amaral, 2019). This study shows that the organizational conditions of the manager for OHSM are important because they have consequences on the OHSM, on the psychosocial work environment, and in the end, on the well-being of the employees. Several studies have, for instance, highlighted that managers often lack financial resources and training regarding OHSM (Dellve *et al.*, 2008; Masi and Cagno, 2015; Sjöberg Forssberg *et al.*, 2022). If managers find themselves in a situation where they do not know how to fulfil their work environment responsibility or do not have sufficient resources to do so, this, as the results of this study also show, has an impact on how and what OHSM is carried out, with potential impact on the entire workplace. Several studies have found that it is easier to identify and manage risks in the physical work environment as these usually are both visible and measurable, while risks in the psychosocial work environment are dependent on dialogues between managers and employees (Frick, 2014; Jespersen *et al.*, 2016a, b). If the manager does not

have sufficient organizational conditions for OHSM, there may be a risk that OHSM will be aimed at the physical environment simply because it is easier.

This study contributes to the literature in several ways. The study is one of the first to take a holistic perspective on the field of OHSM. In previous research, it is common for individual parts of the OHSM process and its effects to be investigated, which provides a fragmentary understanding. By examining the entire process at the same time, from the manager's organizational conditions for OHSM to employee well-being, the study contributes to an increased overall understanding and how the various parts are connected.

The inclusion of the organizational conditions that exist for OHSM also constitutes a contribution in itself, as this has rarely been examined before in relation to the primary outcome, i.e. employee well-being. A contribution of the study is thus that the results indicate that employees' work environment and well-being are not only affected by the OHSM activities that are carried out but also by how OHSM is organized and structured within the organization.

The study's results also contribute by giving empirical support to what legislative bodies enforce, i.e. OHSM is an important part of achieving a good working environment and contributing to employee well-being ([European Agency for Safety and Health at Work, 1989](#); [SFS 1977:1160](#)). In addition, the study also constitutes a contribution to research on the effectiveness of OHSM in relation to the psychosocial work environment and well-being.

As mentioned, much of the previous research has focused on risks within the organization and usually in relation to different types of pathogenic outcome measures, i.e. various complaints or ailments ([Harvey \*et al.\*, 2017](#); [Stansfeld and Candy, 2006](#)). However, it is not as simple as the work environment only consisting of risks that can lead to problems. The work environment legislation also explicitly states that OHSM should not only lead to the prevention of ill health but also contribute to increased health (e.g. [Organisational and Social Work Environment; AFS 2015:4](#)). In this study, we, therefore, chose to investigate both demands and resources in the psychosocial work environment, as well as both positive and negative indicators of well-being. The result showed that OHSM mainly strengthened the resources and that these in turn mainly contributed to the positive indicators of well-being. This clearly shows the complexity that exists in the area and challenges simplistic models and thought patterns.

One of the practical implications of the study is that OHSM is important in the organization because it contributes to a better psychosocial work environment, and in turn, to increased well-being among employees. It is therefore vital that OHSM is given sufficient time and resources. In this study, managers' conditions and their importance for OHSM were examined, as managers are primarily responsible for the activities that are carried out. However, the Swedish legislation stipulates that OHSM must be implemented in collaboration with other stakeholders. Another practical implication is, therefore, that organizations should ensure that there is time and resources for all those who carry out OHSM. Organizations should thus support cooperation and collaboration between different stakeholders (e.g. managers, HR practitioners and OHS representatives). This would increase knowledge and understanding of the daily operations and the work that is carried out, what challenges and risks exist, and also promote health and well-being in the organization.

An additional practical implication addressed to policymakers and authorities is that laws and regulations regarding OHSM also need to include that organizational conditions are needed to ensure that OHSM can be conducted, and not only what specific OHSM activities must be conducted.

The results of this study suggest that an organization that provides good conditions for OHSM will achieve better conducted OHSM activities, a better work environment and

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ultimately increased well-being among employees. It is however noteworthy that it seems more difficult to manage work demands than resources, which points to the need for union and worker representatives to also maintain focus on employment conditions and structural prerequisites for a decent workload.

#### *4.1 Limitations and future research*

This study has some limitations that should be addressed. The study's design is cross-sectional and reversed causality cannot be ruled out in the associations found. A longitudinal research design should be able to inform the direction of the associations.

A potential limitation is that two of the scales used were developed for this study and have not been tested in previous research. However, the scales were developed based on interviews conducted with managers, HR practitioners and work environment representatives to cover several perspectives, who were also employed in the organizations included in the sample or organizations in similar industries. In addition, the questions were reviewed by an expert group consisting of both researchers and professional practitioners with a focus on the content and wording of the items. Considering the purpose of this study, these scales were analyzed as composite scales, but certain organizational conditions or certain work environment tasks may be more significant than others. In further research, it is thus possible to investigate the relative importance of these factors.

Several of the participating organizations were overall female-dominated, resulting in an unequal distribution between men and women. The study findings therefore need to be replicated in other work settings.

Most of the participating organizations were large employers. Previous research has found that organizational size is related to how well OHSM is performed (Nordlöf *et al.*, 2017), most likely because larger organizations need to be more systematic in their OHSM and usually have more supporting structures to help their managers. It is therefore conceivable that the managers' organizational conditions for OHSM have an even larger impact in small and medium-sized organizations.

In this study, only the psychosocial work environment was investigated because previous research lacked this focus. However, we do believe that the physical and psychosocial aspects of a work environment might interact with each other in a complex manner that future research should investigate.

Managers' organizational conditions for OHSM were in focus in this study, but other parties involved in OHSM should also be investigated, such as HR practitioners, and work environment representatives. Their organizational conditions for OHSM may be equally impactful on the well-being of employees, which should be addressed in future research.

#### *4.2 Conclusions*

The first conclusion of this study is that the OHSM activities undertaken in organizations contribute to a better psychosocial work environment, and in turn, to increased well-being among employees. More specifically, the results showed that OHSM mainly increased resources in the work environment, which increased well-being.

The second conclusion of this study is that the organizational conditions managers have for OHSM contribute to employee well-being via conducted OHSM and psychosocial work environment.

This study has thereby contributed to the existing literature in the field of OHSM by placing focus not solely on the relationship between work environment and health, but on the underlying organizational conditions for OHSM. As such, it contributes to a more holistic perspective in the field of OHSM.

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## Appendix

### Occupational health and safety management (OHSM) scale

To what extent is the following carried out where you work?

- (1) Workplace meetings (formal meetings devoted to health and safety)
- (2) OHS rounds (e.g. review of ergonomics, premises, work equipment)
- (3) Wellness activities (e.g. lunchtime walks, step challenge)
- (4) Reviews of safety and procedures (e.g. daily control of safety equipment or work tools)
- (5) Culture-, value-based management
- (6) Employee interviews (or systematic check-ups)
- (7) Employee surveys (e.g. questionnaires)
- (8) Collaborations with occupational health care services (e.g. health examinations)
- (9) Regularly updated OHSM documents (e.g. policies, routines, guidelines)
- (10) Education related to OHSM
- (11) Incident reporting (including risk observations) and structured handling of these

### Organizational conditions for occupational health and safety management (OHSM) scale

To what extent do the following apply to the work environment management (OHSM) where you work?

- (1) I have sufficient time to work with questions related to the work environment
- (2) I have sufficient discretion to make decisions regarding the work environment
- (3) The responsibility and mission I have regarding the work environment is clear to me



- (4) There is a developed system for support if I need it (e.g. HR department or occupational health care service)
- (5) There are elaborated routines for how we should work with work environment issues
- (6) There are work environment or OHS representatives/committee
- (7) The management is committed to and prioritizes issues regarding the work environment
- (8) The employees are committed to and prioritize issues regarding the work environment
- (9) The competence to work with questions related to the work environment is sufficient
- (10) Education regarding work environment management (OHSM) is provided if competence is lacking
- (11) Budget/finances are sufficient to work with questions related to the work environment
- (12) If required, the work premises can be adapted to improve the work environment

**Source(s):** Authors' own work.

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