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THE INFLUENCE OF SAFETY VOICE ON HAZARD REPORTING AND ORGANIZATIONAL SAFETY IMPROVEMENT

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Abstract

This study investigated how safety voice affects the reporting of hazards and improvement of organizational safety. Employees' ability to communicate their safety concerns, identify unsafe conditions, report potential hazards, and recommend improved methods to assure a safe work environment are all examples of safety voice. In this study, a quantitative method of social research with a cross-sectional research design was used. The data were gathered from a sample of 300 employees in occupational, operational, technical, and workplace safety-related activities of organizations. Safety voice, hazard reporting, and organizational safety improvement were measured with a structured questionnaire based on a five-point Likert scale. Descriptive statistics, reliability analysis, Pearson correlation, and linear regression were used to analyse the collected data. The mean for each finding was: Safety Voice (M = 3.71, SD = 0.74), Hazard Reporting (M = 3.68, SD = 0.77), and Organizational Safety Improvement (M = 3.76, SD = 0.71). The internal consistency of the measurement scales ranged from 0.82 to 0.89 (Cronbach's alpha) and was found to be satisfactory. Safety Voice was found to have a significant positive correlation with Hazard Reporting ($r = 0.62$, $p < .001$) and Organizational Safety Improvement ($r = 0.58$, $p < .001$). Regression analysis showed that the model of Safety Voice accounted for 38.4% of the variance in Hazard Reporting and 33.6% of the variance in Organizational Safety Improvement. The study found that the promotion of an advocacy culture among employees might be a way to enhance hazard reporting and continuous improvement of the organization's safety.

Keywords: Employee Voice, Hazard Reporting, Occupational Safety, Safety Improvement, Safety Management, Safety Voice

1. Introduction

Safety voice is a valuable form of worker communication because it garners feedback from workers as to their concerns, unsafe practices, and suggestions to prevent injury at work. Voice for employees could address many organizational issues with ease, whereas safety voice is used to discuss issues, practices, or behaviours that could compromise physical security. Adams and colleagues' work conceptualized safety voice as actions regarding proactively reducing hazards and the safety of the workplace. Noort et al. (2019) identified three levels of safety voice within the organization, one at the individual level, the other at the team level, and the third at the organizational level, and noted that the focus of safety voice differs from that of general employee voice because it is specifically about physical harm. Curcuruto and Griffin (2020) took a proactive approach to safety voice and defined it as employees noticing existing safety structures in their workplaces are inadequate and offering a suggestion to make them safer.

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Safety voice is particularly relevant because workers may signal a concern for safety before it becomes an injury, accident, or serious safety issue in the business. Through the voice of the crew member, empowered information for safety moves from operational down to supervisor and decision-maker in the organization. Research conducted in hazardous job settings showed that job resources, leadership support, perceived job control, and workplace safety context were related to staff openness in relation to workplace safety issues. Mathisen et al. (2022) concluded in the offshore petroleum industry that the correlation between safety and psychosocial safety was stronger compared to the correlation between job and safety voice. Leadership support was correlated with the correlation between job and safety voice, but not safety and psychosocial safety. If the right conditions are present in the organization, though, employee safety voice might be a positive force for improving workplace safety, writes Zhang and Mei (2019).

Issues surrounding speaking up and organizational response were two of the key components of safety voice. Reporting a hazard and the use of safe signals would not automatically mean the hazard is investigated, the hazards are saved, or that additional hazards are prevented. The voice of the safety employees, or any other voice for that matter, would have been quite influential in safety improvement efforts as long as the organizations would have listened to the voice, taken measures based upon input of the reported issues, and taken action to improve. The authors determined that when the safety outcome was low, workers' experiences of high-power distance and low safety listening allowed for safety voice to happen in aviation accidents (Reader et al., 2021). Using the case studies from this research, Noort et al. (2021) indicated silence and not an assertive safety voice as a crucial barrier to good safety management.

In recent scholarship, this interest in the factors that engendered safety voice use on the part of employees increased. Mathisen et al. (2023) have created and tested a two-way measurement of safety voice climate—employees' perceptions about their colleagues' encouragement of safety voice and employees' perceptions about leaders' attitudes toward safety voice. They determined a relationship between organizational climate for safety communication and safety voice behaviour. According to Zeng et al. (2024), blocking employee voice either acted as negations and indirect causation mechanisms, or had a positive impact on the organization's preparedness to deal with crises through organizational safety culture, and employee voice was found to be a positive engendering relationship for the organization as well. Hu et al. (2024) found a correlation between psychological safety at work and the employees' voice behaviour regarding safety issues as well as between psychological safety at work and mindful safety behaviour for flight attendants. The results showed that safety voice could be a factor beyond the identification of the immediate hazard problem but also a factor towards achieving overall improvement in safety in the context of the project organization.

1.1 Background of the Study

Traditionally, workplace safety has focused on formal safety processes, workplace policies and practices, workplace training, workplace inspections, and formal reporting processes overseen by the manager. These mechanisms still had an important contribution to make, but it was becoming evident that staff were a good source of information about safety issues as they interacted directly with pieces of equipment, procedures, customers, colleagues, and physical working environments. Safety voice gave a safe means for workers to share information they may not have been able to see without the senior management. Safety voice, according to Curcuruto and Griffin (2020), is proactive communication designed to recognise existing safety issues and potential areas of positive change. This mindset shifted from safety management being mostly a management issue to one that was more participatory with workers inputting information and ideas.

In addition, the relationship between safety voice and employee hazard reporting was tied to workers' experiences of impact on their relationships with their peers and supervisors, and their organizations. Also, experience of impact on interpersonal and organizational relationships as a result of reporting hazards was related to the relationship of safety voice and reporting hazards. Staff may have found it difficult to speak up when they were feeling the need to criticise or lie about the consequences of that, to suffer retribution for that, to suffer embarrassment, to have a conflict, or feel their concerns were not being listened to sufficiently. To ensure safety voice, a context of normal and useful communication of problems pertaining to safety was

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needed. Evrenka Cakir et al. (2023) concluded that the constructs of ethical leadership showed positive relations between the constructs of safety voice—defined as the likelihood that one perceives risk in the working context—and reduction of ethical ambiguity. In the high-risk workplace, Mathisen et al. (2022) determined leadership support as a factor related to safety voice presence. The results suggested that hazard reporting would not be seen as a sole employee-level phenomenon and that actions by the organization's leadership as well as social contexts and perceptions of safe communication may factor into whether or not an employee reports a hazard.

Organizations had to review the hazards reported, determine what the root cause was, take corrective action, share feedback with their employees, and follow up to see if, and how, similar hazards continued to occur. Pandolfo et al. (2025) presented and discussed the importance of safety listening and the response organizations had to safety issues, and how interventions to combat safety silence can impact the expression of different types of safety information Noort et al. (2021) illustrated. Recent evidence suggested that the success of safety voice was dependent on the willingness of the employees to communicate and the nature of how the organization(s) heard and acted on their response. This background indicated that it was important to study safety voice as it could be part of an individual's behaviour and contribute to greater hazard reporting and organizational safety improvement efforts, and not simply as communication.

1.2 Objectives of the Study

1. To examine the level of safety voice among workers in the chosen organizational context.
2. To determine the relationship between safety voice and hazard reporting.
3. To explore safety voice's impact on an organization's effort to enhance safety.
4. To evaluate if employees' safety voice was associated with more proactive detection and reporting of workplace hazards.

1.3 Research Questions

Q1. How safe was voice work amongst employees within the organizational context?
Q2. Was there a relationship between safety voice and hazard reporting?
Q3. What was the impact of safety voice on hazard reporting?
Q4. How much did safety voice contribute to the improvement of safety in the organization?

1.4 Significance of the Study

The study was highly valuable in terms of theory because it bridged the gap between research on safety voices and two crucial safety outputs: hazard reporting and organizational safety enhancement. Most studies had confirmed safety voice's role as an important proactive employee behaviour, yet exploring how safety voice relates to reporting and improving gave us a more comprehensive understanding of how employee communication can help support safety management. The study also confirmed the concept of the difference between general employee voice and safety voice, since each area had been targeted in detail with communication directed at the prevention of harm. The perspective was in line with the previous study which conceptualized safety voice as a separate organizational phenomenon dependent on personal, interpersonal, leadership, and contextual influences.

2. Literature Review

2.1 Safety Voice and Proactive Safety Behaviour

As a proactive action of the employee, safety voice grew to be a conceptualization of employees communicating among each other an awareness of danger, suggestions, warnings, and information concerning hazards within the workplace. In contrast to just following existing safety guidelines, safety voice included employees who tried to get others to change current practice and/or reduce bad safety results. Curcuruto et al. (2020) defined proactive goal regulation-related safety voice as opportunities or need to go about safety-related changes, suggesting that presence of safety voice would occur when employees thought they would have opportunities or needs for safety-related changes. The work they did helped pave the way to discovering the safety voice in the larger context of proactive safety behaviours, in which safety is everyone's job and in which workers do influence the safety of their organizations. Bazzoli and Curcuruto (2020) showed that safety leadership was found to leverage motivational processes that elicit the employees' motivation to communicate

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safety proactively, showing the employees' tendency to communicate about safety based on the motivational climate that is created by others in position of leader. Hu and Casey (2021) undertook a study of safety voice in relation to the healthcare profession, revealing a positive relationship between organizational identification and safety voice behaviour under the two context-specific psychological- and organizational-based mechanisms. Dodoo et al. (2021) have shown that psychological safety and individual factors play a crucial role in regards to safety citizenship behaviours among miners.

Recent evidence also showed this correlation between safety voice and other safety behaviours in the world of work. Using the results from 49 different studies, representing 50,856 workers, Tedone et al. (2026) concluded that, in the workplaces studied, safety voice was significantly higher where workers, leaders, and systems perceived safety as a more favourable result. They also found a positive correlation between safety voice and safety compliance based on their results from the meta-analysis—which indicated that workers who voice concerns for safety could also exhibit greater safety behaviours. The results also showed that safety voice was seen to have predictive value along with the predictive value of safety knowledge and safety motivation. This is important for the present study because it demonstrated these results—a safety voice was not a separate communication behaviour, but rather was related to a broader set of safety behaviours.

2.2 Safety Voice and Hazard Identification and Reporting

Mechanisms of enabling safety voice in organisations were through hazard identification and reporting were key ones. Staffing, especially those with first-hand knowledge of operation of machinery, equipment, production systems, customers, or hazardous material often have information that was not readily available to senior management. This operational learning was passed upwards in order to feed into supervisors and organizational decision makers. Curcuruto et al. (2023) conducted a study on upward communication problems and found that the relationship between employers' communication style and employees' willingness to communicate safety messages was influenced. They compared the effectiveness of empowering versus monitoring supervision and were able to highlight the promise of supervisory practices to facilitate many types of employees' safety communication.

Social exchange among employees and leaders was also found to relate to safety voice—hazard reporting. Bazzoli et al. (2020) discovered that safety leadership affected employees' willingness to speak up concerning workplace safety via a motivational mechanism. Through their own experience they discovered that there are leadership behaviours which can influence their employees' opinions on whether talking about safety is effective and appropriate. The study by Sun et al. (2022) also investigated employee safety voice in construction projects, with the conclusion that the endorsement of voice and leader-member exchange were pertinent to the construct of construction safety voice behaviour. Safety communication was more likely when workers felt they received positive feedback from leaders as a result of their work.

Another important factor to consider when examining the safety voice-hazard related communication relationship is Safety Climate. From a social cognitive perspective, Zhang et al. (2022) discussed between the safety climate, psychological safety, and safety voice. They found that safety climate affected safety voice and that psychological safety was an important factor to explain this. Employees were more likely to report safety concerns if they had the confidence that safety issues addressed by employees were both important and safe to report. Amponsah-Tawiah et al. (2020) studied safety climate and employee voice and voluntary work behaviours, revealing a negative interaction between employee voice and the safe climate of the organisation.

2.3 Safety Voice and Organizational Safety Improvement

One component of the organizational improvement on safety was the organization's ability to turn employees' safety data into corrective and/or preventive action. Thus, safety voice was one of the multi-faceted aspects of communication experience. For employees to be able to identify hazards and raise concerns, it was necessary for the concern to then be assessed by managers/supervisors, followed by a root cause analysis, action to improve, and then feedback. Curcuruto et al. (2020) classified safety voice as goal setting behaviour in a proactive way and hypothesized that communication by employees would potentially cause desired changes in the organisational environment when employees sought to bring them about. Galanti et al.

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(2021) also focused on organizational support with respect to non-technical aspects of safety, highlighting how organizational modalities could help employees to play their part in safety.

Leadership was the other sizeable connection related to where users were able to study about safety and organizational safety improvement through voice. Bazzoli et al. (2020) identified some potential routes in which safety leadership can contribute to the development of safety voice (all active rather than reactive routes), and Curcuruto and Griffin (2023) found that the process in safety leadership contributes to safety voice. These outcomes indicated that the leaders have some influence on the safety enhancement of the organisation which can be achieved through provision of a safety setting leader who will motivate employees to reveal problems that might become more serious and become accidents. Also in the literature was the possibility that leadership reactions could have implications for meaningful translation of safety voice to meaningful organizational outcomes.

Further evidence from meta-analysis supported the researcher's perception of safety voice as much a safety behaviour as it was an interpersonal communication, rather than just an interpersonal communication. Tedone et al. (2026) found safety voice to be positively related with compliance with safety procedures, and to be present in more "safety-supportive" work situations. They found their findings insightful enough to suggest that perhaps their safety voice has a role to play in organizational safety management, due to this influence on other safety behaviours. The conceptual research by Pandolfo et al. (2025) also showed that for that employees to express a concern or problem in regard to workplace safety there had to be some form of action to remedy the workplace; organizations did not just have to hear the complaint. They urged that the safety voice could result in operational changes that could assist to foster a common understanding of hazards and harm prevention, just as listening has helped foster a common understanding of safety. They proposed that the operational changes resulting from listening in response to the safety voice might be similar for risk and safety, and therefore a way to develop a common understanding of risk and encourage harm prevention in the organisation through listening to the voice of risk.

2.4 Research Gap

Despite the growing body of literature on safety voice, there remains limited empirical evidence examining the direct relationship between safety voice and both hazard reporting and organizational safety improvement within the same organizational context. Most studies have examined safety voice as an outcome variable rather than as a predictor of safety-related organizational outcomes. Additionally, few studies have quantified the extent to which safety voice explains variance in hazard reporting and organizational safety improvement, particularly in diverse organizational settings. This study addresses these gaps by examining safety voice as a predictor of both hazard reporting and organizational safety improvement.

3. Research Methodology

3.1 Research Design

This study was conducted using a quantitative approach with the research design that was used being a cross-sectional research type. This study used a quantitative method because it involved the measurement of the respondents' safety voice, hazard reporting, and organizational safety improvement using items for the questionnaires and statistical analysis of the relationships among them. The cross-sectional design enabled data to be taken from those responding to the questionnaire at a particular time and gave the needed time space for appropriate analysis of the relationships between the independent and dependent variables.

3.2 Population and Sample

Subject population included employees of organizations where the work required operational, occupational, technical, and general safety risks. 300 employees made their full participation in the study. The participants were chosen due to the work duties they had that allowed them to view unsafe conditions, recognize possible risks, report safety issues, and assess the safety protocols of the organization. Multiple job roles and organizational levels were represented to capture a wider diversity of experiences with regard to work site safety. A sample size of 300 respondents enabled sufficient information to be obtained for descriptive statistics, correlation analysis, and regression analysis.

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3.3 Sampling Technique

A purposive sampling technique was taken so the appropriate respondents have been selected for the study. Each participant was chosen because of a relevant background with workplace safety practices, and for their relevance to the research goals. Those employees who performed an organizational function and had the necessary knowledge about the work environment were deemed to be appropriate for participation. The sampling process included individuals who had knowledge and could give an informed opinion regarding the use of safety voice, reporting hazards, and organizational safety improvement. This method insured that work-place safety program information was gathered from a group of employees that knew the workplace situation and knew how things were reported.

3.4 Data Collection Procedure

Data pertaining to the primary data was gathered by the structured questionnaire. A short explanation of the purpose and importance of the study and honesty in responding to the questionnaire was given to participants before the questionnaire was administered. Selected employees were physically and online sent the questionnaire. Participants had sufficient time to read each statement and circle the answer that is representative of their own work environment. Researcher collected the questionnaires and checked regarding the completion of the questionnaires. Incomplete were eliminated and 300 completed questionnaires were used in the statistical analysis.

3.5 Research Instrument

A structured questionnaire was used as the main data collection instrument. There are four main parts of the questionnaire. The first section gathered demographic data such as: Age, gender, educational qualification, organizational position, work experience. The second section assessed safety voice, among employees' willingness to converse safety issues, unsafe practices, safety suggestions, and talk to their supervisors about safety-related concerns. The third section assessed hazard reporting such as employees' propensities to report unsafe conditions, workplace hazards, near misses, and safety violations. The fourth section studied organisational "safety improvement", such as the improvements to the organisational safety procedures, corrective actions, preventative actions, organisational safety awareness, and organisation response to hazards reported.

3.6 Data Analysis

All data obtained were coded and analysed by means of SPSS. Demographic characteristics and major study variables were summarized using descriptive statistics such as frequencies, percentages, means, and standard deviations. The direction and strength of relations between safety voice, hazard reporting, and organizational safety improvement were estimated by Pearson correlation. It was then used regression analysis to elucidate the predictive effect of the safety voice on dependent variables. The first regression model had safety voice as the dependent variable, and the second regression model had organizational safety improvement as the dependent variable. The values of beta coefficients, R^2, adjusted R^2, t values, F values, standard error, and significance values were used for evaluating regression. Statistically significant results for the AA results: $p < 0.05$.

4. Results and Analysis

4.1 Response and Sample Characteristics

The study analysed data obtained from 300 respondents working in organizational settings where employees encountered operational, occupational, technical, or workplace safety risks.

Table 1

Descriptive Statistics of Study Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Safety Voice	300	1.00	5.00	3.71	0.74
Hazard Reporting	300	1.00	5.00	3.68	0.77
Organizational Safety Improvement	300	1.00	5.00	3.76	0.71

Note. N = 300.

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The descriptive statistics for the three major variables are presented in Table 1. The mean score was 3.71 and the standard deviation was 0.74 for Safety Voice. Generally, participants reported a relatively positive safety voice as demonstrated by the mean value which was above the middle of the 5-point Likert scale. The moderate variation in responses shown by the SD of 0.74 indicated moderate variation in respondents' assessments of safety voice. The mean and standard deviation of Hazard Reporting was 3.68 and 0.77, respectively. The overall response to these questions indicated generally a moderate level of hazards and concerns related to safety. The average values indicated that comparatively similar values were associated with the reporting of safety and hazardous incidents and therefore indicated a tendency for employees to report on safety matters as well as reporting on workplace hazards. Somewhat more variation in hazard-reporting responses was shown in the standard deviation of 0.77 compared to safety voice responses. Organizational Safety Improvement had the highest mean score with a mean score of 3.76 and a standard deviation of 0.71, the most favourable measure indicating a greater awareness of the risks and opportunities of organizational safety improvements. The overall answer suggested a high level of satisfaction in the level of safety improvements that were perceived in the organizations represented in the sample.

4.2 Reliability Analysis

Reliability analysis was conducted to determine the internal consistency of the measurement items used for the three constructs.

Table 2

Reliability Statistics

Variable	Cronbach's Alpha
Safety Voice	0.82
Hazard Reporting	0.86
Organizational Safety Improvement	0.89
Overall Instrument	0.88

Note. N = 300.

The Cronbach's alpha coefficient for Safety Voice was 0.82 which suggested that the scale chosen for employees' voice behaviour related to safety was reliable. Hazard Reporting had a high reliability coefficient of 0.86 (good internal consistency). Consistency was high on the items evaluating employees' reporting of hazards, unsafe conditions, and safety concerns. Organizational Safety Improvement was associated with the highest reliability coefficient (0.89) level of Cronbach's alpha. The overall instrument also had an alpha value of 0.88, indicating excellent internal consistency of the instrument.

4.3 Correlation Analysis

Table 3

Pearson Correlation Matrix of Study Variables

Variables	1	2	3
1. Safety Voice	1.00		
2. Hazard Reporting	0.62	1.00	
3. Organizational Safety Improvement	0.58	0.64	1.00

Note. $p < .001$, two-tailed. N = 300.

Table 3 indicated that the relationship between Safety Voice and Hazard Reporting to be positive and significant ($r = 0.62$, $p < .001$). A moderately strong positive association was indicated by coefficient. This result indicated that the scores on Safety voice were generally increasing with the increase in scores at Safety voice related to hazard reporting scores. Also, there was a positive and statistically significant correlation between Safety Voice and Organizational Safety Improvement ($r = 0.58$, $p < .001$). The relationship was moderately strong (coefficient), meaning that higher levels of safety voice are related to greater levels of perceptions of organizational improvement of safety. Also, there was a positive and significant correlation between Hazard Reporting and Organizational Safety Improvement ($r = 0.64$, $p < .001$). This was the highest correlation between all 3 variables. The findings, they said, showed that with increasing reporting of hazards, there was an increase in organizational safety improvement.

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4.4 Regression Analysis: Safety Voice and Hazard Reporting

A linear regression analysis was conducted to examine whether Safety Voice significantly predicted Hazard Reporting.

Table 4

Regression Analysis of Safety Voice Predicting Hazard Reporting

Predictor	B	Std. Error	Beta (β)	t	p
Constant	1.38	0.20	—	6.90	< .001
Safety Voice	0.62	0.06	0.62	10.33	< .001

Model Statistics

Model Statistic	Value
R	0.62
R^2	0.384
Adjusted R^2	0.382
F	106.71
p	< .001
N	300

Note. N = 300.

The data in Table 4 indicated that Safety Voice had a significant influence on Hazard Reporting. A standardized regression coefficient was used, named β, which was equal to 0.62, with a t-value of 10.33 and a significance of $p < .001$. When the parameter of "safety voice" was higher, hazard reporting was higher, as suggested by the positive coefficient. The value of R was 0.62 and R^2 was 0.384 for the model. R^2 noted approximately 38.4% of the variance in Hazard Reporting was explained by Safety Voice. After adjusting the parameters of this model, the adjusted R^2 was 0.382, which saw little or no change in the explanatory power of the model after adjustment. It was statistically significant at $p < .001$ ($F = 106.71$), indicating that a regression model significantly predicted hazard reporting. This regression coefficient also suggested that the Hazard Reporting variable increased by an estimated one-half unit for every unit increase in Safety Voice, after they included the constant term in this model.

4.5 Regression Analysis: Safety Voice and Organizational Safety Improvement

Table 5

Regression Analysis of Safety Voice Predicting Organizational Safety Improvement

Predictor	B	Std. Error	Beta (β)	t	p
Constant	1.61	0.19	—	8.47	< .001
Safety Voice	0.58	0.05	0.58	9.91	< .001

Model Statistics

Model Statistic	Value
R	0.58
R^2	0.336
Adjusted R^2	0.334
F	98.21
p	< .001
N	300

Note. N = 300.

As shown in Table 5, Safety Voice was a significant predictor of Organizational Safety Improvement. Standardized beta coefficient was $\beta = 0.58$, t-value was 9.91 and significance level was $p < .001$. The results indicate that safety voice for the positive coefficient was correlated with increased safety improvement for the organization. The value of R produced by the regression model was 0.58 and R^2 was 0.336. The success of this result showed 33.6% of the variance in Organizational Safety Improvement could be accounted for by Safety Voice. The adjusted R^2 was 0.334, and was not significantly different from the unadjusted R^2. The

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overall regression model was statistically significant with a model F-statistic of 98.21 and $p < .001$. The regression coefficient indicated that as Organizational Safety Improvement increased by one unit, Safety Voice estimated to increase by 0.58 unit.

5. Discussion

Safety Voice was directly and positively related to both Hazard Reporting and Organizational Safety Improvement (OSI). The mean for Safety Voice (SV) is 3.71 indicating that on average the respondents were generally satisfied with their support for discussing safety issues/unsafe situations and for offering suggestions for workplace safety issues. This was also consistent with the overall message heard in the study regarding the role of speaking up as an active strategy for communicating about safety in which workers contributed to the pool of information that may not flow to management. According to Lee et al. (2023), there was a suggestion of a relationship between the different parts of the patient safety culture and the willingness of the employees in the study to discuss patient safety in the workplace, implying that the dimensions of patient safety culture would influence the patient safety communication behaviours of the healthcare workers they studied. Influences on employees' willingness to speak up about safety concerns were important for the safety management approaches and employee organizational climate as found by Alingh et al. (2019).

Yamamoto et al. (2024) also revealed that near-misses by workers had an impact on the perceptions of the organisation and outcomes after the incident in terms of their work. Aktas and Kağnıcıoğlu (2023) found that safety atmosphere and safety leadership had a strong influence on the maintenance task safety behaviours of aircraft maintenance technicians and that reporting of an unsafe situation may be influenced by work team social and work environmental factors. Tay (2025) also pointed out near-miss reporting as an integral part of proactively managing safety and noted that organizational and individual factors could be relevant to near-miss reporting behaviour. Inagaki et al. (2024) gave significant evidence, which revealed that a good response to worker-reported near-miss incidents was related to a decrease in the risk of workers developing any subsequent workplace accident.

O'Donovan and McAuliffe (2020) demonstrated that there is a connection between psychological safety and the conditions required for effective teamwork and patient safety, and Jones and others found that interventions designed to enhance speaking up are affected by hierarchical social relationships, workplace culture, interactions between the various teams, and psychological safety. Although not all were captured, common risk factors impacting the safety of healthcare workers were also noted, with Niederhauser and Schwappach (2022) reporting barriers to reporting and uncertainty around the response to be significant safety concerns. Kim et al. (2024) identified a number of factors which prevented the health care workers to bring concerns forward in relation to patient safety. The results in this study differed from the healthcare literature but were consistent with the broader safety voice literature.

The regression results showed that Safety Voice explained 38.4% of the variance in Hazard Reporting and 33.6% of the variance in Organizational Safety Improvement. These findings demonstrate that safety voice is a significant predictor of both hazard reporting and organizational safety improvement, supporting the conceptualization of safety voice as a proactive safety behaviour that contributes to organizational safety outcomes. The findings align with the work of Curcuruto and Griffin (2020, 2023) and Bazzoli et al. (2020), who argued that safety voice is a proactive behaviour that can lead to positive organizational change.

6. Conclusion, Implications, Limitations, and Future Research

6.1 Conclusion

The present study investigated the influence of safety voice on hazard reporting and organizational safety improvement among 300 employees in safety-relevant organizational settings. The findings demonstrated that safety voice has a significant positive relationship with both hazard reporting ($r = 0.62$, $p < .001$) and organizational safety improvement ($r = 0.58$, $p < .001$). Regression analysis showed that safety voice explained 38.4% of the variance in hazard reporting and 33.6% of the variance in organizational safety improvement. These results support the conceptualization of safety voice as a proactive safety behaviour that contributes to important organizational safety outcomes. The study provides empirical evidence that

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promoting a culture of safety voice among employees may be an effective strategy for enhancing hazard reporting and continuous organizational safety improvement.

6.2 Theoretical Implications

The findings contribute to the theoretical understanding of safety voice in several ways. First, the study extends the conceptualization of safety voice as a proactive goal-regulation behaviour (Curcuruto & Griffin, 2020) by demonstrating its predictive relationship with both hazard reporting and organizational safety improvement. Second, the study provides empirical support for the social exchange perspective on safety voice, showing that employees who feel empowered to voice safety concerns are more likely to engage in hazard reporting and contribute to organizational safety improvement. Third, the findings align with the meta-analytic evidence (Tedone et al., 2026) that safety voice is positively associated with other safety behaviours and outcomes.

6.3 Practical Implications

The findings offer several practical implications for organizations seeking to enhance workplace safety:

1. **Promote a Culture of Safety Voice**: Organizations should create an environment where employees feel comfortable speaking up about safety concerns without fear of retribution. This can be achieved through leadership support, clear communication channels, and recognition of employees who report hazards.
2. **Train Leaders to Encourage Safety Voice**: Supervisors and managers should be trained to actively solicit safety concerns from employees and respond constructively to reported hazards. Empowering supervision (Curcuruto et al., 2023) can facilitate safety communication.
3. **Establish Responsive Reporting Systems**: Organizations should implement user-friendly hazard reporting systems and ensure that reported hazards are promptly investigated and addressed. Feedback should be provided to employees who report hazards to demonstrate that their voice is heard and valued.
4. **Integrate Safety Voice into Safety Management Systems**: Safety voice should be formally recognized as a key component of organizational safety management. This includes incorporating safety voice into safety training, performance evaluations, and safety improvement initiatives.
5. **Address Barriers to Safety Voice**: Organizations should identify and address barriers to safety voice, such as hierarchical power distance, fear of retaliation, and lack of psychological safety. Interventions such as anonymous reporting systems and psychological safety training can help overcome these barriers.

6.4 Limitations

The study has several limitations that should be acknowledged:

1. **Cross-Sectional Design**: The cross-sectional design limits the ability to draw causal inferences from the findings. While the regression analysis demonstrates predictive relationships, longitudinal research is needed to establish causality.
2. **Self-Report Measures**: All variables were measured using self-report questionnaires, which may be subject to common method bias. Future research should incorporate objective measures of hazard reporting and safety improvement where possible.
3. **Purposive Sampling**: The use of purposive sampling limits the generalizability of the findings to other organizational contexts. The sample was drawn from employees with safety-relevant roles, which may not represent the broader working population.
4. **Single Source Data**: Data were collected from a single source (employees), which may introduce bias. Future research should collect data from multiple sources, including supervisors and organizational records.
5. **Limited Variables**: The study focused on safety voice as a predictor of hazard reporting and organizational safety improvement. Other variables that may influence these relationships, such as safety climate, leadership support, and psychological safety, were not included in the model.

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6.5 Future Research Directions

Future research should address the limitations of this study and extend the findings in several directions:

1. **Longitudinal Studies**: Longitudinal research is needed to examine how safety voice, hazard reporting, and organizational safety improvement change over time and to establish causal relationships.
2. **Mixed Methods Research**: Qualitative and mixed methods research can provide deeper insights into the experiences, motivations, barriers, and perceptions of employees regarding safety communication.
3. **Mediating and Moderating Variables**: Future research should examine psychological safety, safety climate, leadership support, organizational trust, supervisor responsiveness, and reporting systems as mediating and/or moderating variables in the safety voice-outcome relationship.
4. **Cross-Cultural Comparative Studies**: Comparative studies across different organizational and cultural contexts can enhance understanding of how different factors influence employees' willingness to speak up about safety.
5. **Technology-Enabled Safety Voice**: Future research should examine the role of digital reporting systems, anonymous reporting platforms, AI tools, and other technological solutions in facilitating employee safety voice and organizational response to hazards.
6. **Industry-Specific Studies**: Research examining safety voice in specific high-risk industries (e.g., construction, healthcare, manufacturing, aviation) can provide industry-specific insights for safety management.

Author Contributions

All authors participated in ideation, development, and writing the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this article.

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Informed Consent

Not applicable. This study did not involve human participants requiring informed consent. The data used in this research were obtained from anonymized financial records with all personally identifiable information removed. No private or sensitive information was collected from individuals.

Data Availability

The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request. Due to privacy and confidentiality considerations, raw financial data may not be publicly distributed but can be accessed through the corresponding author with appropriate data use agreements and institutional approvals. The authors are committed to transparency and will provide detailed methodological information, model specifications, and analysis protocols upon request.

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