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A systematic review

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DOI
10.1186/s12913-024-12138-x

Publication date
2024

Document Version
Final published version

Published in
BMC Health Services Research

BMC Health Services Research

SYSTEMATIC REVIEW

Open Access

Classification of influencing factors of speaking-up behaviour in hospitals: a systematic review

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Abstract

Background Speaking up among healthcare professionals plays an essential role in improving patient safety and quality of care, yet it remains complex and multifaceted behaviour. Despite awareness of potential risks and adverse outcomes for patients, professionals often hesitate to voice concerns due to various influencing factors. This complexity has encouraged research into the determinants of speaking-up behaviour in hospital settings. This review synthesises these factors into a multi-layered framework. It aims to provide a more comprehensive perspective on the influencing factors, which provides guidance for interventions aimed at fostering environments contributing to speaking up in hospitals.

Methods A systematic review was conducted in November 2024, searching databases: PubMed, Scopus and Web of Science. Following PRISMA guidelines and the three stages for thematic synthesis, we developed the classification of influencing factors. Out of 1,735 articles identified articles, 413 duplicates were removed, 1,322 titles and abstracts were screened, and 152 full texts (plus six additional articles) were assessed. Ultimately, 45 articles met the inclusion criteria.

Results The review categorised influencing factors into four categories: individual (29 articles, 64%), relational (21 articles, 47%), contextual (19 articles, 42%), and organisational (26 articles, 58%). These categories encompass motivating, hindering and trade-off factors affecting speaking up among healthcare professionals in hospitals.

Conclusions The multi-layered framework highlights the dynamic interplay of factors influencing speaking up among healthcare professionals. A systems approach is essential for identifying barriers and enablers and designing effective speaking up interventions. This framework serves as a foundation for more focused research and practical guidance, enabling healthcare leaders to address barriers across all categories. By fostering environments that support open communication, organisations can enhance patient safety and quality of care.

Keywords Speaking up, Open communication, Patient safety, Quality of care

Introduction

The tragic case of Elaine Bromiley is a sad illustration of a patient who died due to preventable medical errors and a lack of effective decision-making as a result of poor communication. Finding herself in a 'cannot intubate cannot oxygenate' situation, for which a fixed protocol exists, the professionals involved were so focused on their own tasks that they didn't consult each other when the situation

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went from bad to worse. A nurse who tried to intervene was quickly dismissed without being heard [1]. This incident illustrates how failure to speak up about concerns can have severe consequences, making it a compelling case for examining the factors influencing speaking-up behaviour of healthcare professionals. Besides this case, communication has been one of the most cited factors contributing to mishap incidents and medical errors for decades [2–4]. Effective communication is essential for delivering high-quality, safe patient care [5].

Background and definition

The concept of *speaking up*, which refers to opportunities for employees to express opinions, concerns and suggestions to improve patient care or working conditions, is particularly interesting [6, 7]. One definition of employee voice that influenced the speaking up concept is that of Morrison "informal and discretionary communication of ideas, suggestions, concerns, problems, or opinions about work-related issues, with the intent to bring about improvement or change" [8], e.g. improved decision-making. In healthcare, the speaking up concept is defined just differently, a systematic review of definitions of speaking up in healthcare by Kane et al. defines it as "a healthcare professional identifying a concern that might impact patient safety and using his or her voice to raise the concern to someone with the power to address it" [9]. Over recent years, research has been done on different types of voice [10–13], but in this review, we focus on the definition of speaking up that is most commonly used in healthcare.

Both definitions offer relevant information to define the concept of speaking up further. Firstly, someone must have a 'latent voice opportunity' to speak up or remain silent [11]. In healthcare, a latent voice opportunity means, for instance, that a professional must recognise or become aware of a risky or erroneous action or a concern that might impact patient safety or quality of care. For example, according to Schwappach and Richard, perceived patient safety concerns were frequent among nurses and doctors [14]. In their study, between 62 and 80% of the healthcare professionals reported at least one safety concern in the last four weeks. These perceived patient safety concerns can be considered as latent voice opportunities. Secondly, in both definitions, raising concerns or using his or her voice refers to spoken behaviour. This seems self-evident, but raising concerns or reporting can also be done via reporting systems, which is outside the scope of the speaking up concept, as we will review here. Finally, healthcare professionals speak up for the benefit of patient safety or care quality to a person with the authority to address it. According to Edmondson and Besieux, speaking up contributes to better outcomes when it is productive and aimed at the right person, i.e. fits the given situation [10]. However, they argue that not all speaking-up behaviour is of added value and can even be of a disruptive nature, for instance, when only one person is speaking, leaving no room for other team members to contribute.

In the literature, employee voice and the concept of speaking up are often related to the concept of employee silence or withholding voice [10–12]. When employees have a concern, idea or opinion, they have the choice to speak up or remain silent. However, there is a debate among scholars whether silence is seen as the opposite construct of voice or whether it is on the same continuum [15]. If someone is silent, it may be because someone has nothing to voice or has other personal or prosocial motives [10, 12]. In the latter, scholars speak of withholding voice. In this study, we recognize that both employee silence and voice are two multidimensional concepts and that examining the influencing factors of these two concepts gives us insight into speaking up and why people speak up or remain silent.

Furthermore, the concept of speaking up differs from concepts such as whistle-blowing, organisational silence, incident reporting or reporting concerns, and moral courage. Whistle-blowing focuses on communicating illegal, immoral or illegitimate practices from people in the organisation to people outside the organisation [16]. Organisational silence refers to employees who consciously do not share their concerns and ideas about organisational problems with the administration but keep these to themselves [17]. Whistle-blowing and organisational silence concern more structural problems within an organisation that people are afraid to address. In addition, these concepts do not necessarily pertain to spoken behaviour; such issues can also be expressed in other ways. The latter also applies to incident reporting or reporting concerns, where reporting often refers to submitting a (written) report to the system [18, 19]. Moral courage can be defined as the voluntary willingness to stand up for and act on one's ethical beliefs despite barriers that may inhibit the ability to proceed toward the right action [20]. Speaking up can take moral courage; these concepts are thus closely related. However, they are different, where moral courage often implies a broader commitment to ethical beliefs and a willingness to endure significant risks. Speaking up can occur in more everyday contexts, not necessarily involving profound ethical dilemmas. For this review, we focus on the concept of speaking up.

Outcomes of speaking up

When healthcare professionals can speak up about their concerns, they experience positive outcomes for the

patient, the organisation and themselves [5]. Positive outcomes for patient safety or quality of care are, for example, better hand hygiene [21], being able to speak up, which leads to better technical team performance during anaesthesia training [22], and (in)directly preventing infections [23]. In addition to the direct positive effects on patient safety, speaking-up behaviour of healthcare professionals is also related to organisational learning and innovation [24]. When speaking up is targeted to a person who can take action, it is positively related to a unit's effectiveness [25]. Speaking up also positively impacts the healthcare professionals' working experience. When people can speak up and feel heard, this leads to lower turnover rates [26] and higher job satisfaction [27]. However, speaking up can also have negative consequences because it can be experienced as risky behaviour. When speaking up to prevent problems, employees feel anxious, and afterwards, they withdraw from their coworkers [28]. This behaviour may have negative consequences for the individual and organisation as it inhibits employees from engaging in interpersonal citizenship behaviour. However, Morrison concludes that the current evidence suggests that groups and organisations perform better when employees speak up about suggestions and concerns [11].

Influences on speaking up behaviour

Even though speaking up plays a critical role in improving patient safety, its occurrence is often complex and multifaceted. Despite being cognizant of the potential risks and adverse outcomes for patients, healthcare professionals may hesitate to voice concerns due to a combination of historical, individual and contextual factors [29]. This complexity has led to a growing body of research investigating the determinants of speaking-up behaviour in healthcare settings.

Morrison's Model of Employee Voice provides a foundational framework for understanding the individual and contextual factors in the decision-making process of speaking up. The model highlights the trade-off between perceived capability, efficacy and safety [11, 15]. In an earlier literature review, Okyuama et al. applied Morrison's model within the healthcare context, identifying numerous motivating and hindering factors, such as responsibility, confidence based on experience, teamwork and hospital support [30].

Much of the existing research has concentrated on nurses and healthcare students, given their comparatively low hierarchical status within the healthcare sector and the challenges they report in speaking up [31–33]. Two recent literature reviews, specifically examined the factors influencing speaking up among nurses [34, 35]. These studies identified three major barriers – fear of negative consequences, hierarchical structures, and poor work environment—as well as two key motivators: professional responsibility and a supportive environment. To illustrate the breadth of influencing factors, Lee et al. proposed categorizing them into four contextual domains: individual, team, organisational and sociocultural [35]. While these two reviews focus on specific populations or regions (e.g., nurses and East Asia), broader perspectives are also emerging. For instance, Lainidi et al. explored how employee voice and silence are conceptualised and measured in the healthcare literature. Their proposed framework categorises factors into individual, team, leadership and organisational domains [7]. However, their proposed framework extends beyond empirical evidence, incorporating suggestions for addressing research gaps, which may limit its immediate practical applicability.

The current study

The present study has three primary objectives, and is guided by the following research question: What are factors influencing healthcare professionals' speaking-up behaviour concerning patient safety and quality of care? First, given the rapid increase in research on the factors influencing healthcare professionals' speaking-up behaviour regarding patient safety, this review seeks to provide an updated synthesis of the current literature. Unlike previous reviews that predominantly focus on specific populations or regions, this study includes all healthcare professionals working in hospital settings, offering a broader scope. Second, this review aims to go beyond a thematic summary of influencing factors by developing a multi-layered framework where the factors are systematically categorised and organised. Finally, this study aspires to provide a more comprehensive perspective on the influencing factors of speaking-up behaviour. By synthesising the existing knowledge, it offers guidance for future research and practical insights for prioritising and designing interventions aimed at fostering an environment contributing to speaking up in hospital settings.

Method

Search strategy

We used the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) framework as a guideline [36]. Relevant English-language articles published before 18 November 2024 were sourced using Web of Science, Scopus, and PubMed (date last search: 18 November 2024). Our research question identifies the following variables of interest: target population (healthcare professionals), concept (speaking-up behaviour), and context (hospitals). An overview of the final search terms can be found in Table 1. The search terms were determined from keywords and synonyms. The literature searches and final search queries were conducted with

Table 1 Overview of the search terms

	Concepts: combine with AND			
Synonyms and/or related terms: combine with **OR**	*concept 1: Influencing factors*	*concept 2: speaking up behaviour*	*concept 3: healthcare worker*	*concept 4: patient safety*
	Influencing factor	Speaking up behaviour	Healthcare worker	Patient safety
	Factor	Speaking up	Healthcare employee	
	Influence	Voice concern	Healthcare professional	Patient outcome
	Predictor	Raise concern	Nurse	Care quality
		Withhold	Doctor	Patient care
		Silence	Surgeon	Safety concern
			Physician	

the assistance of experts in library science from Delft University of Technology. In addition, the reference list of relevant articles was screened.

Selection criteria

We only included an article if it met all the inclusion criteria: 1) the subjects of the study are healthcare professionals, medical or nursing students working in hospitals; 2) the article defines or describes speaking-up behaviour as verbal behaviour; 3) the article describes factors that influence this behaviour, 4) the study is based on empirical and primary data, 5) a research article which is peer-reviewed, and 6) written in English. An article was excluded if: 1) the study was conducted outside the hospital setting; 2) it focused on other types of raising concerns, such as whistleblowing or not on patient safety or quality of care issues; 3) it focused on communication between healthcare professionals and patients or their relatives; 4) it described only training programs or interventions, 5) no empirical data, e.g. editorials and reviews, and 6) or not available in English.

We did not perform a quality assessment of the scientifically published articles because the inclusion and exclusion criteria already ensure that the articles are peer-reviewed and published in scientific journals, which indicates they meet baseline quality standards. Additionally, professionals and policymakers rely on these articles to inform their decisions and interventions. Including such articles, regardless of further quality assessment, provides a comprehensive overview of the available evidence they already consider valid, aligning our review with real-world practices.

Data extraction

In the first screening phase, two authors (DvD and FG) independently reviewed all titles and abstracts of generated references to assess their eligibility for further review based on the selection criteria and chose relevant articles for possible inclusion. In the second screening phase, full papers of all possible relevant articles were independently reviewed by the same authors, who decided which articles to include in this review based on the in- and exclusion criteria. When there was disagreement about whether to in- or exclude an article, a third reviewer (JG or IG) was consulted, and consensus was reached before continuing.

This review prioritizes articles that appear to be relevant based on content rather than particular study types or articles that meet particular methodological standards. We've included a wide variety of articles, including both qualitative or quantitative and exploratory as well as confirmatory studies. The data collected for each study included the article, authors, publication year, definition of the speaking up concept, the study aim, the methodology including study type, the method, the target group, and the reported factors influencing speaking-up behaviour.

Data synthesis

To assess the factors influencing speaking-up behaviour about patient safety or quality of care by healthcare professionals in hospitals, we used the method of thematic synthesis. We followed the stages for thematic synthesis consisting of three stages: line-by-line coding of the findings of the primary data, organising these codes in descriptive themes, and developing analytical themes [37]. To develop the classification of influencing factors of speaking-up behaviour of healthcare professionals in hospitals, two reviewers (DvD and FG) independently began with a detailed inspection of the articles, gradually identifying recurring factors and themes via line-by-line coding. Organising the individual codes in groups -the translation of concepts or axial coding-, was done interactively by the same reviewers. Finally, we developed the current classification of influencing factors of speaking-up behaviour as analytical themes. When a disagreement about factors, themes or the classification was identified, a third reviewer (JG or IG) was consulted, and we

achieved consensus before continuing. The final classification was discussed with all reviewers during a peer feedback session.

All data included in this report were previously published and publicly available. This study did not require submission to the local institutional review board for ethical approval.

Results

Study characteristics

The initial systematic literature search identified 1,735 unique citations (Fig. 1). In the first title and abstract screening, 1,170 articles were excluded because the focus was not on speaking up in a healthcare setting, written in English or a research paper. In total, 152 articles were selected for detailed review by two researchers (DvD and FG) to determine whether they met all the inclusion criteria. A total of 39 articles met the inclusion criteria; 6 other articles were retrieved from the reference list and hand searches. Thus, 43 studies spread over 45 articles were identified; 11 were published between 2010 and 2015, 17 between 2016 and 2020, and 17 to the final search in November 2024. Most studies are conducted in the United States of America ($N=15$), Switzerland ($N=6$), and the Netherlands ($N=5$). See Table 2 for an overview of the descriptives of the articles.

Influencing factors categories

In line with the objective of this review, the influencing factors are classified in a structured manner. We follow the same approach in structuring the results as Blenkinsopp et al. in their literature review on whistleblowing by clustering and categorising the factors [16]. In the literature, the influencing factors are usually described or mentioned as themes, barriers, categories or factors. To structure this, various researchers have distinguished between motivating, hindering and/or trade-off factors [38–41]. Some researchers have chosen to structure the factors more hierarchically or structurally. For example, Garon distinguishes between personal and organisational factors [42], and Etchegaray et al. distinguish between personal and leadership barriers [31]. These two articles distinguish individual and contextual factors (as in Morrison's Employee Voice Model [15]. However, some researchers have a more specific classification of factors. For example, Boesten et al. structured the influencing factors under three levels: at the hospital, team or patient case level [43]. Nembhard et al. distinguish between individual, work, organisational, data, and external environment-related categories [44]. Slootweg et al. distinguish between relational, cultural and professional categories [45]. Finally, Sur et al. distinguish four themes: systems, supervisor, trainee, and clinical factors [46]. To reclassify

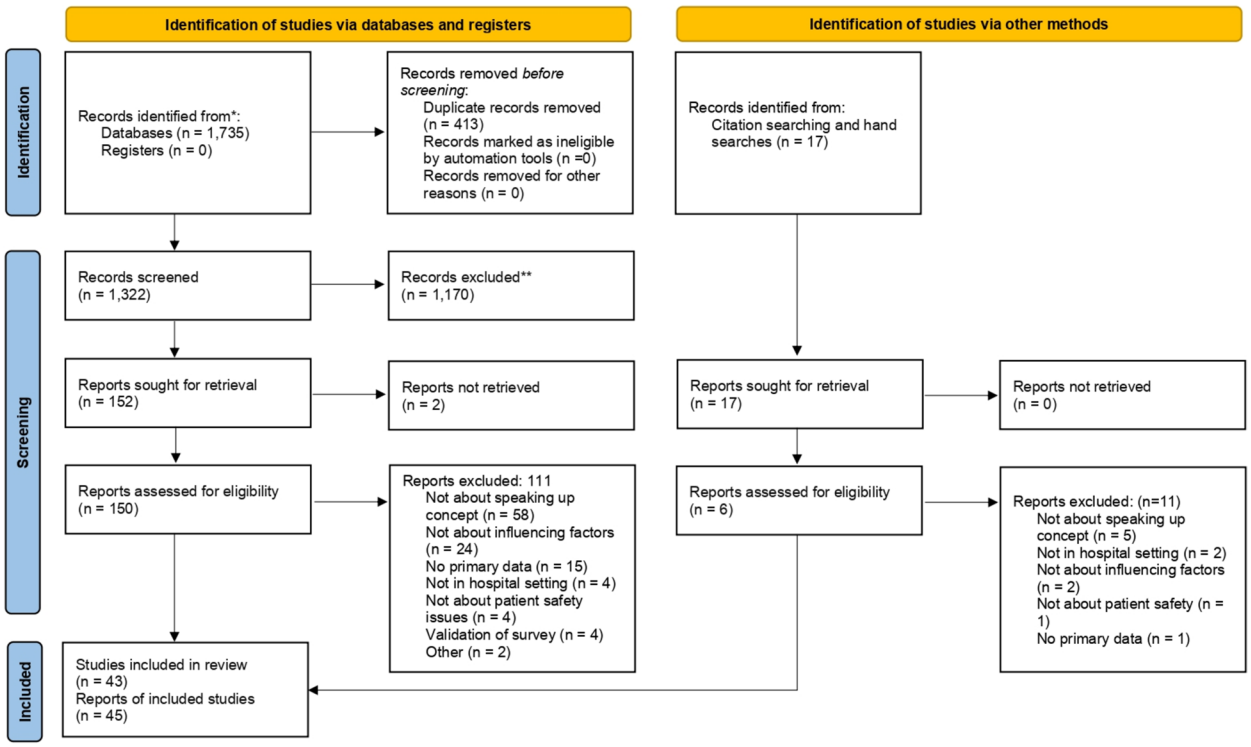

Fig. 1 PRISMA flow diagram

Table 2 Overview of the reviewed studies

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Alingh et al., 2019 [54] The Netherlands	Cross-sectional survey study	980 nurses and 93 nurse managers	Explore the relationships between control-based and commitment-based safety management, climate for safety, psychological safety and nurses' willingness to speak up	**Team psychological safety** is positively related to nurses' speaking up attitudes
Beament et al., 2016 [62] UK	Mixed method study: Immersive simulation scenario and focus groups	12 Senor anaesthetic trainees and 13 Junior anaesthetic trainees	Explore the concept of 'barriers to challenging seniors' for anaesthetic trainees and propose a conceptual framework	Three main organising themes: **1) relationship concerns, 2) decision-making concerns, and 3) risk/cost–benefit concerns.** Emotional maturity was an additional layer between the global and three organising themes
Belyansky et al., 2011 [66] USA	Cross-sectional survey study	38 surgical trainees and 23 attending surgeons	Examine the factors that influence surgical trainees in expressing their decisions and opinions in the operating room	**Hierarchy appeared to only modestly** impact communication between residents and attending surgeons. It is mainly dependent on the **attending personality**
Boesten et al., 2024 [43] Belgium	A multiple case study: observations and semi-structured interviews	50 structured non-participant observations of MOCs and 41 interviews with MOC participants	Analyse the factors that influence whether or not nurses will speak up and increase patient-centred decision-making in MDTMs	**Three main categories: 1) factors at the hospital level, 2) factors at the team level, and 3) factors at the patient case level**
Brown et al., 2020 [69] UK	A qualitative approach to undertake secondary thematic analysis of interviews	16 student nurses and 14 nurse mentors	Explore student nurses' and nurse mentors' perceptions and experiences of raising concerns on clinical placement and the influence of their relationship in this process	Three interrelated analytical themes: **1) developing a mentor-student relationship, 2) keeping your mentor sweet, and 3) the mentor's role in the raising concerns process**
D'Agostino et al., 2017 [60] USA	Focus groups	5 thoracic attending surgeons, 3 urology attending surgeons, 4 anaesthesiologists, 7 registered nurses, 4 CRNAs, 4 Surgical technologists and 7 surgical support staff members	To identify factors that influence surgical oncology staff members' speaking-up behaviour	Eight thematic categories that captured themes embedded in the focus group items: **1) role relations and hierarchy, 2) staff rapport, 3) perceived competence, 4) perceived efficacy of speaking up, 5) staff personality, 6) fear of retaliation, 7) institutional regulations, and 8) time pressure**
Er and Gül, 2024 [58] Turkey	Cross-sectional survey study	217 surgical nurses	Investigate the influence of teamwork and safety climate on nurses' speaking up for patient safety concerns and unprofessional behaviours	**Teamwork climate** and **safety climate** showed a positive effect on nurses' speaking up climate about patient safety concerns and unprofessional behaviours

Table 2 (continued)

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Etchegaray et al., 2020 [31] USA	A survey study	1314 healthcare professionals: 55% of nurses and 45% of professionals are a mixture of unlicensed and licensed personnel	Examine the association between the willingness of healthcare professionals to speak up about patient safety concerns and their perceptions of two types of organisational culture to understand whether nursing professionals and other healthcare professionals reported the same barriers to speaking up about patient safety concerns	Two major barriers: **leadership barriers and personal barriers**
Fagan et al., 2021 [32] Australia	Interpretive description of semi-structured interviews	53 Pre-registration nursing students	Explore pre-registration nursing students' perceptions and experiences of speaking up for patient safety	Four themes: **1) Speaking up is the right thing to do, 2) Being a witness or accessory to unsafe practice, 3) speaking up is risky, and 4) Dissonance and confusion**
Farrell et al., 2021 [67] USA	Mixed methods study: focus groups and semi-structured interviews	40 nursing professionals, 11 supervising attending physicians, 8 post-graduate physicians	Examine health professionals' primary sources of power and the relationships between power and speaking up for patient safety	Healthcare professionals draw on different social bases of power depending on their profession and position in the healthcare hierarchy. Professionals embrace or relinquish **their source of power** to speak up or remain silent in different ways
Fisher and Kiernan, 2019 [61] UK	Hermeneutic phenomenology using semi-structured interviews	12 Nursing students	Understand student nurses' perception of patient safety incidents in their practice placement and the reasons influencing their willingness or reluctance to raise concerns about patient safety	Four themes: **1) context of exposure, 2) the fear of retribution, 3) hierarchy, and 4) team culture**
Friary et al., 2024 [64] New Zealand	Two-phase study of semi-structured interviews	10 Allied health professionals	Explore the voice behaviour of new graduates in allied health over one year	There are factors at the individual, team and organisational levels that influence allied health professionals to speak up effectively, speak up with unmet needs, withhold their voice or speak up less over time
Garon, 2012 [42] USA	Descriptive qualitative study, focus groups	19 nursing staff and 14 nursing managers	Explore nurses' perception of their ability to speak up and be heard in the workplace	Results were organised into three categories: influences on speaking up, transmission and reception of a message and outcomes or results. Influences on nurses speaking up are divided into **personal and organisational** factors

Table 2 (continued)

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Gencer and Duygulu, 2023 [73] Turkey	A correlational descriptive research design, surveys	232 oncology nurses	Examine the mediating roles of organisational trust and structural empowerment on the speaking-up behaviour of oncology nurses	**Demographic variables, organisational trust, access to support and recourses and formal power sources** are related to speaking up behaviour of oncology nurses
Hoffmann et al., 2022 [59] Austria	Survey study	118 nursing students	Explore how nursing students use *speaking up* during their internship in an academic teaching hospital	The top three (out of six) predefined barriers: **1) fear of negative reactions (64%), 2) reaction not predictable (62%), and 3) ineffectiveness (42%)**
Jeong and Kim, 2023 [70] South Korea	Descriptive qualitative study with in-depth interviews	12 nurses	Examine experiences among nurses in South Korea of speaking up to prevent patient harm	Barriers to speaking up: **1) personal avoidance, 2) Hierarchical organisational culture**
Kee et al., 2024 [57] The Netherlands	Focus groups	24 certified nursing assistants (CNAs)	Explore the barriers certified nursing assistants encounter that hinder them from exercising their voice	Barriers that influence CNA's willingness: **1) experiencing lack of safety, 2) experiencing lack of efficacy. Situational conditions hampering CNA's ability to exercise voice: 1) lack of access to formal opportunities, 2) experiencing lack of facilitation, 3) lack of access to information, and 4) Jargon. Lack of skills: 1) lack of self-advocacy skills, and 2) lack of communication skills**
Kim et al., 2024 [47] Malaysia	Cross-sectional survey study	A total of 474 healthcare workers: 92 doctors, 358 nurses and 24 others	Examine factors associated with speaking up and withholding the voices of healthcare workers in Malaysia	**Profession, weekly work hours, department, years of employment in the hospital, hierarchical level and speaking up related climate** are associated with speaking up and withholding voice
Landgren et al., 2016 [53] USA	Cross-sectional survey study	93 paediatric residents	Examine the reasons reported by paediatric residents for not speaking up about safety events when observed in practice	Five themes: **1) perceived personal safety of speaking up, 2) individual factors, 3) efficacy of speaking up, 4) contextual factors of the workplace, and 5) motivation to speak up.** Concerns about the safety and efficacy of speaking up were correlated with teamwork and safety culture

Table 2 (continued)

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Lee et al., 2022 [38] South Korea	A descriptive qualitative interview study	15 nurses	Identify factors that motivate or inhibit nurses' speaking up for patient safety	There are nine categories, of which **five motivating factors: 1) Safety culture, 2) supportive unit manager and role models, 3) positive reactions from or familiarity with others, 4) high-risk situations, and 5) personal characteristics and beliefs. Four inhibiting factors: 1) hierarchies and power differences, 2) seniority and unit tenure, 3) concerns about damaging the relationship, and 4) heavy workload**
Lee et al., 2023 [48] South Korea	Descriptive correlational study: online survey	A total of 831 participants: 450 nurses, 104 physicians and 277 other professions	Examine the relationship between patient safety culture and promotive or prohibitive voice among health care workers	**Communication openness, reporting patient adverse events, and unit supervisors' and hospital managements' support for patient safety** were significant predictors of both voice types
Lee et al., 2024 [56] South Korea	Cross-sectional survey study	1255 registered nurses	Investigate the relationships among nurses' perceived impact, psychological safety, and voice behaviours	**Perceived impact** and **psychological safety** were positively related to voice but negatively associated with silence
Li et al., 2024 [76] China	Cross-sectional survey study	419 clinical nurses	Explore the relationship between abusive supervision, impression management motivation, speak-up-related climate, and withholding voice about patient safety	**Nurse leaders' abusive supervision and nurses' impression management motivation** increased withholding voice about patient safety. Impression management motivation has a mediating effect, and nurses' speak-up-related climate has a moderating role
Luff et al., 2021 [51] USA	Survey and vignette study	58 radiology trainees	Compare radiology trainees' perceptions of the culture regarding speaking up about patient safety and unprofessional behaviour in the clinical environment and assess the likelihood that they will speak up in the presence of a medical hierarchy	Radiology trainees will speak up about patient safety rather than unprofessional behaviour and are less likely to speak up to an attending radiologist than nurses, interns or residents. Significant predictors of the likelihood of speaking up to an attending radiologist: **respondents' perceptions of the potential for patient harm, their perceptions of the safety culture in their environments, and their race or ethnicity**

Table 2 (continued)

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Lyndon et al., 2012 [29] USA	Cross-sectional survey study	33 physicians/obstetrician, 79 registered nurses and 13 other/missing	A new measure will explore factors that may predict whether clinicians speak up in the face of safety concerns	Site (hospital), role, Harm Index Score, speciality experience, bravery and assertiveness contribute to the likelihood of speaking up
Martinez et al., 2017 [52] USA	Cross-sectional survey study	249 Interns and 582 Residents	Compare interns' and residents' experiences, attitudes and factors associated with speaking up about traditional versus professionalism-related safety threats	The three most commonly endorsed barriers to speaking up about both patient safety threats and unprofessional behaviour are **1) getting someone else in trouble, 2) fears of conflict or eliciting anger, and 3) alienation from team members.** The two most commonly reported facilitators were **1) evidence that speaking up results in meaningful change and 2) an anonymous reporting mechanism**
Mawuena et al., 2024 [77] West African Country	Semi-structured interviews	A total of 57 nurses: 21 theatre nurses, 14 nurse anaesthetists, and 22 recovery and ward nurses	Explore how professional disrespect in the doctor–nurse relationship in surgical teams influences the willingness of nurses to voice legitimate concerns about threats to patient safety	Disrespect by doctors towards nurses leads to safety concerns raised by nurses being ignored, downplayed or dismissed. Feeling disrespected influences nurses to remain silent
Nembhard et al., 2015 [44] USA	Constant comparative method: interviews	A total of 99 participants: 19 administrators and managers, 25 physicians, 38 nurses, 9 improvement staff and 8 emergency medical services paramedics/staff	Examine the drivers and influencing factors of voice for healthcare professionals in hospitals during focused improvement efforts	The factors are classified into five categories: **1) individual-related, 2) work-related, 3) organisational context-related, 4) data-related, and 5) external environment-related**
Ng et al., 2017 [39] China	Mixed-methods: survey and interviews	65 nurses and 15 ICU doctors	Explore the communication openness perceptions of Chinese doctors and nurses and identify their perceptions of issues in ICU communication, their reasons for speaking up and the possible factors and strategies involved in promoting the practice of speaking up	Three major factors were identified as facilitating factors for speaking up**: 1) The familiarity of a staff member with a patient case, 2) A working environment without a strong hierarchy and opportunities for staff members of any rank or discipline to share their opinions. 3) Reducing relationship conflicts among colleagues of differing seniorities**
Rainer and Schneider, 2020 [72] USA	Cross-sectional survey study	303 registered nurses	Explore the influence of organisational culture, workforce generation, and personal culture on speaking-up behaviours	**Organisational safety culture** strongly predicts speaking up, which is mildly related to moral courage

Table 2 (continued)

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Schwappach and Gehring, 2014 [40] Switzerland	Qualitative interview study	3 head nurses, 15 nurses, 10 residents and 4 senior doctors	Explore factors that affect oncology staff's decision to voice safety concerns or remain silent	Motivations to speak up: 1) Protect the patient from harm, 2) Contribute to one's image, and 3) Protect the actor from causing harm. Barriers to speaking up: 1) Presence of other persons, 2) Hierarchical structures and relations, 3)Limited time, 4) Fears of negative consequences, 5) Occupational group constellation, and 6) Futility and resignation. Trade-offs: 1) Judging the level of risk, 2) Differing perceptions of harm between professions, 3) Anticipation of negative outcomes, and 4) Predictability of the actor's response
Schwappach and Gehring, 2014 [71] Switzerland	Qualitative interview study	3 head nurses, 15 nurses, 10 residents and 4 senior doctors	Explore the experiences of oncology staff with communicating safety concerns to their colleagues and supervisors and examine influencing situational factors and motivations	Three details can foster the willingness to speak up in medication safety: **1) a collective understanding of the high potential for harm, 2) the belief that one's speaking up behaviour will be well received by coworkers because it is less 'invasive and personal', and 3) the fact that the constellation for expressing concerns often is—or can be shaped to be— a constructive, bilateral professional communication**
Schwappach and Gehring, 2014 [49] Switzerland	Survey study	1013 healthcare professionals: 131 doctors, 780 nurses and 71 others	Investigate the likelihood of speaking up about patient safety in oncology and clarify the effect of clinical and situational context factors on the likelihood of voicing concerns	Speaking up was strongly affected by contextual factors embedded in the vignettes. **Depending on the situation, the level of perceived potential harm, anticipated discomfort, and decision difficulty** considerably impacted the likelihood of speaking up. **Gender, age, profession and ward work** were significantly correlated with self-reported likelihood of speaking up

Table 2 (continued)

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Schwappach and Gehring, 2015 [55] Switzerland	Survey study	1013 healthcare professionals: 131 doctors, 780 nurses, and 71 others	Investigate the prevalence of non-speaking up despite safety concerns and identify predictors for withholding voice among healthcare professionals in oncology	Significant contributors to remaining silent: **1) being frequently confronted with safety concerns, others' errors, and rule violations, 2) the belief that a high level of interpersonal skills is required, and 3) agreeing on multiple legitimations for silence.** Significant contributors to speaking up: **1) advocacy for patient safety and 2) a high level of perceived psychological safety and organisational support significantly decreased the frequency of withholding voice.** Older and female healthcare professionals and those with managerial functions were less frequently withholding their voices
Schwappach and Richard, 2018 [14] Switzerland	Cross-sectional survey study	205 doctors and 979 nurses	Examine the relationship between healthcare workers' safety-related speaking-up behaviours and speak-up-related climate, discriminating between voicing and withholding concerns	Frequently perceiving safety concerns is associated with both voice behaviours: speaking up and remaining silent. An encouraging environment is positively associated with speaking up and negatively with withholding voice. A higher level of psychological safety was associated with a lower likelihood of reporting high frequencies of speaking up. High levels of resignation were associated with higher frequencies of withholding voice. Nursing experts and senior physicians were more likely to report higher frequencies of speaking up

Table 2 (continued)

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Schwappach et al., 2018 [68] Austria	Survey study	859 participants: 587 nurses, 38 nurse managers, 51 physicians, 51 manager physicians and 72 others	Assess self-reported speaking up related behaviours, climate and perceived barriers and identify differences between healthcare workers with and without managerial function, between professional groups and medical disciplines	The psychological safety for speaking up was lower for healthcare workers with a managerial function. They perceived the environment as less encouraging to speak up than healthcare workers without managerial functions. Nurses reported a higher psychological safety and a higher resignation The top three (out of six) predefined barriers are **1) the ineffectiveness of speaking up, 2) the presence of patients or relatives, and 3) the unpredictability of the actor's reaction**
Slootweg et al., 2016 [45] The Netherlands	Ethnographic approach: Observations and interviews	1 program directors and 12 teaching teams (including residents and clinical teachers)	Understanding teamwork among clinical teachers and factors influencing their speaking up behaviour	Three main factors with underlying categories were identified that influenced speaking up by clinical teachers: **1) relational factors, 2) cultural factors, and 3) professional factors**
Sur et al., 2016 [46] USA	Semi-structured interviews	18 surgical trainee residents	Explore when and how surgical trainees voice concerns about supervisors' clinical decisions	Four main themes with underlying subthemes: **1) systems factors, 2) Supervisor factors, 3) trainee factors, and 4) clinical factors**
Szymczak, 2016 [63] USA	Ethnographic/sociological approach: interviews	101 participants: 56 nurses, 30 physicians, 5 respiratory therapists, and 12 others	Identify the situational and organisational realities communicated through these accounts to develop a more sophisticated understanding of the social dynamics of communication challenges in healthcare	Three influencing factors: **1) Finding a mutual focus of attention in a complex, time-pressured clinical work setting, 2) path dependence: the importance of past interactions, and 3) presence of an audience**
Tangirala and Ramanujam, 2012 [33] USA	Survey study	A total of 701 participants of which 640 nurses and 61 nurse managers	"	Employees' reports of their manager's consultation are positively related to employees' upward voice with their perceived influence at work acting as a mediator. The positive relationship between employees' perceived influence at work and their upward voice is moderated by their overall job satisfaction; the relationship is stronger when their overall job satisfaction is higher

Table 2 (continued)

Author(s), publication year and country	Study type	Number of participants	Research question or aim	Results/findings
Umoren et al., 2022 [65] USA	Qualitative descriptive approach: focus groups and semi-structured interviews	62 healthcare professionals, including physicians (attendings, residents and fellows), registered nurses, and certified registered nurse anaesthetists	Answer questions about why healthcare professionals do not consistently speak up with legitimate patient safety concerns despite training and knowing that speaking up saves lives	Two recurring themes were identified: **1) The predominantly hierarchical culture of medicine is a barrier to speaking up, and 2) institutional, interpersonal and individual culture, particularly the leadership approach, modulate the impact of medicine's culture on speaking up behaviours**
Voogt et al., 2019 [74] The Netherlands	Cross-sectional survey design	499 medical residents: 299 worked in a hospital setting and 200 outside the hospital setting	Explore whether job control and supervisor support are associated with speaking up by medical residents and whether residents' work engagement mediates these associations	An association between control and voice was found, but not between support and voice. Work engagement does not mediate the effects of job control and supervisor support on voice behaviour. The path coefficient between voice and support was significant for hospital residents. Moreover, the path coefficient between engagement and voice was not significant for residents who work in hospital settings
Voogt et al., 2020 [41] The Netherlands	Exploratory Qualitative Interview Study	27 medical residents	Explore how residents decide whether or not to speak up about organizational barriers and opportunities to improve the quality of their work	There are two main categories of considerations, referred to as the **efficacy calculus and the safety calculus**, and were part of a cost–benefit trade-off residents engaged in as they considered speaking up. Both calculi contain inhibitors and drivers
Weiss et al., 2014 [50] Switzerland	Mixed method: 1-day simulation-based team-training sessions and a survey	27 anaesthesia nurses and 27 anaesthesia physicians	Investigate individual predictors of speaking up in acute care teams	**Self-perceived agency (assertiveness, persistence, and independence)** was a significant positive predictor of speaking up. **Communion (helpfulness, friendliness, and sociability)** was a significant negative predictor for speaking up
Wong et al., 2010 [75] Canada	A non-experimental, predictive survey design	280 registered nurses	Test a theoretical model linking authentic leadership with staff nurses' trust in their manager, work engagement, voice behaviour and perceived unit care quality	The final model included **authentic leadership that significantly and positively influenced staff nurses' trust in their manager and work engagement**, which predicted voice behaviour and perceived unit care quality

all these factors, we need comprehensive and mutually exclusive categories. Based on these two considerations and an inductive approach to the data, we developed the following classifications: individual, relational, contextual, and organisational. A total of 29 (64%) articles are included in the individual, 21 (47%) in the relational, 19 (42%) in the contextual and 26 (58%) in the organisational category. We describe how various factors can have a motivating, hindering or trade-off effect on speaking up or remaining silent.

Individual

This category includes 29 of the 45 (64%) reviewed articles: using surveys (15), interviews (7), mixed methods (5) including simulations, vignettes, and focus groups (2). Factors influencing speaking-up behaviour at the individual level pertain to characteristics intrinsic to the individual, such as their profession, perceptions, emotions, experiences, and competencies. What position someone holds influences the extent to which a person speaks up more easily or frequently. On one hand, professionals with medical and comparatively higher hierarchical positions experience fewer barriers to speaking up about patient safety concerns [39, 44, 47–49]. For instance, a survey study by Schwappach and Richard among 979 healthcare professionals shows that nursing experts and senior physicians were more likely to report frequent speaking-up behaviour compared to others [14]. On the other hand, a simulation study by Weiss et al. found no significant difference in the frequency of speaking up between nurses and physicians [50].

In general, speaking up is seen as risky regardless of one's position, indicating that both nursing and medical students [32, 51] and registered nurses and doctors [52] find speaking up about patient safety-related issues challenging or difficult. Healthcare professionals ask themselves if it is safe for them to express themselves. This question is referred to in various ways in survey and focus group studies: perceived personal safety [53], psychological safety [54–56], the safety calculus [41], lack of safety [57], or safety climate [58]. If healthcare professionals perceive the environment as psychologically unsafe, they fear negative consequences, such as negative or harsh reactions or being labelled negative or a troublemaker [31, 40, 57, 59], or they are afraid of a bad evaluation [52], retaliation [60] or retribution [61, 62]. Positive and negative experiences with speaking up influence someone's consideration of speaking up again [63, 64]. Prior negative experiences influence this unsafe feeling and leave healthcare professionals hesitant to speak up [57]. If healthcare professionals perceive the environment as psychologically safe, the frequency of withholding voice significantly decreases [55]. Perceptions about psychological safety are related to environmental influences but are an individual's perceptions. Therefore, this review categorises this as being on the individual level.

In addition, competence, knowledge, and experience affect whether healthcare professionals speak up or remain silent. Healthcare professionals believe that high interpersonal communication skills, self-advocacy and coping skills are required to speak up effectively [55, 57]. This applies more to nurses than to doctors. Landgren et al. also indicate that interpersonal communication and clinical knowledge promote speaking up [53]. A feeling that one is not good at this or has insufficient knowledge inhibits someone's speaking-up behaviour. Interview studies among nurses, new graduates, and medical trainees, the more knowledge they have, the more confident they are about speaking up [38, 46, 64, 65]. Also, doctors indicate that experience is important for speaking up [29]. A lack of communication skills, experience, knowledge and confidence can make the decision to speak up more difficult [62]. In general, having more experience is related to having more knowledge and better skills.

Relational

This category includes 21 of the 45 (47%) reviewed articles using mixed methods (8) including focus groups and observations and simulations, surveys (7), and interviews (6). Factors influencing speaking-up behaviour at the relational level pertain to the communication and relationship between the person speaking up and the actor/receiver, such as their role or hierarchical differences, approachability of the actor or concerns about damaging the relationship.

A frequently mentioned inhibitor for speaking up is the hierarchical difference between two healthcare professionals. Umoren et al. conducted a mixed-method study among 62 healthcare professionals and state that healthcare professionals of all specialities, professions, and experience levels acknowledge that the medical environment is hierarchical and, therefore, a barrier to speaking up [65]. Healthcare professionals with less knowledge, experience, or power feel uncomfortable speaking up. In Fisher and Kiernan's interview study, the twelve participating nursing students unanimously stated that hierarchy is an automatic inhibitor to raising concerns with more senior or experienced staff [61]. The hierarchical difference between the student and the actor often determines if they speak up or remain silent. Hierarchal and power differences are barriers for junior anaesthetists to challenge a senior anaesthetist [62], for nurses to speak up to a physician or nurse manager [38], or for new graduates to more experienced team members [64]. When observing a safety issue, healthcare professionals in lower hierarchical positions often doubt their interpretation of

the situation, particularly when the actor holds greater experience and occupies higher hierarchal status [40]. In a survey study among 38 surgical trainees and 23 attending surgeons, Belyansky et al. found that hierarchical differences had a modest impact on communication between residents and attendings, with much of the dynamic depending on the attending's personality [66]. An approachable attending significantly facilitates residents' willingness to speak up. Ng et al. argue that the strong hierarchical culture in Chinese hospitals is a barrier for nurses to speak up to doctors and for younger nurses to speak up to more senior nurses, and their role is primarily to listen [39]. However, a working environment without a strong hierarchy between disciplines and opportunities for everyone to ask questions and share opinions makes it easier to speak up. Besides power differences being a barrier to speaking up, healthcare professionals with different professions use different kinds of power to speak up [67].

To whom someone speaks up also influences speaking-up behaviour of healthcare professionals. Luff et al. found in their survey and vignette study that radiology trainees speak up less to attendings than nurses, interns or residents [51]. Some professions might be more approachable than others, but supervisors must be reflective and approachable towards new employees such as trainees, residents or new graduates [46, 64, 66]. However, some supervisors face challenges in encouraging others [45, 65]. Being approachable and actively inviting input is not easy for everyone. Nevertheless, fostering openness and responding constructively to concerns play a crucial role in facilitating open communication. If the actor's response is of unconstructive nature and unpredictable, this acts as a barrier for healthcare professionals to speak up [40, 59, 68]. Conversely, a positive reaction encourages others to speak up [38]. The predictability of a reaction is influenced by familiarity and previous interactions. The longer healthcare professionals have worked together, the better they understand each other's likely responses. Whereas having no pre-existing relationship is a barrier to speaking up [62], developing or having a relationship positively influences speaking up [38]. A good relationship between nursing students and their mentors is especially important because they still have a lot to learn and need to be able to ask questions [61, 69]. Good teamwork – trusting each other and positive perceptions about the collaboration with colleagues – increases speaking up [31, 43, 58]. However, when having these relationships, healthcare professionals do not want to damage them or get others in trouble by speaking up [38, 52, 62, 70]. On the one hand, good relations are needed to speak up more easily; on the other hand, it can inhibit speaking up because it might damage the relationship. However, reducing relationship conflicts creates an environment where healthcare professionals can speak up more easily [39].

Contextual

This category includes 19 of the 45 (42%) reviewed articles using surveys (8), interviews (6), focus groups (2) and mixed methods (3), including focus groups, observations and simulations. Factors related to the contextual level concern the specific patient safety issue at hand and what plays a role in that very specific moment. A factor that is related to the context is the type of issue that arises. According to Martinez et al., healthcare professionals are more likely to speak up about classic patient safety issues than unprofessional behaviour [52]. In multiple surveys and a simulation study, the frequency of speaking up varies per error or rule violation [49, 50, 52, 71]. There is a strong motivation to speak up in high-risk situations with a significant potential for severe harm to the patient [29, 38, 40, 46, 59], or complex patient cases during Multidisciplinary Team Meetings (MDTM) [43]. However, the potential danger or harm to the patient may not be immediately clear. For instance, senior anaesthesiologists might doubt the extent and nature of potential damage to the patient. This doubt influences their decision to speak up or remain silent [62]. Sometimes, residents do not speak up if they think that an error is not serious and would not cause harm to the patient [53]. However, healthcare professionals' ratings of potential harm to the patient may differ, and they can have different focuses at that moment [40, 63].

Multiple interview, survey and focus group studies among different professions show that a high workload is a barrier for healthcare professionals to speak up [38, 44, 53, 57, 64]. Due to high workload, they lack the time to speak up or participate in discussions and actions prompted by voice [44]. Not having enough time yourself or seeing that the actor or colleagues have time constraints and are distressed leads to remaining silent [38, 40, 41, 43, 60].

Healthcare professionals can speak up in different contexts: in the patient room, operating room, during meetings, and in the corridors, ed. What role professionals have in specific contexts influences speaking-up behaviour. During MDTMs, nurses have a more passive role and speak up less than doctors, compared to other meetings where they have a more active role [43]. When other people are present – patient(s), relatives or other caregivers – healthcare professionals experience this as a barrier to speaking up [63, 68]. When the patient and relatives are present, they do not want to damage the relationship and trust between the patient and their caregiver [38, 63].

Organisational

This category includes 26 of the 45 (58%) reviewed articles using surveys (15), interviews (7), focus groups (3) and mixed methods (3), including focus groups and observations and vignettes. A regular influencing factor of speaking up references to the organisational, departmental or institutional culture [42, 46, 65, 71, 72]. In an organisational culture with shared values and beliefs about patient safety, healthcare professionals speak up more easily [44, 64]. Multiple survey and interview studies among different professions specifically refer to safety culture as an important factor for speaking up [31, 38, 51, 72]. According to Lee et al., patient safety culture consists of non-judgemental and non-punitive unit culture, open communication for continuous learning, communication about patient safety issues and priorities, reporting patient adverse events, supervisors' and hospital management support, and protocols/policies about patient safety or speaking up [38, 48]. Having job resources [73, 74], knowing whom to contact in the organisation [41] or procedural clarity about who, when and how to voice your concern can promote speaking-up behaviour of healthcare professionals [44]. Lack of formal opportunities, access to information and facilitations or a discouraging environment inhibits speaking up [47, 57].

According to Umoren et al., the leadership approach modulates the impact of medicine's culture on the speaking-up behaviour of healthcare professionals [65]. Leaders' explicit invitation to speak up motivated healthcare professionals to speak up about patient care concerns. The actions of leaders play an important role in others' speaking-up behaviour [44, 64]. When healthcare professionals perceive their leaders to support speaking-up behaviour, they are less hesitant to speak up. Multiple studies among different professions show that supervisors and managers with an open, supportive and proactive attitude towards patient safety act as a motivation to speak up [38, 41, 43, 74]. The extent to which managers are trusted and seen to solicit and listen to suggestions on (patient safety) issues enhances speaking-up behaviour of nurses [33, 43, 73, 75]. Contrarily, perceptions that managers did not address raised concerns, did not prioritise safety concerns or were retaliatory to staff who spoke up acted as a barrier to speaking-up behaviour [31]. In highly challenging environments where nurses experience abusive supervision – characterised by persistent displays of hostile verbal and non-verbal behaviours by supervisors – or feel professional disrespect by doctors, nurses are more likely to withhold their concerns about patient safety [76, 77].

An often mentioned and important theme or factor is speaking up's (perceived) efficacy. Speaking up might feel ineffective because healthcare professionals feel or experience that nothing is being done about the raised patient safety concerns [40, 56, 57, 59, 64]. It causes healthcare professionals to feel not taken seriously, frustrated, powerless and unheard [41, 53, 57]. A non-encouraging environment and high feelings of resignation are associated with withholding voice [14, 59]. However, when healthcare professionals speak up and see that things can change and have positive experiences with speaking up, this motivates them to continue doing this [41]. Healthcare professionals must receive feedback when they speak up; they want to know what is done with their concerns and be heard [42].

Discussion

Theoretical implications

Given the rapid increase in research on the factors influencing healthcare professionals' speaking-up behaviour in relation to patient safety, this review aimed to provide an updated synthesis of the current literature. Providing a multi-layered framework categorising the influencing factors and offering a comprehensive perspective on these factors and categories. A total of 45 publications met our selection criteria and were incorporated into a multi-layered framework. The majority of studies took an exploratory approach, yielding a broad range of influencing factors, indicating that the decision for healthcare professionals to speak up is complex and might be challenging [32, 39]. However, the diversity and distribution of information make it challenging to design and implement effective interventions to enhance speaking-up behaviour, thereby improving patient safety and quality of care. Our review and multi-layered framework help to understand why healthcare professionals speak up or not and contribute to a clear presentation of the various influencing factors. The framework consists of four categories: individual, relational, contextual and organisational. This framework aligns, to some extent, with the classifications found in single case studies [44–46] and other more focused or broader reviews [7, 35]. Unlike prior research focussing on specific professions or regions, this study considers a wide range of healthcare professionals in hospital settings, this inclusivity improves the generalisability of the findings.

This comprehensive, multi-layered framework offers researchers a structured approach to designing research and analysing factors that influence speaking-up behaviour among healthcare professionals. Within the context of the empirical research cycle [78], this framework facilitates a deductive methodology for examining these influencing factors. This represents a progression from the predominantly inductive approaches employed in the reviewed studies, thereby providing a logical next step in

advancing the understanding of speaking-up behaviour in hospital settings.

Practical implications

Additionally, this framework can assist practitioners and researchers in developing interventions to enhance the speaking-up behaviour of healthcare professionals. To date, speaking-up interventions have not yielded the desired outcomes [79, 80]. O'Donovan et al. conducted a review on the effectiveness of speaking-up interventions in healthcare and recommended developing strategies that target not only the individual but also team and organisational levels [79]. Other reviews have also emphasised the importance of multifaceted approaches, suggesting, for example, providing speaking-up training to professionals [35, 56, 81], improving the work environment [34, 35], and, most frequently, fostering a positive speaking-up culture [34, 35, 81–83]. To create such a culture, recommendations include fostering a psychologically safe environment, promoting inclusive leadership, implementing effective voice systems or channels, providing role models, and enhancing interpersonal relationships within the workplace. However, as noted by Jones et al., a 'one-size-fits-all' approach is unlikely to be effective in creating a more open and supportive speak-up culture [80]. They also state that pre-existing sociocultural relationships, workplace hierarchies, perceptions of speaking up and other social and workplace barriers are often overlooked when implementing speaking up training.

Our findings can guide the development of policies and training interventions aimed at reducing barriers and enhancing enablers for speaking-up behaviour tailored to specific organisational contexts. Our results show that 58% of the reviewed articles are included in the organisational category, showing the importance of external factors. In addition, 64% of the articles are included in the individual category, including articles about perceived or psychological safety. We do acknowledge that perceived and psychological safety are influenced by external (relational, contextual and organisational) factors [30, 41]. Therefore, a systems perspective is essential, emphasizing the need to address multiple categories of influence – individual, relational, contextual and organisational. Adopting a systems perspective and examining all four categories allows for better identification of underlying problems and targeted action [84]. For instance, training individuals to be assertive and speak up is insufficient if their efforts are met with negative reactions from leaders or colleagues. Continuous improvements require addressing the broader system, including training leaders and receivers, framing speaking up as a shared accomplishment and co-creating contexts of shared accountability [85, 86].

While the ultimate decision rests with the individual, the organisational environment plays a pivotal role in shaping their perception of safety and effectiveness [12, 15, 34, 41, 57]. Interventions should aim for the highest level in the hierarchy of control from occupational safety, which prioritises systemic, collective and organisational measures before focussing on individual-level strategies [87]. By improving working conditions, implementing supportive policies, and fostering open communication, leaders and policymakers can create environments that empower individuals to speak up and drive sustainable change.

Limitations

This review has several limitations regarding the studies included in this review and the review process. First, most studies included in this review employed qualitative methods to explore factors influencing speaking-up behaviour among healthcare professionals. When applied rigorously and reported transparently, such methods can yield valuable insights. However, they also have some limitations. For instance, some studies lacked detailed descriptions of results, offering only quotes without sufficient explanation, which can confuse readers and obscure key findings [46, 60]. Additionally, the flexibility inherent in qualitative research allows researchers to define themes and categories freely. While useful for exploration, this flexibility complicates comparisons across studies. For instance, similar concepts may be labelled differently, such as "psychological safety" versus "perceived personal safety," or identical terms like "personality" may refer to different constructs, such as "being vocal" [46], and "attitude" [60]. Second, the evidence in this review mostly includes 'WEIRD' studies; only ten studies are conducted in other countries, of which four are in South Korea. Both Lee et al. and Ng et al. indicate that culture (South Korean or Chinese) influences speaking-up behaviour of nurses [38, 39]. The strong hierarchy and valuing good relationships, in particular, influence this behaviour [38, 70]. More research is needed to define cultural differences and the impact on speaking-up behaviour of healthcare professionals in hospitals.

This review process has three key limitations. First, we critically assessed whether articles defined or explained the concept of speaking up, including only those with a definition or alignment with the definition of Kane et al. [9]. Articles lacking a clear definition were excluded, which may have led to overlooking relevant studies. Consistent with other researchers [7, 9, 13], we advocate for greater consistency in defining concepts like employee voice and speaking up. Too often, speaking up is treated

as a self-evident concept, yet it is conceptually linked to reporting, whistleblowing, organizational silence, and moral courage, which may lead to confusion. Second, this review focuses on factors influencing speaking-up behaviour among healthcare professionals in a hospital setting, which may limit its applicability in other healthcare settings. Finally, this review does not establish the relation between all factors identified, nor does it fully explain the interrelations between the different categories [81]. This was beyond the scope of our review, as many of the included studies were exploratory and qualitative in nature. Future research would benefit from investigating these relationships more systematically to provide a deeper understanding of how the categories interact.

Future research

Given that most studies adopt an inductive approach and speaking up training programs do not have the desired outcomes, we recommend a different research direction. Based on this review and aligned with the empirical research cycle [78], it would be valuable to conduct case studies using the proposed framework to determine which factors across all categories of our multi-layered framework play a role in speaking up. This approach could then inform specific, actionable recommendations grounded in the hierarchy of controls, offering more effective strategies to address the barriers and facilitators of speaking up in hospital settings.

Furthermore, our review focused exclusively on speaking up about patient safety concerns and quality of care, excluding issues related to working conditions [6], worker well-being [2] or unprofessional behaviour [88], despite evidence that these factors also impact patient safety and quality of care [89, 90]. Unprofessional behaviour is more frequently observed than traditional patient safety threats, and healthcare professionals think it is more challenging to speak up about this [51, 52]. If unprofessional behaviours like bullying and incivility are present in the workplace, healthcare professionals feel less confident and psychologically unsafe, have reduced trust in teams, and the organisational culture is more accepting of mistakes [81]. In such environments, the chances of more unprofessional behaviour, reduced staff well-being and reduced patient safety and quality of care are higher. However, in a study by Lee et al., nurses with perceived impact and psychological safety had lower levels of burnout through voice [56]. However, studies focussing on speaking up about unprofessional behaviour are limited compared to speaking up about traditional patient safety concerns. Wilkinson et al. argue that speaking up about patient safety concerns and unprofessional behaviour might be interconnected, but different kind of research is needed to confirm this relationship [91]. We suggest using our multi-layered framework to systematically study factors influencing speaking up about unprofessional behaviour or other work environment concerns because maybe similar mechanisms influence such speaking-up behaviour.

Conclusion

This systematic literature review synthesizes the factors influencing speaking up among healthcare professionals in hospital settings. Our analysis resulted in a multi-layered framework of four interrelated categories: individual, relational, contextual and organisational. This framework underscores the complexity and multifaceted nature of speaking up, shaped by dynamic interactions across these categories. Adopting a systems perspective is essential for identifying barriers and opportunities to design effective speaking up interventions. Our framework provides a foundation for more focused research and practical guidance for organisations. By addressing factors across all categories, healthcare leaders can foster environments that encourage speaking up, improving open communication, patient safety, and quality of care.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12913-024-12138-x.

Supplementary Material 1.

Supplementary Material 2.

Acknowledgements

We would like to thank the librarian scientists at the Delft University of Technology for assisting with the literature search. We would also like to thank Jakko van Kampen for his support during the preperations of this research.

Authors' contributions

DvD had full access to all of the data in the study and takes full responsibility for the integrity of the data and the accuracy of data analysis. DvD and FG designed the study and analysed the data. DvD drafted the manuscript. FG, IG and JG supervised the study and commented on subsequent manuscript versions. All authors read and approved the final manuscript.

Funding

DvD, FG, IG and JG were supported by an unregistered grant from J.P Visser for the Centre for Safety in Healthcare. The funder had no role in the study design, data analysis and interpretation, in writing of the report, or in the decision to submit the article for publication.

Data availability

All data generated or analysed during this study are included in this manuscript and its supplementary information files.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests
The authors declare no competing interests.

Received: 26 June 2024 Accepted: 19 December 2024
Published online: 28 December 2024

References

1. Reid J, Bromiley M. Clinical human factors: the need to speak up to improve patient safety. Nurs Stand. 2012;26:35–40.
2. Delpino R, Lees-Deutsch L, Solanki B. 'Speaking Up' for patient safety and staff well-being: a qualitative study. BMJ Open Qual. 2023;12:e002047.
3. Rabol LI, Andersen ML, Ostergaard D, Bjorn B, Lilja B, Mogensen T. Descriptions of verbal communication errors between staff. An analysis of 84 root cause analysis-reports from Danish hospitals. BMJ Qual Saf. 2011;20:268–74.
4. Sutcliffe KM, Lewton E, Rosenthal MM. Communication failures: an insidious contributor to medical mishaps. Acad Med. 2004;79:186–94.
5. Maxfield D, Grenny J, McMillan R, Patterson K, Switzler A. The seven crucial conversations for healthcare. 2005.
6. Creese J, Byrne J-P, Matthews A, McDermott AM, Conway E, Humphries N. "I feel I have no voice": hospital doctors' workplace silence in Ireland. J Health Organ Manag. 2021;35:178–94.
7. Lainidi O, Jendeby MK, Montgomery A, Mouratidis C, Paitaridou K, Cook C, et al. An integrative systematic review of employee silence and voice in healthcare: what are we really measuring? Front Psychiatry. 2023;14:1111579.
8. Morrison EW. Employee voice and silence: taking stock a decade later. Annu Rev Organ Psychol Organ Behav. 2023;10:79–107.
9. Kane J, Munn L, Kane SF, Srulovici E. Defining speaking up in the healthcare system: a systematic review. J Gen Intern Med. 2023;38:3406–13.
10. Edmondson AC, Besieux T. Reflections: voice and silence in workplace conversations. J Change Manag. 2021;21:269–86.
11. Morrison EW. Employee voice and silence. Annu Rev Organ Psychol Organ Behav. 2014;1:173–97.
12. Dyne LV, Ang S, Botero IC. Conceptualizing employee silence and employee voice as multidimensional constructs*. J Manag Stud. 2003;40:1359–92.
13. Violato E. A state-of-the-art review of speaking up in healthcare. Adv Health Sci Educ. 2022;27:1177–94.
14. Schwappach DLB, Richard A. Speak up-related climate and its association with healthcare workers' speaking up and withholding voice behaviours: a cross-sectional survey in Switzerland. BMJ Qual Saf. 2018;27:827–35.
15. Morrison EW. Employee voice behavior: integration and directions for future research. Acad Manag Ann. 2011;5:373–412.
16. Blenkinsopp J, Snowden N, Mannion R, Powell M, Davies H, Millar R, et al. Whistleblowing over patient safety and care quality: a review of the literature. J Health Organ Manag. 2019;33:737–56.
17. Morrison EW, Milliken FJ. Organizational silence: a barrier to change and development in a pluralistic world. Acad Manage Rev. 2000;25:706–25.
18. Attree M. Factors influencing nurses? decisions to raise concerns about care quality. J Nurs Manag. 2007;15:392–402.
19. Siewert B, Brook OR, Swedeen S, Eisenberg RL, Hochman M. Overcoming human barriers to safety event reporting in radiology. Radiographics. 2019;39:251–63.
20. Martinez W, Bell SK, Etchegaray JM, Lehmann LS. Measuring moral courage for interns and residents: scale development and initial psychometrics. Acad Med. 2016;91:1431–8.
21. Linam WM, Honeycutt MD, Gilliam CH, Wisdom CM, Deshpande JK. Impact of a successful speaking up program on health-care worker hand hygiene behavior. Pediatr Qual Saf. 2017;2:e035.
22. Kolbe M, Burtscher MJ, Wacker J, Grande B, Nohynkova R, Manser T, et al. Speaking up is related to better team performance in simulated anesthesia inductions: an observational study. Anesth Analg. 2012;115:1099–108.
23. Robbins J, McAlearney AS. Encouraging employees to speak up to prevent infections: opportunities to leverage quality improvement and care management processes. Am J Infect Control. 2016;44:1224–30.
24. Tucker AL, Edmondson AC. Why hospitals don't learn from failures: organizational and psychological dynamics that inhibit system change. Calif Manage Rev. 2003;45:55–72.
25. Detert JR, Burris ER, Harrison DA, Martin SR. Voice flows to and around leaders: understanding when units are helped or hurt by employee voice. Adm Sci Q. 2013;58:624–68.
26. McClean EJ, Burris ER, Detert JR. When does voice lead to exit? it depends on leadership. Acad Manage J. 2013;56:525–48.
27. Scanlan JN, Still M. Relationships between burnout, turnover intention, job satisfaction, job demands and job resources for mental health personnel in an Australian mental health service. BMC Health Serv Res. 2019;19:62.
28. Welsh DT, Outlaw R, Newton DW, Baer MD. The social aftershocks of voice: an investigation of employees' affective and interpersonal reactions after speaking up. Acad Manage J. 2022;65:2034–57.
29. Lyndon A, Sexton JB, Simpson KR, Rosenstein A, Lee KA, Wachter RM. Predictors of likelihood of speaking up about safety concerns in labour and delivery. BMJ Qual Saf. 2012;21:791–9.
30. Okuyama A, Wagner C, Bijnen B. Speaking up for patient safety by hospital-based health care professionals: a literature review. BMC Health Serv Res. 2014;14:61.
31. Etchegaray JM, Ottosen MJ, Dancsak T, Thomas EJ. Barriers to speaking up about patient safety concerns. J Patient Saf. 2020;16:e230–4.
32. Fagan A, Lea J, Parker V. Conflict, confusion and inconsistencies: pre-registration nursing students' perceptions and experiences of speaking up for patient safety. Nurs Inq. 2021;28:e12381.
33. Tangirala S, Ramanujam R. Ask and You Shall Hear (but not always): examining the relationship between manager consultation and employee voice. Pers Psychol. 2012;65:251–82.
34. Lee E, De Gagne JC, Randall PS, Tuttle B, Kwon H. Experiences of nurses speaking up in healthcare settings: a qualitative metasynthesis. J Adv Nurs. 2024;0:1–16. https://doi-org.tudelft.idm.oclc.org/10.1111/jan.16592.
35. Lee SE, Choi J, Lee H, Sang S, Lee H, Hong HC. Factors influencing nurses' willingness to speak up regarding patient safety in East Asia: a systematic review. Risk Manag Healthc Policy. 2021;14:1053–63.
36. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. Syst Rev. 2021;10:89.
37. Thomas J, Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. BMC Med Res Methodol. 2008;8:45.
38. Lee SE, Dahinten VS, Ji H, Kim E, Lee H. Motivators and inhibitors of nurses' speaking up behaviours: a descriptive qualitative study. J Adv Nurs. 2022;78:3398–408.
39. Ng GWY, Pun JKH, So EHK, Chiu WWH, Leung ASH, Stone YH, et al. Speak-up culture in an intensive care unit in Hong Kong: a cross-sectional survey exploring the communication openness perceptions of Chinese doctors and nurses. BMJ Open. 2017;7:e015721.
40. Schwappach DLB, Gehring K. Trade-offs between voice and silence: a qualitative exploration of oncology staff's decisions to speak up about safety concerns. BMC Health Serv Res. 2014;14:303.
41. Voogt JJ, Kars MC, Van Rensen ELJ, Schneider MME, Noordegraaf M, Van Der Schaaf MF. Why medical residents do (and Don't) speak up about organizational barriers and opportunities to improve the quality of care. Acad Med. 2020;95:574–81.
42. Garon M. Speaking up, being heard: registered nurses' perceptions of workplace communication: RN perceptions of workplace communication. J Nurs Manag. 2012;20:361–71.
43. Boesten N, De Regge M, Eeckloo K, Leys M, Gemmel P, Meijboom BR. Speak up! Factors that influence involvement of nurses in oncological multidisciplinary team meetings. J Health Organ Manag. 2024;38(7):1026-49. https://doi.org/10.1108/JHOM-06-2023-0191.
44. Nembhard IM, Labao I, Savage S. Breaking the silence: Determinants of voice for quality improvement in hospitals. Health Care Manage Rev. 2015;40:225–36.
45. Slootweg LA, Scherpbier A, Van Der Leeuw R, Heineman MJ, Van Der Vleuten C, Lombarts KM. Team communication amongst clinical teachers in a formal meeting of post graduate medical training. Adv Health Sci Educ. 2016;21:207–19.
46. Sur MD, Schindler N, Singh P, Angelos P, Langerman A. Young surgeons on speaking up: when and how surgical trainees voice concerns about supervisors' clinical decisions. Am J Surg. 2016;211:437–44.

47. Kim ARJ, Nishino K, Bujang MA, Zulkifli Z, Inthaphatha S, Yamamoto E. What inhibits 'speaking up' for patient safety among healthcare workers? A cross-sectional study in Malaysia. Hum Resour Health. 2024;22:35.
48. Lee SE, Dahinten VS, Seo J-K, Park I, Lee MY, Han HS. Patient safety culture and speaking up among health care workers. Asian Nurs Res. 2023;17:30–6.
49. Schwappach DLB, Gehring K. Silence that can be dangerous: a vignette study to assess healthcare professionals' likelihood of speaking up about safety concerns. Spilsbury K, editor. PLoS ONE. 2014;9:e104720.
50. Weiss M, Kolbe M, Grote G, Dambach M, Marty A, Spahn DR, et al. Agency and communion predict speaking up in acute care teams. Small Group Res. 2014;45:290–313.
51. Luff D, O'Donnell M, Johnston PR, Martinez W, Slanetz P, Bell SK, et al. Radiology trainees' perceptions of speaking up culture related to safety and unprofessional behavior in their work environments. Am J Roentgenol. 2021;216:1081–7.
52. Martinez W, Lehmann LS, Thomas EJ, Etchegaray JM, Shelburne JT, Hickson GB, et al. Speaking up about traditional and professionalism-related patient safety threats: a national survey of interns and residents. BMJ Qual Saf. 2017;26:869–80.
53. Landgren R, Alawadi Z, Douma C, Thomas EJ, Etchegaray J. Barriers of pediatric residents to speaking up about patient safety. Hosp Pediatr. 2016;6:738–43.
54. Alingh CW, Van Wijngaarden JDH, Van De Voorde K, Paauwe J, Huijsman R. Speaking up about patient safety concerns: the influence of safety management approaches and climate on nurses' willingness to speak up. BMJ Qual Saf. 2019;28:39–48.
55. Schwappach DLB, Gehring K. Frequency of and predictors for withholding patient safety concerns among oncology staff: a survey study: withholding patient safety concerns. Eur J Cancer Care (Engl). 2015;24:395–403.
56. Lee SE, Seo J, Squires A. Voice, silence, perceived impact, psychological safety, and burnout among nurses: a structural equation modeling analysis. Int J Nurs Stud. 2024;151:104669.
57. Kee K, Nies H, van Wieringen M, Beersma B. Exploring barriers to employee voice among certified nursing assistants: a qualitative study. Health Care Manage Rev. 2024;49:291–300.
58. Er OS, Gul I. The speaking up climate of nurses for patient safety concerns and unprofessional behaviors: the effects of teamwork and safety climate. J Perianesth Nurs. 2024;39:782–8.
59. Hoffmann M, Schwarz CM, Schwappach D, Banfi C, Palli C, Sendlhofer G. Speaking up about patient safety concerns: view of nursing students. BMC Health Serv Res. 2022;22:1547.
60. D'Agostino TA, Bialer PA, Walters CB, Killen AR, Sigurdsson HO, Parker PA. A communication training program to encourage speaking-up behavior in surgical oncology. AORN J. 2017;106:295–305.
61. Fisher M, Kiernan M. Student nurses' lived experience of patient safety and raising concerns. Nurse Educ Today. 2019;77:1–5.
62. Beament T, Mercer SJ. Speak up! Barriers to challenging erroneous decisions of seniors in anaesthesia. Anaesthesia. 2016;71:1332–40.
63. Szymczak JE. Infections and interaction rituals in the organisation: clinician accounts of speaking up or remaining silent in the face of threats to patient safety. Sociol Health Illn. 2016;38:325–39.
64. Friary PM, McAllister L, Martin R, Purdy SC, Barrow M. Allied health new graduates' voice behavior - new perspectives using realist synthesized narratives. J Health Organ Manag. 2024;38:1050–71.
65. Umoren R, Kim S, Gray MM, Best JA, Robins L. Interprofessional model on speaking up behaviour in healthcare professionals: a qualitative study. BMJ Lead. 2022;6:15–9.
66. Belyansky I, Martin TR, Prabhu AS, Tsirline VB, Howley LD, Phillips R, et al. Poor resident-attending intraoperative communication may compromise patient safety. J Surg Res. 2011;171:386–94.
67. Farrell SE, Bochatay N, Kim S. Embracing or relinquishing sources of power in interprofessional communication: implications for patient-centered speaking up. J Interprof Care. 2021. p. 1–8. https://doi.org/10.1080/13561820.2021.1975665.
68. Schwappach DLB, Sendlhofer G, Häsler L, Gombotz V, Leitgeb K, Hoffmann M, et al. Speaking up behaviors and safety climate in an Austrian university hospital. Int J Qual Health Care. 2018;30:701–7.
69. Brown P, Jones A, Davies J. Shall I tell my mentor? Exploring the mentor-student relationship and its impact on students' raising concerns on clinical placement. J Clin Nurs. 2020;29:3298–310.
70. Jeong JH, Kim SS. South Korean Nurses' experiences of speaking up for patient safety and incident prevention. Healthc Switz. 2023;11:1764.
71. Schwappach DLB, Gehring K. 'Saying it without words': a qualitative study of oncology staff's experiences with speaking up about safety concerns. BMJ Open. 2014;4:e004740.
72. Rainer JB, Schneider JK. Testing a Model of Speaking up in Nursing. JONA J Nurs Adm. 2020;50:349–54.
73. Gencer O, Duygulu S. Speak-up behavior of oncology nurses: organizational trust and structural empowerment as determinants. JONA J Nurs Adm. 2023;53:453–9.
74. Voogt JJ, Taris TW, Van Rensen ELJ, Schneider MME, Noordegraaf M, Van Der Schaaf MF. Speaking up, support, control and work engagement of medical residents. A structural equation modelling analysis. Med Educ. 2019;53:1111–20.
75. Wong CA, Spence Laschinger HK, Cummings GG. Authentic leadership and nurses' voice behaviour and perceptions of care quality: authentic leadership. J Nurs Manag. 2010;18:889–900.
76. Li Z-Y, Yang Y-P, Wang Q, Zhang M-X, Luo C-W, Zhu L-F, et al. Association between abusive supervision and nurses' withholding voice about patient safety: the roles of impression management motivation and speak up-related climate. BMC Nurs. 2024;23:256.
77. Mawuena EK, Mannion R, Adu-Aryee NA, Adzei FA, Amoakwa EK, Twumasi E. Professional disrespect between doctors and nurses: implications for voicing concerns about threats to patient safety. J Health Organ Manag. 2024;38:1009–25.
78. Wieringa RJ. Design Science Methodology for Information Systems and Software Engineering. Berlin, Heidelberg: Springer, Berlin Heidelberg; 2014.
79. O'Donovan R, McAuliffe E. A systematic review exploring the content and outcomes of interventions to improve psychological safety, speaking up and voice behaviour. BMC Health Serv Res. 2020;20:101.
80. Jones A, Blake J, Adams M, Kelly D, Mannion R, Maben J. Interventions promoting employee "speaking-up" within healthcare workplaces: a systematic narrative review of the international literature. Health Policy. 2021;125:375–84.
81. Kepplinger A, Braun A, Fringer A, Roes M. Opportunities for nurses to address employee voice in health care providers: a scoping review. BMC Nurs. 2024;23:651.
82. Nacioglu A. As a critical behavior to improve quality and patient safety in health care: speaking up! Saf Health. 2016;2:10.
83. Morrow KJ, Gustavson AM, Jones J. Speaking up behaviours (safety voices) of healthcare workers: a metasynthesis of qualitative research studies. Int J Nurs Stud. 2016;64:42–51.
84. Reason J. Human error: models and management. BMJ. 2000;320:768–70.
85. Barlow M. Enhancing intergroup communication in healthcare: the role of the receiver. Focus Health Prof Educ Multi-Prof J. 2021;22:78–84.
86. Barlow M, Watson B, Jones E, Morse KJ, Maccallum F, Rudolph J. Building a workplace-based learning culture: The "Receiver's" perspective on speaking up. J Appl Behav Sci. 2023;0(0):1–24. https://doi.org/10.1177/00218863231190951.
87. Dyreborg J, Lipscomb HJ, Nielsen K, Törner M, Rasmussen K, Frydendall KB, et al. Safety interventions for the prevention of accidents at work: a systematic review. Campbell Syst Rev. 2022;18:e1234.
88. Pavithra A, Sunderland N, Callen J, Westbrook J. Unprofessional behaviours experienced by hospital staff: qualitative analysis of narrative comments in a longitudinal survey across seven hospitals in Australia. BMC Health Serv Res. 2022;22:410.
89. Aunger JA, Maben J, Abrams R, Wright JM, Mannion R, Pearson M, et al. Drivers of unprofessional behaviour between staff in acute care hospitals: a realist review. BMC Health Serv Res. 2023;23:1326.

90. McMullan RD, Churruca K, Hibbert P, Li L, Ash R, Urwin R, et al. Co-worker unprofessional behaviour and patient safety risks: an analysis of co-worker reports across eight Australian hospitals. Int J Qual Health Care. 2024;36:mzae030.
91. Wilkinson A, Avgar AC, Barry M, Mowbray PK. Voice bundles in healthcare: the reciprocal relationship between worker and patient-focused voice. In: Wilkinson A, Donaghey J, Dundon T, Freeman RB, editors. Handb Res Empl Voice. Edward Elgar Publishing: Cheltenham, Northhampton; 2020.

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