



STANDARDS RESEARCH

Exploring the Need for a Work Environment Reporting Standard

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Executive Summary

This report explores the need for a work environment reporting standard. The following four key objectives support this study:

- 1) developing a work environment definition;
- 2) identifying the key dimensions of work environment;
- 3) determining how work environment is addressed in existing management system standards; and
- 4) exploring current practitioner perspectives on work environment and the need for a reporting standard.

These four objectives were completed based on a review of the research literature on corporate social responsibility (CSR), an analysis of existing standards connected to work environment and instruments that address work environment in some way, and a workshop and a webinar with a total of 28 contributing stakeholders representing industry, academia, government, and non-government organizations with regional, national, and international interests.

While many organizations are reporting on some aspects of work environment in their CSR reports, there appears to be no substantial guidance for them in this area. The review of literature found few clear definitions of work environment or explicit identification of its key dimensions. Based on the above, the following seven proposals have been developed:

- 1) A new definition of “work environment” is recommended: Work environment is “all aspects of the design and management of the work system that affect the employee’s interactions with the workplace”.
- 2) Work environment can be usefully operationalized in 12 main dimensions.
- 3) There is a need for a work environment reporting standard and further development toward a standard is warranted.
- 4) A work environment reporting standard should be compatible with existing approaches to facilitate uptake and application.
- 5) Standards development should consider the potential for different levels of reporting.
- 6) The potential uptake of a work environment reporting standard should be further examined, with particular reference to supply chains and supplier evaluation.
- 7) Preliminary development of a standard, in whole or through prioritized development of a given work environment dimension, and examination of uptake mechanisms is warranted.

Development of a stand-alone standard is recommended and must take into account many challenges, such as how the standard will be adopted by interested organizations, the capacity of interested organizations to implement and use a reporting standard, and the value of the reporting standard to an organization.

Understanding the internal (e.g., managers and employees) and external (e.g., investors and consumers) stakeholder requirements is necessary to shape the development of any future proposed standard. It is recommended that preliminary development and testing of an assessment approach be completed, for example by initially developing key dimensions individually, before developing the standard.

Introduction

Recent research shows that poor working environment, meaning the design and management of the work system that affect employee interactions with the workplace, contributes to physical and mental health problems in employees. Globally, over 2.78 million people die annually due to occupational accidents or work-related diseases (International Labour Organization [ILO], 2019). The annual non-fatal work-related illness and injuries total approximately 374 million globally (ILO, 2019). Studies have shown that approximately 20% of the working population is suffering from some kind of musculoskeletal disorder (Vézina *et al.*, 2011). Moreover, work-related ill-health, an extreme outcome of poor work environment, carries societal costs on par with all cancers combined (Leigh, 2011), and is estimated globally at 3.94% of the total World Gross Domestic Product (ILO, 2019). Currently few tools are available that can help managers understand the work environment risk factors in their organization. There are also no standards aimed directly at how companies should evaluate and report on their work environments. There is thus a need for tools and standard approaches that guide work environment reporting in a more systematic and quantitative way.

Research has also shown that a poor work environment can detract from a company's performance and profitability (e.g., Rose *et al.*, 2013). Improved work environment might also provide a company with other sources of competitive advantage. For example, consumers would preferentially select stores carrying, and goods made, under healthy working conditions and are even prepared to pay a premium for such goods (Neumann *et al.*, 2014; Dixon *et al.*, 2017). Other studies have shown links to operational efficiencies and improved quality with improvements in work environment (Neumann and Dul, 2010; Kolus *et al.*, 2018). There is, therefore, considerable potential advantage to be gained by securing a good work environment in a company's operations, including its supply chains. One issue noted in interviews with younger consumers on this topic (Dixon *et al.*, 2017) was the lack of credibility of the available work environment reporting. Investors are also asking for mandatory information disclosure of

practices connected to work environment. In 2017, the Human Capital Management Coalition petitioned the U.S. Securities and Exchange Commission to make it mandatory for "issuers to disclose information about their human capital management policies, practices and performance" (Human Capital Management Coalition, 2017). The petition continues to have ongoing support, which reflects the evolving desire for better work environment related information from the investor community (U.S. Securities and Exchange Commission, 2019). A strong work environment reporting standard would be one way to establish the credibility for, and hence consumer support of, a company's reporting on the work environment in its operations and in its supply chains.

Despite these needs and benefits, however, there is relatively little guidance available to companies on how to report on their work environment performance. For example, in a recent review of 100 Canadian corporate social responsibility (CSR) reports, 892 different indicators were identified as related to the working environment (Searcy *et al.*, 2016). No reports were found to use the same indicator set, which makes comparison of performance between companies virtually impossible. This also compromises the impulse of companies to compete in improving the working conditions for their employees. Moreover, the great range of indicators also makes it difficult to distinguish strong performers from poor ones or to identify preferred suppliers along the supply chain. A related study interviewed 20 corporate experts on their work environment reporting (Dixon *et al.*, forthcoming). One key finding was that their companies did not have a common basis on which to build their work environment reporting. In short, the lack of standardized reporting of work environment could be inhibiting improvements in this area. Without standardized and accepted approaches for evaluating and reporting on work environment, it could be difficult for managers to assess and improve within their own organizations, as well as in their supply chains.

A strong standard on work environment reporting could help companies improve their work environments and communicate the superiority of their work environment to customers, potential employees, investors, and clients looking to engage in more ethical business practices.



“A clear definition of work environment is necessary to allow for consistent interpretation and reporting in the broader context of corporate social responsibility (CSR) reporting.”

1 Objectives of this Study

The purpose of this study is to explore the need for a management system standard on work environment reporting. This purpose is supported by four key objectives:

- 1) Develop a definition for work environment, based on a review of the scientific literature.
- 2) Identify key dimensions from the literature review in objective 1 and instruments used to assess work environment.
- 3) Determine how work environment is addressed in existing management system standards.
- 4) Explore current practitioner perspectives and identify a recommended approach for work environment reporting (e.g., stand-alone standard or incorporated into existing standards).

1.1 What is “work environment reporting”?

For the purpose of this study, work environment reporting is defined as follows: qualitatively or quantitatively communicating the capabilities and status of the different dimensions of the work environment externally in a consistent manner that allows between organization comparisons.

This is different from the idea of record keeping and reporting with respect to different dimensions of the work environment for internal business objectives within an organization.

1.2 What is a “reporting standard”?

A reporting standard is defined as follows: specified requirements for consistently communicating organizational information externally in a format that allows direct comparison of information between organizations. This includes quantitative and qualitative information and a referent allowing for comparison in time (e.g., year to year) or to a threshold or target.

2 How Work Environment is Defined in the Literature

A clear definition of work environment is necessary to allow for consistent interpretation and reporting in the broader context of corporate social responsibility (CSR) reporting. It is possible that different regions, industries, and reporting structures use work environment synonymously but with a different context. This discrepancy reduces the ability to make accurate comparisons across organizations.

To better understand how work environment is defined in the context of CSR, the academic literature was searched for definitions of work environment which simultaneously included CSR in the research. Sixty original articles were identified from the literature search inclusion criteria and reviewed for statements and content that describes work environment. Three articles were added to complement the original 60 based on original articles that referenced another article for a definition.

Under 7% of these articles included information specific to a definition or description. Table 1 shows a selection from the articles of the more comprehensive statements and varying amounts of detail used in defining work environment. Table 1 and the literature analysis demonstrate that there is currently no widely-accepted definition.

3 Work Environment Dimensions from the Literature

The same literature that was reviewed for definitions of work environment was also reviewed for information that describes dimensions that make up work environment. In

this analysis, definitions were deconstructed into themes, considered dimensions, and information highlighting elements identified as key to work environment were noted. Information from papers demonstrating similar dimensions were combined inductively, resulting in the development of components for the dimension. These components provide contextual information about the scope of the dimension.

Table 2 highlights the dimensions and associated components from the literature search. Forty-five components were clustered into 11 dimensions. The breadth of components and dimensions illustrates the diffuse nature of the work environment and shows the range of reporting that is necessary for a holistic representation. The dimensions cover the familiar aspects of health, safety, and wellbeing, as well as social, societal, and technical aspects, to highlight a few. Further, the information in Table 2 shows how a given dimension, for example “worker wellbeing and safety”, has multiple contributing factors, which should be considered for an effective assessment. These components provide context for developing indicators to support measurement and reporting of the work environment.

Table 1: Representative Examples of “Work Environment” Definitions

Source	Definition/Description
Neumann et al. (2014); Searcy et al. (2016)	“...all aspects of the design and management of the work system that affect the employees’ interactions with the workplace. This can include the physical design including layouts and built environment, division of labour, use of technology, supervisory structures, human resource management strategies and co-worker interactions that can affect the physical, mental and emotional work-load and determine the positive or negative outcomes of work for the employee.”
Granerud (2011)	Occupational health and safety used “synonymously with the term ‘work environment’ and covers physical and psychosocial risks in the workplace.”
Abrahamsson and Johansson (2013)	“In a good work environment, not only are physical risks and problems eliminated, and equipment and work sites are adapted to suit people’s different physical and psychological make-up and designed to make work easier, but employees also enjoy autonomy and a sense of participation and influence in matters both large and small...In a good working environment, work provides physical, intellectual and cultural stimulation, variety, opportunities for social interactions, context, and opportunities for learning and for personal and professional development...The workplace is also characterized by gender equality, fairness, respect, trust, democratic leadership, and open communication and offers good opportunities for enjoyment and social support. There should also be good opportunities to combine work with a rich and sustainable life outside of work.

4 Work Environment Dimension Comparison to Existing Standards and Assessment Instruments

The dimensions, identified in the literature analysis in Section 3, provide a means to examine the inclusion of work environment in existing standards. Section 4 reviews

- 1) the coverage of work environment;
- 2) the nature, i.e., qualitative or quantitative, of the reporting guidance in existing standards; and
- 3) the existing work environment assessment instruments as a verification of the completeness of the identified dimensions.

4.1 Work Environment Dimensions Included in Standards

Thirteen existing national and international standards were reviewed. Identified dimensions (see Table 2) were compared to the work environment components

within the reviewed standards (see Table A-1 of the Appendix) to examine the amount of coverage of the work environment dimensions in a given standard.

A given work environment dimension was considered covered by the standard if it mentioned a component within the dimension or reflected the essence of the dimension. The identification of a dimension within a standard is not a reflection of the quality of the reporting of work environment but is a simple indication of whether that dimension was included or not. This first pass analysis used only yes/no for mention of the dimension within the standard (e.g., in terms of providing guidance on how to deal with that dimension in the workplace) and does not reflect the quality, or nature, of the reporting approach that was recommended. A second pass analysis evaluating the quality of reporting is provided in Section 4.2.

Table 3 presents the work environment dimensions covered in a selection of reviewed standards. The

Table 2: Work Environment Dimensions and Associated Components

Dimension	Components
Worker wellbeing and safety	accidents; illness; injuries; general health and safety issues; occupational health and safety; safety; risks and problems
Work performance factors	workloads, demands, and challenges; general stamina
Physical work environment design and interaction	design; equipment; internal; work sites; technology
Work control and social dynamics	autonomy; interactions; social interaction; variety (of work); participation and influence
Learning and development	career growth; competence development; learning and development
Worker experience	commitment; enjoyment; meaning of work; stimulation; social support; relationship with co-workers; trust; work-life balance; open communication; quality of life
Respect, rights, and equality	fair pay practices; fairness; freedom of association; gender equality; respect; wages and benefits
Work environment structure	management; work organization
Leadership style	democratic leadership; leadership
External factors influencing work environment	external factors (local labour market, education system, insecurity, violence, home care work; image of good corporate citizen; protecting the external environment from pollution and ensuring no dangerous working conditions); social responsibility
Outsourcing and contractors	outsourcing and contractors

Sources: Abrahamsson and Johansson (2013); Health Workforce Advisory Committee (2006), p. 14, in Petrovic-Lazarevic S. (2008); Johansson et al. (2018); Murmura et al. (2017); Neumann et al. (2014); Petrovic-Lazarevic S. (2008); Searcy et al. (2016); Silva et al. (2015); Vormedal and Ruud (2009).

amount of coverage ranges from approximately 18% to 100% of the identified dimensions for the standards that were reviewed. It could be considered that the status quo is fairly good in capturing work environment and the associated dimensions, when considered across the different standards. Closer examination, however, showed that a large number of the missing dimension coverage relates to what could be classified as the psychosocial component of work environment. This is not a surprising result based on the focus of research and reporting on the more physical and health-related components.

The more general standards provided greater coverage of the work environment dimensions while the more narrowly focused standards tended to have less coverage. For example, of the standards in Table 3, the Global Reporting Initiative (GRI) and CAN/CSA-ISO

26000 covered all 11 of the dimensions while ISO 30414 and CAN/CSA-Z1003/BNQ 9700-803 covered 8 of the 11 dimensions. Of note is that ISO 30414 shares a similar focus to this work and reflects the evolving interest in reporting on the human condition in the company. ISO 30414 focuses on human capital reporting and quantitative financial information of human aspects of business operations. It differs from the work environment reporting, which is worker-centric.

Standards from Table A-1 that were reviewed but not included in Table 3 are conceptually similar to the standards included within Table 3 or are from the same field of focus to some of the standards listed. For example, CSA Z1001 is an occupational health and safety training standard that has some conceptual similarities to ANSI/ASSE Z490.1. Likewise, CSA Z1002, CSA Z1005, and

Table 3: Identified Dimensions that are Included* in a Selection of the Reviewed Standards (as indicated with an 'X')

Dimension	GRI	ISO 30414	ISO 45001	CSA Z1000	CSA Z1004	CAN/CSA-Z1003/BNQ 9700-803	CAN/CSA-ISO 26000	ANSI/ASSE Z490.1	SA8000
Worker wellbeing and safety	X	X	X	X	X	X	X	X	X
Work performance factors	X				X	X	X		
Physical work environment design and interaction	X		X				X		
Work control and social dynamics	X	X	X	X	X	X	X		
Learning and development	X	X	X		X	X	X	X	X
Worker experience	X	X		X	X	X	X		X
Respect, rights, and equality	X	X				X	X		X
Work environment structure	X	X		X	X	X	X		X
Leadership style	X	X	X			X	X		
External factors influencing work environment	X						X		
Outsourcing and contractors	X	X					X		

*Inclusion indicates the presence of the dimension, but does not indicate the quality of the inclusion in any eventual reporting guidance. Where: Global Reporting Initiative (GRI), International Organization for Standardization (ISO), CSA Group (CSA), Bureau de normalisation du Québec (BNQ), American National Standards Institute (ANSI), American Society of Safety Engineers (ASSE), Social Accountability International (SA8000). General descriptions of each of the standards can be found in Table A-1 of the Appendix.

CSA Z412 all either have some overlap with standards presented in Table 3 or present an isolated subset of work environment dimensions. These standards provide depth to the review but do not necessarily broaden the information that has been selected for presentation in Table 3 and subsequent analysis.

4.2 Quality of Work Environment Reporting Guidance in Standards

A second review was done on the standards listed in Table A-1 of the Appendix. The purpose of this second review was to examine the quality of the reporting guidance provided by each standard with respect to supporting work environment reporting. The criteria for quality was that the reference to a given dimension must be with respect to work environment reporting for that dimension or associated component and not be reflective of only organizational record keeping or internal organization reporting. The quality of the dimension reporting was rated using a 5-point (0-4) scale (see Table 4). This criteria was adapted from the consolidated narrative interrogation (CONI) scoring concept used by Beck *et al.* (2010) in their review of the quality of CSR reports. Progression from 0 (no connection to external reporting) to 4 (qualitative, quantitative reporting with comparison to a threshold or threshold) was scaled to demonstrate increasing depth of reported information.

Table 5 shows the scores for the quality of work environment dimension reporting for the same standards listed in Table 3. Table 5 shows that the dimensions are

generally not adequately addressed from a reporting perspective in any one standard. The GRI, which targets reporting directly, had the highest score across the most dimensions and was the only standard to achieve a level three score. CAN/CSA-Z1003/BNQ 9700-803 and CSA Z1004 had almost as many dimensions covered as the GRI but scored nothing beyond a score of one. Of the six remaining standards, ISO 30414 did provide some reporting guidance across more dimensions compared with the other standards. However, with the scoring system used, the values were lower than the GRI, in part because of the stated preference within the standard for quantitative metrics for easier comparisons. Of the five remaining standards presented in Table 5, ISO 45001, CAN/CSA-ISO 26000, and SA8000 succeeded to score in only a single dimension. In all three of these standards, the single dimension achieved only a score of 1, which was given only because work environment reporting was mentioned in some way. The similarity between these three standards and the GRI is that they are management and social responsibility standards, but it is clear from Table 5 that they have very different levels of focus on external work environment reporting.

The implications of these findings are that more supporting information is needed that provides better guidance on effective approaches to work environment reporting in the context of CSR reports. While some standards are intentionally vague in the specific guidance to reporting, a work environment reporting standard would need to be more specific and reflect the fifth level of the scoring approach of Table 4, where

Table 4: Review Criteria to Score the Quality of Work Environment Dimension Reporting Included Within a Standard

Criteria	Score
Work environment in standard addresses issue related to standard scope; no connection to external reporting of work environment	0
Work environment in standard is related to external reporting is purely descriptive, generic, and without specifics for work environment reporting	1
Work environment in standard is related to external reporting that is either numerical OR qualitative explanation; purely qualitative (L) OR purely quantitative (T)	2 L or T
Work environment in standard is related to external reporting that has numerical and qualitative explanations; qualitative and quantitative	3
Work environment in standard is related to external reporting that is numerical, with qualitative explanations, and a referent allowing comparison in time (year to year) or to a threshold or target; qualitative, quantitative, and comparable	4

quantitative and qualitative outcomes are reported along with a comparator value. This should ensure that relevant comparisons and conversations with respect to reported information are possible within and between organizations.

4.3 Work Environment Dimensions Included in Common Work Environment Assessment Instruments

To test if the dimensions identified from the literature review were comprehensively covering work environment, a set of internationally recognized instruments that address aspects of work environment were also reviewed. The goal of this review was to determine any differences between the dimensions covered in common professional work environment tools compared with the dimensions identified from the literature review (see Table 2). The review process was similar to the one described

in the review of the literature. An inductive analysis of nine instruments (see Table A-2 of the Appendix) was conducted to identify the work environment dimensions each instrument individually and collectively addressed. Fourteen dimensions emerged:

1. job demands (mental, physical, and psychosocial);
2. training and development;
3. work structure and stability;
4. job control;
5. work type and location;
6. compensation (recognition and benefits);
7. work environment design and maintenance;
8. health and wellbeing management;
9. management structure, support, and participation;

Table 5: Scoring* of the Quality of Work Environment Reporting Within the Standards Reviewed

Dimension	GRI	ISO 30414	ISO 45001	CSA Z1000	CSA Z1004	CAN/CSA-Z1003/BNQ 9700-803	CAN/CSA-ISO 26000	ANSI/ASSE Z490.1	SA8000
Worker wellbeing and safety	3	2T	0	0	1	1	0	0	0
Work performance factors	0	0	0	0	0	1	0	0	0
Physical work environment design and interaction	0	0	0	0	1	0	0	0	0
Work control and social dynamics	0	1	0	0	0	1	0	0	0
Learning and development	3	2T	0	0	0	1	0	0	0
Worker experience	3	1	0	0	0	1	0	0	0
Respect, rights, and equality	3	2T	0	0	0	1	0	0	0
Work environment structure	3	2T	1	0	1	1	0	0	0
Leadership style	0	2T	0	0	1	0	0	0	0
External factors influencing work environment	0	0	0	0	0	0	1	0	1
Outsourcing and contractors	3	2T	0	0	0	0	0	0	0

*See Table 4 for scoring details.

- 10. work organization and inclusion;
- 11. health and wellbeing outcomes;
- 12. work-life balance;
- 13. work performance; and
- 14. work experience and commitment.

Not all instruments addressed every dimension, as summarised in Table 6. Moreover, in comparison to the standards listed in Table 3, only one instrument completely covered all the dimensions identified from

the instruments. The depth of coverage of individual dimensions also varied widely between the instruments. A more detailed breakdown, showing more specific connections of an instrument to a dimension, can be seen in Table A-3 of the Appendix.

Comparing the dimensions of the instruments to the dimensions from the literature found many similarities of terms and themes (see Table A-4 of the Appendix for a direct comparison). Most differences were due to the descriptive term that evolved from the analysis or the level of detail within a given dimension (see Table 2 for

Table 6: The Alignment of a Given Instrument (as indicated with an 'X') to the Resulting Work Environment Dimension Determined from the Analysis

Dimension	NIOSH	COPSOQ	EWCS	OECD	UNECE	ILO Standards	ISSP	ILO/IEA	PRIMA-EF
Job demands (mental, physical, and psychosocial)	X	X	X		X		X	X	X
Training and development	X	X	X	X	X	X	X	X	X
Work structure and stability	X	X	X	X	X	X	X	X	X
Job control		X	X		X		X	X	X
Work type and location	X		X		X			X	X
Compensation (recognition and benefits)	X	X	X	X	X	X	X	X	X
Work environment design and maintenance								X	X
Health and wellbeing management	X	X	X	X	X	X	X	X	X
Management structure, support, and participation	X	X	X		X	X	X	X	X
Work organization and inclusion	X		X	X	X	X	X	X	X
Health and wellbeing outcomes	X	X	X		X				X
Work-life balance	X	X	X	X	X	X	X		X
Work performance	X	X							X
Work experience and commitment	X	X	X	X	X		X	X	X

Where : NIOSH Quality of Worklife Questionnaire (NIOSH), Copenhagen Psychosocial Questionnaire III (COPSOQ), 6th European Working Conditions Survey (EWCS), OECD How's Life? 2013 (OECD), United Nations Economic Commission for Europe - Handbook for Measuring Quality of Employment (UNECE), International Labour Office, Rules of the Game (ILO Standards), International Social Survey Programme: Work Orientations IV (ISSP), Ergonomic checkpoints (ILO/IEA), European framework for psychosocial risk management (PRIMA-EF).

Note: See Table A-2 of the Appendix for information on each of the instruments reviewed.



“The participants agreed that there was value in work environment reporting and that there would be an audience for such information, noting that there is a growing movement among organizations regarding transparency around work environment.”

the components of the literature dimensions and Table A-3 of the Appendix for the components of instrument dimensions). In comparison with the instrument dimensions, the literature dimensions were more explicit concerning the external factors that contribute to the work environment and elements of outsourcing and contractors, which also could be considered an extension of the work environment into the supply chain. Conversely, the instrument dimensions included work type and location (e.g., working from home and contract work) and work structure and stability (e.g., job prospects, job security, and role in the organization). New information from the instrument dimensions was merged with the literature dimensions and information from stakeholder interactions (see Section 5) to develop a working set of dimensions for future development work (see Proposal 2 of Section 6).

5 Stakeholder Consultation

5.1 Introduction

A workshop and a webinar were held to obtain stakeholder feedback on the development of a possible work environment reporting standard. Participants were specifically asked to comment on how work environment should be defined and bounded, the need for a reporting standard, how the potential development of a work environment reporting standard would relate to existing standards, and whether or not an eventual standard

should be developed as a supplement to existing standards or a stand-alone separate standard. To seed the discussions in both the workshop and webinar, the research team provided a summary report containing a literature review of work environment definitions and dimensions and a review of existing relevant standards.

5.2 Recruitment and Participants

Attendees were recruited via an open call placed to CSR-focused employees from a selection of 50 companies noted for their sustainability practices and listed on the TSX (Searcy *et al.*, 2016), through the CSA Group network (e.g., the members of the ISO 26000 mirror committee), and the mailing list of the Ryerson University Institute for the Study of Corporate Social Responsibility. The targeted stakeholders were encouraged to share the event information within their respective networks.

The workshop was facilitated by the three principal researchers on the project, who actively observed and documented feedback about the information presented. Thirteen people participated in the workshop. Participants had a range of experience, which included seven consultants (including company founders and presidents), two company vice presidents, three representatives from academia, and an independent researcher. Distribution of attendees by work focus and work reach is illustrated in Table 7, which shows local and international perspectives were obtained across different focuses of work.

The webinar was moderated by one of the project’s three principal researchers. Nineteen people registered for the webinar (Table 7), of which four had also participated in the workshop. The attendees had backgrounds representing law, municipalities, consulting, policy, fundraising, manufacturing, and health services. The distribution of participants registered for the webinar is shown in Table 7. Participants were distributed differently from the workshop both in work focus and work reach, which expanded the feedback perspectives for the overall project.

5.3 Structure of Consultations

The workshop was structured as a series of three small group roundtable discussions and plenary sessions. Each session was preceded by a brief presentation by the research team to summarize key findings and their position on the area of focus.

The webinar was a one hour event that included a 20 minute presentation providing an overview of the project and preliminary findings. Three poll questions were used to help seed the 30 minutes of open discussion (see Table A-5 of the Appendix). Participants were encouraged to communicate their questions and feedback orally during the open discussion or via the chat forum available within the webinar software.

5.4 Consultation Outcomes

Twenty-eight stakeholders contributed to the outcome discussions via the workshop, webinar, or personal correspondence.

5.4.1 Work Environment Definitions and Dimensions

The participants generally believed that the Neumann *et al.*, (2014) definition (see Table 1) was a good start, but also noted that the definition should be revisited and

Table 7: Workshop and Webinar Participant Distribution by Their Work Focus and Work Reach

	Participant Background	Workshop	Webinar
Work Focus	Academia	3	3
	Consulting	7	5
	Fundraising		1
	Health services		1
	Human resource management	1	
	Independent research	1	
	Law		2
	Manufacturing		1
	Municipal		6
	Resources	1	
Work Reach	Local/Regional	1	7
	Provincial	2	2
	National	4	3
	International	6	7

Note: The workshop numbers are based on actual attendees. Webinar numbers are based on registered attendees and include four attendees who were also a part of the workshop. Webinar numbers shown may differ from attendee numbers due to unidentified logins, logins from one person online and via telephone, or multiple attendees on one login.

revised throughout the proposed development of a work environment reporting standard. Several participants cautioned that the definition should be kept concise, with finer details provided in the notes to exemplify the definition. The participants also stated that defining key terms used in the definition (management, system, employee, etc.) would add further clarity. This is a common feature of definitions in existing standards.

There was general agreement regarding the dimensions identified from the literature. However, any new developments should keep in mind the need for simplicity, being sensitive to the burden of many requirements, the need for clear terminology, and considering how issues could be measured in practice. In total, 23 dimensions, or components of work environment, were suggested by participants. These are listed in Table 8 and shown in comparison to the dimensions from the literature and instruments in Table A-4 of the Appendix.

Some of the items listed in Table 8 fit within existing dimensions (see Table A-4 of the Appendix) and expand the scope of the dimension by providing more components to consider. For example, the suggestions of disability, preferential treatment, and workplace violence aligned well with worker wellbeing and safety from the literature and expanded on the illness, injuries, and risk focus to provide a richer description and context. Other items are conceptually similar to existing components or dimensions (e.g., coaching versus training versus learning and development), but highlight the need to review any proposed standard with stakeholders to clarify the language used and the scope of each dimension. Information from the dimension suggestions from stakeholders were combined with the information from the literature and the instruments to refine the dimensions (see Proposal 2 of Section 6).

5.4.2 The Need for a Work Environment Reporting Standard

There was broad support for the creation of a work environment reporting standard in the workshop and webinar. For example, the majority of the respondents to a webinar poll (5 of 8 respondents, see question in Table A-5 of the Appendix) agreed with the need for a standard and no workshop attendee expressed a view of disagreement for the need of a standard.

The participants noted that they were not aware of any management reports on the quality of company work environments, which is something they believed would be useful. There was debate about whether a reporting standard should be integrated with existing standards or developed as a stand-alone separate standard. A number of pros and cons of both approaches were discussed. For example, some participants pointed to “standards fatigue” and felt that another standard could place an undue burden on organizational (and employee) resources. Another concern was that there might be a lack of capacity to support a new reporting standard. This sentiment was based on the participants’ perceptions of a generally poor adherence to, and lack of familiarity with, existing standards. Others, however, felt that a separate standard was needed to raise the prominence of work environment reporting and to consolidate best practices in one resource. A separate standard was also viewed by some participants as a potential launching point for organizations to identify the relevant standards that would help them develop specific actions for, for example, mental health in the workplace (e.g., CAN/CSA-Z1003/BNQ 9700-803).

The participants agreed that there was value in work environment reporting and that there would be an audience for such information, noting that there is a growing movement among organizations regarding transparency around work environment. Potential audiences could include external audiences, such as investors, who could use the information to determine leading risks, along with customers, clients, and future employees. Internal audiences could include managers, who need to apply the information, human resources (HR) professionals looking to recruit and retain employees, and workers, who would directly benefit from any changes for the better. Results from another webinar poll (see question 2 in Table A-5 of the Appendix) also demonstrated a range of users of the potential reporting standard and of the information produced. Managers were identified most frequently, relating to their sourcing of suppliers. Investors and CEO-level audiences were also considered interested to address the goal of good corporate citizens. Initial adopters were considered to likely be organizations well-positioned with resources

and with a strong interest in generating and collecting work environment information. Small organizations might be interested as well, particularly given how many small companies stress their values, but it was noted that these organizations might currently be using a less formal approach.

Table 8: Dimensions Suggested During Interactions with Stakeholders

Dimensions
<ul style="list-style-type: none"> ▪ Performance factors ▪ Ability of people to control the environment ▪ Stress ▪ Workplace violence ▪ Aesthetic of the physical environment ▪ Lighting ▪ Coaching ▪ Training ▪ Interpersonal environment ▪ Organizational environment (e.g., hierarchy management, feedback, participant demographics) ▪ Governance environment (e.g., rules and structure, response to behaviour beyond norms) ▪ Interactions with external stakeholders (e.g., customers, patients, and families) ▪ Human factors practices and management ▪ Culture (e.g., acuity, environment) ▪ Values ▪ Demographic characterization of who is in the environment ▪ Disability ▪ Diversity and inclusion ▪ Morale ▪ Preferential treatment ▪ Recognition ▪ Virtual work and home working ▪ Worker surveillance

Applications related to securing good work environment along supply chains were also noted as a key leverage point for applying the potential reporting standard. A webinar poll question on the number of suppliers that would be affected by a work environment reporting standard applied in their organization (see question 3 in Table A-5 of the Appendix) illustrates that the standard would be wide reaching. All but one of the responses identified that more than 25 of their organization’s suppliers would be affected, with most responders identifying 49+ as the number of potentially affected other companies. Some participants, however, cautioned against the implementation in supply chains, noting the effort required and the trade-off of a standard versus a guideline, as well as the likely challenge with enforcing, monitoring, and reporting all elements in a product manufacturing supply chain. One suggested method of mitigating the challenge was to work within existing standards by initially targeting areas with the greatest identified impact and where the cost of ignoring the dimension could be high. Other participants highlighted the challenge associated with working in different jurisdictions (e.g., already integrated legislated reporting compared with voluntary reporting) and the need to be mindful to synch up with what exists elsewhere.

5.4.3 Strategies and Tactics Regarding the Development of an Eventual Work Environment Reporting Standard

The participants stressed that it would be important to find an appropriate balance between the level of detail and the usability of any standard as a whole. For example, the requirements in a potential reporting standard should not be so precise that it limits organizations that can apply it, due to the resources required, but should find a balance that is sufficiently comprehensive and ensures that it points organizations in the right direction. The ability to develop a standard that scales to different organizational sizes, or developing dimensions that effectively transfer across all types of workplaces, are two possibilities to address this issue.



“[A work environment reporting standard] could permit organizations to systematically track their internal performance over time, while also increasing the opportunities for peer benchmarking.”

Participants gave feedback that a similar approach to the workshop and webinar should be used for any future developments, i.e., utilizing focus groups with diverse stakeholders to gain management, consultant, and worker perspectives on necessary content and valuable outputs. Consultation with companies and human resource managers was considered to be particularly beneficial. This suggested consultative, stakeholder driven approach is similar to the consensus building approach currently used by ISO and all standards development organizations accredited by the Standards Council of Canada¹. It was also suggested to pilot any new reporting standard by first partnering with companies and managers with an expressed interest, but not before having a broad conversation with a range of relevant companies and practitioners in order to understand the requirements. Leaders and companies already moving in this direction were stated as being a good starting point as a resource. The use of the expertise available to build a consensus-based standard was considered advantageous in that it would provide examples for content and structure, guidance that would make the proposed work environment reporting standard relevant and doable, as well as project a level of credibility and validity in the reporting approach to the contributor’s peers.

6 Proposals for Future Work Towards a Work Environment Reporting Standard

This report makes seven summative proposals with regards to the development of an eventual standard on work environment reporting.

Proposal 1: Work environment definition. Work environment is an expansive concept and many different perspectives on its potential definition emerged from the review of literature, review of standards and internationally recognized assessment instruments, and the stakeholder consultations. Drawing heavily on the definition developed by Neumann *et al.* (2014), the following definition is recommended:

Work environment is “all aspects of the design and management of the work system that affect the employee’s interactions with the workplace”.

The definition is concise and provides a simple overarching statement that retains the ability to capture all work environments and work environment dimensions. Building on Neumann *et al.* (2014), it encompasses “the physical design including layouts and built environment, division of labour, use of technology, supervisory structures, human resource management

¹CSA Group is accredited by the Standards Council of Canada and uses a consensus-based approach in the development of standards as a part of the requirement for this accreditation.

strategies and co-worker interactions that can affect the physical, mental and emotional work-load and determine the positive or negative outcomes of work for the employee". These additional comments provide illustration and context for the proposed definition.

Proposal 2: Work environment can be usefully operationalized in 12 main dimensions. Given the broad scope of work environment, it was not surprising to see that many different dimensions were identified through the review of the literature, of existing standards and instruments, and of the stakeholder feedback. From these, a consolidated set of 12 dimensions has been proposed.

The 12 recommended dimensions are identified and defined in Table 9. These dimensions encapsulate the demands placed on a worker and the health outcomes

that result at both work and when away from work. While different clustering of indicators might be considered, it is proposed that these 12 dimensions be used as a starting point for any future development work.

These 12 dimensions are a combination of the literature and tools dimensions, along with the comments from stakeholders (see Figure 1 for a conceptual illustration of the combining of information). The dimensions provide guidance for future investigation into the key components within a dimension that need to be measured, as well as guidance for the corresponding important measurements and indicators that are needed to reflect on and manage the state of the work environment. Work is also needed to understand the connections and contributions of leading and lagging indicators both within and across dimensions as they relate to reporting on good work environments.

Table 9: Consolidated Work Environment Dimensions from the Literature, Instruments, and Stakeholder Comments, and a High-Level Description of the Focus of the Dimension

Dimension	Description
Job demands	The mental, physical, and psychosocial demands of work
Health and wellbeing management and outcomes	The proactive management and tracking of physical and mental health and wellbeing
Work environment design and maintenance	The layout, setup, and construction, and ongoing maintenance of the work environment
Learning and development	The skills development and guidance in support of knowledge to complete work tasks as well as continued personal development and growth
Work control	The autonomy of work, ability to control tasks, pace, and timing
Leadership structure, support, and worker participation	The organizational approach to the structure, social support, and inclusion of workers in decision making
Work structure and stability	The short and long term viability of work, clarity of roles, and alignment of work with skills
Work-life balance and work experience/performance	The coordination with, and support of, life inside and outside of work, including hours flexibility, overtime, advanced scheduling, along with the enjoyment and value of time at work and subsequent commitment to work and ability to perform
Respect and inclusion	The equality and support of all regardless of background, gender, work association/organization, and collective bargaining
Recognition and benefits	The compensation, benefits support, and effective promotion
Work type and location	The style of work (salary, contract, or self-employed) and location with the organization (home/within/supply chain)
External factors of influence	Factors external to the organizational work environment that impact the work experience, e.g., external distractions due to socio-economic aspects of the local area or the perception of the organization with respect to social responsibility

Figure 1: Representative Schematic to Illustrate the Combination of Identified Work Environment Dimensions From the Literature (Left), Instruments (Middle), and Stakeholder Interactions (Right) to Form the 12 Dimensions of Proposal 2 (Bottom)



Consolidated Dimensions



Proposal 3: There is a need for a work environment reporting standard and further development toward a standard is warranted. A range of perspectives were obtained from a wide variety of organizations on the need for a potential reporting standard, and it has been concluded that a standard is needed. Based on the review of the literature, existing standards and instruments, and stakeholder feedback, it is argued that a stand-alone standard for work environment reporting would be the preferred solution. While integration of work environment reporting into other existing standards was desired by some stakeholders, this was determined to be not practical as an initial stage since it might, arguably, take many years to integrate a work environment reporting element into existing standards. This finding is consistent with research on work environment reporting, which shows that many companies are trying to report on work environment

in their CSR reporting efforts (Searcy *et al.*, 2016). Unfortunately these efforts are in no way standardized. Many different incomparable indicators are presented on some sub-set of the dimensions identified in this report. This suggests that, even at a simple level, there is some need for specified requirements on reporting work environment in the context of CSR reports.

Proposal 4: A work environment reporting standard should be compatible with existing approaches to facilitate uptake and application. A stand-alone standard could be designed in a modular fashion that is compatible with existing standards. Such a design could allow referencing of standards in three directions:

- 1) Companies already utilizing standards could apply the proposed reporting standard to enhance their ability to report on the work environment.

- 2) Companies with no existing standards in place could use the proposed reporting standard to establish an initial formal system, which could be leveraged to implement other standards in the future.
- 3) Companies could use the proposed reporting standard for guidance purposes, choosing the modules that are most appropriate to organizational circumstances and forgoing the implementation of a formal management system.

Keeping the reporting compatible with existing approaches can make it easier for new users to apply the work environment reporting standard and can then lead to synergy effects across related standards. For example, integration might be facilitated with alignment to the GRI reporting modules or the structure of a common high-level ISO standard like in ISO 26000. Identifying the specific mechanisms to ensure compatibility with other standards will require further research.

Proposal 5: Standards development should consider the potential for different levels of reporting. The actual demands of applying a work environment reporting standard could vary considerably. The possibility of a “staged” or layered approach to work environment reporting could be considered to accommodate new users as well as organizations with more sophisticated reporting capability. Recommended approaches might range, for example, from easy (Level 1 – basic/beginner) up to advanced (Level 3 – superior). The GRI, for example, was originally developed with similarly tiered levels of application in mind. This approach has two potential benefits:

- 1) it can allow smaller organizations to transition more easily into work environment reporting; and
- 2) it provides a structure that allows for auditing of the reporting process.

Proposal 6: The potential uptake of a work environment reporting standard should be further examined, with particular reference to supply chains and supplier evaluation. A work environment reporting standard is anticipated to be of interest to a wide range of audiences.

It could permit organizations to systematically track their internal performance over time, while also increasing the opportunities for peer benchmarking. One key leverage point for implementing the proposed reporting standard is the supply chain. Participants in the stakeholder consultations identified a large number (e.g., 49+) of potential suppliers who might be affected if organizations were to apply a work environment standard in sourcing decisions. This poses a significant leveraging potential for any potential reporting standard. While companies might be reluctant to adopt a new work environment reporting standard voluntarily, they would be motivated to accelerate implementation if asked for reporting by customers and clients. The potential to target supply chain verification for work environment warrants further investigation and future standard development activities should consider this application alongside self-evaluation and reporting approaches.

Proposal 7: Preliminary development of a standard, in whole or through prioritized development of a given work environment dimension, and examination of uptake mechanisms is warranted. This proposition is based on the overall assessment of the project findings and the preceding research. Potential development should examine approaches that consider organizational size, complexity, and resources, as well as the time associated with reporting on work environment. The mechanisms of uptake of a standard in whole or in part, including the influence of consumer demand, supply chain verification, and operational excellence agendas should be examined in the context of a proposed reporting standard. Other standards could be used to provide a frame of reference in development to understand the common style that users would expect. For example, the number of people exposed globally to the format of ISO standards is significant (see Table A-6 of the Appendix). The broad familiarity with these standards, as indicated by the number of certifications, along with other high-level ISO standards (e.g., ISO 26000) and the GRI, and mirroring the framework of these familiar standards, could increase acceptance and uptake of a new standard. Preliminary development and testing would be recommended regardless in advance of the creation of a proposed reporting standard.

Conclusion

The review of scientific literature and views expressed by stakeholders provides evidence that a standard for work environment reporting warrants further investigation. There are notable gaps in knowledge and resources currently available to guide work environment reporting. For example, work environment is not consistently defined in the scientific literature, and current standards and instruments do not address work environment reporting effectively.

Organizational resources and capabilities, however, are currently underdeveloped to completely support such a standard. Fundamental work is required to support a more complete reporting of work environment. This could include guidance to stakeholders on the full scope of work environment to consider reporting, and the development of tools that support the information gathering and reporting functions.

Concerns regarding organizational resource capacity and “standards fatigue” that were expressed by various stakeholders indicate that any future research needs to include stakeholder input to ensure that any reporting procedures may be integrated within existing organizational processes. Any eventual standard should apply the consensus based approach currently in use in Canada.

Barriers notwithstanding, there is considerable interest and a reported need for a standard to support companies in reporting effectively and consistently on the quality of their work environments. This report contains seven main proposals with regards to the proposed creation of a work environment reporting standard. The results of this project also suggest that there is considerable leveraging capability of a reporting standard if it is designed for, and applied to, the service and goods supply chain. Using such a reporting guidance tool could provide benefits for companies trying to reap the benefits of better work environments, even if they choose not to make these evaluations public.

Further development should explore both the design of a work environment reporting approach itself and the organizational contexts of use, as well as the mechanisms and drivers fostering uptake of a proposed new work environment reporting standard.

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Appendix

Table A-1: International Standards Identified From Common Sustainability Reporting Practices

Standard Identification/code	Name	Description	
<p>Primary Consideration: GRI 403: Occupational Health and Safety 2018</p> <p>Secondary Considerations: GRI 102: General Disclosures 2016 GRI 103: Management Approach 2016 GRI 201: Economic Performance 2016 GRI 202: Market Presence 2016 GRI 203: Indirect Economic Impacts 2016 GRI 204: Procurement Practices 2016 GRI 301: Materials 2016 GRI 306: Effluents and Waste 2016 GRI 401: Employment 2016 GRI 402: Labor/Management Relations 2016 GRI 404: Training and Education 2016 GRI 405: Diversity and Equal Opportunity 2016 GRI 406: Non-discrimination 2016 GRI 407: Freedom of Association and Collective Bargaining 2016 GRI 408: Child Labor 2016 GRI 409: Forced or Compulsory Labor 2016 GRI 410: Security Practices 2016 GRI 411: Rights of Indigenous Peoples 2016 GRI 412: Human Rights Assessment 2016 GRI 414: Supplier Social Assessment 2016 GRI 416: Customer Health and Safety 2016 GRI 417: Marketing and Labeling 2016 GRI 419: Socioeconomic Compliance 2016</p>	Global Reporting Initiative (GRI) Sustainability Reporting Standards	A global standard for sustainability reporting with focus on economic, environmental, and social impacts	GRI is a globally accepted reporting standard which is utilized by many companies.
ISO 30414:2018	Human resource management – Guidelines for internal and external human capital reporting	"...establishes guidelines on human capital data capture, measurement, analysis, and reporting"	Recent ISO standard that informs reporting on the human capital
ISO 45001:2018	Occupational health and safety management systems – Requirements with guidance for use	"...a framework for managing OH&S risks and opportunities"	International management system standard for OHS. Built off of, and replaced, other systems (e.g. BS OHSAS 18001 – Occupational Health and Safety Management (OHS)).
CSA Z1000-14	Occupational health and safety management	"...provides a model for establishing, implementing, and maintaining an occupational health and safety management system."	Canadian OHS management system standard

Standard Identification/code	Name	Description	Inclusion Rationale
CSA Z1004-12	Workplace ergonomics – A management and implementation standard	<p>“...provides an overall framework for addressing preventive and protective measures, worker participation, training, design, procurement issues, documentation, and legal and other requirements”</p> <p>“...objective of this Standard is to enable an organization to enhance worker health, safety, and well-being and optimize system performance to prevent occupational injuries, illnesses, and fatalities and/or reduce the severity of harm related to occupational activities and work environments through the systematic Application of Ergonomics”</p>	Canadian standard for the management of ergonomics in the workplace
CAN/CSA-Z1003-13/ BNQ 9700-803/2013	Psychological health and safety in the workplace – Prevention, promotion, and guidance to staged implementation	<p>“...a documented and systematic approach to develop and sustain a psychologically healthy and safe workplace”</p> <p>“...framework to create and continually improve a psychologically healthy and safe workplace”</p>	Canadian standard for managing psychological health in the workplace
CAN/CSA-ISO 26000:16	Guidance on social responsibility	“...provides guidance on the underlying principles of social responsibility, recognizing social responsibility and engaging stakeholders, the core subjects and issues pertaining to social responsibility...and on ways to integrate socially responsible behaviour into the organization”	Point of intersection with work environment reporting in CSR
ANSI/ASSE Z490.1-2016	Criteria for Accepted Practices in Safety, Health and Environmental Training	“...criteria for safety, health and environmental training programs, including program management, development, delivery, evaluation and documentation”	Informed Z1001
SA8000:2014	Social Accountability 8000 International Standard	<p>“...an auditable, voluntary standard, based on the UN Declaration of Human Rights, ILO and other international human rights and labour norms and national labour laws, to empower and protect all personnel within an organisation's control and influence who provide products or services for that organisation, including personnel employed by the organisation itself and by its suppliers, sub-contractors, sub-suppliers and home workers”</p>	“...based on the UN Declaration of Human Rights, conventions of the ILO, international human rights norms and national labour laws”

Standard Identification/code	Name	Description	Inclusion Rationale
CAN/CSA-Z1001-18	Occupational health and safety training	"...addresses an organization's need to be able to select and provide appropriate occupational health and safety (OHS) training to help ensure that workers...are suitably trained to perform their work"	Canadian OHS training standard
CSA Z1002-12 (R2017)	Occupational health and safety – Hazard identification and elimination and risk assessment control	"...describes methods that can be used to identify hazards, eliminate hazards, and analyze the risk associated with hazards that cannot be eliminated." "...provides guidance on the application of risk control measures, monitoring of residual risk, and continual improvement to reduce the risk as better risk control measures become available."	Canadian standard that addresses "the need for common terminology and processes that can apply to all types of occupational health and safety (OHS) hazards and risks."
CSA Z1005-17	Incident investigation	"...outlines incident investigation and prevention principles and requirements, the purpose of which is to determine causes and to prevent work-related incidents."	Incident investigation and any associated reporting is relevant to a good work environment and informative work environment reporting
CSA Z412-17	Office ergonomics – An application standard for workplace ergonomics	"...to prevent occupational injuries and illnesses or to reduce the severity of harm related to occupational activities in offices."	Canadian workplace specific focused standard

Table A-2: Instruments to Report on the Work Environment That Were Used to Review Work Environment Dimensions

Instrument (report short form)	Organization	Description
NIOSH Quality of Worklife Questionnaire (NIOSH)	National Institute for Occupational Safety and Health	Goals: 1) To "measure how work life and the work experience have changed" compared with earlier surveys and "to establish benchmarks for future surveys"; and 2) Measure "the relationship between job/organizational characteristics and worker health and safety and identifying targets for health and safety preventive interventions"
Copenhagen Psychosocial Questionnaire III (COPSOQ)	COPSOQ International Network	A survey tool to assess the psychosocial component of the work environment.
Sixth European Working Conditions Survey (2015) (EWCS)	Eurofound	The survey "aims to measure working conditions across European countries, analyse the relationships between different aspects of these, identify groups at risk, highlight issues of concern and areas of progress and, ultimately, contribute to developing EU policy aimed at improving job quality."
OECD How's Life? 2013 (OECD)	Organisation for Economic Co-operation and Development	"...a multi-dimensional framework covering 11 dimensions of well-being"
United Nations Economic Commission for Europe - Handbook for Measuring Quality of Employment, A Statistical Framework (UNECE)	United Nations Economic Commission	"...aims at providing a clear and coherent structure for measuring quality of employment"
International Labour Office, Rules of the Game - A brief introduction to labour standards (ILO Standards)	International Labour Office	"...aimed at promoting opportunities for women and men to obtain decent and productive work in conditions of freedom, equity, security and dignity"
International Social Survey Programme: Work Orientations IV - ISSP 2015 (ISSP)	International Social Survey Programme	"...deal with issues, such as employment arrangements, job characteristics, subjective experience of job, outcome of work, work-life balance, work centrality, and solidarity and conflict in work relations"
Ergonomic checkpoints : Practical and easy-to-implement solutions for improving safety, health and working conditions. Second edition. (ILO/IEA)	International Labour Office International Ergonomics Association	"...132 ergonomic interventions aimed at creating positive effects without relying on costly or highly sophisticated solutions" "emphasis is on realistic solutions that can be applied in a flexible manner and contribute to improving working conditions and productivity"
European framework for psychosocial risk management (PRIMA-EF)	Institute of Work, Health and Organisations	"...aims at providing policy makers, employers, trade unions, experts and employees with a comprehensive best practice framework for psychosocial risk management at the workplace"

Table A-3 shows the instruments and associated components in relation to dimensions. Note that the dimensions referenced from some instruments could contribute to the dimension for the full set based on sub-level information within the instrument. This is not shown within the report, for simplicity, and the reader is referred to the original source. See Table A-2 for detailed information on a specific instrument.

Table A-3: Dimensions Identified from Thematic Analysis of the Nine Reviewed Instruments, Along with the Contributing Information from Each Instrument that was Reviewed

Dimension	Instrument	Components identified within instrument
Job Demands (mental, physical, psychosocial)	NIOSH	Workload, Repetitive work, Physical effort, Variety
	COPSOQ	Cognitive demands, Work pace, Quantitative demands, Variation of work
	EWCS	Cognitive job demands, Work pace, Posture hazard exposure time, Psychosocial risk exposure, Job hazard exposure time, Work pressure, Work sustainability, Task interruptions, Task rotation, Repetitive tasks
	OECD	
	UNECE	7b) Work motivation
	ILO Standards	
	ISSP	Subjective experience of job
	ILO/IEA	Machine safety, Work organization, Materials storage and handling, Hand tools, Workstation design
Training and development	PRIMA-EF	Quality of work, Workload & work pace, Job content, Control, Organisational design
	NIOSH	Training
	COPSOQ	Possibilities for development
	EWCS	Training
	OECD	Life-long learning
	UNECE	6. Skills development and training
	ILO Standards	Vocational guidance and training
	ISSP	Human capital
Work structure and stability	ILO/IEA	Hand tools, Work organization
	PRIMA-EF	Organisational culture & function
	NIOSH	Job future, Layoffs, Job tenure, Staffing, Resource adequacy, Teamwork, Role clarity, Skill utilization, Role conflict
	COPSOQ	Insecurity over employment, Insecurity over working conditions, Role clarity, Skill discretion, Illegitimate tasks, Role conflicts
	EWCS	Job security, Restructuring, Teamwork, Partner work, Role clarity, Skills match to job
	OECD	Job security
	UNECE	4a) Security of employment, 6.Skills development and training
	ILO Standards	Employment security
Work structure and stability	ISSP	Employability, new job, Human capital
	ILO/IEA	Work organization
	PRIMA-EF	Job content, Career development, Quality of work, Employment conditions, Organisational design, Organisational culture & function, Role in organisation

Dimension	Instrument	Components identified within instrument
Job Control	NIOSH	
	COPSOQ	Predictability, Control over working time
	EWCS	Job control, Autonomy
	OECD	
	UNECE	7b) Work motivation
	ILO Standards	
	ISSP	Conflict and social exclusion
	ILO/IEA	Work organization
	PRIMA-EF	Work schedule, Control, Quality of work
Work type and location	NIOSH	Occupation
	COPSOQ	
	EWCS	Type of work, Client work, Clients, Self-employment, Direct supervision, Location of work, Commute
	OECD	
	UNECE	4a) Security of employment, 7a) Employment-related relationships
	ILO Standards	
	ISSP	
	ILO/IEA	Premises (temperature)
	PRIMA-EF	Employment conditions, Job content, Role in organisation, Interpersonal relationships at work, Quality of work
Compensation (recognition and benefits)	NIOSH	Reward/recognition, Promotions, Benefits
	COPSOQ	Recognition
	EWCS	Income and compensation, Contract, Gender balance
	OECD	Earnings, Social security system, Unemployment insurance and other cash income support, Family friendly policy, Pension, Health insurance, Inequalities and ethics of employment, Equal treatment, Work that should be abolished
	UNECE	2a) Income, 2b) Non-wage pecuniary benefits, 3c) Work-life balance, 4a) Security of employment, 4b) Social protection
	ILO Standards	Wages, Employment promotion, Social security, Maternity protection, Labour administration, Forced labour, Child labour
	ISSP	Conflict and social exclusion
	ILO/IEA	Work organization
	PRIMA-EF	Career development, Employment conditions, Policies/facilities

Dimension	Instrument	Components identified within instrument
Work environment design and maintenance	NIOSH	
	COPSOQ	
	EWCS	
	OECD	
	UNECE	
	ILO Standards	
	ISSP	
	ILO/IEA	Welfare facilities, Machine safety, Lighting, Premises, Hazardous substances and agents, Hand tools, Workstation design, Work organization
	PRIMA-EF	Environment & equipment
Health and wellbeing management	NIOSH	Safety & health, Stress Management, Safety climate, Discrimination, Harassment, Respect, Trust, Fairness
	COPSOQ	Emotional demands, Demands for hiding emotions, Gossip and slander, Conflicts and quarrels, Unpleasant teasing, Harassment in social media, Sexual harassment, Threats of violence, Physical violence, Bullying, Horizontal trust, Vertical trust
	EWCS	Personal protective equipment, Risk awareness, Emotional aspects, Discrimination, Organisational trust
	OECD	Safety and health at work, Work organisation and content, Workplace relationships
	UNECE	1b) Child labour and forced labour, 1c) Fair treatment in employment, 7a) Employment-related relationships
	ILO Standards	Occupational safety and health, Labour inspection, Social policy, Employment policy, Equality of opportunity and treatment
	ISSP	Conflict and social exclusion
	ILO/IEA	Materials storage and handling, Hand tools, Hazardous substances and agents, Welfare facilities, Hazardous substances and agents, Machine safety, Premises, Welfare facilities, Work organization
	PRIMA-EF	Environment & equipment, Policies/facilities, Interpersonal relationships at work, Violence, bullying and harassment, Quality of work, Career development
Management structure, support, and participation	NIOSH	Management relationship, Supervisory behavior, Participation
	COPSOQ	Quality of leadership, Organizational justice, Social support from supervisor, Social support from colleagues, Sense of community at work, Influence at work
	EWCS	Supervision from immediate boss, Organizational justice, Work changes, Support, Social aspects, Employee participation, Job engagement, Decision latitude
	OECD	
	UNECE	1c) Fair treatment in employment, 7a) Employment-related relationships, 7b) Work motivation
	ILO Standards	Tripartite consultation
	ISSP	Human capital
	ILO/IEA	Work organization
	PRIMA-EF	Organisational culture & function, Policies/facilities, Interpersonal relationships at work, Quality of work, Work schedule, Control

Dimension	Instrument	Components identified within instrument
Work organization and inclusion	NIOSH	Union
	COPSOQ	
	EWCS	Representation
	OECD	Social dialogue at work
	UNECE	5. Social dialogue
	ILO Standards	Domestic workers, Migrant workers, Seafarers, Fishers, Dockworkers, Indigenous and tribal peoples, Other specific categories of workers, Collective bargaining, Freedom of association
	ISSP	Conflict and social exclusion
	ILO/IEA	Work organization, Work organization (young workers)
	PRIMA-EF	Industrial relations
Health and wellbeing outcomes	NIOSH	Physical health, Mental health, Injuries, Sleep problems
	COPSOQ	Burnout, Self-rated health, Depressive symptoms, Stress, Somatic stress, Cognitive stress, Sleeping troubles
	EWCS	Absenteeism and presenteeism, Health and wellbeing
	OECD	
	UNECE	1a) Safety at work
	ILO Standards	
	ISSP	
	ILO/IEA	
	PRIMA-EF	Health-related outcomes, Absence, presenteeism, Economic costs
Work-life balance	NIOSH	Work/family, Hours of work, Overtime, Flexibility
	COPSOQ	Work life conflict
	EWCS	Work-life balance, Work-life reconciliation, Home role, Life outside of work, Hours working, Work hours, Work schedule, Shift work
	OECD	Working hours and working time arrangements
	UNECE	3a) Working hours, 3b) Working time arrangements, 3c) Work-life balance
	ILO Standards	Working time
	ISSP	Work life balance, Conflict and social exclusion, Work orientation, Non-standard employment, Job and working flexibility
	ILO/IEA	
	PRIMA-EF	Quality of work, Home-work interface, Work schedule, Control, Policies/facilities

Dimension	Instrument	Components identified within instrument
Work performance	NIOSH	Performance
	COPSOQ	Self-efficacy, Quality of work
	EWCS	
	OECD	
	UNECE	
	ILO Standards	
	ISSP	
	ILO/IEA	
	PRIMA-EF	Absence, Presenteeism
Work experience and commitment	NIOSH	Satisfaction, Intent to leave, Job commitment
	COPSOQ	Satisfaction with work – job satisfaction, Work engagement, Meaning of work, Commitment to the workplace
	EWCS	Second job, Employment status
	OECD	Social situation, Labour market performance, Macroeconomic performance
	UNECE	7b) Work motivation
	ILO Standards	
	ISSP	Work satisfaction, Attitude towards work, Conflict and social exclusion, Outcome of work, Employability, new job
	ILO/IEA	Premises (environmental waste)
	PRIMA-EF	Outcomes related to job satisfaction, Job content, Home-work interface, Work schedule, Career development

Table A-4: Dimension Comparison: Literature, Instruments, Workshop

Literature	Instruments	Workshop
Worker wellbeing and safety	Health and wellbeing management	Disability; Preferential treatment; Workplace violence
Work performance factors	Job Demands (mental, physical, psychosocial)	Performance factors
Physical work environment design and interaction	Work environment design and maintenance	Aesthetic of the physical environment; Lighting
Work control and social dynamics	Job Control	Ability of people to control the environment
Learning and development	Training and development	Coaching; Training
Worker experience	Health and wellbeing outcomes; Work-life balance; Work performance; Work experience and commitment	Stress; Morale
Respect, rights, and equality	Compensation (recognition and benefits); Health and wellbeing management	Recognition; Demographic characterization of who is in the environment; Diversity and Inclusion
Work environment structure	Work organization and inclusion	Organizational environment (e.g., hierarchy management, feedback, participant demographics); Governance environment (e.g., rules and structure, response to behaviour beyond norms); Culture (e.g., acuity, environment); Human Factors practices and management
Leadership style	Management structure, support, and participation	Worker surveillance; Interpersonal environment
External factors influencing work environment		
Outsourcing and contractors		
	Work type and location	Virtual work and home working
	Work structure and stability	
		Interactions with external stakeholders (e.g., customers, patients and families)

Note: The repeat of “Health and wellbeing management” in two different literature-based dimensions is due to the components that make up the dimension in the instruments. The shading denotes information for a dimension that is unique to the Instruments and/or Workshop.

Table A-5: Webinar Poll Questions and Associated Answer Options

Question	Answer options	Responses
1) A work environment reporting standard is needed. (n=8)	Strongly agree	2
	Agree	3
	Neutral	1
	Disagree	1
	Strongly Disagree	0
2) Who do you think the main audiences for this standard would be? (n=9)	Investors/Shareholders	5
	Presidents/CEOs	5
	Managers	8
	Workers	6
	Customers	3
	Government/Regulatory	8
	Other	2
3) If my organization applied such a standard as a demand to suppliers' WE (work environment), how many other companies would be affected by the reporting standard? (n=8)	0-2	1
	3-6	0
	7-12	0
	13-24	0
	25-48	1
	49+	6

Table A-6: Global and Canadian ISO Survey Data for Number of ISO Management Certifications Issued

Standard	2017 Global Certification	2017 Canada Certification
ISO 9001 - Quality Management Systems - Requirements	1,058,504	5,947
ISO 14001 - Environmental management systems - Requirements with Guidance for Use	362,610	1,172
ISO 50001 - Energy Management Systems - Requirements with Guidance for Use	21,501	13
ISO/IEC 27001 - Information Technology - Security Techniques - Information Security Management Systems - Requirements	39,501	276
ISO 22000 - Food Safety Management Systems - Requirements for any Organization in the Food Chain	32,722	46
ISO 13485 - Medical Devices - Quality Management Systems - Requirements for Regulatory Purposes	31,520	634
ISO 22301 - Societal Security - Business Continuity Management Systems - Requirements	4,281	8
ISO/IEC 20000-1:2011 - Information Technology - Service Management - Part 1: Service Management System Requirements	5,005	7
ISO 28000 - Specification for security management systems for the supply chain	494	1
ISO 39001:2012 - Road traffic safety (RTS) management systems - Requirements with guidance for use	620	0

Source: ISO Survey 2017 - <https://www.iso.org/the-iso-survey.html>

CSA Group Research

In order to encourage the use of consensus-based standards solutions to promote safety and encourage innovation, CSA Group supports and conducts research in areas that address new or emerging industries, as well as topics and issues that impact a broad base of current and potential stakeholders. The output of our research programs will support the development of future standards solutions, provide interim guidance to industries on the development and adoption of new technologies, and help to demonstrate our on-going commitment to building a better, safer, more sustainable world.

