

**Potential Barriers and Facilitators to Small Businesses Adopting a
Psychological Health and Safety Management System**

by

Jian Li

B.Sc. (Nursing), Lakehead University, 2012

Project Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Public Health

in the
Master of Public Health Program
Faculty of Health Sciences

© **Jian Li 2018**

Simon Fraser University

Summer 2018

Copyright in this work rests with the author. Please ensure that any reproduction or re-use is done in accordance with the relevant national copyright legislation.

Approval:

Name: **Jian Li**
Degree: Master of Public Health
Title: Potential Barriers and Facilitators to Small Businesses
Adopting a Psychological Health and Safety
Management System

Supervisory Committee: **Merv Gilbert**
Senior Supervisor
Adjunct Professor

Denise Zabkiewicz
Supervisor
Associate Professor

Date Defended/Approved: **July 24, 2018**

Abstract

In recent years, the importance of identifying and managing psychological risk factors in the workplace has received increasing recognition due to significant evidence that suggests that workplace factors can adversely impact the onset and duration of mental health problems among workers. This has led to the development of the National Standard of Canada for Psychological Health and Safety in the Workplace (The National Standard). Some organizations, especially large ones, have implemented, or are starting to implement, the National Standard. Notwithstanding that, there is still a lack of understanding of the facilitators and barriers to the effective implementation of a psychological health and safety management system (PHSMS). Thus, the challenges and opportunities of how small organizations put the National Standard into practice needs further study. This paper aims to examine the relevant literature and perform a search to identify potential facilitators and barriers that may affect small businesses in the process of implementing a PHSMS. In addition, some recommendations have been provided to assist small business in overcoming these barriers.

Keywords: Occupational Health and Safety; Psychological Health and Safety Management System; The National Standard; Small businesses; Psychosocial Health and Safety

Acknowledgements

I would like to express my sincere gratitude to my supervisor, Dr. Merv Gilbert, for his continued guidance, support and valuable input. His willingness to give his time so generously is very much appreciated. I would also like to thank Dr. Denise Zabkiewicz, my second reader, for her valuable insights as well as Dr. Malcolm Steinberg, Kate Carty and Dr. Anne-Marie Nicole for their continued support and guidance during my two years at Simon Fraser University. Finally, I am grateful to my parents for encouraging and supporting me to pursue my dreams.

Table of Contents

| | |
|---|-----------|
| Approval: | ii |
| Abstract | iii |
| Acknowledgements | iv |
| Table of Contents | v |
| List of Acronyms | vi |
| 1. Introduction..... | 1 |
| 1.1. Nature of Psychological Risks | 3 |
| 2. Overview of Existing Health and Safety Management Systems..... | 5 |
| 2.1. Occupational Health and Safety Management System..... | 5 |
| 2.2. Psychological Health and Safety Management System..... | 6 |
| 3. Existing Research on the implementation of Psychological Health and Safety Management Systems in small businesses | 9 |
| 3.1. Definition of Small Business | 10 |
| 4. Literature Review Process | 12 |
| 4.1. Search Concepts..... | 12 |
| 4.2. Literature Search Strategy | 13 |
| 4.2.1. Initial Identification | 15 |
| 4.2.2. Screening | 15 |
| 4.2.3. Results Summary..... | 17 |
| 5. Results: Facilitators and Barriers | 18 |
| 5.1. Facilitators of implementation | 18 |
| 5.1.1. Facilitators Internal to OHSMS | 19 |
| 5.1.2. Facilitators External to OHSMS but within the Workplace | 20 |
| 5.1.3. Facilitators External to OHSMS and Workplace..... | 21 |
| 5.2. Barriers..... | 23 |
| 5.2.1. Barriers Internal to OHSMS | 23 |
| 5.2.2. Barriers External to OHSMS but within Workplace | 25 |
| 5.2.3. Barriers External to OHSMS and Workplace..... | 28 |
| 6. Discussion and Recommendations | 30 |
| 6.1. On PHSMS Implementation in Small Organizations | 30 |
| 6.2. Recommendations..... | 32 |
| 7. Conclusion | 34 |
| References..... | 35 |
| Appendix..... | 44 |

List of Acronyms

| | |
|-----------------------|---|
| 2003/361/EC | European Commission recommendation of 6 May 2003 |
| BS OHSAS | British Standards of Occupational Health & Safety Assessment Series |
| CSA | Canadian Standards Association |
| CSA Z1000 | Canadian Standards Association's Occupational Health and Safety Management Standard |
| CSA Z1002 | OHS Hazard Identification and Elimination and Risk Assessment and Control |
| CSRP | Case Study Research Project |
| ISO | International Organization for Standardization |
| The National Standard | National Standard of Canada for Psychological Health and Safety in the Workplace |
| OHS | Occupational Health and Safety |
| OHSM | Occupational Health and Safety Management |
| OHSMS | Occupational Health and Safety Management System |
| PAS 1010 | Guidance on the Management of Psychological Risks in the Workplace |
| PHS | Psychological Health and Safety |
| PHSM | Psychological Health and Safety Management |
| PHSMS | Psychological Health and Safety Management System |

1. Introduction

Occupational Health and Safety (OHS) is a basic right of all Canadian employees (Canadian Labor Congress, 2005). Not only should it encompass physical health and safety in the workplace but also psychological health and safety in the workplace. According to the Mental Health Commission of Canada, approximately 21.4% of workers in Canada exhibit mental health problems and illnesses at work. The cost of productivity from absenteeism, presenteeism and employee turnover amounts to more than 6 billion dollars per year (Malachowski, Kirsh, McEachen, 2017). In addition, 70% of disability costs are attributed to mental illnesses which adds up to an annual cost \$51 billion to the economy. This also includes the loss of human potential and productivity (Greco-Sanchez & Everett, 2015). Furthermore, Great-West life found that 48% of workers who claimed for long-term disability through the them had depression as a primary or secondary disorder (Wilkerson, 2005). Workplaces can potentially save anywhere between \$2.97 billion and \$11 billion per year if organizations make modifications in the workplace to prevent and treat psychological health problems among workers (Shain, Nassar & Mental Health Commission of Canada, 2009).

It is not until in recent years that psychological risk management in the workplace has been receiving growing international policy and national attention (Jespersen, Hohnen, & Hasle, 2016). For example, British Columbia recently passed Bill 14, the Workplace Bullying and Prevention Act (Work Safe BC, 2017), and Ontario passed the Chronic Mental Stress Policy and Traumatic Mental Stress Policy (Workplace Safety and Insurance Board, 2014). Historically, workplace focused mostly on physical health and safety. This maybe partly due to the difficulty in identifying psychological hazards and risks in the workplace. Psychological risks are often dependent on subjective observations. Such hazards are often referred to as “wicked problems”, usually having no clearly definable causes and easy solutions (Jespersen, Hasle & Nielsen, 2016). Examples of occupational psychological hazards work are work overload, lack of social support, role ambiguity, demand control and power imbalances (Jain et al., 2011; Johnstone, Quinlan & McNamara, 2011).

Psychological hazards and risks are distinct from traditional physical hazards and risks, in that the former are often invisible, difficult to measure, multi-causal, subjective and contextual (Jespersen, Hasle, & Nielsen, 2016; Rasmussen, Hansen & Nielsen, 2011). For example, traditional physical hazards and risks can be identified by going through a checklist, i.e., ensuring the fire safety exit way is clear and chemical hazards are labeled properly. There is an evident and direct causal relationship between the physical hazards and the resulted harm on the worker. Details on the nature of psychological risks are further presented in Section 1.1.

In 2013, the Canadian Standard Association launched the National Standard of Canada for Psychological Health and Safety in the workplace, commissioned by the Mental Health Commission of Canada. This will be referred to as the National Standard hereafter in this paper. The National Standard is one of the first of its kind in the world in providing a thorough and systematic framework for companies to implement a Health and Safety Management System in the workplace that specifically focuses on psychological risk management (Mental Health Commission of Canada (MHCC), 2017). Some organizations in Canada have implemented or are starting to implement the voluntary National Standard (MHCC,2017). This will be described in greater detail in Section 2.2. In spite of that, there is still limited direction from provincial compensation boards and ambiguity in the way that psychological risks are being managed in the workplace.

There is currently no governing body responsible for ensuring compliance, unlike other legislation/regulation regarding physical health and safety at work mandated by compliance bodies such as WorkSafeBC. Furthermore, there is a lack of understanding of facilitators and barriers to the effective implementation of a PHSMS, especially in small businesses.

The objective of this paper is to examine relevant literature and identify potential facilitators and barriers that may affect small businesses in their process of implementing a Psychological Health and Safety Management Systems (PHSMS) using existing research on Occupational Health and Safety Management Systems (OHSMS) in small businesses. In addition, some recommendations were also provided to assist small business in overcoming these barriers.

1.1. Nature of Psychological Risks

Shain, Arnold & GermAnn (2012) define hazard and risk, respectively, as “the *capacity* to cause harm” and “the” *likelihood* that it will occur. Thus, “when certain conditions of work prevail, a hazardous situation arises, that is, the potential or capacity to cause or contribute to harm (e.g., mental injury)”.

In the context of occupational health and safety, it is important to address the question: “Under what circumstances does a hazard become an actualized risk? In other words, what is the statistical probability that the risk will eventuate?” (Shain, Arnold & GermAnn, 2012)

Conventionally, OHSMSs focus primarily on physical health and safety risk management in the workplace. In recent years, there has been notable national and international policy attention on psychological risk management in the workplace (Jain, Leka & Zwetsloot, 2011; Hohnen et al., 2014; Jespersen, Hohnen, & Hasle, 2016) due to increasing evidence showing that workplace factors can adversely impact the onset and duration of mental health issues among workers (Coutu, 2012; Eatough, Way & Chang, 2011; Sauter, Murphy & Hurrell, 1990; Theorell et al., 2015).

Mental injury, in the context of OHSM, is the “realization of risk to employees’ mental health that results from negligent, reckless, and intentional acts or omissions on the part of employers, their agents, and other employees and frequently takes the form of debilitating anxiety, depression, and burnout” (Shain, Arnold & GermAnn, 2012). For example, jobs in emergency services have intrinsic stressful features - dealing with death and injured victims. If there is a lack of undertaking of OHS requirements from management to protect workers from those intrinsic job features, then this could present as negligence and inappropriate management of work safety. As a result, occupational mental injury can occur in those workers. What is needed is for decision makers to provide appropriate interventions or accommodation to support those vulnerable to the stressful situations in that line of work. Vulnerable populations include public safety personnel such as correctional workers, dispatchers, firefighters, paramedics, police officers and those who work shift work in emergency rooms such as doctors and nurses. These population experience potential traumatic events on a regular basis during job duty. These traumatic exposures are intrinsic part of the job, which have been associated

with increased risk for mental health disorders such as generalized anxiety disorder, depressive disorder, panic disorder, social anxiety disorder and post-traumatic stress disorder (Carleton et al. 2018).

What is *not an* intrinsic feature to the job is decision making in how the work is managed and supervised. Therefore, clear identification of psychological risks *not intrinsic* to the job is often a problem.

As previously mentioned, psychological hazards and risks are difficult to identify and may not be evidently and objectively visible. They are also dependent on subjective observations. Psychological risks can be managed through the implementation of OHSMSs, like conventional health and safety risks (Cox & Cox S, 1993). Such systems can be implemented by following the BS OHSAS 18001 management standard (OHSAS Project Group, 2007). This particular standard claim that it controls all OHS risks, including psychological ones (Stichting Coördinatie Certificatie Milieu-en Arbomanagementsystemen, 2013), which, however, is not quite the case according to numerous sources (Hohnen et al., 2014; Hohnen and Hasle, 2011). BS OHSAS 18001 considers OHS risks as “mono-causal, objectively measurable, and technical (“Exposure to loss arising from activities such as design and engineering, manufacturing, technological processes and test procedures” (Business Dictionary, 2017)”, and in practice, it does not distinguish between the ways that psychological and physical risks are managed (Hohnen et al., 2014). To address this limitation, the British Standard Institute subsequently developed a supplemental standard in 2011, which is called the PAS 1010 — Guidance on the Management of Psychological Risks in the Workplace (British Standard Institute, 2011).

Both the PAS 1010 and the National Standards recognize that psychological risks are different in nature and adopt a more comprehensive and contextual approach to managing psychological risks.

2. Overview of Existing Health and Safety Management Systems

2.1. Occupational Health and Safety Management System

An OHSMS is a prescribed framework for companies to manage and sustain OHS, improve OHS performance, reduce and prevent deaths, occupational diseases and injuries in the workplace, as well as to ensure that they meet the legal requirements of federal and provincial OHS mandates (Canadian Standards Association, 2014; Bottani et al., 2009; Robston et al., 2007). Below is the official definition of an OHSMS.

(An OHSMS is) the integrated set of organizational elements involved in the continuous cycle of planning, implementation, evaluation, and continual improvement, directed toward the abatement of occupational hazards in the workplace. Such elements include, but are not limited to, organizations' OHS-relevant policies, goals and objectives, decision-making structures and practices, technical resources, accountability structures and practices, communication practices, hazard identification practices, training practices, hazard controls, quality assurance practices, evaluation practices, and organizational learning practices. Institute for Work & Health (2005, p.16)

Adoption of an OHSMS can be mandatory depending on compliance bodies and government legislation. For instance, chemical processing companies under the post-Seveso Directive in the European Union are legally required to implement an OHSMS to manage toxic hazards at work (Zwetsloot, 2011). In Canada, air, marine transport and rail transport all are required federally to implement safety management systems (Padova & Canada. Library of Parliament 2013).

Even for industries without mandatory legislation and regulations, adoption of an OHSMS is still highly recommended by compliance bodies, and supported by for-profit companies, insurance agencies, professional organizations and standard associations (Robson et al., 2007). Many government labour departments provide incentives or negotiable terms for companies to implement an OHSMS (Robson et al., 2007; Zwetsloot,

2011). For example, in Denmark, companies adopting an OHSMS are exempted from routine inspections (Zwetsloot 2011), however in Canada there are no known incentives or negotiable terms for companies. Pressure from trading partners also pushes many industries to implement an OHSMS through the adoption of internationally recognized and accredited standards such as the BS OHSAS 18001 - British Standards of Occupational Health & Safety Assessment Series (OHSAS Project Group, 2007) and the new ISO 45001 OHSMS standard developed by the International Organization for Standardization (International Organization for Standardization, 2017).

A “standard” is defined as “a document, established by consensus and approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context” (International Organizations for Standardization, Guide 2, Clause 3.2, 2004). These standards provide frameworks to guide organizations in establishing, implementing and maintaining OHSMSs.

The CSA Z1000 - Canadian Standards Association’s Occupational Health and Safety Management Standard assists Canadian organizations with the certification process under federal, provincial, and sector-based certification programs (Canadian Standards Association, 2014).

Furthermore, some companies may also choose to integrate an OHSMS with existing management systems, such as quality management systems and/or environmental management systems. Integration of different kinds of certifiable management systems occurs through the establishment of an Integrated Management System. This approach combines and collapses the elements common to all systems, allowing them to operate synergistically to preserve time, human effort, technical and financial resources and strengthen their results (De Oliveira, 2013).

2.2. Psychological Health and Safety Management System

The National Standard provides a comprehensive psychological health and safety management framework for continuously monitoring and improving the psychological health and safety in the workplace. It utilizes the Plan-Do-Check-Act (PDCA) system management framework, a process system used in many accredited standards. It also

enables its integration into current key Canadian OHSMSs such as BNQ 9700-800 (Healthy Enterprises), CSA Z1001 (Occupational Health and Safety Management), and CSA Z1002 (OHS Hazard Identification and Elimination and Risk Assessment and Control) (CSA, 2013).

This standard is also congruent with the principal elements and concepts found in the PAS 1010 (Guidance on the Management of Psychological Risks in the Workplace). It consists of five core elements: (1) policy, commitment, and engagement, (2) planning, (3) implementation, (4) evaluation and corrective action, and (5) management review and continual improvement (CSA, 2013).

The National Standard may be considered a pivotal framework that may lead or incorporate the best practices of Psychological Health and Safety (PHS) in the workplace. It may widen the scope of legal obligations in which Canadian employers are to be accountable for workers' health and safety (Library of Parliament, 2013). It is also developed upon decades of scientific research and literature pertaining to the field of occupational health psychology, organizational psychology, workplace health and safety, law, and social sciences. By offering a framework to organizations, it will aid them in identifying, controlling and eliminating psychological risks and hazards in a systematic manner. In addition, it will deliberate the establishment of a set practices, structures and culture for psychological health and safety in the workplace in Canada (Ivey, Blanc, Michaud & Dobрева-Martinova, 2018).

The National Standard outlines thirteen workplace psychological risk factors that affect psychological health and safety in the workplace which needs to be monitored: organizational culture; psychological and social support; clear leadership and expectations; civility and respect; psychological competencies and requirements; growth and development; recognition and reward; involvement and influence; workload management; engagement; balance; psychological protection; and protection of physical safety (Canadian Standards Association, 2013).

Introducing the National Standard as a voluntary initiative also provides a platform for policy makers to design policy instruments and infrastructures to support more formal regulations. For example, provincial and federal jurisdictions can introduce economic measures (e.g., economic subsidies, tax credits or an accreditation system) to

incentivize compliance with the National Standard. In the future, stronger legal control such as mandatory compliance can be introduced when there is stronger acceptance in the justification of the significant economic costs associated with poor management psychological health and safety in the workplace (Malachowski, Kirsh & McEachen, 2017).

3. Existing Research on the implementation of Psychological Health and Safety Management Systems in small businesses

A general literature search indicates that existing knowledge on the facilitators and barriers to the implementation of a PHSMS in businesses is limited. A recent investigation was the 3-year Case Study Research Project (CSRP), instigated by the Mental Health Commission of Canada. This study has not yet been published, but a summary has been made available on the Mental Health Commission of Canada's website (MHCC, 2017). This project involved 40 participating organizations that implemented the National Standard, representing a variety of industries, sectors and sizes. However, small businesses were underrepresented in this study. Most participants were large enterprises. Only 15 of them were small to medium enterprises (MHCC, 2017). This number was disproportionate to the sample representation of all businesses in Canada, i.e., about 97.9% were small businesses, 1.8% medium organizations and 0.3% large organizations (Government of Canada, 2016). The CRSP found that implementation barriers and facilitators varied among the participating organizations depending on their size. Generally speaking, larger organizations were well-resourced with the infrastructure, data collection systems, economic and human resources to execute health and safety initiatives, but at the same time they may encounter resistance to changes due to organizational bureaucracies and hierarchy structures. In contrast, small business/organizations may not have the sufficient resources to implement a comprehensive PHSMS in the workplace, but they are more connected with a frontline workforce and are able to quickly respond to various workplace issues (MHCC, 2017).

In addition to the CSRP, two qualitative studies were found, which examined the *perceived potential* facilitators and barriers to implementation of the National Standard, but not its actual implementation process (Kalef, Rubin, Malachowski, & Kirsh, 2016; Kunyk et al., 2016). Furthermore, none of the three studies distinguished their findings between small and large businesses. For these two reasons, the three studies were not included in the 79 articles identified (see Figure 1).

As previously noted, psychological and physical risks in the workplace are not only different in nature, but also different in the way they manifest themselves. However, both PHSMS and OHSMS have similarities in macro-systematic elements and bear parallels in their implementation framework, i.e. the Plan-Do-Check-Act management framework. For example: OHSAS 18001 standard and the National Standard have common structural process requirements, namely: leadership (management responsibility), management of resources, management of processes, system implementation, monitoring and measuring. In addition, they both have a common underlying principle: continuous improvements based on Deming's cycle (Plan-Do-Check-Act). The following elements form the basis of Deming's cycle: system documentation, records, policies, planning, responsibility, implementation, operational control, communication, verification, audits, conformity, continuous improvements and prevention (Makin & Winder, 2009). They are specific requirements that are common to both types of standards.

Therefore, one can say that the two types of management standards are analogous. This makes it possible to conduct a literature review, based on the existing research and lessons learned from the traditional OHSMS implementation in small businesses. By using an analogous approach, possible facilitators and barriers to implementation of the National Standard in small businesses could be revealed.

It is hoped that by gaining a contextual understanding of the potential challenges faced by small businesses in their processes of implementing traditional OHSMSs, this can help them navigate around their implementation strategies and pathways when attempting to adopt the PHSMS. The findings from the ten-selected peer-reviewed studies about OHSMSs will be compared to the aforementioned three studies on PHSMS.

3.1. Definition of Small Business

Innovation, Science and Economic Development Canada's Small Business Branch [ISED CSBB] (2016) defined small businesses (or organizations) as those with 1 to 99 employees. Due to varying definitions of small businesses in the literature, and for the purpose of this review, small businesses will be defined as those having between 10 and 120 employees and micro businesses as those having 1 to 9 employees. Small and micro businesses constitute about 70.5 percent of total private sector employment. Industries that

have the largest number of employees working for small organizations in order of magnitude are: wholesale and retail trade (1.96 million), accommodation and food services (1.01 million), manufacturing (0.81 million) and construction (0.76 million) (ISEDCSBB, 2016).

Many studies showed that small organizations are important in driving the economy, but they often encounter difficulty in managing OHS. First, small firms are more fragile financially. Second small business owners take on managing functions in their firms without any management training or knowledge of OHS. Thirdly, employees in small organizations are generally younger, less educated and less experienced than their counterparts in larger corporations. As a result, their OHS is very low on their list of priorities (Champoux & Brun, 2003).

4. Literature Review Process

The literature review process started with the formulation of the research question and search terms that aimed at examining real world outcomes and efforts to implement OHSMS in small organizations. The research question is: what are potential facilitators and barriers that may affect small businesses in their implementing process of a Psychological Health and Safety Management Systems (PHSMS) using existing research on Occupational Health and Safety Management Systems (OHSMS) in small businesses?

Then, a general search was conducted to identify potential publications expected to be found in the literature search. Next, a health sciences librarian was consulted about search strategies and concepts. Literature search terms and a strategy were subsequently generated followed by a literature search. After the literature search, titles and abstracts were reviewed and studies were screened for relevance based on the predefined screening criteria. After an initial screening, full articles were selected for keeping based on the predefined selection criteria. Partial or full data was extracted from all relevant articles and compiled for tabulation. Finally, the evidence was synthesized.

4.1. Search Concepts

On the basis of consultation with the health science librarian, two initial search concepts (i.e. Concepts 1 and 2) were used: “small businesses” and “occupational health and safety management system”. Next, a list of derivative search terms was formulated by selecting key words used in relevant journal articles extracted from on-line (Google Scholar) searches. The Oxford Thesaurus was then used to find equivalent words for these terms (e.g. the synonyms for “business”). Finally, two groups of search terms were generated as shown in Table 1.

Table 1. Search terms.

| Concept 1 | Concept 2 |
|---|---|
| “small business*” OR “small enterprise*” OR “small corporation*” OR “small institution*” OR “small organization*” OR “small company*” OR “SME” (small to medium enterprise) OR “small to medium” OR “small firm*” OR “small size” | “The national standard of psychological health and safety” OR “psychosocial health and safety” OR “psychosocial risk management” OR “health and safety management*” OR “safety management system*” OR “health and safety management standard*” OR “health and safety standard*” OR “OHSAS 18001” OR “OHSAS” OR “OHSMS” OR “OHS” OR “OHSM” OR “ISO 45001” OR “health and safety standard*” |

4.2. Literature Search Strategy

The search strategy was devised through several consultations with the health science librarian and by running numerous search trials. Searches were attempted by changing the permutations to different search terms and Boolean operators in order to maximize relevant search results. Furthermore, a wild card symbol was used to yield different word arrangements and account for both plural and singular forms.

Eight data bases across multiple disciplines were used: Applied Science & Technology Index, Business Source Complete, CINAHL Complete, Environment

Complete, Library Information Science & Technology Abstracts MEDLINE with Full Text, PsycINFO, Social Sciences Full Text. Since these databases were all gathered together under Ebscohost, only one search procedure was required to search each of the eight databases.

The search procedure is shown in Figure 1, which involves three phases: identification, screening and selection. Each phase outlines the number of articles reviewed, screened or selected. The detail of each phase and related screening/selection criteria is described in Sections 4.2.1 to 4.2.3.

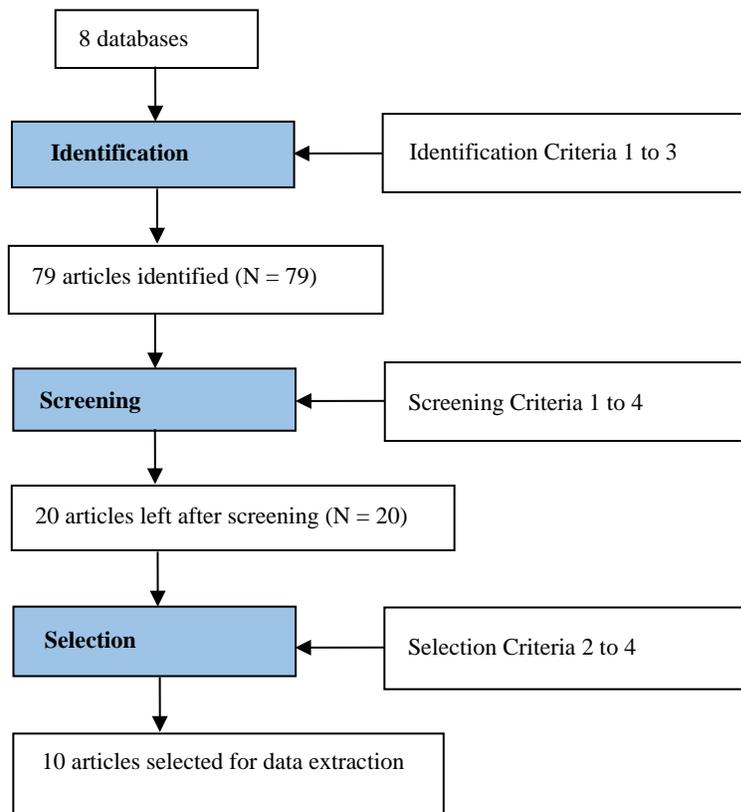


Figure 1. Literature search procedure.

4.2.1. Initial Identification

An initial literature search was conducted for the PHSMS implementation facilitator and barriers for small businesses, but that yielded no relevant articles. Consequently, the search was expanded to include studies about traditional OHSMS implementation and facilitators and barriers for small businesses.

4.2.2. Screening

In all, seventy-nine articles were identified based on the following identification criteria:

- Published after 2000.
- Peer reviewed.

- Written in English.

The 79 identified articles were screened by reading their titles and abstracts using four criteria as described below. Articles were included after 2000 as there are not enough articles yielded in the literature in the last 10 years.

Criterion 1 – Population/region of interest

Inclusion:

Only the articles about developed economies were considered. The organizations considered include unionized, non-unionized, private, for-profit and non-profit.

Exclusion:

Developing geographical regions and countries were excluded, which included Africa, East Asia, South Asia, Western Asia, Latin America and the Caribbean as defined by the United Nations (2017). Since they have different cultural and socio-political landscapes (e.g. tacit workplace knowledge, cultural and ethical values, OHS legislations and laws, etc.) than developed countries, their relevancy and applicability to the Canadian context may be limited. Papers were excluded if they did not conduct research on micro or small companies. The definition of small and micro organization is presented in Section 3.1.

Criterion 2 – Nature of the Occupational Health Safety Management System

OHSMS implementation in small businesses at the workplace level must meet the following criteria for the final selection:

Inclusion:

- Health and safety initiatives, such as “occupational health and safety program”, need to incorporate two or more of the Redinger and Levine (1998) elements: communication system, evaluation system, continual improvement, integration and management review.

Exclusion:

- OHSMS cannot be integrated with other management systems (e.g., food & safety management system, etc.)

- Workplace wellness initiatives such as a stress reduction program, which address only a single component of an OHSMS, are not included.

Criterion 3 – Types of articles

Publications were excluded if they were expert opinions, theoretical papers and editorials.

Criterion 4 – Evidence and outcome

Studies that examined the facilitators and barriers to OHSMS implementation or its implementation processes were retained.

Of the total seventy-nine articles, twenty articles were reviewed in full detail for eligibility and ten of them were ultimately selected based on the screening Criteria 2 to 4 which was the same as the screening Criteria 2 to 4, respectively.

4.2.3. Results Summary

Ten articles met the preceding search criteria. These are summarized in Appendix A, which include title, year of study, region, study design, sample characteristics and all the facilitators and barriers to OHSMS implementation.

5. Results: Facilitators and Barriers

Facilitators and barriers are factors that may influence the success of implementing a health and safety management system. Available evidence from the selected studies suggests that some facilitators (such as management commitment) can also act as barriers to OHSMS implementation (Robson et al., 2007). Facilitators and barriers were divided into three categories as devised by the Institute for Workplace and Health (2005).

- Internal to the OHSMS (e.g. management commitment to OHS, performance indicators, worker participation, etc.). Those in this category fall within the Plan-Do-Check-Act Process of the OHSMS. Individual companies may have an adequate level of control over facilitators and barriers by applying, removing or mitigating them.
- External to the OHSMS but within the workplace environment (e.g. company size, presence of other management systems, industrial relations, unionization, etc.). Individual companies can exert a certain level of influence on those in this category through internal operational decisions.
- External to the OHSMS and workplace (e.g. trade pressures, legislations, etc.). Those in this category are often beyond the control scope of individual companies, which for example includes trade pressures, legislations, certification bodies, etc.

5.1. Facilitators of implementation

Facilitators are defined as factors that drive the uptake, adoption and implementation of an OHSMS, its components and related activities within an organization. The following

section presents the findings of facilitators to implementation, an OHSMS in small businesses from the ten selected studies.

5.1.1. Facilitators Internal to OHSMS

Management commitment

Arocena and Nunez (2010) lend support to the emergence of an important factor that facilitates the adoption and implementation of OHSMSs and related activities, i.e. embodying conducive attitudes from the management team and being committed to workers' health and safety. Their study revealed that organizations that adopted an advanced OHSMS had continuous involvement by management relating to OHS activities. In addition, it was found that management that valued people and industrial relationships (i.e. collective bargaining, management of conflict between employers, workers and trade unions and workers' participation in decision-making, grievances and dispute settlement) also led to a positive development of OHSMSs.

Employment of safety officer

Loosemore & Andonakis (2007) found that organizations with safety officers showed a significant impact on the way the companies perceived the cost of compliance. Those companies believed that employing a safety officer led to a reduction in the OHS costs and its compliance costs. Furthermore, firms with employee representatives and those with frequent employee requests for OHS representatives were found to be the drivers for OHSMS activities (Bonefed et al., 2016).

Management system integration

Bonefed et al. (2016) and Champoux & Brun (2003) found that firms that performed OHS management activities regularly were often the ones that committed to the production efficiency and effective integration of an OHSMS into their production activities. These researchers also found that system integration and efficiency seeking led to enhanced OHS activities within small businesses.

5.1.2. Facilitators External to OHSMS but within the Workplace

Unionization

Arocena and Nunuez (2010) determined that firms with a high unionized worker rate more likely implemented advanced and technical OHSMSs and effectively managed them compared to their counterparts. Presumably this is attributed to unionized organizations having more workers' commitment and involvement. This is also congruent with literature findings that unions act to influence organizations through collective bargaining and take relevant action in enhancing workplace safety (Economou & Theodossiou, 2015).

Job design

Job design refers to the nature of the work, the choice of work equipment, and the choice of working and production methods. Workers' job design was observed to affect the direction of OHSMS implementation within the workplace. Arocena and Nunuez (2010) found that organizations with workers performing more physically intensive tasks had a higher expectation of OHSMS regulations. Such organizations also placed a higher focus on safety interventions, ergonomics risks and improvements to job design. However, the psychological nature and risks of workers' tasks were frequently not considered. This finding may imply that if job nature influences the direction of OHSMS implementation, then workers in high psychological stress jobs (such as nursing and firefighting) may potentially lead in the forefront of implementing PHSMS and its associated activities.

Company size

Based on the selected studies, micro (1-9 employees) and small (10-120 employees) firms provided easy access to frequent and direct communication between employers and employees, in addition to that between employers and enforcement bodies. (Bonfed et al., 2016). However, it should be noted that the ease of communication involved with employers, employees and enforcement bodies should not be confused with it being as a single facilitator to OHSMS implementation. It is a complex process that involves more than a single element of communication and other processes.

There is considerable evidence showing how different sizes of small companies can affect the direction of OHSMS implementation (Bonefed et al., 2016; Loosemore & Andonakis, 2007; Micheli & Cagno, 2010). As small companies increased in size, they were found to be more committed to OHS and often dedicated more resources to OHS initiatives. Once a company reached approximately 30 employees, the level of difficulty decreased, and it had more of a likelihood of hiring a safety officer who would assume responsibility for all the OHSMS related activities (Loosemore & Andonkis, 2007).

Companies with 50 to 250 employees often had more established and efficient OHSMSs (Micheli & Cagno, 2010). Furthermore, Micheli & Cagno, (2010) discovered that continuous monitoring and controlling of health and safety risks were more developed in medium sized companies than in small/micro companies.

Time lapse in adoption of OHSMS – early adopters

Iatridis, Kuznetsov & Whyman (2016) conducted a study to explore the motives of companies to certify OHSMSs. Their findings indicated that earlier OHSMS certified companies tended to carry out the certification with greater diligence, whereas later adopters tended to react to coercive and mimetic motives and had less of a likelihood of committing fully to meet the certification requirements (Iatridis, Kuznetsov & Whyman, 2016). Coercive motive is linked to customer, peer pressure and market requirement to influence companies to adopt management systems. Mimetic motives are sprouted from companies that want to obtain legitimacy, get wide societal backing and gain reputation of best practice through taking in the same form as the trend setters (Iatridis, Kuznetsov & Whyman, 2016).

5.1.3. Facilitators External to OHSMS and Workplace

Legal obligations and Compliance

Strong evidence was found to suggest that the fulfillment of legal obligations mandated by enforcement bodies on organizations was a crucial driver to OHSMS adoption (Arocena and Núñez 2010; Bonefed et al., 2016; Loosemore & Andonakis, 2007; Santos, Mendes and Barbosa, 2011). However, a study by Bonefed et al. (2010)'s revealed that only 56% of companies had an increased level of OHS implementation after legislation

enforcements. Furthermore, micro and small firms reported a lower impact on OHS implementation levels following law changes compared to larger firms (Bonefed et al., 2016).

Interestingly, many organizations wanted more guidance with the administration and enforcement bodies as well as additional support from them (Loosemore & Andonakis, 2007). Many companies interviewed indicated that they needed more support in the areas of access to public funding and financial aids (Arocena and Núñez 2010; Bonefed et al., 2016), and provision of training (Arocena and Núñez 2010; Loosemore & Andonakis, 2007). Furthermore, they voiced that the materials in the training implementation guides should be easy to understand and practical to implement. Last, but not least, good communication between companies and enforcement bodies was considered to be helpful (Loosemore & Andonakis, 2007).

Certification

One driver for companies to implement an OHSMS is to acquire certification if available from certification bodies such as KPMG Performance Registrar Inc. (Pricewaterhouse Coopers LLP, 2017). Santos et al. (2011) studied small business experiences in the OHSMS certification process in Portugal. They found that one of the main motivations for certification was to gain a better internal and external organizational image. Their research also revealed a difference between the perceived benefits and the actual objective benefits of certification. Many companies believed that certification would improve their working conditions. On the contrary, certification might not produce actual measurable benefits for the companies. Objective benefits depend on the effectiveness and efficiency of the OHSMS and its measurable results (Santos et al., 2011). This implies that the certification process does not necessarily translate to effective OHSMS implementation.

These findings also indicate that although some companies are forced to meet the same legal obligations and share common organizational practices, their subjective organizational norms, values and the way they internalize corporate responsibility are drastically different (Iatridis et al., 2016). Therefore, OHSMS certification is not sufficient

to establish the OHSMS credentials of a company. This would also likely be true for PHSMS implementation.

Industry characteristics and pressures

Evidence indicated that the rate of OHSMS adoption was affected by the extent of industry pressures a company faced (Iatridis et al., 2016). For instance, firms in technology-intensive industries were more prone to investing in new machinery and equipment compared to firms operating in industries with lower technological needs. Hence, the technology intensive firms were compelled by industry standards to adapt and follow relevant technical safety standards (Arocena and Nunez, 2010).

5.2. Barriers

Barriers are defined as factors that impede the uptake, adoption and implementation of an OHSMS. The following section presents the findings of barriers to implementation of an OHSMS in small businesses from the ten selected studies.

5.2.1. Barriers Internal to OHSMS

Lack of management commitment

As previously indicated, having a conducive attitude and the commitment from the management team in an organization was a facilitator to OHSMS implementation and its related activities. In contrast, management teams without conducive attitudes and commitment greatly hindered their ability to implement an OHSMS. In addition, there seemed to be an emergent problem in companies with a poor OHSMS. MacEach et al. (2010) found that business owners perceived health as employees' personal responsibility. There seemed to be an unclear division of responsibility within the company about OHSMS roles. There was a time when enterprises operated as their own entity and did not carry the weight of social responsibility (e.g. health and safety of employees or environmental problems). In recent years, societal problems had entered the enterprise in one way or another, which forced them to adapt to the changing of social context. Companies are becoming increasingly aware that they may be the cause of the problems (i.e. burnout in

workers due to workload) but are not fully ready to take responsibility to solving these problems (Jain, Leka & Zwetsloot, 2011).

In Champoux and Burn (2003)'s study, two thirds of the owners went as far as believing that accidents rest on the shoulders of employees and that employees themselves were the main cause of accidents.

Some micro-business owners often perceived risk assessment and management activities as not useful and as a legal duty rather than an added value (Bonefed et al., 2010). There was also a group of employers that was unable to identify the difficulties they encountered in managing OHS, nor could they identify factors that might help them improve OHS activities in their businesses (Champoux & Brun, 2003).

Arocena and Nunez (2010) observed that most owners or managers of small firms were often responsible for multiple functions in small organization, including OHS activities. Champoux and Brun (2003) reported that small business owners felt overworked and isolated, and they did not use the services provided for them. This left many small businesses with poor coordination between entrepreneurial activities and efficient administrative processes (Canameres et al., 2017).

As the company's size (i.e. the number of its employees) increased, so did its bureaucracy level. This added a layer of difficulty in motivating the uncommitted management team to OHSMS adoption or certification (Santos et al., 2011).

All the aforementioned problems may hinder employers' seriousness in attempting to commit fully to OHSMS implementation in the workplace, and, consequently, leaving OHSM positioned at a low priority.

Lack of safety officer or committee

Firms without a safety officer knowledgeable about OHS regulations and management encountered a slower growth in OHSMS implementation processes and activities (Cañamares, Escribano, García & Barriuso, 2017; Jarvis, 2013). Moreover, the companies had greater difficulty in carrying out additional OHSMS activities related to planning, monitoring, evaluation, implementation and auditing. This may be associated with the already existing and overburdening administrative processes to manage and

monitor compliance, return-to-work regulations and progress reports for enforcement bodies and compensation related paperwork (MacEachen et al., 2010). It was common for small organizations not to have safety officers or committees. Owners of small organizations were responsible for handling all management issues. Often times, their decision making was guided by personal and cultural values as opposed to rules and regulations. They frequently deemed occupational health as unattractive because of its hidden short-term financial return. Small organizations also had fewer employees, which created difficulty in appointing elected representatives to serve on health and safety committees (MacEachen *et al.*, 2010).

5.2.2. Barriers External to OHSMS but within Workplace

Language and culture barrier

Different cultural and socio-political context influence OHS landscape in the workplace. Different cultures have distinct workplace cultural, ethics, tacit knowledge, OHS legislations and laws. Loosemore and Andonkis (2007) discovered that certain ethnic groups dominated specific industries. For example, Croatians tended to dominate the carpentry industry, Serbians the form working industry and Koreans the tiling industry. This was also reflected in a higher number of non-English-speaking workers in these industries. Many business owners and employees did not speak or read English, and this often prevented them from understanding OHS regulations and management. Therefore, language was a barrier to OHS activities and had a significant impact on OHS compliance. (Loosemore and Andonkis, 2007).

Lack of resources

Some barriers external to the OHSMS but within the company included lack of time (Arocena and Nunez, 2010; Champoux and Brun, 2003; Loosemore and Andonakis, 2007), staff (Champoux and Brun, 2003) and financial resources.

Many respondents indicated that implementation costs represented themselves as an obstacle to OHSMS implementation, management and compliance. These costs were associated with training and employing extra staff for OHS management and administration. Additionally, the respondents also believed that OHSMS implementation

would negatively impact productivity because additional time would have to be allocated to OHS activities (Loosemore and Andonakis, 2007; Santos et al.,2011; Champoux and Brun, 2003). Some also expressed concerns about the profitability in investing OHSMS (Champoux and Brun, 2003).

Cost competition

The cost competitive companies, those that focused more on keeping products' prices lower than their competitors, had a less developed OHSMS (Arocena and Nunez, 2010).

Excess obligations and lack of management system integration

An emerging problem that both Bonafed et al. (2016) and Micheli & Cagno (2010) found from their participant companies was that many owners felt burdened by excess paperwork with legal obligations or requests from employees and employees' representatives. Furthermore, Bonafed et al. (2016) noted that there was a positive impact in system efficiency when there was an integration of management systems (e.g., quality management system and environmental management systems). Integration of the management systems can reduce implementation costs and running costs. Auditing can become more efficient instead of running multiple individual audits on separate management systems (De Oliveira Matias & Coelho, 2002). However, the researchers found that small and micro companies reported integration with other existing management system as being less useful and difficult to accomplish due to limited resources.

Lack of safety culture

Safety climate is widely defined as the “shared perceptions with regard to safety policies, procedures and practices” in an organization. Substantial research has shown that safety climate improves safety outcomes in healthcare, manufacturing, mining, transport, and energy production (Griffin & Curcuruto, 2016).

Canameres et al. (2017) found that companies without a successful OHSMS all fell short of a risk prevention/safety culture. The owners of such companies were more concerned with short term profit margins than with investing in OHS activities.

Lack of awareness, planning and fear of change

Other organizational barriers intrinsic to OHSMSs included lack of expertise, training and awareness (Bonefed et al., 2016; Jarvis, 2013), fear of change, poor planning (Champoux and Brun, 2003) and uncertainty of how to comply with new regulations (Loosemore and Andonakis, 2007). The above barriers reflect distinct management attitudes and organizational culture in smaller organizations. Micro and small organizations more often believed that mandatory OHS training was a legal duty rather than a growth opportunity. Employers in small organizations considered legal requirements as excessive. They also reported stress overload due to managing multiple roles within the company, which was consistent with the findings of a study by Cocker et al (2013), that found that there were high levels of psychological distress among small business owners and managers (Bonefed et al. 2016).

Micro-businesses

Micro businesses often encountered unique difficulties due to lack of resources and staff. This often prevented them from fully implementing an advanced OHSMS and they were consequently more inclined to aim at minimal levels of OHS prevention (Arocena and Nunez, 2010). Furthermore, micro businesses had a culture that affected prevention activities. For example, Bonefed et al. (2010)'s research showed that micro businesses attributed a lower weight to the need to answer workers' requests and to the issues concerning absences from work and staff retention. They also found that there was less integration of OHSMS with other management system activities such as quality and environment management, etc., in micro businesses (Bonefed et al., 2010).

Micro and small businesses were often regulated under the same set of mandates as medium and large businesses. However, there was the perception, from the owners of micro/small businesses, that they were incapable of fulfilling OHS legislations due to limited resources (Bonefed et al., 2016; Micheli and Cagno 2010).

Contract work

Nonstandard employment arrangements, such as contractual relations within industries and between companies, often impeded the development of OHSMS practices in small businesses.

Many small organizations used contract workers who were not employees and had contracts with other contractor organizations. This made implementation and compliance difficult because of unclear ownership of OHS responsibility (i.e. is it the responsibility of the contract worker or the principal firm?). In addition, one principal firm usually managed multiple subcontracting firms at a time. This often complicated the communication between firms, contract employees and enforcement bodies (MacEachen et al., 2010; Loosemore and Andonakis, 2007; Canameres et al., 2017).

Furthermore, MacEachen et al. (2010) found that the owners of small businesses in the construction industry commonly deemed OHS policies and legislations as unrealistic for their small subcontracting firms to meet. The complexity of the legislations and ownership of OHS responsibilities was also confusing for contractors and subcontractors.

5.2.3. Barriers External to OHSMS and Workplace

Lack of administrative support from enforcement body

Many papers indicated that small organizations wanted better collaboration and communication with compliance bodies. Respondents commonly claimed a lack of resources, and administrative and technical support from compliance bodies (Bonefed et al., 2016; MacEachen et al., 2010; Champoux and Brun, 2003). They wanted more access to public funding and financial aids (Arocena and Núñez, 2010; Loosemore & Andonakis, 2007; Bonefed et al., 2016), and provision of health and safety training (Arocena and Núñez 2010; Loosemore & Andonakis, 2007).

Poor knowledge translation

Knowledge translation has been defined as:

“The process of communicating knowledge that has been developed in one part of

an organization to other parts of the organization or to customers” (Macmillan Dictionary, 2017).

Publications indicated that many businesses complained about government OHS policies in that they do not offer detailed directions when it comes to OHS regulations for small organizations (MacEachen et al., 2010). Many of the surveyed respondents in Canameres et al. (2007)’s study reported insufficient training from regulatory bodies and also little explanation for the benefits of OHS prevention. Owners who met compliance requirements without understanding why were more likely to encounter safety errors within the workplace due to misalignment of knowledge. In addition, business owners often left documentation incomplete due to the lack of comprehension of materials.

Even if directions were offered by compliance bodies, they were frequently perceived as not applicable or practical to many small businesses. For example, in Canameres et al. (2017), respondents considered risk-prevention campaigns promoted by their authorities as inappropriate for their industry context. Similarly, Loosemoore and Andonakis (2007) found that respondents regarded materials provided by enforcement bodies as being too broad and they did not address many of the relevant OHS issues. They said it would have been helpful if these published materials were supplemented by direct service interactions with representatives’ enforcement bodies to help check compliance, conduct audits and assist the multiple subcontractors to ensure compliance.

Many owners/mangers described the information sheets provided by compliance bodies as too difficult to understand (Champoux and Brun, 2003; MacEachen et al., 2010). Culture differences should also be considered when providing training. In MacEachen’s (2010) systematic review, farmers in the UK were found to be resistant to OHS education interventions because they often worked alone and many held the belief that they ought to be independent, i.e. to solve problems by themselves. All the above indicates the importance of addressing the language and cultural differences when it comes to OHS education.

6. Discussion and Recommendations

6.1. On PHSMS Implementation in Small Organizations

The preceding findings from the 10 peer-reviewed articles were derived from studies of OHSMS, but, nevertheless, they are likely to be useful with respect to the implementation of a PHSMS. In addition, they were also reflective of the findings of the CSRP. For example, leadership support and commitment, adequate resources, existence of an occupational health and safety officer/committee, size of the organization, health and safety awareness are all factors that could affect PHSMS implementation in the future (MHCC, 2017).

The findings from the ten selected articles are also reflective of the findings from studies by Kalef et al., 2016; and Kunyk et al., 2016, which examined common perceptions about the facilitators and barriers to implementation of the PHSMS outlined in the National Standard. There are many factors that can affect the way PHSMS is implemented, which include recurrent themes such as the size of the organization (Kalef et al., 2016), competing priorities, lack of time and resources (Kalef et al., 2016; Kunyk et al., 2016), laws and regulations related to sector and jurisdiction, the need to be simplified and customized based on the type of organization and its needs, other management system integration and commitment from employers (Kalef et al., 2017; Kunyk et al., 2016). One thing to note is that these studies only looked at implementation issues of OHSMSs and not at their sustainability or effectiveness in improving occupational health and safety in the workplace.

This paper is not a comprehensive systematic review of the evidence. Articles included in the review were not assessed for quality. Despite this, this paper is most likely the first literature review of both quantitative and qualitative studies that examines the facilitators and barriers to OHSMS/PHSMS implementation in small businesses in developed countries, including Canada.

Out of the ten-selected peer-reviewed articles published since 2000, only one involved a study conducted in Canada. Therefore, caution must be exercised when applying the evidence to the Canadian context. Other studies were conducted in European countries, where many OHS laws, regulations, standards and small business cultures may be different

from those in Canada. Furthermore, laws and legislation may have changed since 2000, which will influence the direction of OHSMS implementation in small businesses. Another challenge exists with the ambiguity of the definition of small businesses in many of the articles. For example, the qualitative systematic review MacEcheon et al., 2010 did not specify the number of employees in many of the businesses included in their review. This quantity uncertainty may be a source of unreliability of the results.

From an overview of the literature, many small businesses do not have more than two of the five OHSMS elements in place (Redinger and Levine, 1998). Certainly, not implementing a full OHSMS does not necessarily translate to poor OHS management. Particularly, if micro-businesses have 1 to 9 employees, it is often unrealistic to expect them to implement a full functioning OHSMS. However, they can still have their own way of monitoring, communication, and mitigating hazards. Some articles with valuable insights to the OHSMS implementation process in small business with only one OHSMS element processes may have been left out.

Finally, the applicability of the facilitators and barriers described for OHSMS to implementation of a PHSMS is open to discussion and debate. Although both types of systems typically use the Plan-Do-Check-Act model and incorporate all of Redinger and Levine's (1998) OHSMS elements, there are some fundamental differences between them. The major difference is that psychological hazards and injuries are usually difficult to identify, measure, track and monitor because their causes are often invisible, complex and related to multiple factors, and based on individual perception (Jespersen, Hasle, & Nielsen, 2016; Rasmussen, Hansen & Nielsen, 2011). Therefore, a study to investigate the process of PHSMS implementation in small businesses would be required to validate these results.

According to the CSRP interim report (MHCC, 2015), many organizations encountered difficulty with defining the nature of psychological hazards (e.g., critical events, and excessive cumulative stress). Challenges also existed in assessing, addressing and evaluating psychological hazards and risks in addition to responding appropriately to these hazards. Further, there is a lack of consensus from a research and policy front on how to assess hazards and risks and limited of evidence for effectiveness of interventions. There is also a lack of evaluation indicators to establish a link between interventions and

outcome (e.g. is a change in absenteeism due to a stress management workshop).

6.2. Recommendations

To facilitate the uptake of a PHMHS framework such as that is provided in the National Standard, effort is not only required from small business owners and their employees, but also collectively from all levels of government, advocacy groups, unions, provincial worker's compensation boards, employees and their representatives. It is important to note that there exist drastic differences in organizational cultures and the characteristics and needs among small businesses and larger organizations. Many of the findings in this paper suggest that small businesses lack or are perceived to lack resources for adoption and implementation of a PHSMS. To advance the application of the National Standard in small businesses, the process of implementation may need to be simplified. The National Standard also needs to be flexible and tailored to the unique situations inherent in small businesses (e.g. contractual firms with multiple subcontracting firms, etc.).

To help organizations identify and manage the range of psychological hazards and risks, it is also critical to develop a resource guide and communicate these protocols effectively across the workforce.

Currently, the National Standard is voluntary. There is no provincial legislation enforcing workplaces to implement PHSMS, nor are there any incentives from regulation bodies to implement PHSMS. Only a few provinces in Canada made advancements in PHS in the workplace. For example, Bill 14 - the Workers' Compensation Amendment Act, 2011 is an amendment of the BC Workers' Compensation Act (WorkSafeBC, 2012). This act sanctions compensable claims for mental disorders due to work related stressors and traumatic events. "A work-related stressor is considered significant when it exceeds the intensity and/or duration expected from the normal pressures or tensions of the employee's workplace: this includes bullying or harassment" (Workers Compensation Act, RSBC 1996).

From a policy perspective, the findings indicate that there is room to improve the enforcement legislation around PHS from provincial work safety boards. PHS management

should be equally promoted alongside of physical health and safety management by the boards. Policies that directly address the gaps in OHS in small firms can also improve PHS conditions in small businesses. In addition, the uptake of the National Standard may be enhanced by increasing the education and advice to facilitate the adoption of better mental health management practices, with a special emphasis on thirteen psychological factors at work (Guarding Minds@Work, 2012). Given that small businesses make up the majority of businesses in Canada, future work on any campaigns and guidance on any materials relating to the National Standard should take into account the differences in small, medium and large businesses. Separate materials should be tailored to small businesses to ensure effective knowledge translation and uptake. Furthermore, small business owners need to be engaged and involved in conversations about the uptake.

From a business perspective, this paper noted that some key barriers in small businesses resulted from a lack of resources to engage in OHS management, and a lack of safety culture and informal workplace social relations that take away OHS needs. Already with dampened commitment to traditional OHSMS implementation, PHS may be even more difficult for small businesses to manage. But, all this can start with leadership engagement, commitment and dedication to the process of changing the safety culture within a workplace.

Further implementation studies are needed to confirm the facilitators and barriers for small businesses to implement the National Standard. Financial support should be given to quantitative and qualitative research on PHSMS implementation, effectiveness and cost-effectiveness in small businesses. It is also important for researchers to carefully identify and control potential confounder factors, select larger sample sizes of small businesses using random methods, and conduct rigorous economic evaluations.

7. Conclusion

There is limited published research on the barriers and facilitators to the implementation of an OHSMS in small organizations, particularly as this applies to the Canadian context and to an Occupational Health and Safety Management System that is intended to address workplace psychological risks and hazards. Nevertheless, the available literature does provide guidance on the barriers and facilitators to implementation that are likely to be of value to small and micro Canadian organizations striving to improve workplace psychological health and safety by adopting a framework such as that contained in the National Standard.

When it comes to PHSMS implementation, even though there is no enforcement body that regulates it, there are still enforcement bodies that can consider the above findings for the provision of training and support materials when mandating single pieces of Psychological health legislation (e.g., ones that deal with harassment and bullying). It is hoped that this paper will open the door for future discourse in addressing PHS management in the workplace and its uptake in small businesses.

References

- Arocena, P., & Nunez, I. (2010). An empirical analysis of the effectiveness of occupational health and safety management systems in SMEs. *International Small Business Journal*, 28(4), 398–419. <https://doi.org/10.1177/0266242610363521>
- Bottani, E., Monica, L., & Vignali, G. (2009). Safety management systems: Performance differences between adopters and non-adopters. *Safety Science*, 47(2), 155–162. <https://doi.org/10.1016/j.ssci.2008.05.001>
- British Standard Institute. (2011). PAS 1010 Guidance on the management of psychosocial risks in the workplace. Retrieved May 15, 2017, from <http://shop.bsigroup.com/en/Navigate-by/PAS/PAS-10102010/?rdt=wmt>
- Bonafede, M., Corfiati, M., Gagliardi, D., Boccuni, F., Ronchetti, M., Valenti, A., Iavicoli, S. (2016). OHS management and employers' perception: Differences by firm size in a large Italian company survey. *Safety Science*, 89, 11–18. <https://doi.org/10.1016/j.ssci.2016.05.012>
- Business Dictionary. (2017). Technical risk. In Business Dictionary. Retrieved December 23, 2017, from <http://www.businessdictionary.com/definition/technical-risk.html>
- Canadian Standards Association. (2013). CAN/CSA-Z1003-13/BNQ 9700-803/2013 - Psychological health and safety in the workplace - Prevention, promotion, and guidance to staged implementation. Retrieved April 19, 2017, from <http://shop.csa.ca/en/canada/occupational-health-and-safety-management/canca-z1003-13bnq-9700-8032013/inv/z10032013>
- Canadian Standards Association. (2014). CAN/CSA-Z1000-14 - Occupational health and safety management. Retrieved December 21, 2017, from <http://shop.csa.ca/en/canada/occupational-health-and-safety-management/canca-z1000-14/inv/27024062014>
- Canada Labour Code, Revised Statutes of Canada (1985, c. L-2). Retrieved from the Justice

- Laws website: <http://www.laws-lois.justice.gc.ca/eng/acts/L-2/>
- Canadian Labour Congress. (2005). Labour Standards for the 21st Century: Canadian Labour Congress Issues Paper on Part III of the Canada Labour Code. Retrieved February 11, 2017, from <http://deslibris.ca.proxy.lib.sfu.ca/ID/207294>
- Canadian Centre for Occupational Health and Safety. (2016, June 20). OH&S Legislation in Canada - Introduction: OSH Answers. Retrieved July 26, 2017, from <https://www.ccohs.ca/oshanswers/legisl/intro.html>
- Coutu, M., IRSST, & Canadian Electronic Library. (2012). A systematic approach for identifying the psychological health and work-related determinants of occupational disability in a target sector / Marie-France Coutu ... [et al...]. (DesLibris. Documents collection). Montréal, Qué.: Institut de recherche Robert-Sauvé en santé et en sécurité du travail.
- Cox, T, & Cox, S. (1993). Occupational health: Control and monitoring of psychosocial and organizational hazards at work. *Journal of the Royal Society of Health*, 113(4), 201-5.
- Cañamares, M., Escribano, B. M., García b, M. N., & Barriuso, A. (2017). Occupational risk-prevention diagnosis: A study of construction SMEs in Spain. *Safety Science*, 92, 104–115. <https://doi.org/10.1016/j.ssci.2016.09.016>
- Champoux, D., & Brun, J.-P. (2003). Occupational health and safety management in small size enterprises: an overview of the situation and avenues for intervention and research. *Safety Science*, 41(4), 301–318. [https://doi.org/10.1016/S0925-7535\(02\)00043-7](https://doi.org/10.1016/S0925-7535(02)00043-7)
- De Oliveira, O. (2013). Guidelines for the integration of certifiable management systems in industrial companies. *Journal of Cleaner Production*, 57, 124-133.
- De Oliveira Matias, J., & Coelho, D. (2002). The integration of the standards systems of quality management, environmental management and occupational health and

- safety management. *International Journal of Production Research*, 40(15), 3857-3866.
- Eatough, Way, & Chang. (2011). Understanding the link between psychosocial work stressors and work-related musculoskeletal complaints. *Applied Ergonomics*, *Applied Ergonomics*.
- Economou, A., & Theodossiou, I. (2015). Join the Union and Be Safe: The Effects of Unionization on Occupational Safety and Health in the European Union. *LABOUR*, 29(2), 127-140.
- European Union. (2003). COMMISSION RECOMMENDATION of 6 May 2003 concerning the definition of micro, small and medium-sized enterprise. *Official Journal of the European Union*, L (124), 36–41. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:en:PDF>
- Government of Canada. (2016). Key Small Business Statistics. Retrieved February 19, 2017, from <http://www.ic.gc.ca/eic/site/061.nsf/eng/home>
- Greco-Sanchez, A., & Everatt, S. (2015). The National Standard of Canada for Psychological Health and Safety in the Workplace: Impact, innovation and implementation strategies for occupational health nurses. *Journal: The Official Publication of the Ontario Occupational Health Nurses Association*, 34(1), 11-16.
- Griffin, MA, & Curcuruto, M. (2016). Safety Climate in Organizations. 3(1), 191-212.
- Guarding Minds at Work. (2012). The 13 Psychosocial Factors in GM@W. Retrieved April 22, 2017, from https://www.guardingmindsatwork.ca/info/risk_factors
- Hohnen, P., & Hasle, P. (2011). Making work environment auditable - A 'critical case' study of certified occupational health and safety management systems in Denmark, *Safety Science*, 49(7), 1022–1029.
- Hohnen, P., Hasle, P., Jespersen, A., & Madsen, C. (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. *Nordic Journal of Working Life Studies*, 4(3), 13-30.
- Iatridis, K., Kuznetsov, A., & Whyman, P. B. (2016). SMEs and Certified Management Standards: The Effect of Motives and Timing on Implementation and Commitment. *Business Ethics Quarterly*, 26(1), 67–94. <https://doi.org/10.1017/beq.2016.9>
- Institute for Work & Health, & Canadian Electronic Library. (2005). *The effectiveness of occupational health and safety management systems: A systematic review full report / Lynda Robson ... [et al.]*. (DesLibris. Documents collection). Toronto, Ont.: Institute for Work & Health.
- International Organization for Standardization. (2017). Draft International Standard ISO/DIS 45001.2 (Publication). doi:ISO/DIS 45001.2:2017(E)
- Jain, A., Leka, S., & Zwetsloot, G. (2011). Corporate Social Responsibility and Psychosocial Risk Management in Europe. *Journal of Business Ethics*, 101(4), 619-633.
- Jarvis, M. (2013). Assessment of the contribution of safety knowledge to sustainable safety management systems in Estonian SMEs. *Baltic Journal of Economics*, 13(2), 133-147. doi:<https://digi.lib.ttu.ee/i/?952>
- Jespersen, Hohnen, & Hasle. (2016). Internal audits of psychosocial risks at workplaces with certified OHS management systems. *Safety Science*, 84, 201-209.
- Jespersen, A., Hasle, P., & Nielsen, K. (2016). The Wicked Character of Psychosocial Risks: Implications for Regulation. *Nordic Journal of Working Life Studies*, 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
- Innovation, Science and Economic Development Canada Small Business Branch [ISED CSBB]. (2016, June). Key Small Business Statistics (Canada,

- Government). Retrieved from [https://www.ic.gc.ca/eic/site/061.nsf/vwapj/KSBS-PSRPE_June-Juin_2016_eng.pdf/\\$FILE/KSBS-PSRPE_June-Juin_2016_eng.pdf](https://www.ic.gc.ca/eic/site/061.nsf/vwapj/KSBS-PSRPE_June-Juin_2016_eng.pdf/$FILE/KSBS-PSRPE_June-Juin_2016_eng.pdf)
- International Organizations for Standardization. (2004). ISO/IEC Guide 2:2004(en) Standardization and related activities — General vocabulary. Retrieved December 21, 2017, from <https://www.iso.org/obp/ui/#iso:std:iso-iec:guide:2:ed-8:v1:en:sec:1>
- Ivey, G., Blanc, J., Michaud, K., & Dobрева-Martinova, T. (2018). A Measure and Model of Psychological Health and Safety in the Workplace that Reflects Canada's National Standard: MEASURE AND MODEL OF PHS. *Canadian Journal of Administrative Sciences / Revue Canadienne Des Sciences De L'Administration, Canadian Journal of Administrative Sciences / Revue Canadienne des Sciences de l'Administration*, 06/04/2018.
- Kalef, L., Rubin, C., Malachowski, C., & Kirsh, B. (2016). Employers' Perspectives on the Canadian National Standard for Psychological Health and Safety in the Workplace. *Employee Responsibilities and Rights Journal*, 28(2), 101-112.
- Kunyk, Craig-Broadwith, Morris, Diaz, Reisdorfer, & Wang. (2016). Employers' perceptions and attitudes toward the Canadian national standard on psychological health and safety in the workplace: A qualitative study. *International Journal of Law and Psychiatry*, 44, 41-47.
- Leka, Jain, Widerszal-Bazyl, Żołnierczyk-Zreda, & Zwetsloot. (2011). Developing a standard for psychosocial risk management: PAS 1010. *Safety Science*, 49(7), 1047-1057.
- Library of Parliament. (2013). Current Issues in Mental Health in Canada: Psychological Health and Safety in the Workplace. Retrieved June 15, 2017, from <https://lop.parl.ca/Content/LOP/ResearchPublications/2013-78-e.htm>
- Loosemore, M., & Andonakis, N. (2007). Barriers to implementing OHS reforms – The experiences of small subcontractors in the Australian Construction Industry.

- International Journal of Project Management*, 25(6), 579–588.
<https://doi.org/10.1016/j.ijproman.2007.01.015>
- MacEachen, E., Kosny, A., Scott-Dixon, K., Facey, M., Chambers, L., Breslin, C., ... Mahood, Q. (2010). Workplace health understandings and processes in small businesses: A systematic review of the qualitative literature. *Journal of Occupational Rehabilitation*, 20(2), 180–198. <https://doi.org/10.1007/s10926-009-9227-7>
- Macmillan Dictionary. (2017). Knowledge transfer. In Macmillan Dictionary. Retrieved December 29, 2017, from <https://www.macmillandictionary.com/dictionary/british/knowledge-transfer>
- Makin, A., & Winder, C. (2009). Managing hazards in the workplace using organizational safety management systems: a safe place, safe person, safe systems approach. *Journal of Risk Research*, 12(3–4), 329–343. <https://doi.org/10.1080/13669870802658998>
- Malachowski, C., Kirsh, B., & McEachen, E. (2017). The Sociopolitical Context of Canada's National Standard for Psychological Health and Safety in the Workplace: Navigating Policy Implementation. *Healthcare Policy*, 12(4), 10-17.
- Mental Health Commission of Canada (2017). *Case Study Research Project Findings - The National Standard of Canada For Psychological Health and Safety in the Workplace 2012-2017*. Retrieved from http://www.mentalhealthcommission.ca/sites/default/files/2017-03/case_study_research_project_findings_2017_eng.pdf
- Mental Health Commission of Canada. (2015). National Standard of Canada for Psychological Health and Safety in the Workplace - Case Study Research Project Interim Report (pp. 1-54, Rep.).

- Micheli, G. J. L., & Cagno, E. (2010). Dealing with SMEs as a whole in OHS issues: Warnings from empirical evidence. *Safety Science*, 48(6), 729–733. <https://doi.org/10.1016/j.ssci.2010.02.010>
- Minken Employment Lawyers. (n.d.). Employment Standards Act, 2000 vs. Canadian Labour Code. Retrieved June 10, 2017, from <http://www.minkenemploymentlawyers.com/employment-law-issues/employment-standards-act-2000-vs-canadian-labour-code/>
- Office of the Chief Actuary (2010). *Brief Summary of Canadian Workers' Compensation System*. Retrieved from the International Actuarial Association website: http://www.actuaries.org/CTTEES_SOCSEC/Documents/Canada_Workers_Comp.pdf
- OHSAS Project Group. (2007). OHSAS 18001:2007 [OCCUPATIONAL HEALTH AND SAFETY ASSESSMENT SERIES]. London. ICS 03.100.01; 13.100
- Padova, A., & Canada. Library of Parliament. Legal Social Affairs Division, issuing body. (2013). *Safety management systems: A better approach for transportation? / Allison Padova; Legal and Social Affairs Division; Parliamentary Information and Research Service*. (DesLibris. Documents collection).
- PricewaterhouseCoopers LLP. (2017). Public Summary of PwC's Certification Program. Retrieved December 27, 2017, from <https://www.pwc.com/ca/en/services/risk-opportunity/systems-certification.html>
- Rasmussen, Hansen, & Nielsen. (2011). New tools and strategies for the inspection of the psychosocial working environment: The experience of the Danish Working Environment Authority. *Safety Science*, 49(4), 565-574.
- Robson, L. S., Clarke, J. A., Cullen, K., Bielecky, A., Severin, C., Bigelow, P. L., ... Mahood, Q. (2007). The effectiveness of occupational health and safety management system interventions: A systematic review. *Safety Science*. <https://doi.org/10.1016/j.ssci.2006.07.003>

- Santos, G., Mendes, F., & Barbosa, J. (2011). Certification and integration of management systems: The experience of Portuguese small and medium enterprises. *Journal of Cleaner Production*, 19(17–18), 1965–1974. <https://doi.org/10.1016/j.jclepro.2011.06.017>
- Sauter, S., Murphy, L., & Hurrell, J. (1990). Prevention of work-related psychological disorders: A national strategy proposed by the National Institute for Occupational Safety and Health (NIOSH). *American Psychologist*, 45(Oct 90), 1146-1158.
- Shain, M., Arnold, I., & GermAnn, K. (2012). The Road to Psychological Safety. *Bulletin of Science, Technology & Society*, 32(2), 142-162.
- Shain, M., Nassar, C., Mental Health Commission of Canada, & Canadian Electronic Library. (2009). *Stress at work, mental injury and the law in Canada : A discussion paper for the Mental Health Commission of Canada / respectfully submitted by Martin Shain with the assistance of Carla Nassar*. (Final [amended] report. ed., DesLibris. Documents collection). Calgary, Alta.: Mental Health Commission of Canada.
- Stichting Coördinatie Certificatie Milieu-en Arbomanagementsystemen. (2013). *Certification scheme for occupational health and safety (OHS) management systems according to OHSAS 18001*(pp. 1-59, Issue brief). SCCM. Retrieved from https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwje7v262sDUAhVD12MKHQ4rBTAQFggkMAA&url=http%3A%2F%2Fwww.sccm.nl%2Fsites%2Fdefault%2Ffiles%2FO11-SCCM_N110830_cert.schema_OHSAS_18001_ENG_7Feb13_0.pdf&usg=AFQjCNHZwDve85hYkGupTpQZwMYkiwYOOg&sig2=jARfuShk3nsk10gr9NudEQ
- Theorell, T., Hammarstrom, A., Aronsson, G., Bendz, L., Grape, T., Hogstedt, C., . . . Hall, C. (2015). A systematic review including meta-analysis of work environment and depressive symptoms. *Bmc Public Health*, 15(738).

United Nations. (2017). World Economic Situation and Prospects (United Nations, New York). Retrieved from https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/2017wesp_full_en.pdf

Wilkerson, B. (2005). The Roadmap to Mental Health and Excellence at Work in Canada. *Canadian Healthcare Manager*, 12(4), F2-F3.

WorkSafeBC. (2017). Workers Compensation Law. Retrieved June 15, 2017, from <https://www.worksafebc.com/en/law-policy/workers-compensation-law>

Workers Compensation Act, RSBC 1996, c 5.1. Retrieved from [http://www.bclaws.ca/civix/document/id/complete/statreg/96492_01/search/CIVIX_DOCUMENT_ROOT_STEM:\(5.1\)%20AND%20CIVIX_DOCUMENT_ANCESTORS:1966164574?2#hit1](http://www.bclaws.ca/civix/document/id/complete/statreg/96492_01/search/CIVIX_DOCUMENT_ROOT_STEM:(5.1)%20AND%20CIVIX_DOCUMENT_ANCESTORS:1966164574?2#hit1)

WorkSafeBC. (2012). *Bill 14- Mental Disorder Legislation*. Retrieved from <https://www.worksafebc.com/en/resources/law-policy/board-of-directors-decisions/bod-2012-06-20-bill-14-workers-compensation-amendment-act-2011-mental-disorders?lang=en>

Zwetsloot, G. (2011). Editorial: Occupational Health and Safety Management Systems: Issues and challenges. *Safety Science*. <https://doi.org/10.1016/j.ssci.2011.02.013>

Appendix

| TITLE | AUTHOR YEAR | REGION | STUDY DESIGN | SAMPLE | OHSMS ELEMENTS | IMPLMENTATION FACILITATORS | IMPLMENTATION BARRIERS |
|--|----------------------------------|--------------|--|---|--|---|---|
| <p><u>An empirical analysis of the effectiveness of occupational health and safety management systems in SMEs</u></p> | <p>Arocena & Núñez, 2010</p> | <p>Spain</p> | <p>A. cluster analysis to identify 4 categories of OHS management system that the firm belonged: 1) advanced OHS management with communication, integration and evaluation and continual improvement 2) technical OHS management, communication, integration, evaluation is below sample average 3) basic OHS management system with only documentation and control are of positive values 4) missing OHS management with all values are below average</p> <p>B. survey questionnaires on exploration of the factors that determine the choice of OHS system using multinomial logit model</p> | <p>N = 193 small and medium manufacturers</p> <p>- small-sized enterprises (SSEs) > 50 employees - medium- sized enterprises (MSEs) – 50–250 employees.</p> | <p>- communication - integration - evaluation - monitoring and control - documentation</p> | <p>- MANAGEMENT COMMITMENT - UNIONIZATION - INDUSTRY CHARACTERISTICS AND PRESSURE - NATURE OF JOB DESIGN - TRAINING - COMPLIANCE AND SUPPORT</p> | <p>- LACK OF MANAGEMENT COMMITMENT - MICROBUSINESSES - COST COMPETITION</p> |

| | | | | | | | |
|---|-------------------------------|--------------|---|--|--|--|---|
| <p><u>OHS management and employers' perception: differences by firm size in a large Italian company survey</u></p> | <p>Bonefed et al., 2016</p> | <p>Italy</p> | <p>A. interview and survey data collection</p> <p>B. quantitative data analysis with the aim to investigate if there is any difference in employer's perception on OHS management with respect to business size</p> | <p>N = 1010</p> <p>- the firms were classified as micro (1– 9), small (10– 49), medium (50– 249) or large (250 and over), defined by the Commission Recommendation 2003/361/EC</p> | <p>- risk assessment - risk management - workers' health surveillance - annual safety meeting and workers' consultation - inspection activity - personal OHS education</p> | <p>- COMPANY SIZE - COMPLIANCE AND SUPPORT - CERTIFICATION</p> | <p>- LACK OF MANAGEMENT COMMITMENT - LACK SAFETY CULTURE - LACK OF EXPERTISE AND AWARENESS - EXCESS OBLIGATIONS - LACK MANAGEMENT SYSTEM INTEGRATION - MICROBUSINESSES LACK OF ADMINISTRATIVE SUPPORT FROM ENFORCEMENT BODY</p> |
| <p><u>Occupational risk-prevention diagnosis: A study of construction SMEs in Spain</u></p> | <p>Cañamares et al., 2017</p> | <p>Spain</p> | <p>quantitative and qualitative methods using survey and focus group to measure the degree to which risk-prevention management is incorporated in SMEs (1– 249 employees) in the construction sectors</p> <p>* focus group was structured to validate quantitative data</p> | <p>N=106 in construction sector SMEs (1–249 employees) in the Construction Sector *Micro-firms (1–9 emp.) Small (10–49 emp.) Medium (50–249 emp.)</p> | <p>- documentation - prevention - management review - monitoring OHS - evaluation - communication - training</p> | | <p>- LACK OF MANAGEMENT COMMITMENT - LACK OF SAFETY OFFICER OR MANAGER - LACK OF SAFETY CULTURE - CONTRACT WORK - POOR KNOWLEDGE TRANSLATION</p> |

| | | | | | | | |
|--|---|---------------|---|--|---|---|--|
| <p><u>Occupational health and safety management in small size enterprises: an overview of the situation and avenues for intervention and research</u></p> | <p>Champoux & Brun, 2003</p> | <p>Canada</p> | <p>exploratory study using telephone interview with owners/managers of small organizations based on the following research questions: 1) describe the OHS representations of employers in small firms. What are their attitudes, knowledge level and concerns in this regard? 2) describe how safety and prevention management is carried out. How is it incorporated into the firm's other activities and functions? 3) Target the OHS problems specific to small firms, and describe links between OHS dynamics and the organizational characteristics of the firms.</p> | <p>N = 223</p> <p>- Small metal manufacturing enterprise of less than 50 people</p> | <p>- risk identification - risk control - implementation - inspection - accident register</p> | <p>- MANAGEMENT SYSTEM INTEGRATION</p> | <p>- LACK OF MANAGEMENT COMMITMENT - LACK COMPANY SAFETY CULTURE - LACK OF RESOURCES (TIME, STAFFING, FINANCIAL) - EXCESS OBLIGATIONS - LACK OF ADMINISTRATIVE SUPPORT FROM ENFORCEMENT BODY - POOR KNOWLEDGE TRANSLATION</p> |
| <p><u>SMEs and Certified Management Standards: The Effect of Motives and Timing on Implementation and Commitment</u></p> | <p>Iatridis, Kuznetsov & Whyman, 2016</p> | <p>Greece</p> | <p>A. quantitative data collection method</p> <p>B. multiple regression analysis to predict the relationship between a continuous dependent variable (Years of CMS implementation) and several independent variables (Coercive motives, Normative motives, Mimetic motives, Internal efficiency motives, SMEs commitment), while controlling for two independent variables (Industry and Size)</p> | <p>N=178</p> <p>- 38.5% of respondents operate in the service sector, including financial, insurance and real estate - 33% in wholesale and retail trade - 28.5% manufacturing activities</p> <p>The sample was drawn from ISO 9001, ISO 14001 and OHSAS 18001 certified SME</p> | <p>All five management elements</p> | <p>- TIME LAPSE - EARLY ADOPTERS - INDUSTRY CHARACTERISTICS AND PRESSURE</p> | |

| | | | | | | | |
|---|--|--|---|---|---|---|--|
| <p>Assessment of the contribution of safety knowledge to sustainable safety management systems in Estonian SMEs1</p> | <p>Järvis, 2013</p> | <p>Estonia</p> | <p>qualitative case study approach using inductive research and mixed methods for data collection and analysis</p> | <p>N= 7 for interviews N= 18 for questionnaires Of small to medium businesses</p> | | | <p>- LACK AWARENESS AND TRAINING</p> |
| <p><u>Barriers to implementing OHS reforms – The experiences of small subcontractors in the Australian Construction Industry</u></p> | <p>Loosemore & Andonakis, 2007</p> | <p>Australia</p> | <p>qualitative data collection using interview study to address the following research questions: 1) Knowledge of the regulations. 2) How this knowledge was acquired. 3) Understanding of the regulations. 4) Perceptions of responsibilities for compliance. 5) Knowledge of how to comply and of how to get assistance. 6) Barriers to compliance. 7) Perceptions about the value of the regulations.</p> | <p>N = 30 - subcontractor firms from different trades - purposeful sampling - doesn't specify how many numbers small subcontracting firm is</p> | <p>- identify, assess and mitigate OHS risks - OHS induction training - documentation - hazard identification, assessment and control</p> | <p>- EMPLOYMENT OF SAFETY OFFICER - COMPANY SIZE - COMPLIANCE AND SUPPORT</p> | <p>- LANGUAGE AND CULTURE BARRIER - LACK OF SAFETY CULTURE - LACK OF RESOURCES (TIME, FINANCIAL) - CONTRACT WORK - POOR KNOWLEDGE TRANSLATION</p> |
| <p><u>Workplace Health Understandings and Processes in Small Businesses: A Systematic Review of the Qualitative Literature</u></p> | <p>MacEachen et al., 2010</p> | <p>English, Spanish, Italian, French, Portuguese, Polish and German.</p> | <p>systematic review of the qualitative literature.</p> | <p>- reviewed businesses with 100 or fewer employees. - excluded military sites and franchises</p> | <p>Various studies with many different components</p> | | <p>- LACK OF MANAGEMENT COMMITMENT - LACK OF SAFETY OFFICER OR MANAGER - CONTRACT WORK - LACK OF ADMINISTRATIVE SUPPORT FROM ENFORCEMENT BODY - POOR KNOWLEDGE TRANSLATION</p> |

| | | | | | | | |
|---|---|------------------------------------|---|---|--------------------------|---|--|
| <p><u>Dealing with SMEs as a whole in OHS issues: Warnings from empirical evidence</u></p> | <p>Micheli & Cagno, 2010</p> | <p>Province of Lecco, in Italy</p> | <p>A. quantitative data collection using close-format questionnaire to examine the differences in micro, small and medium. B. cluster test analysis was then used to measure size of the company against OHS factors</p> | <p>N = 84 small and micro sized enterprises N = 25 medium sized enterprises - metalworking industry Defined by the 2003/361/EC *Micro- 6 - 10 *Small-10 < 50 *Medium- 50 < 250</p> | <p>Not specified</p> | <p>- COMPANY SIZE</p> | <p>- EXCESS OBLIGATIONS - MICROBUSINESSES</p> |
| <p><u>Certification and integration of management systems: the experience of Portuguese small and medium enterprises</u></p> | <p>Santos, Mendes & Barbosa, 2011</p> | <p>Portugal</p> | <p>A. quantitative data collection using surveys B. multivariate cluster analysis which enabled grouping variables into homogeneous groups or one or more common characteristics</p> | <p>N = 46 SME firms - a mix of Trade/Services activity sector, Industrial sector, Electricity/Telecom munications and Construction area</p> | <p>Plan-do-Check-Act</p> | <p>- COMPLIANCE AND SUPPORT - CERTIFICATION</p> | <p>- LACK OF MANAGEMENT COMMITMENT - LACK OF RESOURCES (FINANCIAL)</p> |