A Systematic Literature Review on Leadership Practices for Safety in the Education Sector

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Abstract: Leadership is increasingly being recognized as a significant aspect of organizational occupational safety. However, there are differences in describing how the leaders manage safety in the organization. This study aims to systematically review and analyze the effective leadership practices for safety in the education sector. The present study incorporated different research designs and the review was based on the published standard, namely PRISMA statement (Preferred Reporting Items for Systematic Reviews and Meta-Analysis). This study has considered 21 related studies using Web of Science (WOS) and Scopus as the primary databases for this systematic literature review. Further review of these articles resulted in three main themes, namely establishing and conveying the safety vision, supporting learning and professional capacity development, and leading with a safety orientation; thus, producing a total of 12 sub-themes from the three themes. This systematic literature review also provides several limitations and recommendations for future direction.

Keywords: leadership; leadership practices; safety; education; educational leaders; COVID-19

1. Introduction

Accidents in the workplace are a sign of poor leadership [1]. According to the International Labor Organization (ILO), 7500 people die daily, with 6500 deaths caused by occupational illnesses and another 1000 by workplace accidents [2]. In Malaysia, occupational accident statistics for 2018 showed 35,460 accidents occurred a year, with 611 fatalities [3]. Meanwhile, Ménard and Trant [4] stated that several high-profile accidents in academic laboratories around the world have resulted in tragic injuries and death, such as Sheri Sangji’s death at the University of California in 2009 due to a chemical spill that caused 40% of her body to burn. Students’ unsafe behavior causes most accidents at educational institutions. Young workers are at a greater risk of occupational injuries and accidents [5]. According to Guerin et al. [6], an estimated 3.2 million non-fatal injuries occurred among young workers (aged 15–24 years) during 2012–2018. This matter is due to their limits in applying what they learn, a lack of experience, and a lack of confidence in discussing safety issues such as reporting hazards, injuries, or symptoms [7,8].

In general, managing safety and health in educational institutions is quite challenging since it involves numerous facilities such as laboratories, hostels, and cafeterias, all of which might cause various safety and health issues. The educational institution’s management...
typically implements safety and health measures through regulations and codes of conduct. Nevertheless, even a near-perfect system may incur a breach; there is always the potential that things will not go as planned, exposing users to certain dangers in the form of accidents and injuries [9,10]. Thus, educational institutions need to develop, consolidate, and enhance safety culture, especially those related to safety behavior [10]; this is because safety behavior has been identified as crucial action that encourages safety compliance and safety participation. One of the main issues regarding safety in educational institutions is a lack of awareness of the need to report accidents, particularly among students. This is most likely why some institutions do not reveal actual accident figures [11] or even have comprehensive statistics published on injury or illness rates [7]. Poor leadership is a major factor in the failure of occupational safety and health management in organizations [1,12], which in turn contributes to the high rate of accidents in the workplace. In an organization that adopts safety-oriented aspects of leadership, the organization will experience lower incidence rates and better safety culture, as well as profit advantages in terms of quality, productivity, asset integrity, and cost savings [13]. Leadership also contributes a positive impact on safety outcomes and performance such as safety climate, behavior, participation, and compliance [14–18].

As educational institutions around the world are changing rapidly in line with the development of technology and knowledge, top leaders’ commitment to providing effective leadership patterns in facing challenges towards safety is very important. Previous studies have also proven that top leaders with a strong commitment to their staff and society as a whole can make a substantial difference [19]. Furthermore, low-cost accident prevention techniques are critical, especially in educational institutions with limited resources. Effective leadership can increase organizational and individual safety performance without incurring excessive expenses. The deployment of sophisticated equipment or expensive awareness programs cannot change individuals’ attitudes overnight. Most researchers, such as Griner [20], Wu et al. [21], Shirazi et al. [22], Erkutlu and Chafra [23], and Moral et al. [24], have been drawn to leadership approaches in managing safety issues in the education sector and have explored it from multiple perspectives. However, there is still a lack of researchers who have conducted systematic reviews of existing studies.

Systematic review articles of the literature are methodological studies that use database searches to gather research results that focus on objective and theoretical discussions of a particular topic and theme. There are differences between a systematic and narrative review of the literature. The narrative review provides readers with up-to-date knowledge about specific topics without the methodological approach that would allow data reproduction or answers to specific quantitative research questions [25], whereas a systematic review of the literature is one method for reviewing existing studies more systematically. According to Robinson and Lowe [26], it is critical to conduct a systematic review of previous research to eliminate reviewer bias, which can impair the quality of a study. This paper attempts to contribute to the existing body of knowledge by developing a systematic review of the literature on safety leadership practices in educational institutions.

The best systematic review of the literature involves the major stages; planning, conducting the review, and reporting the review based on an organized and transparent process where the searching effort is conducted over several databases and a similar process can be replicated and reproduced by other researchers. It covers a rigorous search strategy that enables researchers to answer a defined question [27]. Many researchers have attempted to conduct a systematic review on safety leadership behavior; however, the studies mainly focus on organizations operating in high-risk conditions such as the oil and gas, construction, and manufacturing industries. Safety studies are given less attention in educational institutions since it is assumed that the educational sector has fewer accidents and hazards [19,28]. Most studies in the education sector have traditionally focused on safety management issues in laboratories or workshops. Lack of research on educational leaders’ roles in safety management has resulted in a lack of understanding and failure to comprehend the related existing literature systematically.
The review is guided by the central research question: “What effective leadership practices are there in managing safety in educational institutions?” This study aimed to fill a gap by systematically reviewing previous related studies to gain a better understanding of recognizing and describing leadership practices among educational leaders toward workplace safety.

2. Materials and Methods

2.1. PRISMA

A systematic review was designed based on relevant criteria from PRISMA or Preferred Reporting Items for Systematic Reviews and Meta-Analyses. The PRISMA guidelines were developed to assist researchers in improving the reporting of systematic reviews and meta-analyses, as well as to avoid various issues in systematic review writing that can be misinterpreted and lead to inadvertent bias [29,30]. Furthermore, PRISMA is suitable for the environmental management field [31]. The protocol of this review has been registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) with registration number INPLASY202250103. The protocol has been published on the INPLASY website and also can be found on the website of the International DOI Foundation (https://www.doi.org/10.37766/inplasy2022.5.0103, accessed on 16 May 2022).

2.2. Resources

An electronic literature search of articles was conducted via Scopus and Web of Science (WoS). Scopus is the main database used in the review. It is one of the largest abstract and citation databases with $n = 24,900$ active peer-reviewed journals from 7000 publishers. Scopus consists of diverse subject areas such as physical sciences, social science, health sciences, and life science. Scopus analytics tools make it easy to visualize, compare, and export the data. The second database used in the review is WoS. The WoS database consists of $n = 33,000$ journals with coverage of over 256 disciplines, including subjects related to environmental studies, interdisciplinary social sciences, social issues, and development and planning. It includes over 100 years of comprehensive backfile and citation data, established by Clarivate Analytics, and ranks them by three separate measures: citations, papers, and citations per paper.

2.3. Systematic Review Process

A systematic review of the literature involves three main stages, namely identification, screening, and eligibility (refer to Figure 1).
2.3.1. Identification

The first phase identified the keywords to be utilized in the search process. Identification is a process to search any synonym, related terms, and variation for the main keywords for the study. It aims to give the selected database more options for searching for more related articles for review. The keywords are developed based on the research question as suggested by Okoli [32] and the identification process relied on an online thesaurus, keywords used by past studies, keywords suggested by Scopus, and keywords suggested by experts. The authors managed to enrich the existing keywords and developed a full search string (based on Boolean operator, phrase searching, truncation, wild card, and field code functions) on the two main databases, namely Scopus and Web of Science (Table 1).

Table 1. The research strings.

<table>
<thead>
<tr>
<th>Databases</th>
<th>Keywords Used</th>
</tr>
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<tbody>
<tr>
<td>Scopus</td>
<td>TITLE-ABS-KEY ((“leader* practice&quot; OR &quot;leader* strateg*&quot; OR &quot;leader* act*&quot; OR &quot;leader* role*&quot; OR &quot;leader* activit*&quot;) AND (&quot;safety&quot; OR &quot;security&quot; OR &quot;safeguard&quot; OR &quot;protect*&quot; OR &quot;reliab*&quot;) AND (&quot;educat*&quot; OR &quot;school&quot; OR &quot;higher education&quot; OR &quot;college*&quot; OR &quot;polytechnic*&quot; OR &quot;universit*&quot; OR &quot;training institut*&quot; OR &quot;technical education&quot; OR &quot;vocational&quot;) )</td>
</tr>
<tr>
<td>Web of Science</td>
<td>TS (&quot;leader* practice&quot; OR &quot;leader* strateg*&quot; OR &quot;leader* act*&quot; OR &quot;leader* role*&quot; OR &quot;leader* activit*&quot;) AND (&quot;safety&quot; OR &quot;security&quot; OR &quot;safeguard&quot; OR &quot;protect*&quot; OR &quot;reliab*&quot;) AND (&quot;educat*&quot; OR &quot;school&quot; OR &quot;higher education&quot; OR &quot;college*&quot; OR &quot;polytechnic*&quot; OR &quot;uni-versit*&quot; OR &quot;training institut*&quot; OR &quot;technical education&quot; OR &quot;vocational&quot;) )</td>
</tr>
</tbody>
</table>

Accordingly, search strings on Scopus and the Web of Science database were developed in November 2021 (Refer to Table 1) after all relevant keywords managed to be determined. These two databases can be leading databases in a systematic literature review due to several advantages they possess such as advanced searching functions, comprehensive (indexing more than 5000 publishers), control of the articles’ quality, and multidisciplinary focus, including environment management-related studies [33]. The current research work successfully retrieved a total of 369 articles from Scopus and 207 from the Web of Science database. Manual searching based on similar keywords also was conducted using the third database, which resulted in an additional number of 14 articles. In total, 590 articles were retrieved in the first stage of the systematic literature review process. The selection of Google Scholar as the additional database is in line with the suggestion by Haddaway et al. [33], who noted the ability of Google Scholar to act as a supporting database in the systematic review process.

2.3.2. Screening

The second stage was screening. The purpose of the first stage of screening was to remove duplicate articles. In this case, a total of 32 articles were excluded during the first stage, while 373 articles were screened based on the following inclusion and exclusion criteria:

- The literature type only focused on the journal (research articles) because it acts as the primary source that offers empirical data. Hence, any publications in the form of systematic reviews, reviews, meta-analyses, meta-syntheses, book series, books, chapters in books, and conference proceedings have been excluded in the current research.
- The review only focused on articles that were published in English.
- Only studies in the education sector were selected because they are in line with the objective of the review.

Overall, a total of 252 articles were excluded based on these criteria (Refer to Table 2). At this stage, 121 articles are eligible to be reviewed.
Table 2. The inclusion and exclusion criteria.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document type</td>
<td>Article (with empirical data) and review</td>
<td>Conference proceeding, chapters in book, book series, books, etc.</td>
</tr>
<tr>
<td>Language</td>
<td>English</td>
<td>Non-English</td>
</tr>
<tr>
<td>Nature of the study</td>
<td>• leadership</td>
<td>• unclear methodology</td>
</tr>
<tr>
<td></td>
<td>• occupational safety</td>
<td>• not related to leadership, occupational safety, and education institution</td>
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</tbody>
</table>

2.3.3. Eligibility

The third stage was eligibility, where the full articles were accessed. Eligibility is the third process where the authors manually monitored the retrieved articles to ensure all the remaining articles (after the screening process) are in line with the criteria. This process was done by reading the title and abstract of the articles. This process excluded 100 articles due to the focus of the articles not related to the education sector, not explaining about leadership practices in managing safety, and unclear methodology. Overall, there were only 21 selected articles (see Figure 1).

2.3.4. Quality Appraisal

The remaining articles were sent to two researchers for assessment to ensure that the content was of high quality. The two researchers are experts in the field of leadership and the educational sector; neither researcher was involved in the writing of this article to avoid biases in assessing the selected final article. The remaining articles were categorized into three categories: high, medium, and low; only papers that were categorized as high and moderate were to be reviewed [31]. Experts focused on the methodology of the articles when deciding the article’s quality rank and inclusion in the review. This process ranked 6 articles as high, 15 articles as moderate, and 100 articles as low. Thus, articles that have been ranked as low were excluded and all the remaining 21 articles were eligible for the review.

2.4. Data Abstraction and Analysis

The remaining articles were assessed and analyzed. Efforts were concentrated on specific studies that responded to the formulated questions. The data were extracted by reading through the abstracts first, then the full articles (in depth) to identify appropriate themes and sub-themes. According to Whittemore and Knafl [34], the best way to synthesize or analyze integrative data is by using qualitative or mixed-method techniques that enable the researcher to conduct iterative comparisons across the primary data sources. Qualitative analysis was performed using content analysis to identify themes related to leaders’ safety management strategies.

All 21 articles have been analyzed thoroughly, particularly in the sections of abstract, results, and discussions. The data abstraction was conducted based on the research questions; it denotes that any data from the reviewed studies that can answer the research questions were abstracted and placed in a table. Subsequently, the researcher performed a thematic analysis that identified themes and sub-themes based on efforts related to noting patterns and themes, clustering, counting, noting similarities, and relationships that existed within the abstracted data [35].

The first step of thematic analysis is to generate themes. In this process, it is important to identify the patterns that emerged among the abstracted data of all reviewed articles. Any similar or related abstracted data were pooled in a group and, eventually, a total of three main groups were created. The authors then re-examined the three groups of data and found 12 other sub-groups. The next process involved reviewing the accuracy of these themes; in this process, the authors re-examined all the main and sub-themes generated in order to ensure their usefulness and accurate representations of the data. Afterward, the authors proceeded to the next stage by naming the themes for each group and their sub-group. The authors started naming the themes for the main group first before naming the themes for the sub-group (see Table 3).
Table 3. The theme and the sub-theme.

<table>
<thead>
<tr>
<th>Nos</th>
<th>Authors</th>
<th>Year</th>
<th>Country</th>
<th>Establishing and Conveying the Safety Vision</th>
<th>Supporting Learning and Professional Capacity Development</th>
<th>Leading with Safety Orientation</th>
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<td>SA</td>
<td>SVB</td>
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<td>2015</td>
<td>Sweden</td>
<td>/</td>
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<tr>
<td>52</td>
<td>Ismail, Arifin, and Aiyub</td>
<td>2015</td>
<td>Malaysia</td>
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Establishing and conveying the safety vision
Supporting learning and professional capacity development
Leading with a safety orientation

SV—formulating and communicating safety vision
SA—promoting safety awareness
SVB—stimulating safety voice behavior
ARM—act as safety role model
SS—selecting staff for the right fit
SIC—ensuring safety information is communicated fluidly
BT—building trusting relationships
SK—transferring safety knowledge
LS—practicing the effective leadership style
ESM—emphasizing safety management
RE—recognizing effort and achievement
EX—external engagement
3. Results

3.1. General Findings and Background of the Studies Included in the Review

The review managed to obtain 21 selected articles. Based on the thematic analysis, three themes were developed, namely establishing and conveying the safety vision (four sub-themes), supporting learning and professional capacity development (four sub-themes), and leading with safety orientation (four sub-themes). Further analysis of the themes has resulted in 12 sub-themes.

The countries where the studies were conducted are shown in Figure 2. Out of 21 selected articles, seven studies were conducted in United States of America [7,20,41,44–46,49], three studies were conducted in Malaysia [10,36,38], two studies were conducted in Turkey [23,39], two studies in Taiwan [21,42], one study was conducted in these countries, namely Canada [43], Sweden [37], Finland [40], Iran [22], Spain [24], Iraq [48], and Saudi Arabia [47].

![Figure 2. Locations where studies were conducted.](image)

The total number of articles published each year is displayed in Figure 3. Out of 21 selected articles, three articles were published in 2021 [47–49], three articles in 2017 [24,44,45], three articles in 2015 [10,23,37], two articles in 2019 [38,46], two articles in 2016 [39,40], two articles in 2014 [22,43], two articles in 2008 [21,42], one article in 2011 [41], one article in 2007 [20], one article in 2020 [36], and one article in 2005 [7]. Most of the selected articles were about leadership practices for safety in higher education institutions with 13 articles (62%), and another 8 articles (38%) were about leadership practices for safety in schools at the primary and secondary levels.

3.2. Main Findings

This section concentrates on three main leadership practices to manage occupational safety in the education sector: establishing and conveying the safety vision; supporting learning and professional capacity development; leading with a safety orientation.

3.2.1. Establishing and Conveying the Safety Vision

The first strategy is establishing and conveying the safety vision by leaders. This strategy is critical for the organization so that its direction is clear to achieve the desired goals. In this case, a total of 14 previous studies were found to focus on establishing and conveying the vision, particularly in leadership strategies in safety management.
Specifically, it should be noted that stimulating safety voice behavior (seven studies) was the common strategy under this theme, followed by promoting safety awareness (six studies), acting as a safety role model (six studies), and formulating and communicating safety vision (four studies).

![Figure 2](image-url) Location(s) where studies were conducted.

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Most of the selected articles were about leadership practices for safety in higher education institutions with 13 articles (62%), and another 8 articles (38%) were about leadership practices for safety in schools at the primary and secondary levels.

![Figure 3](image-url) Year of publication.

Stimulating Safety Voice Behavior

Leaders must encourage staff and students to use their safety voices. Safety voice is a person’s willingness to talk about safety issues [43]. When leaders are open to hearing the voice of safety, accidents can be decreased, and staff and students are not afraid to speak up; as a result, certain costs can be minimized [23,43]. For example, when staff are open to voicing ideas for resolving safety issues, then those ideas are likely to be very valuable, which can benefit the organization. To stimulate safety voice behavior, leaders need to listen to the views of their staff and students, understand their situation, and try to find the solution [22]. Other than that, leaders need to pay attention to staff and student personalities when dealing with safety matters [21,38,41], because the level of awareness for speaking up is different. Tucker and Turner [43] found that men are less vocal about safety compared with women; meanwhile, young workers who do hazardous work feel no need to complain about safety.

Promoting Safety Awareness

Safety awareness can prevent accidents to improve the safety performance of either individuals or organizations [10,48]. The level of individual safety awareness needs to be nurtured through learning processes and teaching methods at the educational level. Various efforts have been initiated by leaders to promote safety awareness in educational institutions such as through safety talks, safety training, and safety campaigns, and all such activities have become part of the institution’s annual program [7,21,42]. The effectiveness of a safety awareness program is when there is an improvement in making short-term and long-term planning and a reduction in the number of accidents that occur each year [10]. Ultimately, exposing prospective employees to safety awareness at the educational level will result in employees who are better prepared to enter high-risk sectors [7].
Acting as a Safety Role Model

Leaders can inspire others to achieve goals and visions through verbal or written communication, but the best way is through exemplary behavior. Some leaders consider themselves agents of social change, so they emphasize personal and professional qualities in their roles while also implementing change through their behavior [24]. Some leaders provide safety guidance by serving as role models to motivate staff and students to pursue the quality and safety agenda [20,21,36,46]. As for safety role models, leaders are personally committed to safety management practices in their organization through their understanding of the concept, importance, and contributions to improving workplace safety management [38]. According to Naranasamy and Adams [38], school leaders serve as role models by implementing safety management practices, for example, by preparing safety procedures and rules such as safety lines, safety display boards, warnings, and awareness on safety matters in schools, and observing the physical condition of the school such as buildings, the school landscape, and the environment.

Formulating and Communicating Safety Vision

A clear safety vision is essential in any organization that prioritizes occupational safety and health. Leaders must develop a clear direction and maintain an optimistic vision for improvement to ensure successful safety management [24,45]. To establish a clear vision, leaders must use common sense, which includes the capacity to recognize confusing situations. A clear safety vision is critical because it influences an individual’s psychological safety [43]. In the case of the COVID-19 pandemic, for example, leaders faced not only educational confusion but also contradicting facts concerning the virus’s transmission and preventative techniques. Therefore, leaders need to have a clear direction and communicate their vision clearly and optimistically, anticipating the possibility of change even in difficult situations to win support from others [24,45].

3.2.2. Supporting Learning and Professional Capacity Development

The second strategy is, supporting learning and professional capacity development. This strategy emphasizes the need for individual development to improve safety performance. In this case, a total of 17 previous studies were found to focus on supporting learning and professional capacity development. The most popular sub-theme for this strategy is transferring safety knowledge—discussed in 15 studies—followed by building trusting relationships (9 studies), ensuring safety information is communicated fluidly (8 studies), and selecting staff for the right fit (4 studies).

Transferring Safety Knowledge

Leaders should educate their staff and students about safety by providing safety training [7,20,46]. The knowledge will increase alertness and make people more responsible and vigilant while carrying out their duties. Risk analysis knowledge, for example, can be an effective strategy to improve the work environment and awareness of hazards so that it will reduce the possibility of workplace accidents [37]. Specifically for technical courses that require the use of laboratories, educational institutions should improve and implement safety training to ensure that all students have sufficient understanding before beginning the practical task. This is because safety knowledge has a critical impact on individual safety commitment in responding to emergencies and acting safely in the laboratory [47]. As future workers, students should be instructed in prevention and provided with a safe workplace atmosphere and design [7]. With the development of educational institutions, no one should enter the labor market without an awareness of safety and health, as well as effective methods for dealing with them. Safety knowledge is also essential for teaching staff, particularly those who teach in the technical field. However, in other circumstances, teaching staff have received little or no occupational safety and health (OSH) training [7]. As a result, not only students but the teaching staff should also be trained [7,20,37,45,46].
Building Trusting Relationships

Leaders bring in the facet of trust to strengthen the organization’s internal strength [49]. Trust is built in two directions: employee trust in the leader and leader trust in the employee [21,24,38]. When staff trust their leader, they are more likely to feel safe and comfortable with how their leader is acting [23,47], and when leaders trust in staff, the leader will allow them to act on their own in specific situations [38]. For example, some leaders believe in delegating responsibility to staff to handle and resolve an incident or accident situation [38]. Even so, if leaders intend to bring change into the organization such as the idea of implementing a safety management system, leaders need to be careful and not too rushed. Soini et al. [40], while studying the strategic approach of educational leaders in Finland in bringing about reforms in educational institutions, found that the core strategies used by all leaders are quite similar, i.e., the leaders are not looking for quick and comprehensive solutions to ongoing development tasks; instead, they describe taking small steps simultaneously in many areas. For example, they bring new ideas into formal meetings and even introduce them into daily interactions with teachers in more informal situations. Actions that are too drastic without considering the willingness and ability of employees are likely to create a crisis of trust among employees towards their leaders.

Ensuring Safety Information Is Communicated Fluidly

Leaders need to ensure that information relevant to safety is communicated fluidly across an organization. For that, some leaders form a team responsible for disseminating safety information through appropriate mediums [45,47]. Abbas et al. [47] highlighted the importance of establishing a safety committee for safety control. Findings and recommendations from the safety committee should be followed by leaders for disseminating a positive message to staff and students. In current pandemic situations, information on safety and personal care, especially in the aspect of infectious disease prevention, is now a necessity. Even without face-to-face interactions, safety information still can be spread at all levels of the organization effectively by mediums of communication [21,38,42,43] such as telephone, email, social websites, WhatsApp, Telegram, announcements in assemblies, and displaying banners.

Selecting Staff for the Right Fit

Leaders have a function to select individuals with corresponding abilities to hold certain positions. To manage safety effectively, leaders should pay attention to routine safety matters by developing new organizational structures, appointing resources, and delegating this aspect to the relevant safety manager or safety expert for continual improvement with the help of good leadership [20,45]. That particular person will assist the leader to achieve the targeted safety direction [7,20,45,46] and bring the team together to focus on important elements of safety, create a safe work culture, and reform the institution towards effective safety management [20,47]. Griner [20] has identified leadership strategies in several medical schools in the United States of America, stating the strategies of those schools that require occupational safety and health expertise criteria in the appointment of strategic positions in institutions and the formation of teams that specialize in quality and safety management. This strategy was effective when, by the fourth year, the team had successfully addressed quality and safety from a systems’ perspective.

3.2.3. Leading with a Safety Orientation

The third strategy is leading with a safety orientation. This strategy emphasizes leaders’ efforts that focus on safety in leadership. In this case, a total of 17 previous studies were found to focus on leading with a safety orientation. The most popular sub-theme for this strategy is practicing the effective leadership style discussed in 15 studies, followed by emphasizing safety management (9 studies), connecting with external partners (8 studies), and recognizing effort and achievement (4 studies).
Practicing the Effective Leadership Style

Effective leadership depends on the quality and capacity of the leader [49], which translates into leadership behavior. Leadership behavior such as transformational leadership, transactional leadership, servant leadership, authentic leadership, and distributed and instructional leadership are related to a positive work environment [23,36,39,40,46,48,49]. Out of many leadership styles practiced, the transformational leadership style is the most studied and proven to be effective. Transformational leadership has been identified through many studies as the most effective leadership style in various organizations because of its nature driven by a leader’s ability to leverage organizational members to achieve their mission and vision [22,36,46]. Interest in the study of safety leadership is growing as researchers have consistently found that leadership is an important factor influencing employees’ safety. Wu [42] has defined the safety leadership of university presidents as the process of interaction between leader and followers through which a leader can exert influence on followers to achieve organizational safety goals within the context of organizational and individual factors. Wu’s safety leadership scale for university features three factors: safety coaching, safety caring, and safety controlling. Safety coaching and safety caring are aspects of transformational leadership; safety controlling is closely linked to transactional leadership. This safety leadership behavior has shown a positive impact on organizational safety performance [21,47].

Emphasizing Safety Management

Leaders emphasize the importance of safety management as a sign of commitment to the vision of safety [7,20,38,47]. Effective leaders always prevent unwanted injuries and accidents from occurring in the workplace and manage all properties, facilities, and equipment properly so as not to pose the risk of accidents, as well as consider the risk of injury or related illness that exists for students and staff [7,10,38]. Hence, leaders need to provide financial allocations to solve safety-related problems, strengthen safety infrastructure in their institutions, and provide safety training [7,20,38,47].

Connecting with External Partners

Effective leaders make connections with the community to promote broad participation from parents and other external stakeholders who can contribute to a positive learning experience for students [49] and get support from them to maintain their success [24]. For example, there are some higher education institutions in the United States of America that form strategic alliances with insurers and health providers based on the belief that they have a long-term mutual interest in improving the quality of health [20]. Through such an approach, both parties can align corporate interests, expertise, and capital investment with their respective institutional improvement initiatives. In Malaysia, school leaders enhance safety management practices by engaging the support from the school community such as the Teacher Parent Association (TPA), or directly from students’ parents [38]. While waiting for the budget allocation for maintenance from the Ministry of Education and District Education Office, the school will request the TPA for help, advice, and support.

Recognizing Effort and Achievement

Leaders should recognize everyone’s work, because everyone has their contribution. The recognition can be given in the form of personal support, celebrating a success, or giving some rewards [20,24]. Giving rewards is motivation and a persuasive way to improve individual performance [22,42]. In the context of occupational safety, the purpose of rewards is to promote safety and it is implemented in several ways such as bonuses, merit salaries, profit sharing, praise, appreciation, and recognition. For example, at the University of Oregon Health Sciences (OHSU), the institution uses the achievement of a satisfactory clinical performance measure as a criterion for promotion and also provides finance as the incentive to promote quality and safety improvements [20].
4. Discussion

This study has attempted to systematically analyze the existing literature on effective leadership behavior for safety in the education sector. Safety refers to the conditions (workplace, materials, and equipment) and behavior of individuals that do not pose a danger to result in accidents, collisions, and injuries while performing work activities. Managing safety is very important and should be given priority by every organization to avoid the loss of skilled labor. A rigorous review sourced from two databases has resulted in 21 articles related to leaders’ strategies in managing occupational safety and health in the education sector. The results of this study are presented through three main domains based on information obtained from the literature. All information was collected and then all known strategies were categorized as 21 articles discussing leadership strategies in safety management. In terms of the needs of the study, several important contributions were derived from this study. First, it illustrates there is a strong study of leadership practices in safety management in educational institutions. Second, through this study can be seen the role of leaders toward staff, students, and the work environment. Third, the results of the study present the results of the work of effective leaders who focus on safety in the workplace.

The results show that leaders have implemented several strategies for managing safety. Within the scope of this review, 3 themes and 12 sub-themes emerged. These strategies are: (i) establishing and conveying the safety vision, (ii) supporting learning and professional capacity development, and (iii) leading with a safety orientation. The number of articles published from 2005 to 2021 showed an upward trend. Particularly, 2021 and 2022 are expected to see an increase in the number of articles published as 2021 and 2022 were still not finished when this study was conducted. The increasing number of published papers in recent years may be due to the impact of pandemics around the world. This situation draws the attention of researchers to the leadership approach in dealing with the current crisis. Other than that, the published articles mostly focus on higher education institutions (62%) compared with schools (38%). This may be due to higher capacity and level of risk in higher education institutions. Meanwhile, the United States of America (USA) contributes the highest number of published papers. These numbers may be influenced by changing trends in the American workforce as well as the nature of work, for example, an increase in the number of working older adults, high-risk hazardous jobs continuing to exist, as well as the increase of jobs that risk chronic illness [50]. The focus of research on education increases when there are widening inequalities in student access and learning as a result of the public education crisis due to the COVID-19 pandemic outbreak [49].

The first theme is establishing and conveying the safety vision. Four sub-themes emerged from the analysis: formulating and communicating a safety vision, promoting safety awareness, stimulating safety voice behavior, and acting as a safety role model. Safety vision is based on the absence of injury, reinforcement of safe behavior, or other macro-visions aimed at minimizing danger [9,51,52]. Men et al. [53] stated that when leaders present a strong vision for change, then trust in leaders will increase. Once leaders demonstrate things they can personally do to create and deliver a vision of safety, their attention shifts to supporting individual learning and development. Four sub-themes emerged from the analysis: transferring safety knowledge, ensuring safety information is communicated fluidly, building trusting relationships, and recognizing effort and achievement. This strategy produces positive attitudes that motivate others to perform tasks until targeted goals can be achieved, which may exceed their expectations and abilities [54], while the third theme is leading with a safety orientation. Four sub-themes emerged from the analysis: practicing effective leadership behavior, emphasizing safety management, selecting staff for the right fit, and connecting with external partners. Leading in safety orientation is important when the safety culture in an organization is weak [13]. By leading with a safety orientation, leaders can influence the behavior of others directly or indirectly such as through the formation of norms related to safety practices and procedures, monitoring, and controlling [13,23,38,52,55–57].
Many studies are now increasingly focusing on leadership in critical situations due to the COVID-19 pandemic impact. The most recent study is a qualitative study conducted by Reyes-Guerra et al. [49], who discovered how leaders engaged in their thinking and practice in a critical context. The researchers found that three approaches are practiced by leaders during critical situations, i.e., using their reservoirs of shared leader qualities; tapping into their schools’ strengths; and making connections between schools. Another study was by Moral et al. [24], which also examined in depth how leaders practice their leadership success in disadvantaged contexts. The researchers found that there are eight strategies, i.e., have a clear vision of the school and maintain it ‘active and vibrant’; build the vision connected to the context; keep an optimistic vision for improvement; create structures for shared decision making; share power with the teaching staff; adopt an attitude of ‘taking risks’ and seek new ways to curriculum improvement; favor an education that takes diversity and plurality into account; stimulate professional staff development; and promote the reflection on curricular issues.

All the themes sum up a leader’s three main strategies. First, a top leader should develop and disseminate formal policies on occupational safety and health implementation and practices. Then, since occupational safety and health can improve well-being and reduce working stress, management should provide formal training to students and staff in addition to other regular training. Leaders should encourage everyone to follow those traits in their daily life once a culture of embracing workplace safety and health measures has been developed. Because training is associated with leadership effectiveness, the majority of the articles selected support individual learning and development. Hossain et al. [19] found that formal training and encouragement are equally important in leadership. Accidents in the workplace are caused by a lack of safety training, a failure to practice learnt safety instruction, and a lack of confidence in discussing safety issues such as reporting dangers, injuries, or symptoms [8]. As a result, leaders should conduct training on a regular and ongoing basis, especially in the presence of new methods and equipment [18,55,57–59].

There is still much to be discussed about how leaders manage organizational safety. Accordingly, several areas of research need to be given attention. Based on the current results of theme analysis, the number of selected review articles on safety-related leadership behavior in the education sector is still modest in volume and has only increased in recent years. Compared with other industries such as construction, manufacturing, or shipping, in the education sector itself most studies in higher education institutions focus on universities. According to the articles selected, there is a lack of research studies concentrating on leadership practices for safety in other educational institutions such as polytechnics, community colleges, and training intuitions. Research on leadership behavior should be expanded by integrating methods, results of work, and organizational, and social psychology research on leadership. From a work psychology perspective, for example, a study of safety-oriented leadership behavior among educational leaders could be an important contribution to traditional leadership research such as transformational leadership [59]. In addition, concepts and findings from social psychology can be used to study leadership effectiveness, for example, by investigating the relationship between safety-oriented leadership, behavior leadership, and employee safety performance.

5. Conclusions

The present study reviewed 21 articles on effective leadership behavior for safety in the education sector. Based on the systematic reviews performed, there are three leadership behaviors for safety, namely establishing and conveying the safety vision; supporting learning and professional capacity development; leading with a safety orientation. These themes were further extended to 12 sub-themes. This study also revealed the potential gaps in the knowledge of leadership behavior and several subject areas that can be researched further. It was found that the number of studies on safety-oriented leadership behavior has increased in recent years and most of the studies were conducted in the United States of America. Furthermore, three key themes representing leadership behavior for safety in the
education sector have been identified based on a systematic review. The most researched theme was supporting individual learning and development due to the importance of safety training for all, as individuals or organizations. In terms of the study area, it is unbalanced when most of the articles published only focus on schools and universities without exposure to other educational institutions. These findings provide opportunities for new discoveries and research for occupational safety and health practitioners, authorities, and researchers to explore the role of leadership in bringing about change and improvement, particularly in aspects of occupational safety and health in educational institutions.


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