



Organisational Culture: A Search for Meaning

Core Body of Knowledge for the
Generalist OHS Professional

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Organisational Culture: A Search for Meaning

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Organisational Culture: A Search for Meaning

Abstract

Since the Chernobyl nuclear disaster in 1986 there has been an explosion of academic and organisational interest in safety culture. However, the body of safety culture literature harbours unresolved debates and definitional dilemmas. As a result, safety culture remains a confusing and ambiguous concept in both the literature and in industry, where there is little evidence of a relationship between safety culture and safety performance. This chapter investigates the concept of safety culture, and finds it to have limited utility for occupational health and safety (OHS) professional practice. Informed by a literature review, interviews with key stakeholders and focus group discussions, it concludes that workplace safety may be better served by shifting from a focus on changing 'safety culture' to changing organisational and management practices that have an immediate and direct impact on risk control in the workplace. The chapter identifies characteristics of an organisation that focuses on safety, and concludes by considering the implications for OHS practice.

Keywords

organisational culture, organisational climate, safety culture, safety climate, leadership, culture change

Contextual reading

Readers should refer to 1 *Preliminaries* for a full list of chapters and authors and a synopsis of the OHS Body of Knowledge. Chapter 2, *Introduction* describes the background and development process while Chapter 3, *The OHS Professional* provides a context by describing the role and professional environment.

Terminology

Depending on the jurisdiction and the organisation, terminology refers to 'Occupational Health and Safety' (OHS), 'Occupational Safety and Health' (OSH) or 'Work Health and Safety' (WHS). In line with international practice this publication uses OHS with the exception of specific reference to the Work Health and Safety (WHS) Act and related legislation.

Jurisdictional application

This chapter includes a short section referring to the Australian model work health and safety legislation. This is in line with the Australian national application of the *OHS Body of Knowledge*. Readers working in other legal jurisdictions should consider these references as examples and refer to the relevant legislation in their jurisdiction of operation.

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1 Introduction

'Leadership and culture' is one of seven action areas in the *Australian Work, Health and Safety Strategy 2012-2022* (SWA, 2012). The strategic outcomes envisioned under this action area are that hazards are eliminated or risks minimised by ensuring:

Leaders in communities and organisations promote a positive culture for health and safety

- Communities and their leaders drive improved work health and safety
- Organisational leaders foster a culture of consultation and collaboration which actively improves work health and safety
- Health and safety is given priority in all work processes and decisions (SWA, 2012, p. 9).

Current thinking and discussion about organisational and safety culture spans the simplistic to the complex, with the basis for perspectives ranging from popular opinion to the advice of topic-specific writers and researchers. In 'Clarifying Culture,' a report that informed the development of the *Australian Work Health and Safety Strategy 2012-2022*, Blewett (2011) assessed 'safety culture' as a flawed and muddy construct that could be operating as a barrier to improvement on occupational health and safety(OHS), and raised many issues that are explored in this chapter. Blewett (2011, p. 20) flagged the national Work Health and Safety Strategy as an opportunity to "strategically consider 'managing culturally' rather than 'managing culture'" and identified several initiatives that could support achievement of the strategic vision for organisational culture:

- Use evidence obtained through multi-method research to form the foundation for strategies for regulators and policy makers.
- Adopt an evidence-based approach that promotes what is known about culture and dismisses supposition and conjecture.
- Remove references to "health" and/or "safety" in association with culture and leadership.
- Increase emphasis on integration of work health and safety into the business systems and processes across organisations.
- Reduce the emphasis on 'managing' culture; instead focus on controlling risks at the source.
- Differentiate between safety culture/climate and behavioural change.
- Build and develop the evidence base. Develop methods for capturing the knowledge that has arisen through experience with organisational culture as it affects health and safety, and make it available for peer review. (Blewett, 2011, p. 2)

Development of OHS strategies and the commitment of organisational resources are influenced by the organisational culture perspectives of the OHS professional, senior management and the organisation overall. Whether operating as internal or external advisors, generalist OHS professionals need to work within organisations rather than attempt to impose change from outside. This requires an understanding of the parameters, influences and drivers of culture. It also requires an understanding of how to be an agent of change within organisations to develop and support implementation of strategies to prevent and minimise workplace fatality, injury, disease and ill-health.

This chapter builds on the *OHS Body of Knowledge* chapter 10.1 – The Organisation – which acknowledges the complexities of organisations and the broad range of perspectives on culture. Objectives of this chapter include:

- Exploration of different perspectives on, and unresolved issues surrounding, organisational culture pertaining to OHS
- Clarification of the distinction between ‘culture’ and ‘climate,’ and exposition of semantic dilemmas that impact the construct of safety culture
- Consideration of the characteristics of an organisation with good safety culture.

This chapter is informed by a literature review with specific emphasis on *safety culture* and *safety climate*¹ within the broader realms of *organisational culture* and *organisational climate*² and the more expansive concept of *culture* as understood and studied by anthropologists and sociologists. To complement the literature review, semi-structured interviews were conducted with 17 informants selected by the Topic Specific Technical Panel (TSTP) to represent a range of industry sectors and four key stakeholder groups – OHS professionals (n=8), unions (n=2), employers (n=2) and OHS researchers (n=5) (Appendix A1). Interview questions, developed by the TSTP, are listed in Appendix B. Thematic analysis of interview transcripts enabled identification of common and contrasting themes. In addition, a focus group was conducted with OHS consultants (n=9, Appendix A2) who work with small-to-medium enterprises. Finally, a focus group of OHS professionals and researchers (n=10, Appendix A3) discussed the outcomes of all this chapter’s evidence sources.³

Discussion of aspects of the body of literature is the focus of sections 2-5, and section 6 presents the outcomes of interviews and focus group discussions. Section 7 summarises evidence from the literature and key stakeholders, which, in turn, informs a list of characteristics of an organisation that focuses on safety. The chapter concludes with consideration of the relationship between organisational culture and legislation, and a discussion of implications for OHS practice.

¹ Databases searched included Academic Search Complete, Business Source Complete, Humanities International Complete, PsycARTICLES, Psychology and Behavioral Sciences Collection, and PsycINFO. The search strings were restricted to *safety culture AND industrial* and *safety climate AND industrial*, and publication selection was guided by the objective to explore different perspectives and by the extent of referral in peer-reviewed literature.

² For a succinct review of the evolution of the concepts of organisational culture and organisational climate, see for example Blewett (2011). For an in-depth exploration of the organisational culture/climate intersection, see Schneider and Barbera (2014).

³ In this re-publication of the original chapter the Appendices with the detailed research data are provided as a separate document.

2 Historical context

2.1 Evolution of the concepts of *safety culture* and *safety climate*

The 1986 Chernobyl nuclear disaster proved a catalyst for usage of the term ‘safety culture,’ which, subsequently, was cited in investigation reports of, for example, the 1988 Piper Alpha oil and gas platform disaster in the North Sea and the 1988 Clapham Junction rail disaster near London (e.g. Antonsen, 2009a; Cox & Flin, 1998; Pidgeon, 1998; Zhang, Wiegmann, von Thaden, Sharma & Mitchell, 2002). The impact of organisational culture on safety was implicated in the *Challenger* and *Columbia* space shuttle disasters in 1986 and 1988, respectively (Antonsen, 2009a), and in the Glenbrook train crash near Sydney in 1999 (Hopkins, 2005). Also, safety culture was identified as a significant contributing factor in the BP Texas City disaster in the United States in 2005 (Baker et al., 2007; CSB, 2007). Not surprisingly, these major disasters have attracted much attention in the scientific literature on safety culture.

A decade before the Chernobyl disaster, Turner investigated the chain of events leading to disasters and described an “incubation stage” during which failures of foresight occur (see Turner, 1976; Turner & Pidgeon, 1997). Turner’s 1978 *man-made disasters model*, which conceptualised the relationship between organisational safety and cultural processes, included six phases: normal situation, incubation period, trigger event, emerging crisis, rescue and crisis management, and cultural readjustment (Antonsen, 2009a).

While the concept of safety culture was introduced to explain failures in high-risk socio-technical systems (nuclear power generation, space travel, railways), the term ‘safety climate’ already was being used in reference to the organisational climate for safety and its impact on worker behaviour in industrial organisations. In a seminal safety climate study conducted in Israel, employees in 20 industrial organisations were surveyed to determine their perceptions of “the relative importance of safe conduct in their occupational behaviour” (Zohar, 1980, p. 96).

The concepts of safety culture and safety climate have continued to evolve, often along different pathways, to the point where it is taken for granted that safety culture and, possibly to a lesser extent, safety climate constitute both the problem and the solution to modern day organisational safety woes (see section 4).

2.2 Safety culture in the literature

Silbey (2009) documented an explosion of interest in safety culture in popular and academic literature during 2000-2007, locating four times the number of relevant publications in this eight-year period than in the previous decade. It appears that interest in the concept has continued to increase dramatically; the literature review undertaken for this chapter revealed an annual average of 638 relevant publications for the six years from 2008 to 2014.⁴

Investigation of the extent of academic interest in reframing safety culture as an aspect of the wider organisational culture (see for example Blewett, 2011) revealed a seven-fold increase in the use of the term 'culture of safety' between 2008 and 2014 compared with the period 2000 to 2007.⁵ This may indicate a level of agreement that safety culture is best understood as a subset of the wider organisational culture (Antonsen, 2009a; Clarke, 1999; Cooper, 2000; Cox & Flin, 1998; Glendon & Stanton, 2000; Hale, 2000; Hopkins, 2005) and lends support to the argument that it might be timely to talk about an organisational culture focused on safety, rather than safety culture *per se*.

Many academics have attempted to clarify the constructs of safety culture and safety climate and to resolve definitional dilemmas (see section 3). In terms of reviews and meta-analyses, there exist at least seven focused on safety culture (Choudhry, Fang & Mohamed, 2007; Edwards, Davey & Armstrong, 2013; Glendon, 2008; Guldenmund, 2000, Silbey, 2009; Sorenson, 2002; Zhang et al., 2002) and at least five on safety climate (Beus, Payne, Bergman & Arthur, 2010; Christian, Bradley, Wallace & Burke, 2009; Clarke, 2006; Johnson, 2007; Nahrgang, Morgeson & Hofmann, 2011). Interestingly, six of those focused on safety culture debate the distinction between safety culture and safety climate; three of those focused on safety climate mention safety culture, but mainly in relation to their literature search rather than as a point of debate. Those writing about safety climate tend to publish in non-safety-specific journals, such as the *Journal of Applied Psychology*.

As an introduction to the literature of safety culture, Guldenmund's (2000) review is discussed briefly below.

⁴ The search string of *safety culture AND industrial* returned 2,735 publications, an average of 456 per year, and the search string *safety climate AND industrial* returned 1,095 publications, an average of 182 per year.

⁵ Using the search string *culture of safety AND industrial*.

2.2.1 Guldenmund's (2000) review

Guldenmund reviewed two decades of safety culture and safety climate literature (1980-2000) and found it to be characterised by lack of consensus and a dearth of models explaining “the relationship of both concepts with safety and risk management or with safety performance” (p. 215). He distilled seven characteristics of organisational culture (and climate):

1. It is a *construct*...[that is] an abstract concept rather than a concrete phenomenon...
2. It is relatively *stable*...
3. It has *multiple dimensionality*...
4. It is something that is *shared* by (groups of) people...
5. It consists of *various aspects*; this means that several, different cultures or climates can be distinguished within an organisation...
6. It constitutes *practices*...[layers of] rituals, heroes and symbols [that] are more easily changed than norms and values...This characteristic also implies that culture is *learned*...
7. It is *functional*...in the sense that it supplies a frame of reference for behaviour...“The way we do things around here” effectively captures this functional aspect (pp. 222-225).

Guldenmund defined safety culture as “those aspects of the organisational culture which will impact on attitudes and behaviour related to increasing or decreasing risk” (p. 251), and proposed an integrative framework (Table 1) for conceptualising safety culture/climate based on the three levels of organisational culture (i.e. basic assumptions, espoused values and artefacts) that had been described by Schein in 1992. Guldenmund explained:

The core is assumed to consist of basic assumptions, which are unconscious and relatively unspecific and which permeate the whole of the organisation. The next layer consists of espoused values, which are operationalised as attitudes. Attitudes have specific objects and therefore this layer is, necessarily, specific with regard to the object of study. For safety culture four categories of object are suggested; hardware, software, people and behaviour. Finally, the outermost layer consists of particular manifestations... (pp. 251-252)

Table 1: Levels of culture, their visibility and examples (Guldenmund, 2000, p. 251)

Levels of culture	Visibility	Examples
1. Outer layer – artefacts	Visible, but hard to comprehend in terms of underlying culture	Statements, meetings, inspection reports, dress codes, personal protective equipment, posters, bulletins
2. Middle layer – espoused values/attitudes regarding: <ul style="list-style-type: none">• hardware• software• people/liveware• risks	Relatively explicit and conscious	Attitudes, policies, training manuals, procedures, formal statements, bulletins, accident and incident reports, job descriptions, minutes of meetings

3. Core – basic assumptions regarding: <ul style="list-style-type: none"> • the nature of time • the nature of space • the nature of human nature • the nature of human activity • the nature of human relationships 	Mainly implicit: obvious for the members, invisible, pre-conscious	Have to be deduced from artefacts and espoused values as well as through observation
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------	--------------------------------------------------------------------------------------

It was Guldenmund's contention that safety culture, like organisational culture as conceptualised by Schein (1992), could be studied at these three levels, with safety climate equated with attitudes at the level of espoused values.

3 Definitional dilemmas

Silbey (2009) observed that "culture is an actively contested concept" and drew attention to the "bewildering mix of concepts and measures" that had resulted from parallel development of the constructs of organisational and safety culture and organisational and safety climate (pp. 350). This is evident in the vast number and diversity of definitions of safety culture to be found in the literature. According to Dejoy (2005, p. 115), "current definitions of safety culture remain rather vague and variable," and others have commented on the lack of agreement on how safety culture should be defined (e.g. Reason, 1998; Fernández-Muñiz, Montes-Peón & Vázquez-Ordás, 2007). Pidgeon (1998, p. 204) advocated the avoidance of "definitional arguments [because] of their capacity to create heat without light."

An evolving line of argument favours replacing the concept of *safety culture* with *organisational culture* or more precisely with *an organisational culture focused on safety*. For example, Hale (2000, p. 5) argued that "we should in future only talk about (organisational) *cultural influences on safety* and not *safety culture*." It has been asserted that "culture is a property of a group not a concept [and consequently] 'safety culture' should not have academic conceptual status" (Schein as cited in Reiman & Rollenhagen, 2014, p. 3). Similarly, Antonsen (2009a, p. 24) argued there is "no such 'thing' as a safety culture," preferring to place the broader concept of culture central to the discussion of organisations and safety. Others have suggested that safety culture may be "little more than a catchy title for safety management" (Edwards et al., 2103, p. 79) and Rollenhagen (2010) argued that a focus on safety culture might hamper identification of safety problems that require engineering solutions.

Hale (2000) identified value in approaching the problem of safety culture definition from the vantage point of what it is *not*, and by considering contrasting “parallel concepts” such as *management structure* that work with culture. Also, Myers, Nyce and Dekker (2014) stressed the importance of separating culture from what it is *not*, that is, distinguishing culture from the “concrete behaviours, social relations and other properties of workplaces (e.g. organisational structures) and of society itself” (Myers et al., 2014, p. 25). For Antonsen (2009a), organisational culture relates to the informal aspects of organisations, while the formal or structural aspects fall outside the concept of culture; this may be one way of clarifying what culture is *not*.

With these definitional issues in mind, a small number of commonly cited definitions of *safety culture*, *safety climate* and *organisational culture* are presented below.⁶

3.1 Safety culture

Two commonly cited definitions of *safety culture* are those proposed by the International Atomic Energy Agency (IAEA, 1991) via the International Nuclear Safety Advisory Group (INSAG) and the UK Health & Safety Commission (HSC, 1993) via the Advisory Committee on Safety in Nuclear Installations (ACSNI):

Safety culture is that assembly of characteristics and attitudes in organizations and individuals which establishes that, as an overriding priority, nuclear plant safety issues receive the attention warranted by their significance. (IAEA, 1991, p. 1)

The safety culture of an organisation is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation’s health and safety management. Organisations with a positive safety culture are characterised by communications founded on mutual trust, by shared perceptions of the importance of safety and by confidence in the efficacy of preventive measures. (HSC, 1993, p. 23)

Critics of the IAEA definition have referred to it as a “‘motherhood’ statement specifying an ideal but not the means to achieve it” (Reason, 1997, p. 194) and as suggestive that only organisations “for which safety is an overriding priority” have a safety culture (Hopkins, 2005, p. 11). Hopkins (2005) emphasised that all organisations have a safety culture regardless of its effectiveness, and preferred the term “culture of safety” (p. 12). Reason (1997) identified the HSC definition as more useful, but stressed the importance of an effective safety information system as part of an informed culture.

⁶ For influential definitions of the more expansive concept of *culture*, see for example Coffey (2010).

3.2 Safety climate

In 2003, Zohar defined *safety climate* as “the perception of the policies, practices, and procedures pertaining to safety” (as cited in Beus et al., 2010, p. 727). However, there is long-standing debate (e.g. Choudhry et al., 2007; Clarke, 2000; Cox & Flin, 1998; Edwards et al., 2013; Flin, Mearns, O'Connor & Bryden, 2000) as to whether safety culture and safety climate are the same or separate concepts. While there is evidence that the concepts have been used interchangeably (e.g. Beus et al., 2010; Gadd & Collins, 2002; Hale, 2000; Hopkins, 2005; Zhang et al., 2002), Antonsen (2009a) asserted a conceptual difference between safety culture and safety climate with culture a higher-level, abstract and more stable concept, and climate more transient and easier to change. Similarly, Cox and Flin (1998) characterised culture as the ‘personality’ of the organisation and climate as the ‘mood’ at any particular point in time, and Schein (1990) saw climate as “only a surface manifestation of culture.” In his review of two decades of safety culture/climate literature, Guldenmund (2000, 2010) observed gradual replacement of the concept of climate with the broader and more profound concept of culture.

3.3 Organisational culture

Arguably the most widely known definition of *organisational culture* is Bower’s 1966 behaviour-based philosophy of “the way we do things around here” as applied by Deal and Kennedy (1982, p. 4). Also popular is Uttal’s 1983 definition: “Shared values (what is important) and beliefs (how things work) that interact with an organization’s structures and control systems to produce behavioural norms (the way we do things around here)” (as cited in Reason, 1997, p. 192). The direct link of culture with behaviour has been identified as problematic. Myers et al. (2014, p. 25) view “the way we do things around here” as an oversimplification that “risks leading researchers astray, i.e. away from perhaps a more informed analysis of just what they wish to study and understand.”

Frequently cited in more recent literature is Schein’s (2010, p. 18) definition of *organisational culture* as:

...a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

However, Blewett (2011, p. 5) questioned the relevance to contemporary organisations of Schein’s definition, which appears to view organisational culture as “something that is unitary, agreed, and relatively static [and that] develops over time in a stable organisation and can be passed on to newcomers.”

4 Safety culture as the problem and the solution

Following the identification of safety culture as a problem facing high-risk socio-technical systems in the 1980s, organisational and worker errors, violations and unsafe practices could be viewed as evidence of a poor safety culture (Guldenmund, 2010; Pidgeon, 1998). With safety culture cast as the problem, the assumption was that organisations implicated in major disasters must have had a 'bad' safety culture and, conversely, that a 'good' safety culture would prevent not only disasters but also smaller-scale accidents associated with routine tasks (Cooper, 2000). This set in motion the search for the elements or characteristics of a 'positive safety culture;' the solution to the problem lay in finding "it" (Pidgeon, 1998, p. 203), "a philosopher's stone to cure all ills" (Cox & Flin, 1998, p. 189). However, this assumption has been challenged (Cox & Flin, 1998). Recently, Reiman and Rollenhagen (2014, p. 97) argued "To blame an organisation for having a weak safety culture has become almost the equivalent easy response to system problems as was blaming individuals for human errors a few decades ago." According to Silbey (2009, p. 343), "Invoking culture as both the explanation and remedy for technological disasters obscures the different interests and power relations enacted in complex organizations." With these cautions in mind, four attempts to capture the characteristics of a good safety culture are presented below, followed by a framework for thinking culturally about management and organisations that also could be used to inform efforts to improve work health and safety.

4.1 Identifying a 'positive safety culture'

- UK Health & Safety Commission (HSC) Advisory Committee on the Safety of Nuclear Installations (ACSNI) (HSC, 1993): *Organising for safety*

This study of organisational factors that improve safety performance in the nuclear industry considered the role and measurement of safety culture. It adopted the idea and language of a 'positive safety culture,' citing themes common to good organisational management of health and safety as identified in a 1990 Confederation of British Industry (CBI) report:

1. The crucial importance of leadership and the commitment of the chief executive
2. The executive safety role of line management
3. Involvement of all employees
4. Openness of communication
5. Demonstration of care and concern for all those affected by the business
(CBI as cited in HSC, 1993, pp. 23-24).

The HSC report identified safety culture as a subset of, or at least influenced by, the culture of the organisation. With reference to studies undertaken in the US nuclear industry between 1989 and 1992, the report cited four critical indicators of safety performance:

1. Effective communication, leading to commonly understood goals, and means to achieve the goals, at all levels of the organisation;
2. Good organisational learning, where organisations are tuned to identify and respond to incremental change;
3. Organisational focus, simply the attention devoted by the organisation to workplace safety and health;
4. External factors, including the financial health of the parent organisation, or simply the economic climate within which the company is working, and the impact of regulatory bodies (p. 24).

The HSC report recommended “an evolutionary approach to the improvement of safety culture” (HSC, 1993, p. 24).

- Pidgeon’s “good safety culture”

In 1991, Pidgeon characterised a good safety culture under the categories of “*norms and rules* for handling hazards, *attitudes* toward safety, and *reflexivity* on safety practice” (Pidgeon, 1991, p. 135), and subsequently developed this characterisation over several publications. In 1994, informed by the HSC report, Turner’s man-made disasters model and high reliability organisation theory, Pidgeon and O’Leary emphasised organisational learning as central to an integrated safety management system, and included it as one of four facets that both reflect and promote a good safety culture:

- *senior management commitment* to safety;
- *shared care and concern* for hazards and a *solicitude* over their impacts upon people;
- realistic and flexible *norms and rules* about hazards; and
- continual *reflection upon practice* through monitoring, analysis and feedback systems (organizational learning) (as cited in Pidgeon & O’Leary, 2000, p. 18).

It was established that a good safety culture necessitated overcoming common barriers. Predating Silbey’s (2009) concern regarding the potentially negative impact of power relations on culture and safety, Pidgeon (1998) warned that politics and power may become a barrier to organisational goals designed to implement the four aspects of a good safety culture, particularly organisational learning. Pidgeon and O’Leary (2000) maintained that addressing the interplay of organisational power, politics and blame requires a monitoring and reporting system built on trust.

To overcome an informational barrier to organisational learning, Pidgeon and O’Leary (2000) suggested exercising *safety imagination* – “a critical and reflective process, in that one seeks to challenge the default assumptions about the world and its hazards, and then to use this interrogation to interpret the significance of external warning signs and events” (Pidgeon & O’Leary, 2000, p. 22). Designed to counter the incubation of disasters and allow information about hazards to surface, safety imagination “is based on the principle that our understanding and analysis of events should not become overly fixed within prescribed patterns of thinking” (Pidgeon &

O'Leary, 2000, p. 22). A list of US firefighter-training-program procedures was presented as an appropriate guide for fostering safety imagination:

- Attempt to fear the worst
 - Use good meeting management techniques to elicit varied viewpoints
 - Play the 'what if' game with potential hazards
 - Allow no worst case situation to go unmentioned
 - Suspend assumptions about how the safety task was completed in the past
 - Approaching the edge of a safety issue with a tolerance of ambiguity will be required, as newly emerging safety issues will never be clear
 - Force yourself to visualise 'near-miss' situations developing into accidents (Thomas as cited in Pidgeon & O'Leary, 2000, p. 23).
-
- Hale's (2000) "elements for a good culture for safety"
In a *Safety Science* editorial titled 'Culture's confusions,' Hale (2000) offered the following list of eight "elements for a good culture for safety:"
 - The importance which is given by all employees, but particularly top managers to safety as goal, alongside and in unavoidable conflict with other organisational goals; e.g. whether actions favouring safety are sanctioned and rewarded even if they cost time, money or other scarce resources.
 - Which aspects of safety in the broadest sense of the word are included in that concept, and how the priority is given to, and felt between the different aspects.
 - The involvement felt by all parties in the organisation in the process of defining, prioritising and controlling risk; the sense of shared purpose in safety.
 - The creative mistrust which people have in the risk control system, which means that they are always expecting new problems, or old ones in new guises and are never convinced that the safety culture or performance is ideal. If you think you have a perfect safety culture, that proves that you have not. This means that there must be explicit provision for whistleblowers. A role for health and safety staff in very good organisations may be as a professional group constantly questioning and seeking the weak points in the prevailing culture.
 - The caring trust which all parties have in each other, that each will do their own part, but that each (including yourself) needs a watchful eye and helping hand to cope with the inevitable slips and blunders which can always be made. This leads to overlapping and shared responsibility.
 - The openness in communication to talk about failures as learning experiences and to imagine and share new dangers, which leads to the reflexivity about the working of the whole risk control system. If coupled with a willingness only to blame in the case of unusual thoughtlessness or recklessness, this can drive a responsible learning culture.
 - The belief that causes for incidents and opportunities for safety improvements should be sought not just in individual behaviour, but in the interaction of many causal factors. Hence the belief that solutions and safety improvement can be sought in many places and be expected from many people.
 - The integration of safety thinking and action into all aspects of work practice, so that it is seen as an inseparable, but explicit part of the organisation (pp. 12-13)

- UK Health & Safety Executive (HSE, 2005): *A review of safety culture and safety climate literature for the development of the safety culture inspection toolkit*
Acting on recommendations from inquiries into British rail disasters at Southall and Ladbroke Grove, the HSE initiated development of a safety culture inspection toolkit informed by five indicators known to influence safety culture:
 - Leadership
 - Two-way communication
 - *Employee involvement*
 - Learning culture
 - Attitude towards blame (HSE, 2005, p. iv).

4.2 Framework for a cultural understanding of organisations

The four approaches to positive safety culture discussed above may be viewed through a lens designed to inspire “cultural thinking” in organisations (Alvesson, 2013). As part of his framework for thinking culturally about management and organisations, Alvesson (2013) offers eight tips that hold relevance for OHS:

1. ...Understanding and managing/influencing culture in complex organizations call for serious deciphering and unpacking work. Try to go deeper than vague value statements...and *grasp the more precise meanings of acts, objects, words and rituals*.
2. Culture is a metaphor for organization. As such it is broad and vague and needs to be supplemented with more specific views, e.g. second-order metaphors, like organizational culture as Holy Grail, compass or mental prison. *Pick and use – or develop yourself – some metaphors that are generative, and which stimulate your imagination and seem to have value for the specific organizational context...*
3. ...Try to see culture when you do not expect it. Include what others may see as outside (correlations of) culture as part of what cultural perspective can illuminate.
4. Culture both guides and integrates us *and* constrains *and* blinds us into a taken-for-granted set of ideas and understanding. See culture as a regulative framework with *both helpful and obstructive elements*.
5. ...Cultural meanings do not develop freely or spontaneously, but bear the imprints of ideologies and actions of powerful agents...[H]ow social reality is shaped in specific situations is partly an outcome of the values and meanings that are invoked by actors reflecting sectional interests. Consider the *power element in the creation and reproduction of shared meanings*.
6. Culture is not static and uniform but dynamic and thus ambiguous and messy...Think of cultures in the plural in most organisations, and, depending on the issue, situation and group involved, recognize how *different constellations of webs of meaning become salient*.
7. The multiplicity of not only groups and situations but also cultural meanings as residing and constructed both in local interaction and in broader historical and societal traditions needs to be taken into account. *Consider local production as well as macro-level imprints*, and the micro-macro interplays, on cultures in organizations.
8. Culture is best understood in relation to social practice...The cultural aspect should be related to *specific events, situations, actions and processes...* (Alvesson, 2013, p. 204)

5 Reflecting on the literature

Frequently debated in the organisational and safety culture literature are questions concerning whether culture can be managed, changed and measured, and whether it can improve performance.

5.1 Four questions from the safety culture debates

5.1.1 Can culture be managed?

The extent to which organisational culture can be managed has been hotly debated. Particularly influential in this debate has been Smircich's (1983) distinction between studies of culture as something an organisation *has* (a variable) or as something an organisation *is* (a metaphor) (e.g. Glendon & Stanton, 2000; Hale, 2000; Reason, 1997). The culture-as-variable (functionalist) perspective focuses on causality and contends that culture is something that can be managed or at least influenced by leaders and managers, while the culture-as-metaphor (interpretative) perspective approaches the organisation as a socially shared experience (Alvesson, 2013).

From the interpretive vantage point, Martin (2002) advocated a three-perspective approach to studying organisational culture: integration, differentiation and fragmentation; the latter more recently referred to as ambiguity. After applying Martin's three perspectives to an ethnographic study of the Danish manufacturing industry, Richter and Koch (2004) concluded:

...safety culture should be understood in a specific context, and that culture may change, as the material conditions and the social relations develop...[T]he three perspectives of integration, differentiation and ambiguity, supplemented with the notion of multiple configuration, are useful tools, when pursuing to understand the complex social reality, which shapes safety cultures in companies of modern society (Richter & Koch, 2004, p. 720).

Various resolutions to the *has* or *is* organisational culture debate have been suggested. For example, Alvesson (2013) proposed the concept of *bounded ambiguity* – while people in an organisation may not share a single view of the organisation's culture, there is sufficient guidance offered by the organisational culture for “coping with instances of ambiguity without too much anarchy or confusion” (p. 147).

A more pragmatic stance was taken by Reason (1997), who argued that safety culture is an *informed culture* in which managers and workers know how the human, technical and organisational factors combine and contribute to system safety, and as such it can be

socially engineered (Reason, 1997). In other words, organisational members need to know where the 'edge' of safety is without having to fall over it (Reason & Hobbs, 2003). Reason (1997) drew on the work of organisational anthropologist Hofstede, who researched national and organisational cultures. Hofstede (1991) found that, at the national level, values learnt early in life distinguished different cultures; at the organisational level, practices learnt in the workplace distinguished different cultures and these practices could be influenced by organisational structures and systems. For Hofstede this resolved the *has* or *is* debate:

[W]e propose that practices are features an organization *has*. Because of the important role of practices in organizational cultures, the latter can be considered *somewhat* manageable. Changing collective values of adult people in an intended direction is extremely difficult, if not impossible. Values do change, but not according to someone's master plan. Collective practices, however depend on organizational characteristics like structures and systems, and can be influenced in more or less predictable ways by changing these. (Hofstede, 1991, p.199)

Reason's (1997) 'engineerable' informed safety culture comprises four interlocking subcultures, or structures and systems designed to impact upon collective practices: a reporting culture, a just culture, a flexible culture and a learning culture:

- Reporting culture
To foster an informed culture, managers must create an atmosphere of trust that encourages workers to report errors, near-misses and hazards. Workers must feel 'safe' to report, which means being free from fear of punishment or retribution.
- Just culture
A just culture clearly distinguishes between acceptable and unacceptable behaviour or blame-free (unintentional) and culpable (intentional) acts (Reason & Hobbs, 2003). Organisations must clearly articulate the behaviours that are important for achieving safety, and deal consistently and firmly with intentional violations.
- Flexible culture
A flexible culture requires managers to allow decision making to be moved down and around an organisation based on need or the problem to be solved in the moment. This requirement for a culture of adaptability was identified in studies of high-reliability organisations where adapting to changing demands was found to be a defining characteristic.
- Learning culture
The information gained through the reporting subculture can be used for organisational learning and systemic reform. According to Reason and Hobbs (2003), the type of learning required is 'double-loop learning.' Double-loop learning challenges underlying assumptions, that is, people's 'mental models' about safety that guide their actions, and leads to "global reforms rather than local repairs, and to the adoption of a 'system model' of human error. (Reason & Hobbs, 2003, p. 154).

5.1.2 Can culture be changed?

Because culture is a group rather than an individual phenomenon, organisations may encompass subcultures (Hopkins, 2005). The idea of culture change raises the question of whether change efforts should focus on the values of the group(s) or on group practices. Drawing on the work of Hofstede and Reason, Hopkins (2005) argued that a singular focus on changing values is likely to be ineffective. Rather, the focus should be on changing collective practices of the organisation and changes in values will follow through the process of *cognitive dissonance*, that is, as a result of the tension felt by people “when their behaviour is out of alignment with their values” (Hopkins, 2005).

From a constructivist perspective, Antonsen (2009a) was sceptical about ‘recipes’ for culture change, and instead espoused a *cultural approach* in which change processes: 1) focus on changing practices 2) have moderate goals that relate to everyday realities; 3) accept that there are no quick fixes; 4) combine aspects of ‘push’ and ‘pull;’ 5) are sensitive to organisational symbolism; 6) are sensitive to what makes sense locally; 7) aim for creation of a common language rather than organisation-wide consensus; and 8) consider the need for change and set realistic goals. Antonsen (2009a) conceded that it could be easier to change climate than culture. Recently, Zohar and Polachek (2014) used discourse analysis and role theory to improve communications between supervisors and workers, and found that changes in supervisor messages influenced safety climate and safety behaviour; this appears supportive of Antonsen’s view of culture as a social process created through day-to-day interaction.

5.1.3 Can culture be measured?

Developed for the oil and gas industry by Westrum and Hudson, the *culture ladder* (also referred to as the *evolutionary or maturity model*) is a popular method of assessing organisational culture (see Hudson, 2003; Lawrie, Parker & Hudson, 2006; Parker, Lawrie & Hudson, 2006). The model comprises five levels that are increasingly informed and characterised by increased trust:

- Pathological: who cares as long as we’re not caught
- Reactive: safety is important, we do a lot every time we have an accident
- Calculative: we have systems in place to manage all hazards
- Proactive: we work on the problems that we still find
- Generative: safety is how we do business round here. (Hudson, 2001, p. 21)

Many safety climate researchers, often from the field of psychology, have conducted questionnaire-based studies and wrestled with the task of identifying dimensions of safety climate that represent valid and reliable indicators of safety behaviour and safety performance. Not all researchers agree that safety climate or safety culture can be measured via a questionnaire (e.g. Schein, 2009). On the basis of a study of the Snorre Alpha incident in the North Sea where a survey had returned favourable results not long before the incident, Antonsen (2009b) argued that safety culture surveys have little predictive value. Post-incident investigations, involving interviews with a large number of

workers and managers revealed a different picture of safety on the rig prior to the incident compared to the one captured by the survey, prompting the observation that “The goal of safety culture assessments should be to provide valid descriptions of social processes, and to understand why some courses of action stand out as meaningful to the actors involved” (Antonsen, 2009b, p. 252). While not suggesting the abolition of safety culture surveys, Antonsen (2009b) advocated that they take account of the specific context of practices. Similarly, Hopkins (2006) suggested that surveys be extended to take account of practices.

Nevertheless, in a meta-analysis of safety climate research, Flin et al. (2000) identified five dimensions of safety climate: 1) management, 2) safety system, 3) risk, 4) work pressure, and 5) competence. Guldenmund (2007, p. 738) concluded that “Analyses provide many different factors that are hard to replicate [and] [m]ost analyses produce one or several higher management related or organisational factors that account for most of the variance in the data.” He recommended applying nine safety management processes at the individual, group and organisational levels to develop questions to gain an insight into the organisational culture for safety. The nine processes, adapted from a structure developed from the results of safety management auditing research at Delft University of Technology, are: 1) risks, 2) hardware design and layout, 3) maintenance, 4) procedures, 5) manpower planning, 6) competence, 7) commitment, 8) communication, and 9) monitoring and change.

Kines et al. (2011, p. 634) validated the Nordic Safety Climate Questionnaire (NOSACQ-50) that:

...consists of 50 items across seven dimensions, i.e. shared perceptions of: 1) management safety priority, commitment and competence; 2) management safety empowerment; and 3) management safety justice; as well as shared perceptions of 4) workers' safety commitment; 5) workers' safety priority and risk non-acceptance; 6) safety communication, learning, and trust in co-workers' safety competence; and 7) workers' trust in the efficacy of safety systems.

Hale (2000, p. 11) took a more pragmatic approach to measurement of culture: “it may not matter what the technique is that is used to make safety culture discussible. The main objective is to bring the basic assumptions sufficiently close to the surface that they can be examined and worked on.”

5.1.4 Does a good culture improve performance?

There is consensus among *safety climate* researchers that good safety climate, through its influence on safety behaviour, reduces injuries. Zohar and Polachek (2014, p. 1) concluded that “its effect on safety performance and objective injury data equals or surpasses all other known safety risk indicators, including unguarded physical hazards at the workplace.”

Outcomes of *safety culture* research are less clear. A study designed to evaluate successful and unsuccessful safety management and culture interventions provided a modicum of clarity; most successful were “interventions bringing about constructive dialogue between shop-floor and line management, providing motivation to line managers and strengthening the monitoring and learning loops in the safety management system” (Hale, Guldenmund, van Loenhout & Oh, 2010, p. 1). The “motor” driving this success was the amount of energy devoted by either a senior manager or the safety professional; when neither party drove the intervention, the company was five times more likely to be unsuccessful (Hale et al., 2010). This implies that senior management and OHS professionals have influential roles in cultural change. While the leadership impact on culture is well recognised (Schein, 2010), there has been less emphasis on the role of the OHS professional.

5.2 General uncertainty in the literature

Attempting to make sense of the safety culture literature is analogous to a “theatre of culture” in which the actors on stage (managers, supervisors, and workers) are doing their best with a flimsy script. Meanwhile, huddled in the wings are the scriptwriters (researchers representing a range of academic disciplines), who monitor the action to get a sense of how the play is progressing and who, between scenes, pass script-revision notes to the stage hand (OHS professional) who, in turn, passes them to the actors who read them with bemusement. This may seem like a rather cynical rendering of the literature; however, after three decades of research and practice, we seem to be little closer to providing clarity and direction for the actors on stage, who have long accepted responsibly for writing their own scripts, drawing only occasionally on input from the scriptwriters.

After close to 30 years, the body of safety culture literature is plagued by unresolved debates, and definitional and modelling issues. As a result, safety culture is a confusing and ambiguous concept, and there is little evidence of a direct relationship between it and safety performance. Amalberti (2013, p. 99) observed “huge variability in the way the concept of the safety culture is used in the literature and the meanings that are given to it” and that safety culture “is rarely a concept that permits direct, primary action to improve safety.” Consequently, the utility of the term safety culture, and changing safety culture as a focus for improving safety in the workplace, must be called into question.

Although safety climate researchers have found evidence of a relationship between safety climate scores and safety performance, the concept of safety climate also is not immune to controversy. The relationship between safety climate and safety culture continues to be debated with safety climate generally considered a measure of the deeper safety culture.

Agreement is lacking among proponents of the various safety climate questionnaires in terms of appropriate indicators of safety climate. Also unresolved is the relationship between safety culture and safety climate and the interplay of these with the broader concepts of organisational culture and organisational climate.

This uncertainty in the literature creates a challenge for organisations wishing to improve their safety performance through safety culture improvements. It increases the likelihood that organisations will bypass the safety science literature and look instead to what other organisations are doing or be swayed by popular safety culture change programs. To explore the relevant concepts further, interviews were conducted with researchers and professionals in the field.

6 Opinions of key stakeholders

The 'safety culture' views of key stakeholders were explored in interviews with OHS professionals, union representatives, employer representatives and researchers (Appendix A1). Emergent themes are discussed in the following sections, which draw on the opinions of informants as documented in Appendices C-M. In addition, because much of the literature on safety culture refers to or is based on the experience of large, often high-risk organisations, a focus group was conducted with OHS professionals who provide consulting services to small and medium enterprises (SMEs) (Appendix A2). Finally, a workshop was conducted with OHS professionals and researchers (Appendix A3) to critically reflect on the outcomes of the literature review, interviews and focus groups.

Overall, the outcomes of the interviews and discussions supported the literature review finding that safety culture is an ambiguous and confusing concept, and added weight to the argument that the utility of the term safety culture, and changing safety culture as a focus for improving safety in the workplace, must be called into question. Despite conflicting views among researchers, among professionals and between the researcher and professional groups, there emerged a consensus supportive of a shift in focus and language to changing organisational and management practices rather than persevering with the term safety culture and attempting to change safety culture as a means for improving safety performance. This shift in focus retains the importance of understanding the organisational culture as a prerequisite for implementing changes to organisational and management practices designed to improve workplace safety.

6.1 Views of researchers

Views articulated by the safety culture and safety climate researchers interviewed are distilled in Table 2.

Table 2: Researcher views on safety culture

Researcher	Expressed views
Prof. Andrew Hopkins	<p>Culture is a characteristic of a group, not an individual. An individual has a belief, for example, that is not an aspect of the individual's culture unless that belief is shared. Culture is not an individual phenomenon, it's a collective phenomenon. As soon as you move beyond the individual you are getting to the notion of culture.</p> <p>Until we focus on organisational practices and changing those, we're not going to do anything about an organisational culture. We certainly can't change the organisational culture by focusing on the individual; it's the organisation's practices that are crucial.</p> <p>If you take organisational culture as the primary term, then safety culture is simply an organisational culture that prioritises safety.</p> <p>[defining safety culture] One is the way we do things around here, so that's collective practices. And the other is the mindset; it's the way we think around here, if you like. So we have those two different ways of focusing on the notion of culture. It is important to recognise that those two approaches are complementary, not contradictory. It's much easier to observe people's practices than it is to know what's inside their head. From a point of view of researching or studying what the culture of the organisation is, it's simpler to start with practices.</p> <p>Treating the concept of culture as descriptive – this is the way things are done here – and then asking why they are done in this way is a very productive way to think about culture and a very productive line of enquiry. It gets at what I would want to call the root causes; while there are no such things as root causes, if we can accept that as a kind of a metaphor, then yes, this line of enquiry gets at much more fundamental causes, root causes, than any other line of enquiry.</p> <p>It's not just about leaders saying safety is important around here. It's about Edgar Schein's assertion that leaders create cultures by what they systematically pay attention to. This can be anything from what they notice and comment on to what they measure, control, reward and in other ways systematically deal with.</p> <p>I'm often asked how rapidly a leader can change a culture; does it take one year, three years or five years? My answer to that is as soon as the leaders start behaving differently the culture will start to change. People are very responsive to messages from the leadership.</p>
Prof. Andrew Hale	<p>Safety culture is a group phenomenon; it can't exist unless there is an interactive group.</p> <p>I see safety culture as an aspect of organisational culture. It's a bit like the relationship between safety management and management; it's an aspect, not a separate element. I prefer a definition of safety culture that makes it clear it is the aspect of organisational culture that impacts on safety. The safety management system is the structure and functions, and the safety culture is why it works or doesn't work in favour of safety.</p> <p>I'm not somebody who believes that culture is unchangeable or unchangeable except in the long term. There is plenty of case study evidence for culture changing quite dramatically even over periods of only six months to a year. If you work hard enough and you've got somebody driving it from the top then within a year you can make dramatic changes.</p> <p>I think leadership is critical, but it can be a little bit more distributed than sometimes people write about. Sometimes you read it as though it's only the CEO who can determine that, and if the CEO is not 150% behind it then it won't work. In the</p>

	<p>intervention studies I did in Holland, the good companies had either a really active CEO or a really active safety manager or both.</p> <p>A dilemma is that we still don't have a vast amount of evidence linking safety culture to safety performance so we still have problems deciding what is good in the safety culture and in interpreting the safety climate surveys.</p>
Prof. Patrick Hudson	<p>Safety culture is a relevant concept; you can smell it.</p> <p>Safety culture is part of the organisational culture, but it's only a part. I think that to obsess about safety issues is to fail to understand the context of the wider organisational culture. It's not just how we do things around here, but how things should be done.</p> <p>You can try and change the culture from the bottom, but that really doesn't work. I typically work with the Executive Committee or as high as possible; it's important to have the CEO agree that things have got to change.</p> <p>I say, "Don't worry about culture; these things are things that we know impact on culture, worry about getting them to work in the first place." So one of those might be for instance: who we hire, what's our hiring system, could we change the hiring system? Well, let's do it. Then the person gets to fiddle around with it and sort of optimise it, and the one person who's not allowed to be brought into that list is the HSE manager.</p>
Prof. Dov Zohar	<p>Generally I think that organisational culture is the higher-level construct that tells us what should be included in the facet of safety culture. So I perceive safety culture as a particular expression or a particular dimension of organisational culture.</p> <p>I think climate, safety climate in particular, has to do with the perceived priority of safety in the workplace.</p> <p>The relationship between safety climate and culture is quite complex. I haven't seen a model that I can really accept as a model that solves the issues. How do you differentiate precisely between safety climate and culture? My approach is that safety climate is an expression of the underlying safety culture.</p> <p>I believe in a 'dripping' kind of model in the sense that senior management is the source of both culture and climate in the organisation. But when you go down the organisational hierarchy, individual managers have discretion. Very often, some managers overweight the priority of safety based on their own personal beliefs and values, and other managers underweight the priority of safety, based on their risk-taking biases and so on.</p> <p>We have values in the company, I mean enacted values, rather than espoused values. Does the company really prioritise employee health over, let's say, short-term profits? I'm trying to develop a methodology for measuring the size of the discrepancy between the espousal of employee safety and health and its enactment, on a daily basis. I think it's worth starting in that direction to help us understand the relationship between safety climate and safety culture.</p>
Prof. Sidney Dekker	<p>I'm deeply sceptical about the ontological alchemy that we are willing to engage in when we talk about culture and climate. What I mean by ontological alchemy is that we take human constructions and turn them into fact.</p> <p>We should never overestimate our epistemological reach with concepts like safety culture or safety climate. They are our own constructions and as such all they do is make artificial distinctions with which we can deal with the buzzing, looming complexity of the social order.</p> <p>Safety culture is nothing but a discursive practice, a set of words, artificial distinctions that create an object of knowledge. It is at our peril that we convert that into a measurable fact.</p> <p>The whole point of the interpretivist rather than functionalist approach to culture (I wouldn't necessarily call it descriptive versus measurable – I think both are measurable and both are descriptive.)...A more interpretivist approach is to say, let me</p>

<p>try to get into your head and look through your eyes at the world and see what makes sense. What distinctions do you make? What's relevant? What's not? What do you hang your practice on? What's dodgy? What are the things that frustrate you on a daily basis? That bottom-up understanding of culture becomes ultimately much more powerful and much more respectful of those who constitute the culture.</p> <p>The claim I want to make most strongly is that safety culture is becoming, or has already become, the new human error in that it fits hand in glove with behavioural-based safety programs, which really are code for blaming the worker.</p>

Not surprisingly, the interviews reflect some of the contrasting views, dilemmas and debates identified in the safety science literature; however, there also is evidence of agreement. Dekker's characterisation of culture and climate as "ontological alchemy" or something magic that we construe as real contrasts with Hudson's view that the term safety culture should be retained because "you can smell it." Hudson is critical of safety climate questionnaires because they fail to provide organisations with direction on what to do next to improve safety, and Zohar is critical of safety culture surveys and change programs on the basis that these are unscientific in that they have no supporting evidence base. Hale and Hopkins agree on the importance of leadership in shaping organisational culture, and on the conception of culture as a group, not an individual, phenomenon. Hale, Hopkins and Hudson agree that if the term safety culture is to be retained, then it should be understood as an aspect of the wider organisational culture.

An overarching theme that can be inferred from the researchers' responses is the pivotal importance of organisational and management practices focused on improving safety or, as Hale put it, what works "in favour of safety." Hopkins referred to these as "collective practices" of the organisation, while Hudson suggested that, rather than worrying about the culture, focus instead on putting in place structures and processes that make a difference and that we know impact upon culture. Zohar spoke of 'enactment,' while Dekker called for a bottom-up understanding of culture, including an understanding of local practices and "things that frustrate you on a daily basis." From this perspective, overcoming things that frustrate workers or make it difficult for them to work safely is not going to be achieved by fiddling with the nebulous concept of safety culture, but by implementing changes to collective practices that make it easier for workers to be successful. Both Dekker and Zohar view this as the more ethical path.

6.2 Views of OHS professionals

Collectively, the views of OHS professionals also reflect the confusion and ambiguity evident in the safety science literature. However, the OHS professionals expressed strong opinions on the processes for changing culture in their respective organisations, and some indicated that they often rely on Hudson's maturity model to guide their work. They agreed that culture change must start with leadership and viewed safety culture as a subset of organisational culture. When asked to define safety culture, a common response was "the way we do

things around here.” Interestingly, they did not necessarily use the term safety culture when implementing changes to improve safety; for example:

In the field, we won't talk about culture, we won't use the phrase culture. If we say we want to improve the culture here they're not going to know what you're talking about.

Instead, they tended to refer to organisational or management practices for improving safety; for example:

The organisation also understands the difficulties that are faced by the workers, and has good engagement processes in place to understand, engage with the workforce to understand the difficulties they're facing but also to make sure that we adequately provide all the right materials and support for them to succeed.

The whole concept of 'safety culture prevents accidents' is just a flawed concept. The safety culture doesn't prevent accidents. The people who are doing the work and the resources and how we set up work is what will prevent the accidents from occurring.

6.3 Views of SME consultants

While consultants who provided OHS advice to small and medium enterprises (SMEs) varied in their views on safety culture and its relevance to SMEs, they agreed that talking about culture as “the way we do things around here” works for SMEs. There was consensus that leaders instil the culture and establish how things are done, and that the impact of leaders in SMEs was greater than in large organisations. Consultants agreed that it was their job to “read the culture” as a first step to understanding the business and providing advice; responses to how they did this included asking Do they have an OHS policy? What training do they do? What gets reported? and What type of resources? and considering engagement with staff, level of reporting, and physical workplace, housekeeping and equipment. Essentially they read, or infer, the culture on the basis of the organisational and management practices that focus on safety. Consultants agreed that keeping it simple was the key to success in helping SMEs to improve safety.

7 Analysis of evidence from the literature, interviews and focus groups

Since the 1986 Chernobyl nuclear disaster brought the ‘safety culture’ to the fore as an avenue to explore for improving safety performance, there has been an explosion of academic and organisational interest in the construct. Although unresolved debates and definitional issues surround the concept of safety culture, organisations continue to cling to

the idea of safety culture as a panacea for their safety problems. Consequently, the concept of safety culture is reified and normalised, eschewing a richer understanding of organisational culture. In the process, attention is diverted from the issues of power, conflict, meaning, symbols, diversity and contradiction that make up the rich tapestry of organisational life and culture (Antonsen, 2009c; Dekker & Nyce, 2014; Silbey, 2009). Understanding organisations as cultures widens the frame of interest for thinking about improving workplace safety. Therefore, continuing to debate and pursue safety culture as a 'thing' to improve safety is fruitless. Workplace safety may be better served by shifting attention and discourse from changing safety culture to changing organisational and management practices that have an immediate and direct impact on risk control in the workplace. Such an approach avoids reifying and normalising safety culture either as a 'thing' to be managed or as something that is good or bad.

Changing organisational and management practices is consistent with the popular definition of safety culture as "the way we do things around here." If this definition is expanded to "the ways we understand things are and ought to be done around here" (Myers et al., 2014, p. 27), then the organisational and management practices that focus on safety (the way we do things around here) are a reflection of the culture of the organisation and the systems of meanings that guide behaviour (the ways we understand things are). Proposed changes to organisational and management practices that focus on safety should be understood in the context of the wider organisational culture, with organisational culture rather than safety culture becoming the primary concept of interest (Hopkins, this chapter), thus avoiding the debate and confusion over safety culture and its definition.

Organisational culture, or thinking culturally about organisations (Alvesson, 2013), should be understood as a metaphor rather than a variable. Such an approach allows the culture of the organisation to be described, and such descriptions will help organisations frame and shape changes to organisational and management practices designed to improve workplace safety. Reconceptualising culture in this way is consistent with a theme in the literature that distinguishes between what culture *is* and, importantly, is *not* (Dekker et al., 2014; Hale, 2000). Alvesson (2013, p. 6) distinguished between culture and social structure: "Culture describes social action as depending on the meaning it has for those involved, while social structure describes social action from the point of view of its consequences on the functioning of the social system." The broader concept of culture then is fruitful when it comes to implementing management practices designed to improve safety.

All organisations have a culture that will affect and be affected by management practices designed to improve safety. Conceptualising the relationship between culture, management practices and safety in this way shifts the focus from changing the safety culture to something nebulously good or bad to changing management practices (social structure) based on a deep understanding of existing meanings and symbols (culture), both of which inform social action. This view of the usefulness of culture is supported by Amalberti (2013, p. 105):

If a local safety intervention has to be undertaken in an enterprise within a specific period of time, rather than expecting to change its culture, the opposite approach should be taken: deducing (from an assessment of the culture) what margin exists for real progress to be achieved by the enterprise, in view of its culture.

Understanding organisational culture as a metaphor rather than a variable to be manipulated (Alvesson, 2013) helps managers and OHS professionals to think culturally about their proposed changes to practices that focus on safety.

Organisational culture, reconceptualised as a metaphor and understood as a system of meanings and symbols that groups of managers and workers share and draw on to create safety, provides an important backdrop of understanding for evaluation of changes to organisational and management practices. Climate surveys should be used to measure changes effected by management practices, not as a starting point for culture change. In the longer term, changes in practices that favour safety may result in new metaphors, meanings and symbols characterising the evolution of organisational culture to focus more acutely on safety.

7.1 What does an organisation that focuses on safety look like?

Shifting the focus from changing safety culture to changing organisational and management practices that favour safety invites the question: what does an organisation that focuses on safety look like? Table 3 provides a composite of key stakeholders' opinions; a total of 31 management practices within 14 focus areas were identified as characteristics of an organisation that focuses on safety.

Table 3: Characteristics of an organisation that focuses on safety

Area of focus	Practice
1. Reporting	<ul style="list-style-type: none"> • Rewards bad news • Challenges good news • Institutionalises a reporting system • Accepts that people are allowed to complain
2. Risk	<ul style="list-style-type: none"> • Promotes understanding of risk and how it is controlled • Institutionalises a clear and shared picture of risk • Promotes 'creative mistrust' rather than complacency • Implements structures and standards to support the control of risk • Promotes understanding that work is sometimes dynamic and complex; establishes processes for dealing with complexity as well as linear aspects of work • Promotes understanding of the difficulties people face in the workplace
3. Physical environment	<ul style="list-style-type: none"> • Maintains excellent standards of housekeeping

4. Organisational design	<ul style="list-style-type: none"> Safety professional/s report to the CEO through a line of report separate from operations
5. Incentives	<ul style="list-style-type: none"> Implements incentive schemes for managers that focus on the control of risk rather than injury rates
6. Decision making	<ul style="list-style-type: none"> CEO makes decisions in favour of safety
7. Engagement	<ul style="list-style-type: none"> Leaders and managers engage workers in conversations about how to improve safety
8. Rules	<ul style="list-style-type: none"> Implements processes for improving procedures Trials new ideas, has less-proscriptive requirements, provides more freedom to innovate but with greater review
9. Resources	<ul style="list-style-type: none"> Provides and maintains suitable tools and equipment Provides the right materials for workers to succeed
10. Learning	<ul style="list-style-type: none"> Enables and supports ongoing learning Implements processes for understanding and learning from variability Focuses on success and setting people up for success Implements processes for making the invisible visible
11. Accountability	<ul style="list-style-type: none"> Sets clear expectations and accountability
12. Ethics	<ul style="list-style-type: none"> Looks after people Encourages whistleblowing
13. Business integration	<ul style="list-style-type: none"> Integrates safety into all aspects of the business Places safety alongside business objectives
14. Leadership	<ul style="list-style-type: none"> Leaders actively and visibly promote safety

8 Legislation

Although this chapter is about more than compliance with OHS legislation, it is important to reflect on the legislative requirements underpinning OHS management.

OHS legislation recognises that leaders of an organisation are critical to a good safety culture and that accountability throughout the organisation, and the provision of financial, physical and human resources is necessary for effective management of health and safety. Thus legislation imposes duties on managers and the organisation to implement systematic approaches to eliminate, or at least reduce, work-related risk to health and safety. These duties apply to all levels of decision making and there is a *due diligence* requirement to ensure compliance with the duties under the legislation.⁷ Also, OHS laws require workers

⁷ See *OHS BoK Principles of OHS Law* for detail on the duties under the legislation and a discussion of *due diligence*.

and management to work together to implement and improve upon work health and safety standards. The thrust of this chapter is consistent with OHS legislation; it is the management practices, what is actually done and the outcomes that are important, not the amorphous, hard-to-define 'safety culture.'

9 Implications for OHS practice

This chapter challenges the thinking around organisational and, particularly, safety culture. It offers OHS professionals a different way of approaching discussion about culture as it relates to OHS and has implications for how they construct their advice, and develop and implement strategies. The responses of two OHS professionals asked to reflect on the implications for OHS practice are provided below. The first is a general reflection and the second has particular relevance for SMEs.

Rod Maule (Director, Safety, Quality and Risk Management, Transdev Australasia):

In some ways you could be forgiven for a degree of frustration with this chapter as it seems to sum up 30 years of research and discussion as being in some ways inconclusive and contradictory. On the other hand, this of course is the key insight that all OHS professionals should be aware of.

OHS professionals should take from this that it is fruitless to continue to use the terminology of 'safety culture' and to focus on changing culture by itself; it is far more fruitful to focus on changing organisational and management practices. OHS professionals need to constantly question the value of what they are doing and make sure that it is strongly bedded in changing practices to be most effective. A culture where management is committed to health and safety is a great cultural goal; however, putting in place practices that demonstrate management commitment is far more fruitful.

As an OHS professional, you should use this chapter to understand some of the seminal thinking and history around culture in the OHS profession. This will help you to be better critical thinkers about approaches and solutions that are effective for the organisation. You need to be able to coherently debate and critique solutions targeted at 'fixing' the organisation's culture. You will be inundated with people both internally and externally pushing their silver bullet solution to your culture issues. This chapter gives you a good base for being able to select or tailor different approaches that can deliver improved management and organisational practices.

The discussion of culture in this chapter enables a broader understanding of the multiple and overlapping causes of safety incidents. It is arguable that an effective OHS professional should help people in their organisation to see that accident causation is not as simple as root causes for an event. The wider practices in the organisation that are derived from and help set the 'culture' have significant impact

on events in organisations. With this understanding, OHS professionals are more likely to come up with a range of targeted changes to management and organisational practices that can minimise the chances of similar events happening again. Without this they may default to simplistic solutions that target symptoms of wider issues, such as installing guarding on machines rather than considering the wider practices that lead to unguarded machines in the first place.

This chapter helps OHS professionals understand that culture gives context to what happens in the organisation and what will or won't work in the organisation. A range of tools is available to help organisations measure their safety culture or climate. This chapter leads the OHS professional to reflect that while measuring culture or climate is interesting, action is what is needed to improve things. Actions that target practices to improve OHS outcomes are likely to work best when the OHS professional understands current practices in the context of the organisation.

OHS professionals will find that management and organisational practices are what people can see and understand. This turns some of the concepts sometimes seen by people as 'fluff' into hard tangible stuff. It is the focus on the practices listed in Table 3 of this chapter. Deciding what and how to implement to get the most effective results really depends on the context and culture of the organisation. This is the true skill of an effective OHS professional and this chapter provides guidance on how to begin this process.

Often OHS professionals will have responsibilities in their organisation to drive or deliver a best practice or improved safety culture. This chapter helps to put the case that the way an organisation demonstrates this improved or changed culture is by the practices they put in place. Hence to meet this objective OHS professionals should adopt and adapt the practices that they feel will have the most resonance and effectiveness in their organisation. Tools such as Hudson's safety culture ladder, or safety climate tools, can provide useful insights and energise people around a need for change, and therefore optimise your ability to intervene effectively.

Like all professionals, OHS professionals should be lifelong learners in their discipline. It has been a privilege to listen to and join in the debate on the development of this chapter with some of the seminal thinkers on culture in our time. This chapter should be the start of the OHS professional's understanding of practices in organisations that influence and are influenced by this thing called 'culture.' Professionals who understand this are far more likely to be effective and seen to be effective in their organisations.

Denise Zumpe (Owner/Principal Consultant, SafeSense Workplace Safety):

My experience with small and medium enterprises (SMEs) is that they are focussed on getting the job done. They may be family owned and run, and experiencing exponential growth. Most often there is no HR manager or in-house OHS specialist. The relationship of an OHS professional to the SME will usually be that of a consultant.

Small enterprises often have never had an accident and on that basis they believe they are managing safety effectively. The reason for the intervention should be established.

The language of OHS professionals can be confusing and alienating to SMEs so asking about policies, procedures, incident reports, records, risk assessments (of which often there is nothing documented) is not a reliable way to form an opinion on the effectiveness of how they manage safety – or of their safety culture. Because SMEs often can't demonstrate how they manage safety through the use of technology and documentation, the 'artefacts' as described by Shein (2010) and Guldenmund (2000) (see section 2.2.1) provide the critical source of information about the culture, what you see, hear and feel. The five dominant themes nominated by the UK HSE (see section 4.1) of how good organisations manage health and safety apply to SMEs:

- *Leadership and commitment from the most senior person*
- *Line management managing safety*
- *Involvement of all employees*
- *Openness of communication*
- *Care and concern for all those affected by the business.*

These can be portrayed through genuine care and goodwill that is shared by management, staff and even customers (feel), where people look out for each other (see), and with trust which brings control over work and ability to communicate openly (hear). The OHS professional can ensure that open communication is used to create an effective OHS information system and an informed culture. In addition, there are the obvious indications gathered through inspection and observation of the physical workplace, signage, noticeboards, equipment and work practices.

What I'm saying is that organisational culture and its influences on OHS and the characteristics of a good safety culture all apply in the same way to an SME as they do to any other organisation. What is different is how you apply the solution to suit that culture, working within the SME, not trying to impose change from outside. Don't get bogged down with the rhetoric; these organisations don't use words like 'culture' or, even if they do, they mean something different to everyone and are used to describe attitudes or practices that they don't understand.

A challenge faced by the OHS professional working with SMEs is to influence and effect change without relying on documentation and training. Time for training or coaching is always secondary to operational demands. Human resource processes around performance management, performance planning, accountability, training, organisational development and strategy are rarely resourced in either time or money.

Information is shared and people are trained through talking and being shown to do the task by a colleague. As organisations grow, compliance becomes more of an issue; more staff creates a need for consistency around how things get done

(induction training, work systems, equipment) and there is greater exposure to OHS risk for directors.

In SMEs there can be a very quick response when the focus is on a particular issue – ‘what gets paid attention to’ – so when a problem is identified, there’s no hierarchy, purchasing departments, forms to fill out. There can be immediate access to senior management or the business owner.

So it’s about the practices; that is, what will make the difference.

- *Focus on ‘What can go wrong?’*
- *Fix up immediate hazards*
- *Talk about reporting, information gathering and information sharing*
- *Form your own conclusions around the organisational culture and chose an intervention that is suited to the organisation.*

Present the logical argument of why it should be done that way whether people agree with it or not – it just has to be done. You know over time they will eventually agree with it, based on the theory of cognitive dissonance (see section 5.1.2 and Patrick Hudson’s comments in Appendix C).

In SMEs, the OHS professional needs to take care not to be seen as the person who looks after safety. Because there may be a lack of clarity around the role, responsibilities and accountabilities of line managers (focus is on getting the job done, and profitability), OHS may be seen to be the ‘safety person’s job.’ Management leadership is absolutely critical to ensure line management understand and accept their day-to-day safety management role and the safety person is positioned as a facilitator, support and technical expert.

The above advice was reinforced during the final group discussion with OHS professionals and researchers. The outcomes of the discussion can be summarised in three key points:

- Don’t try to change the culture directly; focus on management practices and the culture will change anyway.
- Effectively changing management practices requires an understanding of the organisational culture as a context for the management practices.
- Organisational culture is comprised of different group subcultures that overlap to some extent, with the overlap being the common or shared core; a focus on management practices will grow the common core and so the shared culture.

10 Summary

This chapter explored the historical context within which the concept of safety culture emerged and developed in theory and practice. The literature review revealed that there is no agreed definition of the term ‘safety culture,’ and no definitive model of safety culture. In

short, the body of literature is large, diverse, fragmented, confusing and ambiguous. There is little evidence supporting a relationship between safety culture and safety performance. In a practical sense, it is fruitless to continue to attempt to define safety culture. Rather than trying to change something as nebulous as 'safety culture,' the focus should shift to changing the organisational and management practices that have an immediate and direct impact on workplace safety. Organisational culture, however, is a useful concept if understood as a metaphor rather than a variable. Organisational culture informs changes in organisational practices that focus on safety, and may evolve as the culture learns and grows over time. While they do not inform culture change, safety climate surveys may be a useful measure of the perceived effectiveness of changes in organisational practices focused on safety. This view of organisational culture has implications for practice, both for OHS professionals and management.

11 Where to from here?

The companion chapter OHS BoK 10.2.2 *Organisational Culture: Revised and Repositioned* presents a review of the literature on safety culture and safety climate published between 2014 and 2019 with the goal of identifying new research findings and emerging themes in the organisational culture and safety, safety culture and safety climate peer-reviewed literature. The chapter also considered the perceived needs of industry by reviewing ed to determine the extent to which 'safety culture' remains a popular topic and, if so, the implications for Occupational Health and Safety (OHS) professionals.

Key thinkers

M. Alvesson, S. Antonsen, S. Clarke, S. Dekker, R. Flin, F. Guldenmund, A. Hale, A. Hopkins, P. Hudson, J. Martin, K. Mearns, J. Reason, E. Schein, D. Zohar

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See separate document for appendices providing demographic of stakeholders interviewed, interview questions and thematic analysis.