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Developing a concept for external audits of psychosocial risks in certified occupational health and safety management systems

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ABSTRACT

Psychosocial risks are closely related to work organization, management and organizational context. Therefore, the nature of psychosocial risks is complex and differs from more traditional OHS risks. The OHSAS 18001 standard explicitly claims to deal with all OHS risks, including psychosocial risks, and the audit is a key element in OHS management systems. However, the literature indicates that audits of psychosocial risk management are difficult and multifaceted, and the available practice excludes psychosocial risks from audits. Based on an analysis of the literature and available methodological approaches, we propose a new conceptual model for audits of psychosocial risk management. The model is grounded in the British "Guidance on the management of psychosocial risks in the workplace" (BSI, 2011), which has recently been developed to remedy the shortcomings of the OHSAS standard. The model builds on an interpretation of audit evidence that includes an integration of general scientific knowledge regarding psychosocial risks with local contextual knowledge. A key tool for the application of the integration is realistic evaluation, which provides the opportunity to assess the link between psychosocial risk management measures and expected outcomes. Another important tool is the qualitative interview, which is the primary method for data collection. The concept has important implications for the dominant audit practice and auditor competencies. It leads to an expanded knowledge base and a broader concept of audit evidence that further presupposes considerable auditor resources, and changes the required knowledge base and skills of auditors.

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1. Introduction

Over the last few decades, changes to the world of work have affected workplaces considerably. These changes have resulted in a rise in psychosocial risks associated with the way work is designed, organized, and managed (Cox et al., 2000; EU-OSHA, 2007; Bluff and Gunningham, 2004; Walters et al., 2011). The majority of organizations have difficulty incorporating psychosocial risks into their Occupational Health and Safety (OHS) management practices, and the prevention of psychosocial risks is still challenging to address in workplaces (Leka et al., 2015; Iavicoli et al., 2014; EU-OSHA, 2014; Langenhan et al., 2013). Psychosocial risks at work represent a complex and diverse array of phenomena. They are related to a variety of job and organizational characteristics and working environments, and range from bullying and harassment to an array of organizational risks such as work overload, lack of social support, role ambiguity, and demand control or effort balance (Johnstone et al., 2011; Pejtersen et al., 2010; Cox et al., 2000). Psychosocial risks are acknowledged to be conceptually distinct from other more traditional OHS risks (I-WHO, 2008), and the majority are 'invisible', difficult to measure, intangible, multi-causal, subjective, and contextual (Hohnen et al., 2014; Johnstone et al., 2011). Moreover, psychosocial risks are generally considered to be sensitive and related to power, and addressing them directly may be seen as an interference in the employers' prerogative (Bruhn and Frick, 2011; Walters, 2011). Taken together, psychosocial risks have a strong resemblance to what can be characterized as "wicked problems" (Rittel and Webber, 1973; Jespersen et al., 2016b).

One way of controlling psychosocial risks is through the application of OHS management systems. Such systems can be certified according to the standard OHSAS 18001 (Occupational Health and Safety Assessment Series), which has gained considerable world-

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wide acceptance in the past decades (Frick and Kempa, 2011). The standard implies the option of third party certification, and claims to control all OHS risks, including psychosocial risks (OHSAS 18001, 2008). However, it is reported that the standard does not adequately address psychosocial risk factors at work (Leka et al., 2011; Hohnen and Hasle, 2011; Frick and Kempa, 2011; Abad et al., 2013; Nielsen and Hohnen, 2014; Jespersen et al., 2016a). In practice, the OHSAS 18001 standard narrows the scope of OHS and predominately focuses on technical accident risks, and physical risks (to some extent), while largely neglecting psychosocial risks (Frick, 2004, 2011).

A crucial element of certified OHS management systems is the audit, which is used to review and evaluate the performance and effectiveness of the OHS management system (Robson et al., 2012). It must, in principle, ensure effective control of all OHS risks, comply with national OHS regulations, and show continuous improvement of OHS performance (Frick and Wren, 2000). The audit has an evidence-based approach (ISO 19011, 2011), and auditors must collect evidential material that is sufficient to make valid and reliable judgments about the implementation and effectiveness of the OHS management system (Robson and Bigelow, 2010). However, it is not made clear how an evidence-based approach should be understood within the audit context. This has implications for the effectiveness of certified OHS management systems auditing. The present audit practice tends to focus on objectively measurable and directly observable issues, thus leading to a bias towards safety and traditional OHS risks wherein compliance can be objectified. Consequently, psychosocial risk factors tend to be excluded (Hohnen and Hasle, 2011, 2016; Hohnen et al., 2014; Hasle et al., 2014a; Jespersen et al., 2014, 2016a).

To the best of our knowledge, research concerning psychosocial risk management audit tools is limited to a recent study on developing and testing an internal audit tool in the oil and gas industry (Bergh et al., in press). While it is a quite comprehensive tool for use in internal audits, and it may be too extensive for external auditors to apply. Thus, there is a need for audit methods that can cover psychosocial risks in an adequate manner. The aim of this article is to develop a concept for an audit methodology that is able to capture the special character of psychosocial risk management. In order to do so, we have analyzed the present shortcomings of audits as well as the requirements for audits encompassing the relevant standards. We have therefore based the development of the concept on an integration of three separate analyses:

- The requirements for qualified audits as outlined in the OHS management standard OHSAS 18001, the guidance PAS 1010, and the ISO 19011 standard about the general audit principles.
- The challenges for audits of psychosocial risks where we use the concept of wicked problems (Rittel and Webber, 1973; Jespersen et al., 2016b) as an important point of departure for understanding the special nature of psychosocial risks.
- Expansion of the audit knowledge base with data collection and assessment methods that are suitable for psychosocial risks. This builds on recognized methods such as realist evaluation (Pawson and Tilley, 1997; Kazi, 2003) and qualitative interviews (Kvale and Brinkmann, 2008) as well as an expansion of the auditor competencies.

We use these three analyses to suggest the basic audit principles for psychosocial risks and to discuss the implications for auditor competencies. The article contributes by providing the first example of a potential way to carry out audits, one that is able to capture the special nature of psychosocial risks, thereby increasing the likelihood that these risks are integrated in certified OHS management systems.

The structure of the article is as follows. This introduction is followed by a presentation of the management systems standards OHSAS 18001 and PAS 1010 and an analysis of the key principles in auditing management systems. We then analyze the challenges of addressing psychosocial risk management within the established audit discourse based on findings from empirical case studies of certified OHS management systems in Denmark. This is followed by a discussion of available methods for audits of psychosocial risks. Subsequently, we merge these analyses into a general concept, which can handle the soft, invisible, and contextualized OHS risks. Finally, we discuss auditor competencies, and the challenges in applying our proposed conceptual model in audit practice.

2. OHS management systems standards and psychosocial risks

The OHSAS 18001 standard specifies requirements for OHS management systems in order to enable organizations to develop objectives and to achieve those objectives by controlling all their OHS risks, including psychosocial risks (Robson et al., 2007; OHSAS 18001, 2008). Managing OHS risks to the OHSAS standard is described as a systematic evidence-based problem-solving strategy (Leka and Cox, 2010). Systematic management of OHS risks is inevitably directed by evidence claims that determine the causes and effects. Renn (2008) categorized risks as linear or simple, complex, uncertain, or ambiguous, working with different approaches for risk management depending on the characteristics of the risk. However, the OHSAS standard does not distinguish between different types of OHS risks and it appears as if OHSAS 18001 treats psychosocial risks as linear or tame problems that can be identified and solved in the same mono-causal and technical-rational approach as that used for simple, visible, and tangible risks (Jespersen et al., 2016b). This approach in the standard may be one of the reasons for not adequately addressing psychosocial risk (Leka et al., 2011; Hohnen and Hasle, 2011; Frick and Kempa, 2011; Abad et al., 2013; Nielsen and Hohnen, 2014; Jespersen et al., 2016a). The importance of building on characteristics of psychosocial risks for the selection of the risk management approach (I-WHO, 2008; Leka et al., 2008, 2011) is reflected in the "Guidance on the management of psychosocial risks in the workplace", Publicly Available Specification 1010 (PAS 1010). This standard, which has recently been published by the British Standard Institute (BSI, 2011), is expected to help solve the special problems of psychosocial risk management. A similar Canadian standard (CSA Group and BNQ, 2013), has also been published.

2.1. PAS 1010

The management paradigm in PAS 1010 (BSI, 2011) is explicitly directed towards psychosocial risks. PAS 1010 is, as with OHSAS 18001, based on the PDCA model. The difference is that PAS 1010 distinguishes between different types of OHS risks, such as psychosocial risks, which are acknowledged to be of a qualitatively different nature than more traditional OHS risks. Psychosocial risks are understood as complex and multi-causal. Because understanding the specific context is necessary to assess psychosocial hazards and the risks they may pose, they cannot be managed in an objective and technical manner (Leka et al., 2008; I-WH0, 2008; BSI, 2011). Furthermore, the OHS scope is broader in PAS 1010 because it includes work organization and management as risk factors. It also applies a dynamic organizational perspective, as psychosocial risks are frequently directly related to changes in work that are continually taking place (I-WHO, 2008).

Another important difference between OHSAS 18001 and PAS 1010 is the level of employee participation. PAS 1010 includes a

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more participatory approach (Hohnen et al., 2014), which is particularly expressed by a recognition of the knowledge of the employees as valid and reliable evidence (BSI, 2011; Leka et al., 2011). The knowledge base for the psychosocial risk management approach in PAS 1010 is based on both scientific knowledge and knowledge of the organizational context (Leka and Cox, 2010; Hohnen et al., 2014). However, how the actual evaluation of psychosocial risk management should be carried out is neither specified in PAS 1010, nor which evaluation paradigm PAS 1010 is based upon.

To conclude, PAS 1010 was developed in such a way that it would be compatible with OHSAS 18001. The differences should therefore be regarded as complementary and not as mutually exclusive. The traditional OHS risk-management process is defined as an evidence-*based* problem-solving strategy, while the entire psychosocial risk management process in PAS 1010 is defined as an evidence-*informed*, practical-solving strategy (Leka et al., 2008; Leka and Cox, 2010). However, the difference between these two approaches when they are to be transformed into practical models is not elaborated in PAS 1010, and the implications for how the audit of these risk management approaches should be carried out in practice is therefore not clear. Moreover, it is not clear how the evidence-informed risk management approach in PAS 1010 is transformed into outcome and process evaluation, nor how the actual evaluation of compliance and performance will be measured (Hohnen et al., 2014). Despite these shortcomings, the key principles of psychosocial risk management can form a useful basis for the development of an appropriate methodology for auditing psychosocial risks in certified OHS management systems. This leads to the next part of the discussion, where we address the content and principles of auditing.

3. The audit process

The crucial point for the verification of an OHS management system is the third party audits. An audit can be understood as both a management tool and a control system (Power, 1997). According to the OHSAS standard, the purpose of an audit is to determine whether the OHS management system conforms to the requirements of the OHSAS standard, including compliance with national OHS legislation, proper implementation of the OHS management system, and the effectiveness in meeting the organization's policies and objectives (OHSAS 18002, 2009). The ISO 19011 standard provides the general principles and methodology for audits of management systems and specifies the competencies required by an auditor (ISO 19011, 2011). According to the ISO 19011 standard, an audit process is a *'systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled'* (ISO 19011, 2011:1). A key principle of auditing is assessment based on evidence, which is *'the rational method for reaching reliable and reproducible audit conclusions in a systematic audit process'* (ISO 19011, 2011:5). Power (1997) emphasized that the concept of evidence constitutes the heart of the operational dimensions of audits. Auditors must collect evidential material that is sufficient to enable a judgment to be formed and to verify assertions and events with appropriately collected and interpreted data. Verification and evidence are thus complementary concepts; auditors verify on the basis of evidence (Power, 1997). On the basis of the description of collecting and verifying data, auditing may be understood as a quasi-scientific method (Power, 1996).

The audit process is outlined in ISO 19011 (2011) and includes document review, preparing the audit plan, conducting the audit, and preparing the audit report. Prior to conducting an audit, documents from the organization are reviewed, including results of prior audits. Information from this review should be used in planning for the audit. The audit plan must include the objectives, criteria, methodology, and scope of the audit. Conducting an audit involves the process of collecting and verifying information. Collecting information and gathering evidence can be achieved through interviews, observations, and reviews of documents. In OHSAS 18002 (the guidelines for implementation of OHSAS 18001), it is pointed out that information relevant to the audit's objectives, scope, and criteria should be collected using appropriate methods. Auditors should ensure that a representative sample of the important activities is audited, that relevant personnel are interviewed, and that relevant documents are examined. Audit evidence can be quantitative or qualitative, and generating audit findings is performed by evaluating evidence against criteria. Only information that is verifiable should be accepted as valid evidence. Audit findings can indicate conformity or nonconformity with audit criteria, and nonconformities are specified in the audit report.

To conclude, the audit is founded on an evidence-based approach. Auditors have to judge the evidence objectively against pre-defined audit criteria in order to generate audit findings. Evidence is thus required as the basis for indicating conformities or nonconformities. However, both ISO 19011 and OHSAS 18001 have a somewhat open approach to the concept of evidence as well as to data collection methods. In general, audits have been criticized for their strong focus on formalities with limited consequences for tangible results (Power, 1997; Gallagher et al., 2003; Poksinska et al., 2006; Blewett and O'Keeffe, 2011; Boiral, 2012), and this problem is potentially even larger for audits of psychosocial risks. This is the issue which we will consider in the next section.

4. The challenges for audits of psychosocial risks

Several scholars have reported that the management of psychosocial risks is generally not included in auditing (Hohnen and Hasle, 2011; Robson et al., 2012; Gallagher and Underhill, 2012; Hasle and Zwetsloot, 2011; Jespersen et al., 2016a). The main reasons for this flaw in the system can be traced to two interlinked issues: (a) the nature of psychosocial risks and, (b) the understanding of evidence used in audits.

4.1. The nature of psychosocial risks

Psychosocial hazards can be defined as 'those aspects of work design and the organization of management of work, and their social and organizational contexts, which have the potential for causing psychological, social, or physical harm' (Cox et al., 2000). Based on this definition, the nature of psychosocial risks can be characterized by a number of features. Psychosocial risks, unlike most physical OHS risks, are, to a large extent, determined by the way in which people perceive them and are therefore dependent on subjective differences in the perception of a problem or a risk (Rick and Briner, 2000). These subjective and varying perceptions make it difficult to set fixed norms and prescriptive standards that can be observed and measured objectively (Hasle and Petersen, 2004; Johnstone et al., 2011). Psychosocial risks are connected to the management and organization of work and thereby also to the power disparity in workplaces. Psychosocial risks are rooted in the employers' ability to organize and allocate resources as well as to manage operations that, in turn, create the risks at work (Walters, 2011). In terms of prevention, addressing psychosocial risks therefore involves identifying risk factors that arise from the work organization and management. It is a particularly sensitive issue, as it entails questioning the actions of management and the exercise of power. Managers avoid issues concerning power and management and such practices are critical to an

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understanding of how psychosocial risks and related occupational illnesses evolve.

These features of psychosocial risk can be characterized as "wicked problems" for various reasons (Rittel and Webber, 1973; Jespersen et al., 2016b). The term "wicked problem" is used to characterize problems in society that are marked by unclear cause and effect relationships as well as complexity, uncertainty, and ambiguity in the problem-solving process (Head and Alford, 2013). Given the nature of wicked problems, the knowledge challenges are particularly obvious. To effectively manage wicked problems requires an effort to draw on a broad knowledge base – from general scientific knowledge to local context-dependent knowledge (Weber and Khademian, 2008; Head, 2008). Thus, the wicked problem construct can help to provide a better understanding of the challenges involved in managing psychosocial risks in practice. For a further discussion of the nature of psychosocial risks, see Jespersen et al. (2016b).

4.2. Understanding evidence

The purpose of auditing is to achieve valid and reliable evidence that can be used to improve the psychosocial risk management system and thus improve the psychosocial work environment. However, what can be considered as valid and reliable evidence and how it can be provided is a paradigmatic question (Dahler-Larsen, 2012; Pawson, 2006). In the guidelines for auditing management systems, the concept of evidence is not unequivocally defined, and it is unclear upon what paradigm the audit principles are based.

The original understanding of evidence-based approaches and methods is rooted in the biomedical field and is greatly inspired by the positivist paradigm, which has a narrow view of objectivity and evidence (Kvale and Brinkmann, 2008). OHS management, as well as the OHSAS 18001 standard, has its roots in an understanding of data from a safety engineering perspective. It fits well into the paradigm in which data are directly observable and quantifiable. Following this tradition, auditors tend to discard data that does not conform to these characteristics, and thereby exclude psychosocial risks from audits (Hasle and Zwetsloot, 2011; Hohnen et al., 2014). This possibility is supported by recent Danish studies in both the manufacturing industry (Granderud and Rocha, 2011; Hohnen and Hasle, 2011) and the public sector (Hasle et al., 2014a; Jespersen et al., 2014, 2016a; Hohnen and Hasle, 2016). These studies clearly indicate that psychosocial risks are either completely excluded, as in the manufacturing industry or, in the public sector, a focus on formal paperwork is evident for both internal and external audits. The studies also indicate that nonconformities are not used by the auditors and that they generally have limited competence in the field of psychosocial risks. External audits have attracted particular attention in Denmark because companies with an OHS management certificate are exempt from regular labor inspection, and the Office of the Auditor General has therefore recently criticized the quality of audits of psychosocial risks. The report questions whether the OHS management certification procedures are adequate with regard to managing psychosocial risks and whether certified OHS management systems contribute to providing an acceptable psychosocial work environment (Rigsrevisionen, 2015).

4.3. Key characteristics of audits of psychosocial risk management

By a combination of theoretical discussions, general studies of OHS management, and the more focused studies of management of psychosocial risks, we can highlight five key findings which must be considered for the development of qualified audits of psychosocial risks:

(1) Psychosocial risks have a wicked character. These risks are "invisible", social, and complex and therefore difficult to integrate in the traditional audit practice.
(2) Internal and external auditors have a focus on formalities as well as what can be observed directly, and it is thus difficult for them to assess the quality of the various elements in the psychosocial risk management process.
(3) Auditors do not indicate nonconformities in the actual psychological work environment, but only issue them on procedural errors.
(4) It is unclear in the dominant audit discourse what are considered valid sources of knowledge or information.
(5) Internal and external auditors lack both knowledge and skills with regard to auditing management of psychological risks.

Within the traditional audit approach, OHS risks have to be rigorous, objective, and thereby auditable (Power, 1996). However, psychosocial risks are neither rigorous nor objective. They are instead flexible and subjective, which makes them un-auditable within the traditional audit approach. Because of the difficulties of auditing psychosocial risks, there is a need to develop an audit methodology that can manage the wicked character of psychosocial risks and acknowledge organizations as dynamic and complex. In the next part, we discuss how the knowledge base for audits can be expanded in order to cover psychosocial risks.

5. The knowledge base for audits of psychosocial risks

Although the majority of psychosocial risks have this wicked and invisible character, audits must still respect the general principles for audits of OHS management systems. That is, the methodology must operate with a systematic data collection based on evidence that is verifiable, i.e., reliable, valid, and reproducible. In addition, the auditor must be independent of the activity being audited and maintain objectivity throughout the audit process. A key issue in meeting these requirements is an understanding of context. This is the basis for any interpretation of psychosocial risks because they are always dependent on the context in which they occur (Jespersen et al., 2016b). The context has a decisive influence on both the nature of the problem and of the intervention, and thus on the possible effects of an intervention (Pedersen et al., 2012). Knowledge of the relationship between intervention and effect will therefore also be contextual (Hasle et al., 2014b). Some basic information about the context of the workplace for auditing can be gathered from written sources, but the core information comes from management and employees, as it is their interpretation of the context that is forming their reactions to the psychosocial work environment. The involvement of both management and employees therefore constitutes a core element of the knowledge base. Active involvement, especially by employees, is not only important for collecting evidence, but also for the task of reducing psychosocial risks at work (Blewett and O'Keeffe, 2011; Leka et al., 2008; Walters, 2011; Frick, 2011). Employee involvement is thus important in all stages of the psychosocial risk management process, and this source of knowledge is necessary in order to collect valid and reliable evidence (Leka et al., 2008; BSI, 2011). It also follows that informal aspects – meaning how employees experience and interpret management measures – become even more important than formal aspects for understanding the causes of the psychosocial work environment and finding solutions for improving it (Bluff and Gunningham, 2004; Gallagher and Underhill, 2012).

Understanding the context and assessing the resulting risks are matters of judgment for the auditor. The questions an auditor

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should ask himself are: (a) what are the criteria for making this judgment? and, (b) how should the judgment be made? The challenge for psychosocial risks is that there are almost no clear standards for the control of the risks. While many standards exist for physical risks such as machinery guards and threshold limit values for chemicals and noise, such standards are unavailable for psychosocial risks. The standards are of a much more general nature and appear in the legislation as a general requirement for a safe and healthy work environment which, in most cases, would be reflected in the OHS policies included in an OHS management system. Nonconformity can therefore not be indicated exactly in the same way as it is done in the traditional audit approach, which is dominated by a command and control approach (Frick et al., 2000). Psychosocial risks are subject to soft and subjective regulation methods which, when transformed into performance and systems-based standards, are more imprecise and elastic than traditional standards (Jespersen et al., 2016b). Consequently, the majority of the audit criteria would be performance- and system-based. Therefore, the auditing criteria and evidence are subject to auditor interpretation, and indications of conformity or nonconformity are more difficult (Blewett and O'Keeffe, 2011). The auditor would be required to interpret employee statements and to make judgments based on whether requirements of the performance- and system-based standards are met. It requires the explicit use of different sources of knowledge, as the auditors have to assess compliance by combining the general knowledge regarding psychosocial risks with local organizational knowledge from diverse data sources (Leka and Cox, 2010; Bergh et al., in press; Jespersen et al., 2016b). This combination needs to be carried out in a systematic manner in order to fulfill the audit requirement. The principles of realist evaluation can provide the means of doing so. This concept will be explored in the next section.

5.1. Interpretation based on realistic evaluation principles

Realistic evaluation, proposed by Pawson and Tilley (1997) and further developed by Pawson (2006), is an evidence-based methodology that bridges outcome and process evaluation. It is particularly useful in this context, as it provides a useful tool for the judgments required in audits of psychosocial risks. This approach offers a suitable method to evaluate the effectiveness of OHS interventions (Pedersen et al., 2012). The realistic evaluation has a scientific theoretical foundation in critical realism (Sayer, 2000; Bhaskar, 1978) and questions the logical-rational understanding of causality. In the logical-rational understanding of causality, the understanding of causality is linear or simple, and the purpose is to obtain context-independent and global knowledge of whether there is a secure universal causal connection between intervention and effect (Danermark et al., 2002). However, this approach does not embrace complex interventions or issues, which are dependent on their context (Kazi, 2003).

Realistic evaluation provides an opportunity to integrate context-independent global knowledge with context-dependent local knowledge. It offers an analysis aimed at discerning what works for whom, in what circumstances and respects, and how (Pawson and Tilley, 1997). "What works for whom" expresses the underlying mechanisms that work beneath the observable empirical surface. "When and under what conditions" expresses that the specific context, in which the intervention takes place, must be involved in the evaluation. The point is that when focusing on context, the evaluator must have access to local knowledge and experience to assess the cause of the effect (Pawson and Tilley, 1997). Realistic evaluation builds on both qualitative and quantitative methods (Kazi, 2003). With regard to audits of the psychosocial risk management system, it is often suitable to use qualitative methods to gain access to local knowledge (Bergh et al., in press). Qualitative methods provide the auditor with the opportunity to obtain statements and observe attitudes regarding work organization and management that have implications for the risk management process and the actual psychosocial work environment.

For the auditor, realistic evaluation offers a systematic method to reflect on the mechanisms in the management system. The key question would be whether there are mechanisms that can ensure that procedures and action plans are likely to result in a sufficient standard for a safe and healthy psychosocial work environment. In answering this question, the audit must fulfill the requirements for reliability and validity, which are particular challenges for qualitative data. We will discuss this issue in the next section, building on Kvale and Brinkmann (2008), who understand interviewing as both a craft and a social practice.

5.2. Valid and reliable evidence created through qualitative interviews

The question of validity and reliability relates to what can be considered as evidence in audits. We build on qualitative interviews as the dominant method for collecting data on the management of psychosocial risks. Knowledge created through qualitative interviews is not simply 'collected'; it is actively created through questions and answers in a cooperative endeavor between the auditor and the auditee. Thus, the knowledge created through qualitative interviews is contextual, inter-relational, and inter-subjective and, at the same time, it must count as audit evidence. The standard objection to interview data is that it is not objective. However, objectivity is an ambiguous concept. In this context, the requirement for information to count as reliable knowledge is that it is systematically checked and verified and unaffected by the personal attitudes and prejudices of the interviewer (Kvale and Brinkmann, 2008).

Verification for interviews should refer to the process by which the reliability, validity, and generalizability of the results are ensured. Here, we wish to reinterpret these concepts in ways that are relevant and suitable for the production of evidence in the audit situation. The first part of the quality control of data collection through interviews is reliability, which concerns the consistency and credibility of the results. Using quantitative methods, reliability refers to whether the results can be reproduced at other times by other individuals using the same methods (i.e., replicability). The requirement of reproducibility is difficult to enforce in qualitative methods because changes in the data collected can be expected, both as a result of being interviewed as well as the fact that time will have passed before a new interview is conducted. The important question with regard to reliability in qualitative approaches is therefore whether we are measuring what we believe we are measuring. Thereby, from a broader perspective, validity concerns whether a method examines what it aims to investigate. The answer to this question can be obtained in several ways. During the interviews, it can be achieved by the selection of interviewees and by the interviewing technique, such as asking about specific examples and checking answers between interviewees. Such an interview methodology for psychosocial risks has been developed by the Danish Working Environment Authority (Rasmussen et al., 2011). Following the interviews, the triangulation of data from difference sources, such as observations and documents, can strengthen the validity (Yin, 2009). With such techniques, qualitative interviews can, in principle, lead to valid evidence (Kvale and Brinkmann, 2008).

Qualitative interviews do not focus solely on the perspectives and experiences of management, employees, and other stakeholders. In many qualitative interviews, it is also necessary to obtain information from other sources. Because of the participatory approach, however, the auditor receives information from individ-

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ual representatives of management and employees, and the information is interpreted in an organized dialogue between the interviewee and auditor (Jespersen et al., 2016b; Starheim and Rasmussen, 2014; Bruhn, 2006). At the end of the interview, it is therefore a part of the validation that the auditor summarizes the opinions the interviewees have expressed, in key points and main themes. This allows the auditor to check whether he or she has understood and interpreted the interviewees' opinions correctly.

To conclude, the qualitative interview is specifically suited for obtaining relevant, local evidence concerning the employees' daily experience, their perception of the risk assessment, and their attitudes towards reducing what they view as psychological risks. Conducting qualitative interviews is a systematic way of gathering evidence (Kvale and Brinkmann, 2008), and the purpose of an audit, as mentioned, is to create evidence that can be used for decision-making. Hence, the quality of the actual interview, its reliability, and validity, are crucially important (Robson et al., 2012). However, validation is not only an issue to consider for the interviews, but should also permeate all stages of the audit process, from initiating the audit to preparing the audit report. Specifically, this means that, in all phases, the auditors must justify the steps they take, i.e. why they behave, think, say, and interpret as they do. The qualitative interview is therefore similar to other evidence-based methods in its demands for validity, reliability, and a systematic data analysis process, although it differs from traditional approaches in the way these concepts are applied (Kvale and Brinkmann, 2008).

5.3. New auditor competencies

In the assessment of compliance based on the combination of generalized and local knowledge, the competencies of the auditor are crucial. The OHSAS 18001 and ISO 19011 only require auditors to be qualified, and do not specify the required qualifications. Because of a lack of specification standards, professional subjective judgments now take a prominent position (Jespersen et al., 2016b). That a judgment should be based on professionalism means that an auditor has a thorough knowledge – based on global evidence – regarding psychosocial risk factor issues, including work organization and management, preventive-organizational level interventions, and good management practice. The global evidence, while not related to the particular workplace being evaluated, nevertheless helps to qualify the auditor's professional judgment in a local setting.

Auditors must be able to assess the quality of the various elements of the psychosocial risk management process. In this capacity, they should address an array of risks, such as work organization and management that require them to move beyond checking compliance with prescriptive standards and into territory where they must strive to achieve a better understanding of what lies behind the psychosocial risk management process. Walters et al. (2011) argued that most auditors lack this knowledge and, because of their techno-legal traditions, are simply not well prepared to audit the management of psychosocial risks. Organizational causes for psychosocial risks and problems are not amenable to the kind of technical solutions with which traditional safety audits are perhaps most associated.

Qualitative interviews are an appropriate method for gaining relevant and legitimate audit evidence. Particular competencies are required to conduct such qualitative interviews and to ensure methodological objectivity (Kvale and Brinkmann, 2008). This includes knowledge of the themes to pursue in the interview process and expertise on the dynamics of the interaction between the auditor and the auditee. The auditor should be able to structure and manage the interview process, able to pose clear, simple, and understandable questions, and should be able to function as an active listener.

6. The basic principles for auditing management of psychosocial risks

We can sum up the above discussion in a conceptual model with six basic principles for auditing psychosocial risk management. This conceptual model takes into consideration the particular features of psychosocial risks characterized by unclear cause-effect relationships, ambiguities, and conflicting interests. These characteristics result in rendering it almost impossible to develop and lay down unequivocal specification standards for management of psychosocial risks. In spite of these challenges, the audit principles based on the risk management principles in the PAS 1010 and building on realistic evaluation and qualitative interviews may qualify an audit of management of psychosocial risks, or in other words, make psychosocial risk management more auditable. The principles are as follows:

- Psychosocial risks are acknowledged to be of a qualitatively different nature than more traditional OHS risks, as most psychosocial risks can be characterized as wicked problems. Solutions are therefore dependent on the context in which they occur.
- Management of psychosocial risks in certified OHS management systems is understood as a social process based on dynamic and complex conditions. Solutions are influenced by diverse perspectives due to differences between management and employees at different levels in the organization and by other internal and external stakeholders.
- Different methods can be used to create data and gain relevant and legitimate evidence. In particular, the qualitative interview is used as the key tool.
- Due to the character of psychosocial risks, it is necessary to make assessments of compliance based on a combination of decontextualized scientific knowledge and local practical knowledge. Compliance must be developed through the explicit use of diverse sources of knowledge, and the auditor has to interpret reported experiences from different perspectives, making judgments on whether the regulatory requirements have been met.
- The assessment implies an expanded understanding of what is valid and reliable audit evidence. It is important that evidence comes from a variety of sources and that assessment of compliance with legal and other requirements relies on both context-independent and context-dependent evidence - in other words, on global and local evidence.
- The context-independent evidence is based on the auditor's general expertise of psychosocial risks. This knowledge helps to qualify the auditor's professional assessment by creating an informed basis from which auditors can assess the context-dependent evidence generated from the local context.

Developing a set of principles for auditing psychosocial risks in OHS management systems entails the challenge of transforming these principles into audit practice. There are important issues related to the understanding of valid audit evidence within the established and dominant audit discourse and auditor competencies. The established audit discourse appears to have a narrow understanding of how to gain valid evidence because auditors have a tendency to focus on tangible evidence such as documents and other directly observable artifacts (Power, 1997; Gallagher et al., 2003; Poksinska et al., 2006; Blewett and O'Keeffe, 2011; Boiral, 2012; Jespersen et al., 2016a). In this way, the established audit

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discourse primarily deals with the tip of the organizational iceberg (French and Bell, 1999). Such a focus is therefore inadequate when it comes to the management of psychological risks (Hohnen et al., 2014; Bluff and Gunningham, 2004; Gallagher and Underhill, 2012). To improve the quality of audits, auditors thus have to include informal aspects and the, often invisible, psychosocial risks. Thereby the shortcomings in the traditional audit approach may be remedied, as the auditors move beneath the tip of the iceberg and focus on aspects that are more revealing for proper psychosocial risk management. However, auditors and their employers in the certification bodies face the challenging task of transforming the abovementioned basic principles into tangible interview guidelines and analytical assessment methods as well as upgrading the qualifications of the auditors carrying out audits of the management of psychosocial risks.

7. Conclusion

To appropriately implement the audit for psychosocial risk management, it is necessary to develop a methodology that takes into consideration the wicked character of psychosocial risks. This paper has provided the basic model for such a methodology. Audits for psychosocial risk management must not only be able to address the particularities of psychosocial risks, but must also respect the audit principle of gaining valid and reliable evidence as well as corresponding knowledge to support the decisions needed to improve the psychosocial work environment. However, what can be considered as valid audit evidence is a paradigmatic question. The established audit discourse is heavily inspired by the positivist paradigm in which auditors primarily indicate nonconformities that only relate to issues that are directly observable or based on document scrutiny. Our proposal is that there needs to be an expansion of the knowledge base, building on the psychosocial risk management principles mentioned in the PAS 1010 standard, along with realistic evaluation principles in conjunction with qualitative interviews. It is thereby possible to develop a knowledge base building on both general scientific knowledge and experience-based local knowledge.

The audit concept has implications for the role and competencies of the auditor, and there are obvious challenges in converting these audit principles into audit practice. One of these challenges is upgrading auditor competencies. Using the proposed model requires that auditors are able to make judgments based on professional reflections; the requirements in the standard for regulation of psychosocial risks are subject to auditor interpretation. Knowledge and skills development should therefore be undertaken to improve auditors' qualifications in assessing and evaluating psychosocial risks as well as the psychosocial risk management process. This upgrading of competencies must include a description of methods for the auditors and guidelines on the kind of methods to use and how to use them when auditing management of psychosocial risks in certified OHS management systems. Subsequently, the methods and tools have to be tested systematically so that the methodology developed can be evaluated, and when necessary, revised. The ultimate goal is, however, to develop an audit methodology and a toolbox that can work as effective instruments to regulate the psychosocial work environment in practice. Further development and testing of such a methodology is therefore required.

References

Abad, J., Lafuente, E., Vilajosana, J., 2013. An assessment of the OHSAS 18001 certification process: objective drivers and consequences on safety performance and labour productivity. Saf. Sci. 60, 47–56.

Bergh, L.I.V., Hinna, S., Leka, S., Zwetsloot, G.I.J.M., in press. Developing and testing an internal audit tool of the psychosocial work environment in the oil and gas industry. Saf. Sci. http://dx.doi.org/10.1016/j.ssci.2015.06.003. in press.

Bhaskar, R., 1978. A Realist Theory of Science. Harvester Press, Hassocks.

Blewett, V., O'Keeffe, V., 2011. Weighing the pig never made it heavier: auditing OHS, social auditing as verification of process in Australia. Saf. Sci. 49, 1014–1021.

Bluff, L., Gunningham, N., 2004. Principle, Process, Performance or What? New Approaches to OHS Standards Setting. In: OHS Regulation for a Changing World of Work. The Federation Press, pp. 12–42.

Boiral, O., 2012. ISO Certificates as Organizational Degrees? Beyond the rational myths of the certification process. Org. Stud. 35 (5–6), 633–654.

British Standard Institution, 2011. Guidance on the Management of Psychosocial Risks at The Workplace, PAS 1010 (Publicly Available Specification).

Bruhn, A., 2006. The inspector's dilemma under regulated self-regulation. Policy Pract Health Saf. 04 (2), 3–23.

Bruhn, A., Frick, K., 2011. Why it was so difficult to develop new methods to inspect work organization and psychosocial risks in Sweden. Saf. Sci. 49, 575–581.

Cox, T., Griffiths, A., Rial-Gonzales, E., 2000. Research on Work-Related Stress. Office of the Official Publications of the European Communities, Luxembourg.

Canadian Standard Association (CSA Group) & Bureau de normalization du Quebec (BNQ), 2013. National Standard of Canada: Psychological health and safety in the workplace - Prevention, Promotion, and Guidance to Staged Implementation.

Dahler-Larsen, P., 2012. The Evaluation Society. Stanford University Press, Stanford.

Danermark, B.E., Jakobsen, L., Karlsson, J.C., 2002. Explaining Society: Critical Realism in the Social Sciences. Routledge, Taylor & Francis Group, London and New York.

EU-OSHA, 2007. Expert Forecast on Emerging Psychosocial Risks Related to Occupational Safety and Health.

EU-OSHA, 2014. Psychosocial Risks in Europe: Prevalence and Strategies for Prevention. Joint project between EU-OSHA and Eurofound on Psychosocial risks.

French, W.L., Bell, C.H., 1999. Organization Development. Pearson, London.

Frick, K., 2011. Worker influence on voluntary OHS management systems – a review of its ends and means. Saf. Sci. 49, 974–987.

Frick, K., 2004. Organizational Development for Occupational Health and Safety Management. In: OHS Regulation for a Changing World of Work. The Federation Press, pp. 43–67.

Frick, K., Kempa, V., 2011. Voluntary OHS Management Systems – When are They Good for Your Health? Mälardalen University, Sweden, and ETUI, Brussels.

Frick, K., Jensen, P.L.J., Quinlan, M., Wilthagen, T., 2000. Systematic Occupational Health and Safety Management. Pergamon, Oxford.

Frick, K., Wren, J., 2000. Reviewing Occupational Health and Safety Management – Multiple Roots, Diverse Perspectives and Ambiguous Outcomes. In: Frick, K., Jensen, P.L., Quinlan, M., Wilthagen, T. (Eds.), Systematic Occupational Health and Safety Management. Pergamon, pp. 17–42.

Gallagher, C., Underhill, E., 2012. Managing work health and safety: recent developments and future directions. Asia Pacific J. Human Resour. 50, 227–244.

Gallagher, C., Underhill, E., Rimmer, M., 2003. Occupational safety and management systems in Australia: barriers to success. Police Pract. Health Saf. 01 (2), 67–81.

Granderud, L., Rocha, R.S., 2011. Organisational learning and continuous improvement of health and safety in certified manufacturers. Saf. Sci. 49 (7), 1030–1039.

Hasle, P., Hohnen, P., Jespersen, A.H., Madsen, C.U., 2014a. The psychosocial work environment and certified OHSM systems in the public sector – experience from two Danish municipalities. 11th International Symposium on Human Factors in Organizational Design and Management & 46th Annual Nordic Ergonomics Society Conference, pp. 859–864.

Hasle, P., Limborg, H.J., Nielsen, K.T., 2014b. Working environment interventions – bridging the gap between policy and instruments in practice. Saf. Sci. 68, 73–80.

Hasle, P., Zwetsloot, G., 2011. Editorial: occupational health and safety management systems: issues and challenges. Saf. Sci. 49, 961–963.

Hasle, P., Petersen, J., 2004. The role of agreements between labour unions and employers in the regulation of the work environment. Policy Pract. Health Saf. 2 (1), 5–22.

Head, B.W., 2008. Wicked problems in public policy. Public Policy 3 (2), 101–118.

Head, B.W., Alford, J., 2013. Wicked problems: implications for public policy and management. Admin. Soc., 1–29

Hohnen, P., Hasle, P., 2011. Making work environment auditable – a 'critical case' study of certified occupational health and safety management systems in Denmark. Saf. Sci. 49, 1022–1029.

Hohnen, P., Hasle, P., Jespersen, A.H., Madsen, C.U., 2014. Hard work in soft regulation. A discussion of the social mechanisms in OHS management standards and possible dilemmas in the regulation of psychosocial work environment. Nord. J. Work. Life Stud. 4 (3), 13–30.

Hohnen, P., Hasle, P., 2016. "What's in an audit"? En kvalitativ analyse af hvordan audit konstituerer arbejdet med det psykosociale arbejdsmiljø I danske kommuner. Tidsskrift for Arbejdsliv 18 (1), 73–89.

Iavicoli, S., Leka, S., Jain, A., Persechino, B., Rondinone, B.M., Ronchetti, M., Vlenti, A., 2014. Hard and soft law approaches to addressing psychosocial risks in Europe: lessons learned in the development of the Italian approach. J. Risk Res. 17 (7), 855–869.

ISO (International Organization for Standardization) 19011, 2011. Guidelines for Auditing Management systems.

Please cite this article in press as: Jespersen, A.H., Hasle, P. Developing a concept for external audits of psychosocial risks in certified occupational health and safety management systems. Safety Sci. (2016), http://dx.doi.org/10.1016/j.ssci.2016.11.023

I-WHO, 2008. Towards the Development of an European Framework for Psychosocial Risk Management at The Workplace. SALTSA, I-WHO Publications, Institute of Work, Health & Organisations, University of Nottingham.

Jespersen, A.H., Hasle, P., Hohnen, P., Madsen, C.U., 2014. Audit of psychosocial risk management systems: between tacit knowledge and standardization. In: 11th International Symposium on Human Factors in Organizational Design and Management & 46th Annual Nordic Ergonomics Society Conference, pp. 845–850.

Jespersen, A.H., Hohnen, P., Hasle, P., 2016a. Internal audits of psychosocial risks at workplaces with certified OHS management systems. Saf. Sci. 84, 201–209.

Jespersen, A.H., Hasle, P., Nielsen, K.T., 2016b. The wicked character of psychosocial risks: implications for regulation. Nord. J. Work. Life Stud. 6 (3), 23–42.

Johnstone, R., Quinlan, M., McNamara, M., 2011. OHS inspectors and psychosocial risk factors: evidence from Australia. Saf. Sci. 49, 547–557.

Kazi, M., 2003. Realist evaluation for practice. Br. J. Soc. Work 33, 803–818.

Kvale, S., Brinkmann, S., 2008. Inter Views: Learning the Craft of Qualitative Research Interviewing. Sage, London.

Langenhan, M., Leka, S., Jain, A., 2013. Psychosocial risks: is risk management strategic enough in business and policy making? Saf. Health Work 4, 87–94.

Leka, S., Cox, T., Zwetsloot, G., 2008. The European Framework for Psychosocial Risk Management: PRIMA-EF. Institute of Work, Health and Organizations, University of Nottingham, 1–16.

Leka, S., Cox, T., 2010. Psychosocial Risk Management at the Workplace Level. In: Leka, S., Houdmont, J. (Eds.), Occupational Health Psychology. Willey-Blackwell, pp. 124–156.

Leka, S., Jain, A., Widerszal-Bazyl, M., Zolnierczyk-Zreda, D., Zwetsloot, G., 2011. Developing a standard for psychosocial risk management: PAS 1010. Saf. Sci. 49, 1047–1057.

Leka, S., Wassenhove, W.V., Jain, A., 2015. Is psychosocial risk prevention possible? Deconstruction common presumptions. Saf. Sci. 71, 61–67.

Nielsen, K.T., Hohnen, P., 2014. How do we understand working environment policies, programmes and instruments? Nord. J. Work. Life Stud. 4 (3), 11.

OHSAS 18001, 2008. Occupational Health and Safety Management Systems – Requirements. British Standard Institution.

OHSAS 18002, 2009. Occupational Health and Safety Management Systems – Guidelines for the Implementation of OHSAS18001:2007. British Standard Institution.

Pawson, R., 2006. Evidence-based Policy. A Realist Perspective. Sage, London.

Pawson, R., Tilley, N., 1997. Realistic Evaluation. Sage, London.

Pedersen, L.M., Nielsen, K.J., Kines, P., 2012. Realist evaluation: as a new way to design and evaluate occupational safety interventions. Saf. Sci. 50, 48–54.

Pejtersen, J.H., Kristensen, T.S., Borg, V., Bjorner, J.B., 2010. The second version of the Copenhagen Psychosocial Questionnaire. Scand. J. Public Health 38, 8–24.

Poksinska, B., Dahlgaard, J.J., Eklund, J.A.E., 2006. From compliance to value-added auditing – experiences from Swedish ISO 9001:2000 Certified Organizations. Total Qual. Manag. 17, 879–892.

Power, M., 1996. Making things auditable. Acc. Organ. Soc. 21, 289–315.

Power, M., 1997. The Audit Society. Rituals of Verification. Oxford University Press, Oxford.

Rasmussen, M.B., Hansen, T., Nielsen, K.T., 2011. New tools and strategies for the inspection of the psychosocial work environment: the experience of the Danish Working Environment Authority. Saf. Sci. 49, 565–574.

Renn, O., 2008. Risk Governance. Coping with Uncertainty in a Complex World. Earthscan London, Sterling, VA.

Rick, J., Briner, R.B., 2000. Psychosocial risk assessment: problem and prospects. Occup. Med. 50, 310–314.

Rigsrevisionen, 2015. Beretning til Statsrevisorerne om tilsyn med det psykiske arbejdsmiljø.

Rittel, H.W.J., Webber, M.M., 1973. Dilemmas in a General Theory of Planning, 4 (December 1969), pp. 155–169.

Robson, L., Macdonald, S., Gray, G.C., Eerd, D.L.V., Bigelow, P.L., 2012. A descriptive study of the OHS management auditing methods used by publicsector organizations conducting audits of workplaces: implications for audit reliability and validity. Saf. Sci. 50, 181–189.

Robson, L., Bigelow, P.L., 2010. Measurement properties of occupational health and safety management audits: a systematic literature search and traditional literature synthesis. Canad. Public Health Assoc., 534–540

Robson, L., Clarke, J.A., Cullen, K., Bielecky, A., Severin, C., Bigelow, P.L., Irvin, E., Culyer, A., Mahood, Q., 2007. The effectiveness of occupational health and safety management system interventions: a systematic review. Saf. Sci. 45, 329–353.

Sayer, A., 2000. Realism and Social Science. SAGE.

Starheim, L., Rasmussen, M.B., 2014. Labour inspection strategies addressing the psychosocial work environment. Policy Pract. Health Saf. 12 (1), 53–70.

Walters, D., 2011. Worker representation and psycho-social risks: a problematic relationship? Saf. Sci. 49, 599–606.

Walters, D., Johnstone, R., Frick, K., Quinlan, M., Baril-Gingras, G., Thebaud-Mony, A., 2011. Regulating Workplace Risks. Edward Elgar, Cheltenham.

Weber, E.P., Khademian, A.M., 2008. Wicked Problems, Knowledge Challenges, and Collaborative Capacity Builders in Network Settings. Public Admin. Rev. 68 (2), 334–349.

Yin, R.K., 2009. Case Study Research: Design and Methods. Sage Publications, London.

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