Defining safety leadership: A qualitative exploration of senior leaders' perspectives in high-risk industries

Islam Adra *, Stavroula Leka, Claire Hardy

Centre for Organisational Health & Well-Being, Faculty of Health and Medicine, Lancaster University, United Kingdom

* Corresponding author

E-mail address: islam@care2lead.com

Abstract

With workplace fatalities and injuries on the rise, research on safety and leadership has also grown, given the critical role leadership has been shown to play in enhancing safety performance. Despite the frequent use of the term 'safety leadership' in both academia and industry, no consensus exists on what safety leadership actually means, nor has a concrete definition of safety leadership been developed. The present study aimed to address these gaps by adopting a qualitative exploratory research approach. Twenty-five semi-structured interviews were conducted to explore two key questions: how senior leaders in high-risk industries from around the world define safety leadership; and what qualities characterize safety leaders. Inductive thematic analysis was employed to analyze the data and address the research questions. A conceptual definition of safety leadership is presented together with the key characteristics of safety leaders. Despite having parallels with other leadership styles, safety leadership was found to be conceptually unique from other leadership constructs, especially from transformational leadership, highlighting a key theoretical advancement that challenges the prevailing, long-standing perspective in the academic literature. Additionally, while safety leadership has traditionally been discussed in relation to safety performance, the present study unveils its additional positive impact on business performance.

These findings offer significant contributions to both safety science and practice, with implications discussed alongside recommendations for future research while recognizing the study's strengths and limitations.

Keywords

1. Introduction

The International Labour Organization (2023) estimates that 2.93 million people die each year from work-related injuries and diseases, representing a 5% increase from its 2017 estimate of 2.78 million fatalities (Hämäläinen et al., 2017). Such a worsening and staggering toll on working lives carries profound ethical and economic implications. These incidents not only devastate individuals and families but also impose substantial financial burdens on organizations and national economies through lost productivity, compensation costs, and lower workforce participation (Tompa et al., 2021). Notably, a 2022 International Labour Organization report estimates that workplace accidents and diseases cost the global economy 5.4% of global Gross Domestic Product (Papandrea, 2022), highlighting the substantial magnitude of this problem.

In response to this persistent challenge, organizations and researchers have sought to identify effective strategies to improve safety outcomes and promote healthier working environments. Among the various approaches, safety leadership has emerged as a pivotal factor in driving measurable improvements in safety performance (Mullen et al., 2024). Leadership influences virtually every aspect of safety management, from the communication of safety priorities to the enforcement of procedures and the modeling of desired behaviors. Given this central role, interventions targeting leaders tend to be particularly effective, sometimes even more so than those aimed directly at workers (Zohar et al., 2003).

As a result, transforming frontline and senior leaders into *safety leaders* has become a priority that many organizations are actively pursuing (Conchie et al., 2013). This focus reflects the broader goal of improving workplace safety and mitigating the moral, psychological, and economic consequences of unsafe work, with evidence suggesting that even small improvements in safety leadership can produce significant gains in overall safety performance (Mullen et al., 2009).

1.1 Literature review

Although the concept of safety leadership has existed for over a century, as seen in early works like De Blois (1919), academic interest in the topic has surged since the early 2000s (Tao et al., 2020). Historically, safety leadership has typically been examined in association with other leadership styles, particularly transformational leadership, and to a lesser extent, transactional leadership (Tao et al., 2020). Introduced by Burns in his 1978 book *Leadership,* transformational leadership seeks to elevate employees beyond their immediate self-interest (Bass, 1999) by motivating and inspiring them toward higher levels of performance and purpose through four behavioral dimensions (Hater et al., 1988). Transformational leadership was rapidly adopted in organizational management and its positive impacts are now supported by a substantial body of research (Lekka et al., 2012). Building on this success, Barling et al. (2002) proposed that similar effects would extend to occupational safety and introduced the concept of safety-specific transformational leadership, a construct that has since been examined in numerous studies and shown to positively influence safety performance (Conchie, 2013; de Koster et al., 2011). In her

meta-analytic review of the literature, Clarke (2013) confirmed the positive effects of transformational leadership on safety outcomes while also emphasizing the importance of transactional leadership, arguing that effective leaders need to combine both styles. Consequently, numerous studies have adopted a combined approach when evaluating safety leadership (Lu et al., 2010; Pilbeam et al., 2016b).

In their 2024 systematic literature review on the definition of safety leadership, Adra et al. identified 37 original conceptual definitions, seven of which were empirically derived. Of these, six were extrapolated from their operational counterpart definitions – that is, how safety leadership is measured – while only one was derived qualitatively (Daniel, 2015). Daniel's (2015) study was pioneering in applying a qualitative approach to explore the conceptual elements of safety leadership, providing an important early contribution to the field. However, its reliance on data from a single company in Australia limits the credibility and transferability of its findings. Adra et al. (2024) also found that of the 37 definitions, 28 were linked to transformational leadership theory. Despite this strong association with transformational leadership, recent studies have begun to challenge this long-standing perspective (Molnar et al., 2019). Beyond the traditional four dimensions of safety-specific transformational leadership, there is evidence that other factors, such as good safety communication behaviors, also play a key role in influencing safety performance (DeJoy et al., 2004). This challenges the very conceptual framework of transformational leadership in the context of safety (Adra et al., 2024). More generally, however, adopting a style- or trait-based approach presents difficulties in identifying the specific behaviors necessary to achieve distinct outcomes (Van Knippenberg et al., 2013). Despite these criticisms, the use of the term 'safety leadership' remains problematic due to the lack of a clear and consistent definition among academics themselves (Jiang et al., 2024). Clarke (2013), for example, uses transformational and active transaction leadership to investigate safety leadership, whereas Mullen et al. (2009) use safety-specific transformational leadership.

The ambiguity surrounding the definition of safety leadership points to a broader issue in the academic literature, extending far beyond the lack of consensus on its precise meaning (Pilbeam et al., 2016a). The reliance on transformational leadership, along with other leadership styles developed in non-safety contexts, highlights a gap in research regarding the conceptual elements that make up safety leadership (Jiang et al., 2024). Most research on the subject is quantitative in nature, which has significantly enhanced our understanding of safety leadership's relationship with other concepts, particularly its influence on safety performance. However, qualitative studies are still needed to explore deeper aspects of safety leadership, such as its theoretical and conceptual underpinnings (Jiang et al., 2024), that may not be easily captured through numbers alone (Babchuk et al., 2010).

1.2 Current study

To address these gaps, a qualitative exploratory study was undertaken to answer the question of how senior leaders in high-risk industries define safety leadership. A secondary question was also explored pertaining to the qualities or traits that characterize effective safety leaders. This study improves upon the methodology used by Daniel (2015) by drawing participants from a global data pool rather than restricting them to a single company, industry, and geography. The present study therefore aims to build on previous work and address an existing gap in the academic literature by providing an evidence-based conceptualization of safety leadership. Not only will this help reduce definitional inconsistencies, but it will also focus practitioner efforts on enhancing safety leadership practices, ultimately contributing to the prevention of occupational injuries and ill health.

2. Methodology and methods

2.1 Study design

Rooted in a pragmatic realist philosophy, a qualitative research design was considered most appropriate to examine how senior leaders conceptualize and experience safety leadership in high-risk industries. The two research questions aim to generate actionable insights that advance both the theoretical foundation and practical application of safety leadership. To explore these questions, semi-structured interviews were chosen as the medium for data collection. A structured yet flexible interview guide helped mitigate interviewer bias and variability in responses.

2.2 Participants

Although safety leadership has traditionally been studied at the front-line leadership level (Ta et al., 2022), this study aimed to interview senior leaders in formal managerial roles with direct oversight of teams engaged in high-risk activities (e.g. operators and maintainers). Support function leaders (e.g. HR and HSE) and managers with no direct reports were excluded from the interviews.

The definition of senior leadership varies in the academic literature, with some studies referring only to the top executives (Cawthorne, 2010; Kezar et al., 2020), while others include middle to upper management (Reynolds et al., 2018). This study adopts the latter view, selecting participants with at least 15 years of experience to ensure career progression and diverse exposure to safety leadership across organizational levels.

Similarly, there have also been numerous definitions for what constitutes high-risk industries. Derdowski et al. (2023) have collated several definitions from the literature and proposed that any industry that is complex, interdependent, continuously changing, operating with proximity to hazards and has the potential for catastrophic breakdowns can be considered high-risk, such as mining and oil and gas (Grote, 2012). The present study is interested in leaders from such industries where safety leadership is both critical and most likely to be demonstrated.

2.3 Recruitment

Voluntary sampling was used to recruit participants through social media adverts and professional networks, with additional interviewees identified through snowball sampling. Purposive sampling was also resorted to, when necessary, to ensure relevant sectoral representation. The professional social media platform LinkedIn was utilized to advertise an invitation poster by using the main author's personal account as well as through groups that revolved around operational leadership, construction, and project management. Safety membership organizations such as IOSH were also approached to advertise the invitation to their networks so as to encourage safety professionals to request their fellow leader colleagues to participate. Interested participants who responded to the invitation were sent a detailed information sheet and consent form to confirm eligibility. Those who did not meet the criteria were thanked and encouraged to refer suitable colleagues. The study received ethical approval from Lancaster University's Faculty of Health and Medicine Research Ethics Committee.

2.4 Data collection

Interviews were conducted between August 2023 and May 2024 via MS Teams and these were recorded for transcription. Informed consent for participation was obtained from all participants. The interview guide questions, which were shaped by the research questions, were used to steer the interviews. Interviewees were asked nine questions, which revolved around three main topics including:

1. Safety and its importance in the interviewee's line of work
2. The interviewee's perspective on safety leadership
3. The interviewee's perspective on the characteristics of safety leaders

Two of the nine questions aimed to gather contextual data and explore interviewees' experiences while also providing an opportunity for them to share any additional insights before concluding the interview. Open-ended questions were used to explore and capture the experiences and views of the participants. To minimize potential bias, leading questions were avoided as much as possible, and care was taken to phrase questions in a neutral way.

Each interview began with an introduction to the study, followed by a discussion of consent and confidentiality before recording commenced. The interviewer maintained a neutral demeanor, paraphrased responses for clarity, and concluded by addressing any questions, explaining next steps, and reiterating data confidentiality.

2.5 Data analysis

Verbatim transcription of the interviews was performed using MS Teams' transcription feature which was then checked for accuracy. Descriptive thematic analysis was selected for data analysis over other methods due to its flexibility and suitability in identifying patterns of meaning across the data. Braun and Clarke's (2006) six-step thematic analysis approach was

used, encompassing familiarization, coding, theme development, refinement, and theme naming, and the NVivo software supported the organization and coding of transcripts. Thematic analysis was chosen for this study due to its suitability for identifying and organizing explicit patterns of meaning within qualitative data. Unlike grounded theory, which seeks to generate new theoretical frameworks (Glaser et al., 2017), thematic analysis enables a focused examination of data to refine existing understandings of safety leadership. Similarly, while the Delphi method is valuable for achieving expert consensus through structured consultation rounds (Hasson et al., 2000), it is less appropriate for capturing the nuanced, individual perspectives of senior leaders sought in this research. Furthermore, the objective of this study was not to consult experts, but to explore how everyday leaders in high-risk industries understand and enact safety leadership.

Several assumptions guided the analysis. An inductive, semantic approach was used to identify themes directly from participants' surface-level responses, without imposing preconceived frameworks. Prevalence was determined by the frequency of supporting instances, aligning with the study's aim to derive a definition grounded in the data.

After anonymizing and ensuring the accuracy of the transcription, an initial detailed reading was conducted to build familiarity with the data. A second, line-by-line reading generated initial codes, or meaningful text that tell the reader something interesting about the data (Maguire et al., 2017). A third reading ensured completeness. Codes were then grouped into themes, or broad patterns that link portions of the data together (DeSantis et al., 2000). Themes were refined iteratively until the cost of incremental improvements outweighed the added value.

Once finalized, themes were grouped into two groups: those defining the concept of safety leadership and those describing the characteristics of safety leaders. While not aiming to build a full conceptual framework, the process drew on Jabareen et al.'s (2009) steps five to eight to guide definition construction. The first group of themes were systematically integrated into a coherent definition through an iterative process, with the preliminary definition refined through internal dialogue and reviewed externally by subject-matter experts. Revisions continued until a final version was agreed upon.

3. Results

3.1 Participant characteristics

A total of 25 semi-structured interviews were conducted until saturation was reached and were included in the final analysis. The 25 interviews had an average duration of 34 minutes. Of the 25 participants included in the present study, two were female (8%), and 23 were male (92%). The participants had an average of 28 years of professional experience, ranging from a minimum of 15 years to a maximum of 55 years. The participants represented a diverse range of high-risk industries including mining, oil and gas, manufacturing, maritime, construction, agriculture, transportation, and aviation. Among these, oil and gas had the highest representation (28%), while agriculture had the lowest (4%). The interviewees were employed across a variety of

organizations, including multinational corporations, government-owned entities, and privately owned companies. Five of the interviewees were employed by Fortune 500 companies, while one was employed by a FTSE 100 company. Participants had experience working across a wide range of countries (44 countries in total) across all seven continents, excluding Antarctica. The interviewees held a variety of roles, ranging from managerial positions to executive leadership. Seven of the interviewees had no experience working in unionized environments, while the remaining 18 had worked in both unionized and non-unionized settings throughout their careers. Seven interviewees were from organizations with fewer than 1,000 employees, while the rest were from organizations with over 1,000 employees.

Table 1 outlines the characteristics of each interviewee to provide context regarding the perspectives presented.

Table 1

Summary of interviewee characteristics

No.	Gender	Industry Experience (yrs)	Industry	Role	Unionized?	Geographic Location
Interviewee 1	Male	31	Manufacturing	Senior leadership	Yes	USA
Interviewee 2	Male	22	Maritime	Senior leadership	Yes	Dominican Republic
Interviewee 3	Male	20	Mining	Executive leadership	No	Canada
Interviewee 4	Male	28	Mining	Executive leadership	Yes	Canada
Interviewee 5	Male	15	O&G	Upper management	Yes	UK
Interviewee 6	Female	25	Mining	Upper management	Yes	Canada
Interviewee 7	Male	28	O&G	Executive leadership	Yes	United Arab Emirates
Interviewee 8	Male	26	Manufacturing	Senior leadership	Yes	Turkey
Interviewee 9	Male	19	O&G	Upper management	Yes	Canada
Interviewee 10	Male	31	O&G	Senior leadership	Yes	Portugal
Interviewee 11	Male	27	O&G	Middle management	Yes	Kuwait
Interviewee 12	Male	20	Maritime	Senior leadership	No	United Arab Emirates
Interviewee 13	Female	18	Mining	Middle management	Yes	Canada

Interviewee 14	Male	30	O&G	Senior leadership	Yes	Turkey
Interviewee 15	Male	40	Aviation	Senior leadership	Yes	Saudi Arabia
Interviewee 16	Male	16	O&G	Upper management	No	Oman
Interviewee 17	Male	17	Construction	Middle management	Yes	United Arab Emirates
Interviewee 18	Male	36	Transportation	Senior leadership	No	USA
Interviewee 19	Male	30	Agriculture	Senior leadership	Yes	Canada
Interviewee 20	Male	40	Construction	Middle management	No	Philippines
Interviewee 21	Male	17	Construction	Middle management	No	Qatar
Interviewee 22	Male	52	Construction	Executive leadership	Yes	Saudi Arabia
Interviewee 23	Male	55	Construction	Middle management	No	New Zealand
Interviewee 24	Male	19	Aviation	Upper management	Yes	United Arab Emirates
Interviewee 25	Male	31	Transportation	Senior leadership	Yes	Saudi Arabia

3.2 Findings from the thematic analysis

After several iterative rounds of coding, a total of 265 codes were identified. Initially, 10 main themes were developed; however, further in-depth analysis revealed that three of the themes could be conceptually integrated under one overarching theme, resulting in a final total of eight themes. The rationale for this conceptual combination will be elaborated upon later in this section.

Five themes were grouped to address the primary research question of how senior leaders in high-risk industries define safety leadership, while the remaining themes responded to the secondary question regarding the characteristics or qualities of safety leaders. Together, these two categories provide a comprehensive framework for understanding the concept of safety leadership and safety leader characteristics. Overall, participants' perspectives on safety leadership and safety leaders were largely consistent across different job roles.

The eight themes from the analysis are summarized in Table 2.

Table 2

Key themes with definitions, code counts, and number of references

No.	Theme	Definition of theme	No. of codes	References
Category 1: How do senior leaders in high-risk industries define safety leadership?				
1.	Safety leadership is about authentic care	Codes that tie safety and safety leadership to care.	12	44
2.	Safety is embodied as a core value in high-risk organizations	Any code that describes how valuable safety is and why it's so important in high-risk industries.	28	103
3.	Safety/ safety leadership improves safety and business performance	Codes that link safety/ safety leadership with improved safety and non-safety (business) performance.	11	44
4.	Safety is leader-driven	Codes stating that leaders are responsible for defining and driving the value of safety in an organization (top-down).	12	76
5.	Safety leadership is applied by strategically prioritizing safety (decisions, actions, & communications)	Codes that describe safety leadership being applied/ operationalized/ brought to life by prioritizing safety in one's decisions, communications, and actions.	10	56
Category 2: What characteristics or qualities do safety leaders possess?				
6.	Safety leaders are trustworthy in all that they do	Codes that describe safety leaders as being trustworthy.		

	a. Safety leaders genuinely care	Codes that describe safety leaders as genuinely caring.	24	92
	a. Safety leaders walk the talk	Codes that describe safety leaders as having integrity.	19	99
	b. Safety leaders are competent	Codes that describe safety leaders as competent.	11	52
7.	Safety leaders positively influence others to achieve safety outcomes	Codes that describe safety leaders as leaders who inspire, empower, convince, engage, influence, motivate, and interact with workers involved in the work to achieve safety outcomes.	16	49
8.	Safety leaders promote psychological safety for open reporting and speaking up	Codes that describe safety leaders as leaders who promote an environment where workers feel psychologically safe to report safety issues and speak up.	9	30

3.2.1 Theme 1 – Safety leadership is about authentic care

This theme encompassed all codes that linked safety and safety leadership to the concept of care. Together with theme 6a. (Safety leaders genuinely care), associating care with both safety leadership and the characteristics of safety leaders emerged as the most frequently shared perspective among the majority of participants. Some excerpts that support this theme include:

> *"the fundamental thing is about care, care for people, right." (Interviewee 12)*

> *"It wasn't just about health and safety. It was about making sure that the workforce really understood that you cared about them." (Interviewee 22)*

> *"So, safety leadership is showing your authentic beliefs and your values, uh, and care for others." (Interviewee 11)*

3.2.2 Theme 2 – Safety is embodied as a core value in high-risk organizations

This second theme combined codes that highlighted the value of safety and the reasons why it is crucial in high-risk industries. A central focus of the current research was to explore safety leadership in such sectors, where leading with safety is both necessary and impactful, as noted by the following interviewee:

> *"if we don't get it right (safety), what's the, what's the commercial effect in time and cost? It's horrendous. It costs everybody a lot of time, a lot of unnecessary cost, a lot of heartache. You don't wanna go there, you know."* (Interviewee 22)

It is therefore unsurprising that the majority of participants emphasized that safety is a core value for them. This made it one of the most prominent themes to emerge from the data and a fundamental component of safety leadership. Supporting excerpts are presented below:

"I think it (safety) is part of my fabric. I think it's ingrained in me." (Interviewee 20)

"Because it's a, it's (safety) a fundamental value for you as a leader." (Interviewee 10)

"I don't consciously think about safety because it's in my, it's in my DNA now." (Interviewee 24)

3.2.3 Theme 3 – Safety/ safety leadership improves safety and business performance

Beyond ensuring business sustainability and preventing the loss of life, numerous participants also highlighted interesting perspectives on leveraging safety and safety leadership to drive business improvements, which ultimately resulted as a key theme:

"So I started looking at safety as a, a catalyst to also bring process improvement and efficiency, which saves money." (Interviewee 15)

"safety leadership helps me in my, you know, other work. My part time job (jokingly) which is asset management." (Interviewee 14)

"but also attracts people. The talent. Talent don't want to work in an organization that's not safe." (Interviewee 25)

Participants were actually using safety to improve operational efficiency, enhance quality, and to ultimately reduce costs and improve the bottom-line.

3.2.4 Theme 4 – Safety is leader-driven

A common perspective shared by most interviewees was that successful implementation of safety across an organization requires a top-down approach. This view was frequently expressed when discussing the role a leader plays in driving a safe work environment:

"If he's not leading it, if he's not leading the safety culture, you really haven't got a safety culture." (Interviewee 23)

"So a leader has to make sure that it's critical to everybody." (Interviewee 18)

"the leader is, is very crucial in how the value, how the organization, what value the organization places on safety." (Interviewee 7)

3.2.5 Theme 5 – Safety leadership is applied by strategically prioritizing safety (decisions, actions, & communications)

The final prominent theme that was identified under the first category – how senior leaders in high-risk industries define safety leadership – centers on the practical aspects of how to operationalize safety leadership within organizations. This theme was supported by codes that

described how safety is prioritized with respect to other responsibilities. Supporting quotes from participants include:

> *"I think in, in safety leadership as opposed to say manufacturing leadership or quality leadership or anything like that, it's simply a matter of priority."* (Interviewee 1)

> *"So when you're in that decision making, making a business decision, making a choice, safety has to be the first one."* (Interviewee 11)

> *"So safety should take priority. Precedence over any other decisions. Yeah. What I mean by that is, if you look at the hierarchy of, of decision making and you never prioritize anything above safety. What are we doing to make sure that safety is at the forefront of anything that we do at work?"* (Interviewee 9)

Many leaders appeared to prioritize safety strategically in their leadership approach, treating it as a conscious and deliberate choice rather than an incidental consideration.

3.2.6 Theme 6 – Safety leaders are trustworthy in all that they do

Theme 6 was developed by combining three independent themes including safety leaders genuinely care, walk the talk, and are competent. This conceptual combination is based on their shared emphasis on trust as a fundamental aspect of effective leadership. In their seminal study on organizational trust, Mayer et al. (1995) identified three pillars of leader trustworthiness including integrity, benevolence (or care), and ability (or competence). Numerous participants did in fact emphasize the importance of trust when discussing the qualities of safety leaders, as highlighted below:

> *"I believed in his commitment. I believed what he was saying, so I think that was what took me on board."* (Interviewee 10)

> *"A safety leader sets the example, gives the example in what they do and everything they do."* (Interviewee 25)

> *"so I'm setting a good example to the team, to the organization. I remain a role model to the organization as long as I am, I can be looked upon as upholding the tenants of safety, the attributes that are required for safe execution of the work."* (Interviewee 7)

3.2.7 Theme 7 – Safety leaders positively influence others to achieve safety outcomes

A second theme that resulted from the interviews when discussing the qualities and characteristics of safety leaders was their ability to influence others to achieve safety outcomes. This encompassed codes that described safety leaders as those who inspire, empower, convince, engage, influence, motivate, and interact with frontline workers who are directly involved in the

work to successfully ensure a safe work environment and realize safety objectives. Some of the excerpts which summarize many of the similar perspectives shared during the interviews include:

> *"he motivates them towards the safety measures." (Interviewee 17)*

> *"you measure a leader on what they inspire others to do, what they create around them, and I can be the greatest safety leader in the world but if I don't create a culture where people do that, live that, breathe that day in, day out. Umm. Then I'm not, I'm not a safety leader." (Interviewee 5)*

> *"You can do all the meetings you want, but at the end, if the leadership is not going down to the floor, nothing will happen (to safety results)." (Interviewee 19)*

3.2.8 Theme 8 – Safety leaders promote psychological safety for open reporting and speaking up

A third theme that was identified as a characteristic of safety leaders revolves around how safety leaders promote psychological safety to encourage open reporting and speaking up. Consistent with Edmondson's (2014) conceptualization of psychological safety, this theme was supported by codes highlighting the importance of creating a safe environment where employees feel comfortable sharing concerns, reporting incidents, and providing feedback without fear of blame or retribution. Examples from the data include:

> *"it's about creating a safety culture, creating a safety culture where people feel free to speak up." (Interviewee 11)*

> *"who would create an environment of blame and cover up. Right. That's for me what a non safety leader may be." (Interviewee 12)*

> *"So I if you operate in such a way that you shout at people every time that you see something that's not right, people will hide things from you because they don't want to be shouted at." (Interviewee 25)*

3.3 Formulating a conceptual definition of safety leadership

After an iterative process, the first five themes of Table 2, which address the study's primary question, were integrated into a conceptual definition of safety leadership through internal consensus and external validation. The final definition of safety leadership that emerged from this process is as follows:
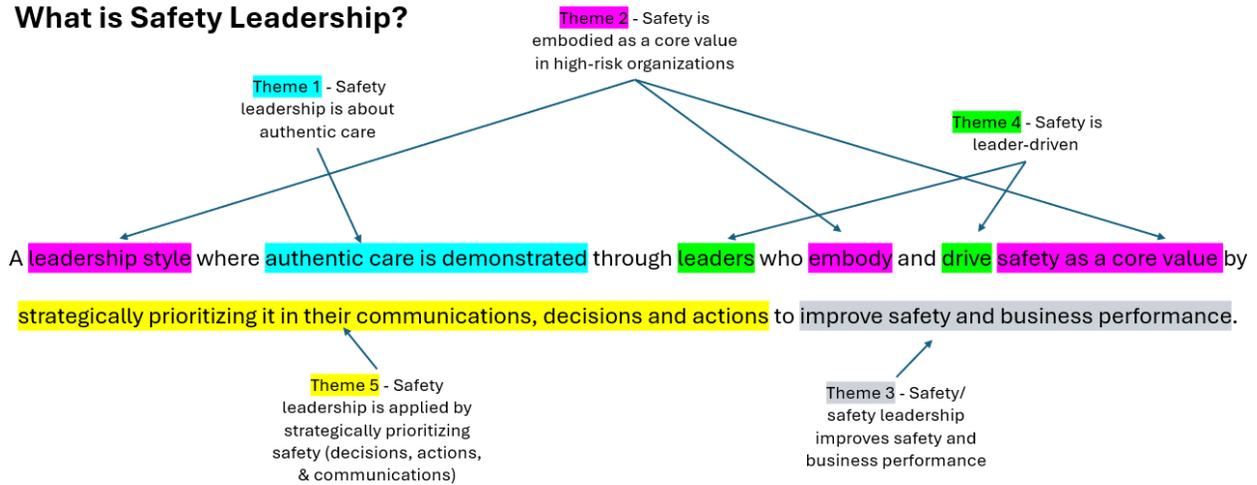
"A leadership style where authentic care is demonstrated through leaders who embody and drive safety as a core value by strategically prioritizing it in their communications, decisions and actions to improve safety and business performance."

Figure 1 illustrates how the different themes identified in the present study were integrated to construct the final definition of safety leadership.

Figure 1

Integration of the different themes to construct final safety leadership definition

What is Safety Leadership?

Theme 1 - Safety leadership is about authentic care

Theme 2 - Safety is embodied as a core value in high-risk organizations

Theme 4 - Safety is leader-driven

A leadership style where authentic care is demonstrated through leaders who embody and drive safety as a core value by strategically prioritizing it in their communications, decisions and actions to improve safety and business performance.

Theme 5 - Safety leadership is applied by strategically prioritizing safety (decisions, actions, & communications)

Theme 3 - Safety/ safety leadership improves safety and business performance

3.4 Safety leadership vs. general leadership

Although none of the participants explicitly associated safety leadership with transformational leadership, there were a few that did consider it a component of overall leadership as suggested by the following excerpts:

> *"for me safety leadership is really a component of an overall leadership package."* (Interviewee 1)

> *"safety, it is one ingredient of a big piece."* (Interviewee 13)

The same opinion was expressed by some participants when discussing the qualities and characteristics of safety leaders. The central argument among participants who shared this view was that effective leadership inherently requires safety to be an integral part of one's overall leadership approach. Interviewees could not envision a competent leader in their high-risk industry who did not lead with safety. Nonetheless, numerous other participants did consider safety leadership as a distinct form of leadership that differed from other styles on three levels. Firstly, they argued that unlike other leadership approaches, safety leadership carries a life-threatening dimension that could result in catastrophes if it wasn't applied effectively:

> *"if you get safety leadership wrong, the consequences are extremely severe. So I think the difference, the difference between the safety leadership is around consequence."* (Interviewee 11)

The second argument put forth revolved around the prioritization of safety above all else:

> *"so the safety leadership comes with, as compared to other leaders, or the safety leader where versus the other operational leader so, so his priority for everything starts with safety, it is that every action starts with, the safety."* (Interviewee 16)

The final way participants distinguished safety leadership from other forms of leadership was through its emphasis on care. They argued that, unlike other leadership approaches, safety leadership placed a stronger focus on the individual by prioritizing their well-being.

> *"In other forms of leadership like I would say I've worked with many leaders. Some are very, very business focused. Some are very, very focused on their results and they try to ignore all other parameters of the work site or the project. So I would say that a safety leader is more humble, more communicative, more, I would say, empathetic. He will, he would like to connect with people, he would like to know that what are people challenges on the site regarding their, not only for the work-related thing but also would be there for personal challenges."*
> (Interviewee 17)

Though a few participants viewed safety leadership as an important component of overall leadership, many found it to be distinct because of its prioritization of safety, its emphasis on care, and the potential consequences of failing to implement it. This point was stressed by several participants who argued that being an effective leader in other areas does not automatically translate to being an effective safety leader, as summed up by the participant below:

> *"because you're a successful leader in another area, doesn't mean you're gonna be a successful leader in safety."* (Interviewee 2)

4. Discussion

4.1 Overview of findings

The first theme that contributed to the definition of safety leadership (Safety leadership is about authentic care) was one of the most commonly shared perspectives by interviewees when considering both the conceptual elements of safety leadership and qualities of safety leaders. It is important to clarify that the emphasis is not just on care, but authentic care, so it was important to highlight this in the final results. The importance of care in safety leadership is not a new concept. Although they didn't use the word "care" explicitly, Zohar (2002) found that leadership practices, which operationalize concern for safety, serve as the basis for perceptions of safety climate. Recently, Abiodun (2024) found care to be the most important safety leadership factor for the creation of trust in the oil and gas sector. This underscores the foundational role care plays in the overall conceptualization of safety leadership, positioning it as a central element of the definition. How to demonstrate this care in high-risk industries, participants shared, is by embracing safety as a core value (theme 2). Through these interviews, it was clear how highly participants valued safety. The organizations employing many of the interview participants had provided their leaders with the training, coaching, and supporting organizational culture to put

safety at the forefront of everything they do. This was not by chance but rather by design, especially because of the potential consequences of accidents in high-risk industries. As a result, everything they said, did, and decided, strategically prioritized safety (theme 5), which is how safety as a core value was operationalized in practical terms. It was important to clarify that this approach was leader-driven (theme 4) in the definition given that it was frequently emphasized during the interviews as key to ensuring success in enhancing safety performance.

The impact of leaders prioritizing safety against competing demands cascades down the hierarchal chain, ultimately influencing safety perceptions and climate (Zohar, 2002). In fact, Pilbeam et al. (2016a) and Molnar et al. (2019) have even suggested that safety leadership may simply refer to the priority leaders place on safety, which is a perspective supported by the results of the current study. Although the positive impact leaders have on safety performance is well documented and frequently highlighted in safety leadership definitions (Adra et al., 2024), the influence on non-safety metrics like operational efficiency, quality, and the bottom-line are much less explored. The data from this study's interviews strongly suggests a positive relationship between safety leadership and non-safety outcomes (theme 3), an important finding that has been highlighted in the final results.

Theme 7 (Safety leaders positively influence others to achieve safety outcomes) aligns well with the general qualities of safety leaders discussed in the literature, particularly given the traditionally strong association of safety leadership with transformational leadership theory. Rather than relying on authority or force, safety-specific transformational leadership emphasizes inspiring and uplifting employees to achieve safety goals (Mullen et al., 2009). This is a perspective that was regularly shared and emphasized by participants during the interviews, making it an unsurprising theme that emerged from the data to describe safety leaders.

Theme 8 (Safety leaders promote psychological safety for open reporting and speaking up) is a particularly interesting finding from the current study, as it is not a quality that is traditionally associated with safety leaders. Psychological safety is defined by Amy Edmondson, the American scholar credited with popularizing the term (Jowett, 2023), as a construct that describes how individuals perceive the potential consequences of taking interpersonal risks within a specific setting, such as the workplace (Edmondson et al., 2014). High psychological safety describes an environment where employees feel safe speaking up and reporting incidents (Newman et al., 2017). Unlike trust, which focuses on dyadic relationships, such as that between a worker and their leader, psychological safety is a group-level construct describing the shared belief that a team holds (Edmondson et al., 2004). There is a limited body of research specifically examining the relationship between safety leadership and psychological safety (Quansah et al., 2023). Trustworthiness on the other hand, is a well-established quality of safety leaders that has been extensively examined and shown to influence employee safety behaviors (Conchie et al., 2011; O'Dea et al., 2001; Ordysiński, 2024). Its emergence in the present study as a key quality of safety leaders (theme 6) is therefore not as unexpected as that of psychological safety. These

findings present an opportunity to examine the relationship between safety leadership and psychological safety with greater depth and detail.

As mentioned in section 3.4, Some participants viewed safety leadership as a component of overall leadership, arguing that effective leaders inherently prioritize safety. Others, however, identified three key distinctions that set it apart as a unique style. Those linking safety leadership to general leadership often cited qualities like care and authenticity as common denominators. It is for this reason that the study was deliberately designed from the outset to distinguish between leadership qualities and the conceptual elements of safety leadership. This distinction emphasizes that a leader may be caring and authentic, but would not be considered a safety leader unless they actively apply the core conceptual components of safety leadership.

4.2 Comparison with Daniel's (2015) definition of safety leadership

Daniel (2015) developed the first qualitatively derived definition of safety leadership by interviewing 20 participants from a single construction company in Australia. Daniel's (2015, p.11) definition, *"The demonstration of safety values through the creation of a vision and the promotion of wellbeing through the art of engagement, honesty and discipline."*, broadly shares some common elements with the characteristics of safety leaders identified as part of this research. These include engagement (Safety leaders positively influence others to achieve safety outcomes) and honesty (the integrity pillar of theme 6). Though Daniel's (2015) definition does emphasize leaders demonstrating multiple safety values (fairness, integrity, and the importance of safety), the present study frames safety as a core value without suggesting it is supported by multiple underlying values.

Despite these similarities, the definitions differ significantly in other aspects. Care emerges as a central pillar in the definition identified in this study, along with a clear articulation of how to operationalize safety as a core value – by prioritizing safety. In fact, when isolating responses from interviewees in the construction industry, 80% of participants interviewed in the current study emphasized the importance of care – an element entirely absent from Daniel's (2015) themes. Furthermore, the impact of safety on both safety and non-safety performance is an important component as well that does not emerge as part of Daniel's (2015) definition.

Several factors related to the research design may have contributed to the differences between the two definitions including the choice to interview participants from the same company rather than a diverse, globally distributed sample spanning multiple companies and industries, as well as the inclusion of support function leaders (e.g. safety managers) as interviewees rather than focusing solely on those directly responsible for workers exposed to high-risk environments.

Nonetheless, Daniel (2015), along with others such as Molnar et al. (2019), have suggested that safety leadership should be considered an independent leadership style that does not "piggyback" on other forms of leadership, a view that opposes the prevailing position in the academic literature but aligns with the findings of the present study.

4.3 Comparison with safety-specific transformational leadership

Safety-specific transformational leadership, combined with transactional leadership, has been the predominant framework embraced in the academic literature to date when examining safety leadership (Moon et al., 2024). To address the challenges associated with adopting a trait-based approach to leadership, a characteristic of transformational leadership and several other leadership constructs (Testa et al., 2020), the present research design deliberately separated the conceptual elements of safety leadership from the behaviors of safety leaders, marking a key distinction between this study's definition and the conventional framework commonly used in academic literature.

Safety-specific transformational leaders motivate employees to achieve safety outcomes by inspiring a safety vision (inspirational motivation), promoting critical thinking (intellectual stimulation), tending to the needs of each individual follower (individualized consideration), and role modelling safety (idealized influence) (Clarke, 2013). The latter two behaviors generally align with two of the pillars of theme 6 (indirectly with safety leaders care and directly with safety leaders walk the talk), however inspirational motivation and intellectual stimulation were not perspectives identified as qualities of safety leaders in the current study. Additionally, another notable difference is that the scope of safety leadership's impact in the present study extends well beyond the traditional focus on safety performance, which dominates the safety-specific transformational leadership literature. Nonetheless, the overall philosophy of safety-specific transformational leadership to inspire and uplift employees to attain safety goals (Wang et al., 2023) resonates quite strongly with theme 7 (Safety leaders positively influence others to achieve safety outcomes).

The widespread adoption of transformational leadership theory may stem from a lack of dedicated research on the conceptual understanding of safety leadership (Jiang et al., 2024). The definition developed in this study does not align with that of safety-specific transformational leadership, which is more focused on motivational behaviors. Instead, the study highlights safety leadership as an independent leadership style and offers a practical and evidence-based approach to operationalizing safety as a core value, especially in high-risk industries. This moves beyond the original conceptualizations of safety-specific transformational leadership, which was initially tested among restaurant workers (Barling et al., 2002), and calls for a more contextual and evidence-based understanding of safety leadership.

4.4 Comparison with other leadership constructs

The definition of safety leadership arrived at in the present study shares common elements with other leadership styles in the academic literature but remains fundamentally distinct at a conceptual level. Coined by Greenleaf in his 1970 essay *The Servant as Leader*, servant leadership's focus on service and care, in the form of listening and empathy for example (Spears, 2010), bears similarities to safety leadership's central tenet of genuine concern for others. However, while servant leadership revolves around service with an emphasis on personal and

professional growth, safety leadership is operational in nature and grounded in the prevention of harm to ensure safe work environments. This distinction underscores that safety leadership extends beyond general prosocial leadership to address the unique demands of risk management in high-hazard contexts.

Unlike servant leadership, authentic leadership is more theoretical and definitional and based on four conceptual elements including self-awareness, relational transparency, balanced processing, and internalized moral perspective (Anderson et al., 2017). Developed in response to concerns about the ethical conduct of some leaders in today's corporate world (Gardner et al., 2011), it aligns strongly with safety leadership's integrity pillar of trust where walking the talk is critical to trust-building. Safety as a core value, a cardinal element of safety leadership, also has commonalities with authentic leadership's value-based principle. However, while authentic leadership primarily aims to cultivate moral integrity and authenticity as ends in themselves, safety leadership translates these qualities into practical action to ensure ethical decision-making and safe operations in high-risk settings. It is less about developing authenticity as a personal trait and more about applying it consistently to promote trust, accountability, and reliable safety performance.

Ethical leadership has also gained attention due to corporate scandals (Den Hartog, 2015), emphasizing moral conduct through personal actions, communication, and decision-making (Brown et al., 2005). Critics argue that the definition of ethical leadership, which was popularized by Brown et al. (2005) in their seminal paper *Ethical Leadership: A Social Learning Perspective*, promotes "*appropriate conduct*" (Brown et al., 2005, p.120), which is vague, particularly in the context of varying cultural and organizational perspectives (Giessner et al., 2010). To address these criticisms, Eisenbeiss (2012) proposed four empirically supported characteristics (Mayer et al., 2012) to provide clarity to this leadership construct. Like authentic leadership however, the overall ethos of ethical leadership is to drive moral conduct, which aligns with safety leadership's integrity pillar of trust (theme 6) in spirit but not in purpose.

Introduced by Louis Fry in the early 2000s, spiritual leadership aims to foster a sense of purpose and meaning in the workplace. Fry (2003) argues that this entails creating a vision that instills a sense of calling and creating a culture based on love and care, so members feel a sense of membership. The sense of calling inherent in spiritual leadership strongly aligns with the perspectives shared by several interviewees about safety. Beyond describing safety as a *"cause"* (Interviewee 15), five participants used religious connotations, with one even referring to safety leaders as "evangelists" (Interviewee 7) whose mission is to convert others to the faith. This reference fits quite well with Fry's (2003) idea of spiritual leadership. Furthermore, the care aspect of the construct aligns with safety leadership's first theme, even though, as with the previous leadership styles, the ultimate end products do not coincide.

Leader-Member Exchange (LMX) is arguably the third most studied leadership concept in the context of safety leadership, following transformational and transactional leadership (Lekka et

al., 2012). LMX focuses on the quality of the relationship between leaders and their followers. Anderson et al. (2017) argue that LMX is not a leadership style, but rather a concept that describes the nature and quality of the leader-follower relationship. Although relationships are quite important between leaders and followers, the strength of such a relationship was not discussed explicitly by interviewees in the current study. Rather, the importance of relationships appeared in the form of trust (theme 6), which aligns with Donovan et al.'s (2018) finding regarding the most important LMX practice.

Despite safety leadership sharing several features with many of the prominent leadership constructs in the literature, particularly around care, influence, and trust, safety leadership emerges as a leadership style that is distinct in scope and context.

5. Contributions

The present study contributes to the academic literature by addressing a gap that has been highlighted by Pilbeam et al. (2016a) and recently reinforced by Adra et al. (2024) and Jiang et al. (2024). Although Daniel (2015) looked at safety leadership qualitatively and proposed a definition, there is room for improvement in the methodological design they employed. Therefore, this study expanded beyond construction to include representation from 25 different organizations across seven other high-risk industries to ensure a broader, more diverse perspective on safety leadership. The improved research design resulted in both a conceptual definition of safety leadership as well as several important qualities of safety leaders. Separating the conceptual elements of safety leadership and the traits of safety leaders was a strategic decision made at the outset to ensure the definition is not constrained by a personality-driven characterization of leadership. There was strong evidence from the data to suggest that safety leadership is a leadership style in and of itself, independent from general or transformational leadership. This outcome not only confirms Daniel's (2015) finding but also advances safety science by offering new insights that clarify the conceptual elements of safety leadership and address existing definitional inconsistencies.

The results from the present study are not limited to advancements in the academic field but also make valuable contributions for practitioners as well. By offering a clearer understanding of safety leadership grounded in the experiences of senior leaders from high-risk industries, the study equips leaders with actionable steps to focus their efforts more effectively on preventing occupational injuries and ill-health. The definition enables leaders to make immediate improvements in their leadership approach to enhance both safety and business performance, while the qualities provide a long-term development opportunity.

6. Strengths and limitations

In addition to contributing to a field that has been underexplored qualitatively (Jiang et al., 2024), a key strength of the current study is the strategic distinction between the conceptual elements of safety leadership and the qualities of safety leaders. This has been a criticism of

transformational leadership (Casey et al., 2019) and a conscious effort was made to avoid this approach in order to arrive at the core and distinct elements of safety leadership.

The study's global research design captured perspectives from leaders with experience across 44 countries, though conducting interviews in English may have excluded non-English speakers. Additionally, the focus on senior leaders was based on the assumption that their career progression provided rich insights into safety leadership. However, the extent to which this guarantees a fully holistic perspective, particularly regarding past experiences, remains uncertain. Furthermore, as the study relied on self-reported data obtained through interviews, the findings may be subject to social desirability bias, with participants potentially portraying themselves or their organizations in a more favorable light. While efforts were made to minimize this through careful question design and establishing rapport, this potential bias should be considered when interpreting the results.

Despite attempts to ensure representation, only two female leaders participated, reflecting the gender imbalance in high-risk industries rather than a limitation of the study itself. This imbalance may have influenced the findings by limiting the diversity of perspectives on leadership behaviors. Broader gender representation could potentially reveal alternative approaches to safety leadership. As such, future research would benefit from exploring how gender dynamics shape perceptions and enactments of safety leadership across different contexts.

Despite the main author's background in occupational health and safety and extensive experience in high-risk industries, they had no prior relationship with any of the participants, reducing the potential for bias or influence on the findings. To further mitigate researcher influence in thematic analysis, a reflexivity diary was maintained, and frequent consultations with co-authors led to multiple revisions. Three external scholars also provided critiques to minimize subjectivity. While thick descriptions of participants enhance transferability, the study's focus on high-risk industries means caution is needed when applying the findings, particularly in low-risk settings.

The study's credibility was strengthened by incorporating diverse data sources across companies, industries, geographies, and leadership levels, improving upon Daniel's (2015) research design. However, excluding frontline leaders, who play a critical role in shaping safety behaviors (Zohar, 2000 & 2002), is a limitation. Member-checking could have further enhanced credibility, as suggested by Lincoln et al. (1985), but was not utilized. To ensure the research was conducted systematically and transparently, key decisions were documented in a reflexivity diary, clear protocols were followed, and SRQR guidelines (O'Brien et al., 2014) were adhered to (Appendix 1). Although saturation was reached after 25 interviews, a larger or comparative sample across different industries could further enhance the credibility and transferability of the findings. Future research could explore cross-sectoral and cultural differences to examine whether safety leadership is conceptualized similarly in varying high-risk contexts.

Despite some of the limitations presented, the overall trustworthiness and rigor of the research remain robust and do not compromise the significance of the findings.

7. Conclusion & recommendations for future research

Twenty-five senior leaders from eight high-risk industries were interviewed to define safety leadership and identify key characteristics of effective safety leaders. Thematic analysis revealed eight themes; five underpinning the conceptual definition and three describing the traits of safety leaders.

Safety leadership, while sharing some characteristics with other leadership styles, emerged as a distinct construct, challenging its traditional association with transformational leadership. The study also found that safety leadership enhances both safety and business performance, a finding at odds with prevailing academic views. While trustworthiness and positive influence align with existing literature, promoting psychological safety was identified as an important characteristic of safety leaders.

The present research makes several key contributions to the academic community. Firstly, it identified safety leadership as a leadership style in and of itself rather than one that builds upon existing frameworks. This pioneering result paves the way for a new direction in safety leadership research. Secondly, it unveiled a new area worthy of longitudinal investigation, notably that safety leadership can positively impact non-safety metrics like quality and operational efficiency. Thirdly, it provides a foundation for future quantitative research by offering the opportunity to develop and validate a scale that operationalizes the conceptual dimensions of safety leadership identified in this study. Finally, the study provides a strong foundation for further academic exploration of safety leadership, particularly in relation to age and gender, frontline leadership levels, lower-risk organizations, psychological safety, and cross-cultural contexts.

The present research also offers several contributions for practice. Separating the conceptual elements of safety leadership and the qualities of safety leaders provides leaders with a practical and pragmatic strategy for immediately operationalizing safety leadership while also offering a long-term developmental pathway to cultivate the characteristics of effective safety leaders.

Declarations of interest

No potential competing interest was reported by the authors.

References

Abiodun, N. (2024). Trust and distrust in safety leadership: Qualities of importance. *Safety Science*, *176*, 106553.

Adra, I., Giga, S., Hardy, C., & Leka, S. (2024). What is safety leadership? A systematic review of definitions. *Journal of Safety Research*, 90, 181-191.

Anderson, M. H., & Sun, P. Y. (2017). Reviewing leadership styles: Overlaps and the need for a new 'full-range'theory. *International journal of management reviews*, *19*(1), 76-96.

Babchuk, W. A., & Badiee, M. (2010). Realizing the potential of qualitative designs: A conceptual guide for research and practice. In *29th Annual Midwest Research-to-Practice Conference in Adult, Continuing, Community and Extension Education* (Vol. 25).

Barling, J., Loughlin, C., & Kelloway, E. K. (2002). Development and test of a model linking safety-specific transformational leadership and occupational safety. *Journal of Applied Psychology*, 87(3), 488.

Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European journal of work and organizational psychology*, 8(1), 9-32.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.

Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational behavior and human decision processes*, *97*(2), 117-134.

Burns, J. M. (1978). Leadership. Harper & Row.

Casey, T. W., Neal, A., & Griffin, M. (2019). LEAD operational safety: Development and validation of a tool to measure safety control strategies. *Safety Science*, 118, 1-14.

Cawthorne, J. E. (2010). Leading from the middle of the organization: An examination of shared leadership in academic libraries. *The Journal of Academic Librarianship*, 36(2), 151-157.

Clarke, S. (2013). Safety leadership: A meta-analytic review of transformational and transactional leadership styles as antecedents of safety behaviours. *Journal of occupational and organizational psychology*, *86*(1), 22-49.

Conchie, S. M., Taylor, P. J., & Charlton, A. (2011). Trust and distrust in safety leadership: mirror reflections?. *Safety science*, *49*(8-9), 1208-1214.

Conchie, S. M. (2013). Transformational leadership, intrinsic motivation, and trust: A moderated-mediated model of workplace safety. *Journal of occupational health psychology*, *18*(2), 198.

Conchie, S. M., Moon, S., & Duncan, M. (2013). Supervisors' engagement in safety leadership: Factors that help and hinder. *Safety science*, 51(1), 109-117.

Daniel, L. (2015). Safety leadership defined within the Australian construction industry. *Construction Economics and Building*, 15(4), 1-15.

De Blois, L. A. (1919). The Principles and Practice of Safety: A Handbook for Technical Schools and Universities. National Safety Council.

DeJoy, D. M., Schaffer, B. S., Wilson, M. G., Vandenberg, R. J., & Butts, M. M. (2004). Creating safer workplaces: assessing the determinants and role of safety climate. *Journal of safety research*, *35*(1), 81-90.

de Koster, R. B., Stam, D., & Balk, B. M. (2011). Accidents happen: The influence of safety-specific transformational leadership, safety consciousness, and hazard reducing systems on warehouse accidents. *Journal of Operations management*, *29*(7-8), 753-765.

Den Hartog, D. N. (2015). Ethical leadership. *Annu. Rev. Organ. Psychol. Organ. Behav.*, *2*(1), 409-434.

Derdowski, L. A., & Mathisen, G. E. (2023). Psychosocial factors and safety in high-risk industries: a systematic literature review. *Safety Science*, 157, 105948.

DeSantis, L., & Ugarriza, D. N. (2000). The concept of theme as used in qualitative nursing research. *Western Journal of Nursing Research*, 22(3): 351-372.

Donovan, S. L., Salmon, P. M., Horberry, T., & Lenné, M. G. (2018). Ending on a positive: Examining the role of safety leadership decisions, behaviours and actions in a safety critical situation. *Applied Ergonomics*, 66, 139-150.

Edmondson, A. C., Kramer, R. M., & Cook, K. S. (2004). Psychological safety, trust, and learning in organizations: A group-level lens. *Trust and distrust in organizations: Dilemmas and approaches*, *12*(2004), 239-272.

Edmondson, A. C., & Lei, Z. (2014). Psychological safety: The history, renaissance, and future of an interpersonal construct. *Annual Review of Organizational Psychology and Organizational Behavior. Organ. Behav.*, *1*(1), 23-43.

Eisenbeiss, S. A. (2012). Re-thinking ethical leadership: An interdisciplinary integrative approach. *The Leadership Quarterly*, *23*(5), 791-808.

Fry, L. W. (2003). Toward a theory of spiritual leadership. *The leadership quarterly*, *14*(6), 693-727.

Gardner, W. L., Cogliser, C. C., Davis, K. M., & Dickens, M. P. (2011). Authentic leadership: A review of the literature and research agenda. *The leadership quarterly*, *22*(6), 1120-1145.

Giessner, S., & Van Quaquebeke, N. (2010). Using a relational models perspective to understand normatively appropriate conduct in ethical leadership. *Journal of Business Ethics*, *95*, 43-55.

Glaser, B., & Strauss, A. (2017). Discovery of grounded theory: Strategies for qualitative research. Routledge.

Greenleaf, R.K. (1970). The Servant as a Leader. Indianapo-lis, IN: Greenleaf Center.

Grote, G. (2012). Safety management in different high-risk domains–all the same?. *Safety Science*, 50(10), 1983-1992.

Hämäläinen, P., Takala, J., & Kiat, T. B. (2017). Global estimates of occupational accidents and work-related illnesses 2017. Workplace Safety and Health Institute.

Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of advanced nursing*, 32(4), 1008-1015.

Hater, J. J., & Bass, B. M. (1988). Superiors' evaluations and subordinates' perceptions of transformational and transactional leadership. *Journal of Applied psychology*, 73(4), 695.

International Labour Organization. (2023). A call for safer and healthier working environments. ILO.

Jabareen, Y. (2009). Building a conceptual framework: philosophy, definitions, and procedure. *International journal of qualitative methods*, 8(4), 49-62.

Jiang, Z., Zhao, X., Wang, Z., & Herbert, K. (2024). Safety leadership: A bibliometric literature review and future research directions. *Journal of Business Research*, *172*, 114437.

Jowett, S., Do Nascimento-Júnior, J. R. A., Zhao, C., & Gosai, J. (2023). Creating the conditions for psychological safety and its impact on quality coach-athlete relationships. *Psychology of Sport and Exercise*, *65*, 102363.

Kezar, A., Dizon, J. P. M., & Scott, D. (2020). Senior leadership teams in higher education: What we know and what we need to know. *Innovative Higher Education*, 45, 103-120.

Lekka, C., & Healey, N. (2012). A review of the literature on effective leadership behaviours for safety. *Health and Safety Executive RR952 Research Report*.

Lincoln, Y.S., & Guba, E.G. (1985). Naturalistic Inquiry. Newbury Park, CA: Sage Publications.

Lu, C. S., & Yang, C. S. (2010). Safety leadership and safety behavior in container terminal operations. *Safety science*, *48*(2), 123-134.

Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: a practical, step-by-step guide for learning and teaching scholars. *The All Ireland Journal of Teaching and Learning in Higher Education*, 9(3).

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An Integrative Model of Organizational Trust. *Academy of Management Review*. 20(3), 709–734.

Mayer, D. M., Aquino, K., Greenbaum, R. L., & Kuenzi, M. (2012). Who displays ethical leadership, and why does it matter? An examination of antecedents and consequences of ethical leadership. *Academy of management journal*, *55*(1), 151-171.

Molnar, M. M., Schwarz, U. V. T., Hellgren, J., Hasson, H., & Tafvelin, S. (2019). Leading for safety: A question of leadership focus. *Safety and health at work*, *10*(2), 180-187.

Moon, K. (2024). Effect of a Safety Leadership Training Including Coaching on Safety Performance and Climate in Wood-processing Companies. *Safety and Health at Work*, *15*(3), 310-316.

Mullen, J. E., & Kelloway, E. K. (2009). Safety leadership: A longitudinal study of the effects of transformational leadership on safety outcomes. Journal of *Occupational and Organizational Psychology*, 82(2), 253-272.

Mullen, J., Thibault, T., & Kelloway, E. K. (2024). Occupational health and safety leadership. In L. E. Tetrick, G. G. Fisher, M. T. Ford, & J. C. Quick (Eds.), *Handbook of occupational health psychology* (3rd ed., pp. 501–516). American Psychological Association.

Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. *Human resource management review*, *27*(3), 521-535.

O'Brien, B. C., Harris, I. B., Beckman, T. J., Reed, D. A., & Cook, D. A. (2014). Standards for reporting qualitative research: a synthesis of recommendations. *Academic medicine*, *89*(9), 1245-1251.

O'Dea, A., & Flin, R. (2001). Site managers and safety leadership in the offshore oil and gas industry. *Safety science*, *37*(1), 39-57.

Ordysiński, S. (2024). The role of trust in occupational safety: research results. *International journal of occupational safety and ergonomics*, *30*(3), 741-753.

Papandrea, D. (2022). Enhancing social dialogue towards a culture of safety and health: what have we learned from the COVID-19 crisis?. International Labor Organization.

Pilbeam, C., Davidson, R., Doherty, N., & Denyer, D. (2016a). Safety leaders: who are they? What do they do.

Pilbeam, C., Doherty, N., Davidson, R., & Denyer, D. (2016b). Safety leadership practices for organizational safety compliance: Developing a research agenda from a review of the literature. *Safety science*, *86*, 110-121.

Quansah, P. E., Zhu, Y., & Guo, M. (2023). Assessing the effects of safety leadership, employee engagement, and psychological safety on safety performance. *Journal of safety research*, 86, 226-244.

Reynolds, D. H., McCauley, C. D., & Tsacoumis, S. (2018). A critical evaluation of the state of assessment and development for senior leaders. *Industrial and Organizational Psychology*, 11(4), 630-652.

Spears, L. C. (2010). Character and servant leadership: Ten characteristics of effective, caring leaders. *The journal of virtues & leadership*, *1*(1), 25-30.

Ta, M. T. D., Kim, T. E., & Gausdal, A. H. (2022). Leadership styles and safety performance in high-risk industries: a systematic review. *Safety and Reliability*, 41, 10-44.

Tao, J., Yang, F., Qiu, D., & Reniers, G. (2020). Analysis of safety leadership using a science mapping approach. *Process Safety and Environmental Protection*, 140, 244-257.

Testa, F., Todaro, N., Gusmerotti, N. M., & Frey, M. (2020). Embedding corporate sustainability: An empirical analysis of the antecedents of organization citizenship behavior. *Corporate Social Responsibility and Environmental Management*, *27*(3), 1198-1212.

Tompa, E., Mofidi, A., van den Heuvel, S., van Bree, T., Michaelsen, F., Jung, Y., ... & van Emmerik, M. (2021). Economic burden of work injuries and diseases: a framework and application in five European Union countries. *BMC Public Health*, 21(1), 49.

Van Knippenberg, D., & Sitkin, S. B. (2013). A critical assessment of charismatic— transformational leadership research: Back to the drawing board?. *Academy of management Annals*, 7(1), 1-60.

Wang, D., Mao, W., Zhao, C., Wang, F., & Hu, Y. (2023). The cross-level effect of team safety-specific transformational leadership on workplace safety behavior: The serial mediating role of team safety climate and team safety motivation. *Journal of safety research*, *87*, 285-296.

Zohar, D. (2000). A group-level model of safety climate: testing the effect of group climate on microaccidents in manufacturing jobs. *Journal of Applied Psychology*, 85(4), 587.

Zohar, D. (2002). The effects of leadership dimensions, safety climate, and assigned priorities on minor injuries in work groups. *Journal of Organizational Behavior*, 23(1), 75-92.

Zohar, D., & Luria, G. (2003). The use of supervisory practices as leverage to improve safety behavior: A cross-level intervention model. *Journal of safety research*, 34(5), 567-577.

Appendix 1

Standards for Reporting Qualitative Research (SRQR)

No.	Topic	Page No. / Section
S1	Title	Page 1
S2	Abstract	Page 1
S3	Problem formulation	Section 1
S4	Purpose of research question	Section 1
S5	Qualitative approach and research paradigm	Section 2.1
S6	Researcher characteristics and reflexivity	Section 6
S7	Context	Section 1.2
S8	Sampling strategy	Section 2.2
S9	Ethical issues pertaining to human subjects	Sections 2.3 & 2.4
S10	Data collection methods	Section 2.4
S11	Data collection instruments and technologies	Section 2.4
S12	Units of study	Section 2.2 & 3.1
S13	Data processing	Section 2.5
S14	Data analysis	Section 2.5
S15	Techniques to enhance trustworthiness	Section 6
S16	Synthesis and interpretation	Section 3
S17	Links to empirical data	Section 3.2
S18	Integration with prior work, implications, transferability, and contribution(s) to the field	Sections 4 & 5
S19	Limitations	Section 6
S20	Conflicts of interest	Page TBD
S21	Funding	Page TBD