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Developing and testing an internal audit tool of the psychosocial work environment in the oil and gas industry

Linn Iren Vestly Bergh

Affiliations:

Statoil ASA, Norway

Centre for Organizational Health & Development, School of Medicine, University of Nottingham, UK

Contact information:

Statoil ASA, N-4035 Stavanger, Norway

Mobile: 0047 41506583

E-mail: livb@statoil.com

Siri Hinna

Affiliations:

Statoil ASA, UK

Contact information:

StatoilASA, N-4035 Stavanger, Norway

E-mail: sirh@statoil.com

Professor Stavroula Leka (corresponding author)

Affiliations:

Centre for Organizational Health & Development, School of Medicine, University of Nottingham, UK

Contact information:

University of Nottingham, Level B, Yang Fujia Building, Jubilee Campus,

Wollaton Road, Nottingham NG8 1BB, UK

Tel.: +44 (0)115 8466662

Fax: +44 (0)115 8466625

E-mail:Stavroula.Leka@nottingham.ac.uk

Professor Gerard I.J.M. Zwetsloot

Affiliations:

TNO Work and Employment, Safe & Healthy Business, the Netherlands

Centre for Organizational Health & Development, School of Medicine, University of Nottingham, UK

Contact information:

Polarisavenue 151

NL 2130 AS Hoofddorp

Netherlands

Tel.: +31 88 86 65 218

E-mail: gerard.zwetsloot@tno.nl

Developing and testing an internal audit tool of the psychosocial work environment in the oil and gas industry

Abstract

The objective of this paper is to present and discuss a pilot study for conducting internal psychosocial risk auditing in the oil and gas industry, focusing on offshore units. Psychosocial risk auditing is a proactive method for monitoring the status of psychosocial factors influencing the risk of stress and ill-health in the oil and gas industry. It is a systematic and independent assessment of the status of psychosocial factors and barriers, it reveals non-compliance with requirements and best practice within different relevant levels of the organization, and is suitable as a basis for the development of risk reduction measures. The method comprises performance standards that are linked to the company's internal organizational requirements related to the psychosocial work environment. A range of different methods and data are used to assess and grade compliance with these standards. The aim of the auditing is to provide transfer of experience between units and the development of best practice while supporting organizational learning in offshore (and onshore) environments.

Key words: Psychosocial Factors; Auditing; Stress; Oil and Gas industry

Introduction

Health and safety in the workplace is a clear objective of both European Framework Directives and national legislation in Europe. In order to improve health and safety in the workplace, governments and organizations have since the 1990's increasingly developed and applied Occupational Health and Safety Management (OHSM) systems (Hasle & Zwetsloot, 2011). Even though these management systems address both health and safety in the workplace, it is still argued by several researchers that they focus mostly on safety rather than on workers' health (Hasle & Zwetsloot, 2011). However, in recent years OHSM systems have been increasingly developed towards a more comprehensive approach where all OHS risks are addressed equally. This shift has also been demonstrated in EU and national regulations, international frameworks and best practice principles and standards on health and safety (WHO, 2010; HSE, 2007; Leka et al., 2011). For many companies today, in line with good practice, having an OHSM system in place is a requirement in the same manner as the ISO 9000 series for quality management standards (EU-OSHA, 2002, 2010; Hasle & Zwetsloot, 2011; Zwetsloot, 1994).

An important part of the OHSM system is auditing and as such several organizations and industries across the globe have adopted audits in their internal monitoring systems in order to assess their compliance with OHSM regulations and standards (Hasle & Zwetsloot, 2011). Audit is the process of systematic examination of a quality system carried out by an internal or external auditor or an audit team. Audits are performed to verify conformance to standards through review of objective evidence (Allegrini, et al., 2006; Hass, et al., 2006; Sobel, 2011). To benefit the organization, auditing should not only report non-conformance and corrective actions but also highlight areas of good practice and provide evidence of conformance. In this way, other departments may share information and amend their working practices as a result, also enhancing continual improvement (Pain, 2010). Two types of auditing are often described in standards such as ISO 9000: auditing

by an external certification body (external audits) and auditing by internal staff trained in this process (internal audits) (Reding et al., 2007). According to the Institute of Internal Auditors (IIA), it is considered more appropriate for internal auditors to audit outside their usual management line so as to bring a degree of independence to their judgments (Reding et al., 2007).

Auditing is commonly used in order to ensure that an organization's health and safety management system is being effectively implemented in order to prevent accidents and ill health occurring in the workplace (Evans & Parker, 2008). Evans and Parker (2008) describe auditing as one of the most powerful safety monitoring techniques and an effective way to avoid complacency and highlight slowly deteriorating conditions. This is true especially when the auditing focuses not just on compliance with requirements but also on effectiveness of work processes. However, researchers have also argued that audits do not necessarily cover contemporary complex work environment issues, such as psychosocial hazards (Hohnen & Hasle, 2011). This has led to a growing awareness that standards, tools and methods need to be further developed to include these issues and integrate them into business practices (Hasle & Zwetsloot, 2011; Hohnen & Hasle, 2011; Leka et al., 2011).

Psychosocial risk management

Reports and scientific literature show that psychosocial risks are a growing challenge related to occupational safety and health (Leka & Jain, 2010; EU-OSHA, 2007; EU-OSHA, 2012). Work-related stress has been reported to be the second most prevalent work-related health problem affecting 22% of workers in the European Union (EU) (EU-OSHA, 2009). Furthermore, work-related stress is believed to be a major cost to companies and countries in a wider sense, as it affects productivity, notably through absenteeism and presenteeism.

The psychosocial work environment relates to the organization, design and management of work and its social and organizational context that have the potential to cause psychological and physical harm and affect organisational performance (Leka & Jain, 2010; Bergh et al. 2013). In the WHO report "Health Impact of Psychosocial Hazards at Work: An Overview" (2010) psychosocial hazards have been categorized in ten broad categories, including work demands, job control, role in the organisation and interpersonal relationships.

In recent years there have been a number of initiatives and guidance that focus on the management of the psychosocial work environment. These guidelines and best practice frameworks are based on the principles outlined in international guidelines on OSHM systems. One example is the European Excellence Framework for Psychosocial Risk Management (PRIMA-EF), a collaborative project funded by the European Commission's 6th Framework Programme for Research which developed a framework for psychosocial risk management in the workplace. The framework places particular focus on work-related stress and workplace harassment and it includes a number of practical tools such as factsheets, guidelines and inventories of best practice in psychosocial risk management (Leka & Cox, 2008).

The deliverables from the European Excellence Framework for Psychosocial Risk Management work have further been disseminated into the World Health Organization's (WHO, 2010) Global Framework for Healthy Workplaces. This framework combines evidence-based approaches and

principles of health protection and health promotion and is meant to be used by companies, countries and international stakeholders.

Another example is the BSI standard for psychosocial risk management (PAS1010) that was published in 2011 (BSI, 2011). The standard provides support to companies in this area of workplace health by setting a standard and benchmark for good practice related to psychosocial risk management, including assessment, follow-up and evaluation. By making guidance and best practice principles available, PAS1010 enables organizations to develop and implement strategies and to identify objectives that also take into account legal requirements.

Finally, Canada has also established a Canadian National Standard for Psychological Health and Safety in the Workplace (2013). This standard, which is the first auditable standard in this area, aims at helping small, medium and large size businesses, across all sectors, to promote good mental health and prevent psychological harm of employees. It is achieved by providing guidelines and tools in order to promote a healthy workplace.

Over the last 10 years, a major Norwegian oil and gas company has put effort into adapting and implementing international frameworks and standards for psychosocial risk management. The company uses the Psychosocial Risk Management Approach (PRIMA) (Cox et al., 2000b; Leka & Cox, 2008; Bergh et al., 2014) and adheres to good practice according to PAS1010 (BSI, 2011; Leka et al., 2011). The company's psychosocial risk management framework is based on the principle of prevention in line with the control cycle, and aims at risk reduction. It is a systematic process by which hazards are identified, risks analyzed and managed, and workers protected.

The company has a comprehensive toolbox aiding the business in controlling psychosocial risk, addressing interventions at primary, secondary and tertiary level. In 2011, the company initiated a pilot project with the goal of developing an internal auditing method that can measure the status of psychosocial barriers of considerable importance to the risk of stress and ill-health offshore and onshore.

The purpose of incorporating the psychosocial work environment into the monitoring system was to assure compliance with the management system and to provide a basis for improvement. As such, it was decided to use tools and methods that are applicable and can be considered as good audit practice. It is important to note that this company already had an extensive audit practice incorporated into the management system. One category within auditing practice is called verification tools. A verification tool in this company is described as the confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled. Examples of verification activities are: verification to ensure compliance with governing documentation; and verification of products and processes to ensure compliance with relevant standards and specifications. It was decided that the internal auditing tool for the psychosocial work environment would be a verification tool.

The result of this project is an internal auditing tool for the psychosocial work environment. The objective of this paper is to present and discuss the auditing tool for psychosocial work environment by presenting its pilot in an offshore installation. It also aims to describe how it is suitable for monitoring the status of psychosocial barriers aimed to reduce the risk of the development of stress and ill-health in offshore and onshore environments.

Method

Sample

The pilot group used in this study worked at an oil and gas installation on the Norwegian Continental Shelf. When drilling and well work are under way on the field, about 240 workers are at the installation on rotation 3x2 weeks. The scope of the audit covered 446 employees, personnel that are on a permanent shift rotation. Personnel on temporary shift were excluded.

The employees working on installations are transported to and from their workplace with a helicopter. The activities on a platform are continuous 24/7, night and day. Employees spend 2 weeks on the installation and 4 weeks off. The nature of work offshore, e.g. shift rotation, sets specific requirements to the organization, management and design of work. Employees usually work a 12-hour shift over a two-week period. In practice this entails two weeks when they spend most of their time with their colleagues.

The sample included line managers and employees. The offshore installation has several sub-groups with specific roles and responsibilities:

- The Operations and Maintenance team has responsibility for the daily operations (control room) and the day-to-day maintenance of the offshore installation.
- The Planned Maintenance team is responsible for all long-term, often campaign, maintenance.
- The Logistics team is responsible for all lifting, storage and securing safe transport from supply vessels into the platform, in addition to the daily operations of helicopter landings and take-off.
- One team is responsible for food, cleaning and accommodation.
- One team is responsible for insulation, scaffolds and surface treatment work.
- The Maintenance and Modifications team is responsible for contractual parts of maintenance and modifications that are needed at the installation.
- The Inspection team is responsible for the inspection and testing of systems offshore.

The majority of employees are craftsmen/operators, electricians, mechanics, institutional cleaners, crane operators, logistics operators etc. More than half of the employees had been on offshore rotation for more than 10 years.

Audit Tool for Psychosocial Risk

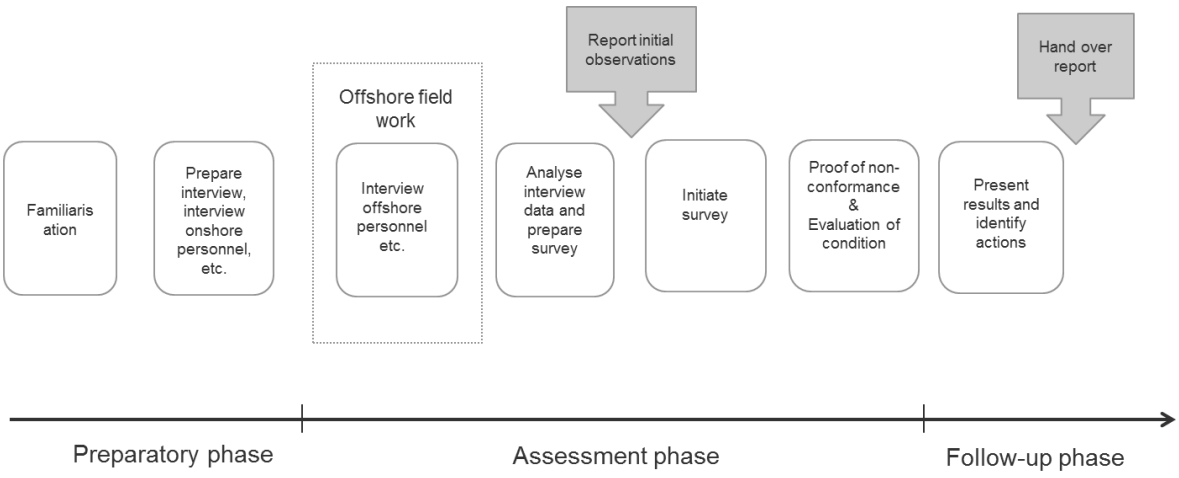
The purpose of the tool for auditing the psychosocial work environment is to audit the organization's compliance with established requirements and performance standards and promote organizational learning.

Two main contextual premises in the company influenced the development of the internal auditing tool: 1) it needed to be risk-based, and 2) it needed to focus mainly on stress and ill-health. The risk-based approach, which included different tools and checklists, was used to identify breaches to barriers for the unit being audited. It was important for the company to test an auditing approach focused on stress and ill-health as it represents a critical business risk.

The pilot work: Step by step description of the auditing process

The preparatory phase starts 4 weeks before the installation visit and comprises the following activities: establishment of the auditing team, definition and clarification of the scope of work, preparation of interviews, and information gathering.

Figure 1. The auditing of psychosocial risk process (offshore version)



- Establishment of the auditing team: The auditing team consists of two people with knowledge and experience within auditing and the psychosocial work environment. The audit team does not have any affiliation to the audit unit's management line.
- Definition and clarification of the scope of work: Identification of which groups should be part of the scope. Work practices, governing documents, operating models specific to the offshore setting are reviewed. The auditing team meets and reviews all the data collected in the preparatory phase in order to get familiar with the installation, the organization and their performance based on available data.
- Preparation of interviews and information gathering: The team then plans and prepares for interviews by finalizing interview guides, making appointments, and booking travel and accommodation.

It is essential that the assessment phase is conducted in a time-efficient manner in order to minimize the time required for completion of the assessments without minimizing quality.

- Offshore visit: The auditing team interviews a selection of personnel from different levels of the organization and from different shifts in order to get as representative views and experiences as possible (max. 20 employees). The team also does observations during normal work operations, meetings and so on. For the interviews, workers are randomly selected based on defined criteria: gender, work experience, age, position etc. The interviews allow the employee to talk about their work in their own words. The auditor goes through a list of various aspects of work (e.g. task content, workload and pace, working hours,

communication and leadership, etc., Leka & Jain, 2010). Examples of questions asked in the interview are: Tell me about your working day; Tell me about the way management communicates with employees; How is unacceptable behavior addressed in your unit?; Please describe your workload; How are your role and responsibilities described and communicated?; How are deviations from roles and responsibilities addressed?; Who do you receive support from?; How do you address lack of support?

- Analyzing interview data and sending out the survey: In this phase the information collected in the preparatory phase, and the results from the interviews are analysed. Furthermore, a survey is designed and distributed to all employees in scope. The survey provides quantifiable data on the antecedents and consequences of work stress. It contains both tailored measures of work design (on the basis of the preparatory phase and analysis of the interview data) and standard measures of well-being.
- Analyzing the survey data and evaluating criticality and conditions: The findings from the survey form the basis of the evaluation of the compliance or non-conformance to the performance standards. Based on demographic variables sub-groups are identified.
- Presenting results and identifying actions: Results are then presented to the audited unit. A plan of action for addressing the identified risks is then developed.

Establishing performance standards (PS)

To prioritize the psychosocial work environment and promote good practice across the company, it was decided to develop and establish performance standards applicable to the psychosocial work environment, linked to internal requirements.

The performance standards (PS) were chosen based on research on the relationship between the psychosocial work environment, stress and health (Leka & Jain, 2010). Several international frameworks were considered in order to find appropriate PS. Instruments evaluated: the HSE Management Standards for work-related stress in the UK; The ILO SOLVE tool; The ILO Stress Checkpoints; and BSI PAS1010. The HSE Management Standards provided a description of achievable conditions that formed the basis for the PS that were established. An overview of the PS is shown in Table 1.

Table 1. Performance standards for the psychosocial work environment

Standard – Psychosocial work environment
PS.01. Job demands
Employees are provided with achievable and adequate demands, matching the agreed hours of work
Abilities and skills are matched to employees' job demands
Communication of work expectations is comprehensible and complete
Concerns about the working environment are addressed
Local procedures are in place to respond to any individual concerns

PS.02. Role and responsibility
The different requirements placed upon employees, are as far as possible, compatible
Employees are provided with information that support the understanding of their role and responsibilities
The requirements that are placed upon the employees are, as far as possible, clear
Systems are in place to enable employees to raise concerns about any uncertainties or conflicts they have in their role and responsibilities
PS.03. Job control
Where possible, employees are in control over their pace of work
Employees are encouraged to utilize their skills and initiative in order to perform their tasks
Employees are encouraged to develop their skills
Employees are consulted with regards to their work tasks
Work practices enable employees to prioritize tasks
PS.04. Social support
Policies and procedures are in place to support employees adequately
Managers are enabled and encouraged to support their staff
Employees are enabled and encouraged to support their colleagues
Employees are aware of what support is available and how and when to access it
Employees receive regular and constructive feedback
Managers talk to their staff, listen to them and make it clear that they have been heard
Commitments made to staff are clear and kept
PS.05. Interpersonal relationships
Positive behaviors at work are promoted to avoid conflict and ensure fairness
Employees share information relevant to their work
Policies and procedures to prevent or resolve unacceptable behavior are known and complied to
Managers are encouraged to deal with unacceptable behavior
Employees are encouraged to report unacceptable behavior

PS.06. Changes Employees are provided with timely information to enable them understand the reasons for proposed changes Adequate employee consultation (with regards to their own working environment) on changes is ensured and opportunities for employees to influence proposals are provided Employees are aware of the probable impact of any changes to their jobs. If necessary, employees are given training to support any changes in their jobs Employees have access to relevant support during changes
PS.07. Travel Employees have predictable travel pattern Employees are able to rest after travel across time-zones Work does not affect the employees' home situation in a negative manner

Establishing the psychosocial work environment verification criteria

In order to classify and report findings, the next step was to establish psychosocial work environment criteria; conditions and criticality. The findings from the audit of the psychosocial work environment are the result of the evaluation of a monitoring object which indicates either compliance or non-conformance with specified criteria. The criticality of a finding is related to the potential effect of the monitored object (ISO 9000). The findings are classified into different categories: red, yellow, green and white. Table 2 lists the adopted psychosocial work environment verification criteria.

Table 2: Audit criteria, condition and criticality used to classify and report findings

Classification of condition		**Verification of compliance**	**Risk after evaluation of control and compliance**	**Action urgency**	**Proof of non-conformance for psychosocial factors**
Red	Serious condition	Non-conformance with regulatory requirements or non-conformance with internal	High	Urgent Need for immediate initiation of actions	Unattended cases of bullying complaints * / ** Psychosocial working conditions with high potential of causing ill-health

		governing documents		Higher level management to be informed	(Likelihood ratio >1) *** <u>AND</u> More than 50 % of the workforce report Psychosocial working conditions as poor or inadequate ****
Yellow	Minor condition or room for improvement	Non-conformance with regulatory requirements or non-conformance with internal governing documents	Medium	Medium Actions to be taken as soon as possible	Unattended conflicts*/** Psychosocial working conditions with high potential of causing ill-health (Likelihood ratio >1) *** <u>OR</u> More than 50 % of the workforce report Psychosocial working conditions as poor or inadequate ****
Green	Accordance	No non-conformance has been identified or only minor aspects that are recommended to be improved	Low	Low Actions not required to be registered in internal audit management system	Between 50 and 25% of the workforce report psychosocial working conditions as poor or inadequate ****
White	Accordance	In accordance with relevant rules and regulations	Low	None	Working conditions meet the requirements and standards ****
Observations/annotations: A condition that is not directly related to the performance standards, but is still important to highlight in order to attend to the health and safety of employees.					If there are any groups at higher risk, identified through GWBQ * or

	high level of health complaints** /**** GWB above 18 is cause of concern

* index in questionnaire

** from interviews/information provided in the process

*** risk analysis of questionnaire data in SPSS

**** questionnaire – frequencies of exposure

Use of tools to check compliance with performance standards

In order to check compliance with the established performance standards it was decided to use both qualitative (semi-structured interviews) and quantitative assessment tools (tailor made working environment questionnaire; the General Well-being Questionnaire (GWBQ); and a health symptoms profile). The use of these tools is described by Cox, Griffiths and Randall (2003).

1. Semi-structured interviews are used in order to obtain data related to the psychosocial work environment in the audited unit.

   If interviewees report critical conditions, this is reported immediately to their line management. An example may be reported bullying cases: bullying is considered a serious breach of internal and external requirements. Furthermore, it is considered a serious threat to health. As such, any unattended cases of bullying are considered a critical condition (ref. Table 2 red condition).

2. The questionnaire is used to obtain proof of compliance or non-conformance with the performance standards. It includes the following:
   a. Demographics: Demographics are used to identify groups at risk and in order to collect valuable information about exposure to psychosocial risks.

   b. Psychosocial work environment items: This section of the survey is tailor made on the basis of the data collected through the interview stage described earlier. For the audited unit, a questionnaire measure of exposure to potential psychosocial hazards (possible sources of stress) is developed. This questionnaire measures employees' own experience/perception of the psychosocial working environment. The questionnaire items are designed to cover all potential psychosocial hazards identified during familiarization and interviews as concisely as possible. Employees evaluate the adequacy of each aspect of their work by ticking a box on a 5-point likert scale.

   c. Work-related health items: It was decided to include measures of both the experience and consequences of work-related stress. Consequences of stress may manifest themselves in e.g. poor well-being, musculoskeletal pain. These can be explored with reliable and valid measures.

- Feeling worn out is measured through the General Well-being Questionnaire (GWBQ) (Cox & Gotts, 1987) which is a validated questionnaire that is used in the company in order to assess important symptoms of work-related stress. The use of this instrument is particularly useful to assist with separation of cause and effect relationships in stress pathways. Cut-off scores have been established for the GWBQ and these validated scores are used as a point of reference for the purpose of deciding criticality and condition (Cox & Gotts, 1987; Cox, Thirlaway, Gotts & Cox, 1983). An average score is produced for the whole group of employees. Average scores of 18 and upwards indicate that a group is more worn out than the average. Average scores higher than 20-21 indicate a relatively high level of worn out symptoms. Cut-off scores for professional and factory workers have also been produced (Professionals: 15.87 and Factory workers: 14.16).

  The GWBQ scores are used in determining which psychosocial hazards are more likely to cause ill-health. This is calculated by performing a Likelihood Ratio/Odds Ratio analysis between GWBQ scores and working environment items. Furthermore, the frequency of reporting a poor working environment is part of determining the criticality of condition. The same validated assessment process/procedure is described in detail by Cox et al. (2002).

- The level of consensus or agreement on the presence of a stressor, e.g. the proportion of staff reporting an aspect of their work to be inadequate, is used to achieve this. A starting point would be to consider those stress-related hazards that are agreed by the majority of employees (>50%) as being problematic. Similarly, the aspects of work reported as satisfactory or good by >75% of employees are presented as positive features to maintain or strengthen.

- Work stress may also lead to tension in the muscles – thus increasing 'wear and tear' on the working muscles. It may also be linked to impairments in the body's ability to repair its muscles and joints after exertion (Leka & Jain, 2010). As such, items on (occurrence and frequency of) musculoskeletal pain (headache, neck pain, shoulder pain, back pain) are included in the survey as a measure of possible consequences of work stress.

The process of evaluating the results and reaching conclusion with regards to the PS is shown in Figure 1.

The final aspect that needed consideration was how to report the findings in the internal IT tool audit management system. This tool is used for the planning, administration and follow-up of all internal monitoring and external supervision in the company. As such, this system needed adaptations in order to be used for the planning and follow-up of the verification of psychosocial risks. This represents minor changes into the existing system, where the performance standards for the psychosocial work environment need to be implemented.

Results

Interviews

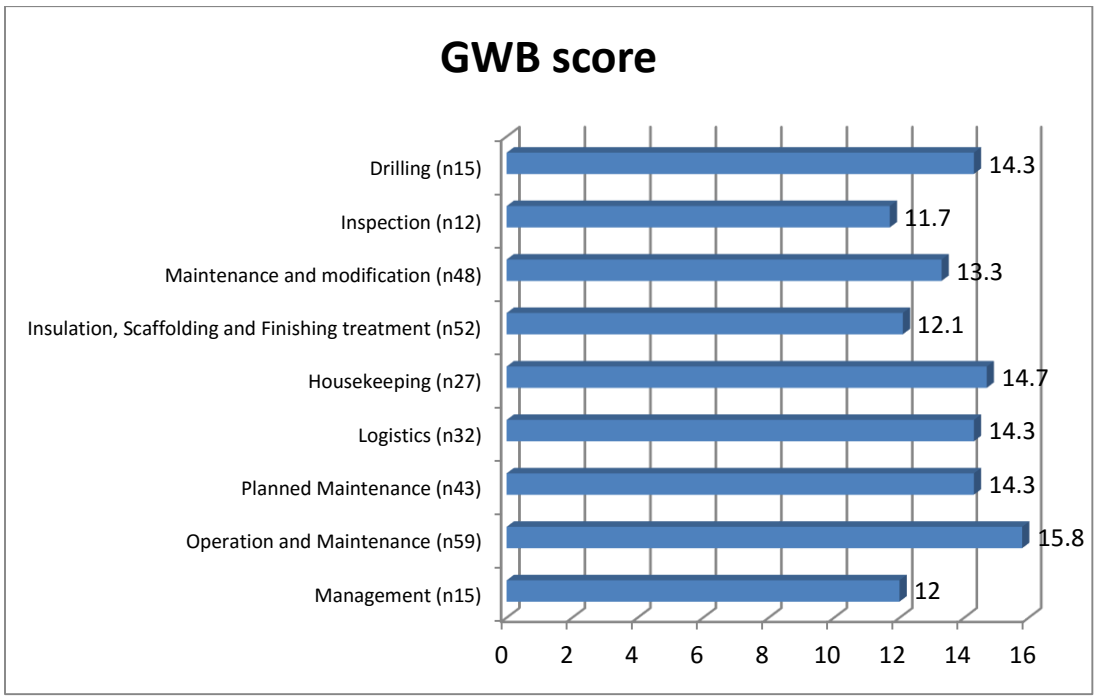
In the particular pilot, a total of 21 employees were interviewed. The interviews did not reveal findings that needed immediate actions from line management. Examples of aspects that were highlighted by interviewees were: lack of unified communication from the management team; workload issues e.g. support when experiencing excessive work pressure; work practices and organization e.g. unrealistic time estimates and prioritization of work; and good relationships between colleages.

As described in the method section, the data from the interviews was used as input to the design of the survey and contributed to the analysis of the survey.

Survey

The survey was distributed to 446 employees and 303 returned a complete survey. Figure 2 shows the breakdown of the survey respondents from each sub-group at the platform. Results also showed that 20% of employees reported an intention to leave. Compared to other units in the company, this is within the expected result.

Figure 2. Survey respondents: Sub-groups at the platform, number of employees (n) and GWB score

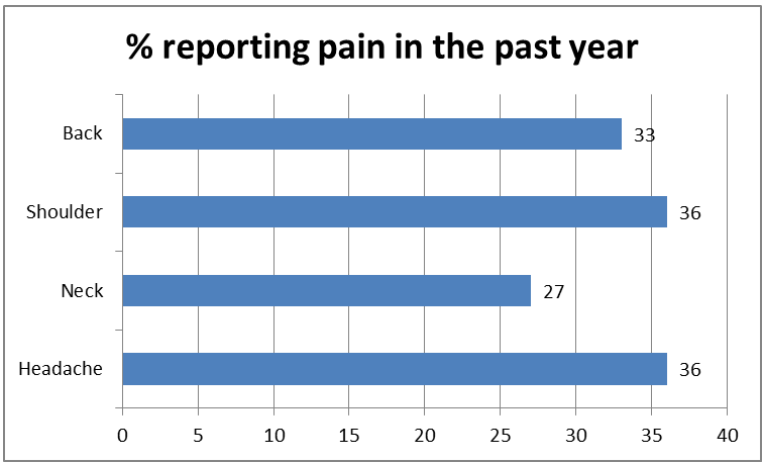


Work-related health

The GWB score for the total sample was 13.8. The score for the sub-groups varied from 11.7 to 15.8. None of the sub-groups scored higher than 18 and compared to the norms, this does not pose a cause of concern (see Figure 2).

Figure 3 shows that the reported musculoskeletal pain from the survey group is below 50%. This is considered to be within acceptable level compared to other units in the company. The sub-groups were also checked and no risk groups were identified.

Figure 3: Musculoskeletal pain reported in the past year



Psychosocial work environment analysis

The percentage of workers reporting poor working conditions was identified. The level of consensus or agreement on the presence of a stressor (e.g. the proportion of staff reporting an aspect of their work to be inadequate) did not exceed 50% on any of the items. The analysis of the combined data from the GWB scale and the identification of potential sources of work stress (psychosocial work environment items) aimed to identify likely risks. Likelihood ratio analysis was used to establish these associations (Wang, Eddy & Fitzhugh, 1995). 19 items with higher Likelihood ratio (>1) were identified. Likelihood ratios and the percentage of workers reporting poor psychosocial working conditions are listed in Table 3.

Table 3. Odds ratios of psychosocial work environment factors and GWB and percentage of workers reporting poor psychosocial work conditions.

	Psychosocial work environment items	Likelihood ratio	% of workers reporting poor psychosocial working conditions
1	The balance between planned maintenance and urgent task	7	11
2	Your workload	10	13

3	The possibility to work in pairs when performing your job	11	12
4	The balance between administration and field work	13	14
5	The quality of the training provided to new employees	14	11
6	The correspondence between time estimates and the actual time spent on completing tasks	14	21
7	The resolution of conflict situations on-site	15	11
8	Co-ordination of your leaders in the communication of established practice	15	22
9	Clear communication of prioritization of job tasks	18	12
10	The practical value of HSE meetings	18	13
11	The possibility to ask for assistance or relief when workload is too high	18	16
12	The practical value of addressing issues with management on-site	21	11
13	Your competence level related to the use of computers at work	21	12
14	The possibility to have work tasks adjusted to your individual health situation	21	13
15	The clarity of the leading advisor's role and responsibilities	22	13
16	Your possibility to work at one task at a time	23	23
17	The utilization of your competence on the platform	28	12
18	The availability of information related to your work tasks	44	10
19	Your possibility to ask other colleagues for help	-	2
20	The possibility to raise concerns with your colleagues	-	2
21	The social environment at the platform	-	5
22	The possibility to receive support from your line manager	-	6
23	Your possibility to learn from other's experience	-	4
24	Your possibility to share experience with others	-	4

Findings and classifications

The results from the pilot group were classified according to the evaluation criteria ad as a result, four were evaluated as yellow (medium risk) and two were evaluated as white (low risk).

The following is an example to demonstrate how the audit team used input from interviews and the survey to conclude on non-conformance to the performance standards. The process of evaluating the results and reaching a conclusion with regards to the PS is shown in Figure 2.

The first yellow finding is within the PS.01. Job demands. This performance standard relates employees' job demands and covers issues such as having achievable and adequate demands; skills

and abilities being matched to the job requirements; and comprehensive communication of work expectations.

In the interviews employees described a work situation with varied intensity with regards to workload and work pace. The interviewees described how job demand issues were related to the unit's plans for executing and organizing work tasks. It included the management and organization of work on a day to day basis at the platform as well as the coordination between offshore and onshore staff. Examples that were provided from the interviewees were the effect of having an imbalance between planned maintenance and urgent tasks. Furthermore, employees reported that the demands for using computers in order to solve tasks in their daily work had increased over the last years. The employees that described this as a problem reported that periods with high workload and pace also affected their sleep pattern and ability to concentrate at work.

The observations/results from the interview were further strengthened through the findings in the survey. The items are identified as psychosocial working conditions related to job demands with high potential of causing ill-health, e.g. Likelihood ratio >1. The survey showed that employees experience an imbalance between administrative tasks and work performed in the field and time estimates do not always correspond to actual time spent on tasks. Furthermore, results showed that it is difficult to adjust work tasks to individuals' health situation. Nine items related to job demand issues showed a higher likelihood ratio (see Table 3), items 1, 2, 4, 6, 11, 13 and 16.

The same process was used for evaluating all performance standards. Table 4 summarizes conformance and non-conformance to the performance standards.

Table 4. Pilot results: Criticality, standard and evaluation of condition/proof

Criticality	Condition/proof	Standard
Yellow	Employees are exposed to high workload and high intensity of work pace. This relates to the unit's plans for executing and organizing work tasks. There is an imbalance between administrative tasks and work performed in the field. Employees lack competence in order to use IT tools.	PS.01. Job demands
Yellow	Employees are exposed to inconsistent communication from management regarding expectations to their job performance. New employees do not receive adequate training. The roles of leading advisors are unclear with regards to mandate, authority and responsibilities.	PS.02. Role and responsibility
Yellow	Employees find it difficult to have an overview of the tasks at hand, important requirements for their jobs and they lack clear prioritization of job tasks. Employees' competence is not utilized well enough at the platform.	PS.03. Job control

Yellow	The practical value of addressing work related problems with local management on-site is poor. Conflict situations are not always followed-up and handled on-site.	PS.05. Interpersonal relationships
White	The social environment is very good. All employees receive good support from each other; also across disciplines. The employees share information across the shifts in predefined meetings and protocols.	PS.04. Social support
White	Employees have been invited to share experience and evaluate change initiatives.	PS.06. Change
Non-applicable	No issues (positive or negative) regarding work-life balance were identified in the assessments.	PS.07. Travel

Discussion

The described internal auditing tool aims to secure high attention on the management of psychosocial risk in the company as part of the company's monitoring plan. Developing auditing tools that address psychosocial issues in addition to other aspects of the work environment may further contribute to a more holistic occupational health and safety management perspective (Hasle & Zwetsloot, 2011; Hohnen & Hasle, 2011; HSE, 2007; Leka et al., 2011; WHO, 2010).

Evaluation of the auditing of psychosocial work environment as an audit tool

The auditing tool for psychosocial risk is a tool that confirms compliance to requirements in the management system. The auditing checks whether psychosocial barriers are in place and functioning. The quality of the auditing method can be evaluated according to a standard and generic list of requirements for measuring instruments in science (Hale, 2009).

- Validity (does it measure what we want it to measure?)

It is important that the auditing tool for psychosocial work environment tool is able to assess whether the unit being audited is organized in a way that prevents employees from being exposed to psychosocial hazards with risks to health and safety.

Because psychosocial hazards are situation specific, the audit assessment has to consider the particular context of work (e.g. by examining the workplace, type of worker, work process etc.). In order to do this, the identification of psychosocial risks relies on the expert judgment of groups of relevant working people about the adequacy of the design and management of their work. The knowledge and expertise of working people in relation to their jobs is recognized and treated as valuable evidence. This information is treated at the group level and consensus is measured in those expert judgments on working conditions. The information about the possible outcomes of work-related stress is collected from the assessment. This information is used to determine which of the psychosocial hazards actually affects the health of those exposed to them or the healthiness of their organization and, in turn, provide proof of compliance or non-conformance.

By following this logic, the auditor can go beyond checking whether the organization has systems in place to manage the psychosocial work environment but verify whether the systems work as intended. This is important because experience over the years has shown that having a system for occupational health and safety risk does not necessarily provide better health and safety to workers (Blewett & O'Keeffe, 2011; Hasle & Zwetsloot, 2011; Robson et al., 2007).

- Reliability (does it give the same measurement when used by different people or on different occasions?) and sensitivity (does it respond to changes in what it is measuring?)

The design and management of work, and the nature of working conditions, differs between jobs, workplaces and organizations. Different groups have different problems that manifest themselves in different ways. The auditing tool for the psychosocial work environment allows for these differences by applying tools which are designed in a way that capture specific contextual situation. As such, some of the tools used as part of the audit tool for the psychosocial work environment are flexible and tailored to meet the needs of the group of staff involved, e.g. tailored items in survey based on interviews. However, other tools are standardized and pre-defined. All units being audited will be subjected to interviews and data collection through surveys. Furthermore, the performance standards, condition and criteria are pre-defined and there are a set of pre-qualifications for auditors with auditing training and experience, knowledge of psychosocial work environment, and practical skills in how to assess the psychosocial work environment by using various tools and methods. This ensures that the measurements are applied in a similar way by different people or on different occasions. In order to ensure independence to the assessment and evaluations, the audit team does not have any affiliation to the audit unit's management line.

- Representativeness (does it cover all aspects which are relevant?)

When developing the auditing tool for psychosocial work environment tool it was extremely important to work within a number of well-defined guiding principles based on research. Firstly, the performance standards are based on well-established knowledge on how various psychosocial hazards effect health. Exposure to psychosocial hazards can result in the experience of work-related stress with negative impacts that can be psychological, cognitive, social, and physiological and can potentially affect both health and safety in any business context (Griffin & Clarke, 2011; WHO, 2010). An extensive number of articles have been published on stress and its relationship with psychological and physiological outcomes. In the oil and gasindustry psychosocial risks can cause ill-health for individuals or groups due to long time exposure to poor working conditions (Cox et al., 2000a; Maslach et al., 2001; Mearns, 2001; Schaufeli & Enzmann, 1998; WHO, 2010).

Furthermore, the auditing tools used are founded on acknowledged approaches for identifying, assessing and obtaining proofs, including the use of standardized tools developed specifically for psychosocial risk assessments (Cox, Griffiths & Randall, 2003; Leka, Cox & Zwetsloot, 2008).

- Openness to bias (can it be manipulated?)

The auditing tool for the psychosocial work environment is based on the process of triangulation. In the social sciences, triangulation is a powerful technique that facilitates validation of data through cross verification from more than two sources. In particular, it refers to the application

and combination of several research methodologies in the study of the same phenomenon (Bogdan & Biklen, 2006). The idea is that one can be more confident with a result if different methods lead to the same result.

In the article by Blewett and O'Keeffe (2011), it is argued that audit methodology needs to take into account the multiplicity of views available within an organization in order to triangulate the audit data and reach an adequate picture of the situation. In line with the authors' recommendations, the auditing tool for the psychosocial work environment seeks out to assess the views of employees at relevant levels in the organization. For example, the auditor talks independently to management and employees. However, in order to avoid being manipulated by the views of a selected few interview respondents, the auditing tool uses a range of different methods and data to assess and grade the status of the performance standards, including document reviews, analyses of existing HSE data, interviews, field observations and questionnaire. This makes the tool results robust against manipulation.

- Cost-effectiveness (does it cost more to collect the data than would be lost without the information from the auditing to assist decisions?)

One argument against methods like the auditing tool for the psychosocial work environment is that it is time consuming and demands resources. Performing the assessments including interviews and designing working environment questions takes more time than utilizing simple checklists.

However, there are several reasons why it may be beneficial for the business to use multi-method auditing tools like the current one to support decisions. Psychosocial issues are complex and not straight forward and management may risk missing critical information/details when making decisions related to the management of the psychosocial work environment. Work-related stress is expensive for companies (EU-OSHA, 2014). Tackling stress and psychosocial risks by conducting audits can be viewed as too costly, but the reality is that it costs more to ignore them. Stress affects performance and may lead to absence from work and if prolonged it may result in serious health problems. The European Agency for Safety and Health at Work has recently published a report summarizing studies focused on calculating costs of work-related stress and psychosocial risks. Organizations are affected by costs related to absenteeism, presenteeism, reduced productivity or high staff turnover. In addition, health care costs and poorer business outcomes ultimately affect national economies and society (Hassard et al., 2014).

This audit tool is highly relevant for the prevention of ill-health and can provide essential information to assist management decisions with regards to improvements. Of course, the efforts and resources allocated to the follow-up of audit findings are targeted at the most critical issues.

Because the tool is more complex and resource demanding than traditional auditing practices, it is important that its utilization is part of a risk based initiative and not solely on a periodic cycle. As such, it is important to have established indicator models that will show when it is appropriate for the organization to audit the psychosocial work environment. By implementing a risk based audit programme, the organization will be able to initiate an auditing process regardless of periodic schedule.

Limitations, further research and application of the auditing tool

There are several authors that have addressed drawbacks or limitations of auditing, e.g. in Michael Power's 'The audit society' (1997) it is argued that if everything is measured and audited, only things that are easily measured and audited are regarded as important. Many intangible aspects of life and work are difficult to audit, and may be further neglected if auditing becomes the normal practice (Hohnen & Hasle, 2011; Power, 1997). With regards to the psychosocial work environment, organizations can perform audits in order to check compliance with risk management principles. However, just because an organization can document that they follow a recognized OHSM standard, like OHSAS18001 (to be replaced by ISO 45001), it does not mean that the assessments and follow-up of psychosocial risk have a "real" impact on reducing ill-health among employees. The pilot has gone one step further than other auditing tools and used the evaluation of employee well-being and its relationship to the working environment as a basis for considering how well the management and systems in place function. This was done by establishing performance standards and incorporating pre-existing tools and principles into the audit process, which allowed for the consideration of working environment conditions and their criticality.

One could argue that this auditing tool mainly focuses on the negative deviation from the performance standards. However, the auditing tool also identified positive findings in the audit process. This is demonstrated through the identification of conditions that are in accordance ("white criticality") with the psychosocial performance standards.

It is important to highlight that the pilot only represents one audit process of a single installation. The auditing tool is as such adapted to the internal auditing system of this particular company. Even though the audits cannot be used directly by other companies within the industry, it is important to highlight that the overall approach should be of valuable knowledge to other organizations and the industry as a whole.

Further studies should focus on extended testing of the tools applied in this pilot. The survey should clearly reflect the established psychosocial performance standards. The effects on the organization should be evaluated in order to determine if an auditing tool represents a meaningful addition to the auditing process in general and to the management of psychosocial risk.

It is also important to note that in this company auditing represents only one of several efforts/initiatives to control psychosocial risk. In order to effectively prevent negative health and safety outcomes due to psychosocial issues, a system for managing psychosocial risk needs to be integrated into the organization's operational model, e.g. performance management system, governing documents, risk management processes, leadership development programmes and auditing system (Bergh et al., 2014; Rick et al., 2001). According to the report "A critical review of psychosocial hazard measures" (Rick et al., 2001), organizations should ensure that assessments and follow-up of psychosocial hazards are integrated into existing practices. This company has over the last 10 years worked on implementing a system for managing the psychosocial work environment as part of the already existing business process and *not* as an isolated issue with its separate processes (Bergh et al., 2014). As such the organization was ready to test an auditing tool for the psychosocial work environment.

The management team at the installation found the results from the assessment meaningful and has since used the results as part of their improvement agenda. Due to the need for improved efficiency and cost-cuts in the industry the company will not apply the piloted auditing tool on a periodic cycle and as a stand alone process. However, the company will conduct risk based auditing processes related to health and the working environment where psychosocial issues are integrated in the auditing scope. As such, experiences, learning points and single tools from the pilot will be important input to future audits.

Conclusion

Psychosocial risks have an important effect on organizations through employees' health and behavior, both of which are linked to several organizational outcomes. As such, it is important that organizations have methods and tools to deal with this type of risk, implemented and integrated into their performance management systems. As auditing is an important measure used by companies to control risk, it was important to pilot a tool for auditing the psychosocial work environment. In this context it was necessary to develop an auditing tool to check whether systems are in place for risk management, also evaluating employee well-being and its relationship to the psychosocial working environment. This paper describes a pilot for performing audits of the psychosocial work environment with the purpose of preventing work-related stress and ill-health. The auditing tool is a systematic and independent assessment of the status of psychosocial barriers. It reveals non-compliance to requirements and best practice within different relevant levels in an organization and is suitable as a basis for the development of risk reducing measures. This pilot study provides an additional perspective to auditing tools related to health and safety.

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