

Safety Citizenship Behavior: Systematic Literature Review

Anastasius Verdiansyah¹, Fiona Niska Dinda Nadia²

Human Resource Development, Graduate School of Airlangga University

^{1*}anastasius.verdiansyah-2024@pasca.unair.ac.id

Abstract

This study aims to systematically review empirical research on Safety Citizenship Behavior (SCB) over the past decade, focusing on theoretical development, methodological trends, and contextual applications. Using the PRISMA protocol, a search was conducted in the Scopus database with the keyword "Safety Citizenship Behavior" from 2014 to 2024. Fourteen eligible articles were thematically analyzed. Findings suggest that SCB is a discretionary behavior grounded in psychological motivation and social relationships that supports workplace safety. Predominant frameworks include Social Exchange Theory, Prosocial Motivation, and Mindfulness Theory. Most studies used quantitative approaches, with limited exploration of qualitative and contextual perspectives. Research was mainly conducted in construction and manufacturing sectors in Asia, with little attention to high-risk industries such as mining. This review contributes to psychology by emphasizing the role of individual agency in shaping participative safety cultures. Practical implications point to the need for leadership-driven and motivation-based interventions to foster SCB in organizational settings.

Keywords: *Safety Citizenship Behavior, Workplace Safety, Social Exchange Theory.*

1. Introduction

In the pursuit of creating safe and sustainable work environments, employees' voluntary behaviours that go beyond formal job requirements have gained increasing attention in occupational safety literature. These behaviours, known as *Safety Citizenship Behaviour* (SCB), refer to discretionary, prosocial actions that are not explicitly recognized by formal reward systems but collectively enhance safety performance in the workplace (Hofmann et al., 2003; Neal & Griffin, 2006). SCB encompasses actions such as helping coworkers understand safety procedures, voicing concerns about safety issues, protecting others from hazards, and reporting unsafe practices (Turner & Parker, 2003; Curcuruto et al., 2015).

The relevance of SCB is especially prominent in high-risk industries such as mining, construction, and manufacturing, where formal safety systems alone may not be sufficient to prevent workplace accidents. For instance, in Indonesia, workplace accident rates doubled in 2022 compared to the previous year, highlighting the urgent need for enhanced safety practices that include proactive employee participation (Badan Pusat Statistik, 2023). In such contexts, SCB plays a critical role in identifying and mitigating potential hazards before they escalate into serious incidents.

Although SCB has been explored in numerous studies, the existing body of literature presents several limitations. First, there is a lack of consistency in how SCB is conceptually defined and measured. Some researchers treat it as a subset of organizational citizenship behaviour (OCB), while others develop SCB-specific dimensions such as voice, helping, stewardship, and whistleblowing (Griffin & Neal, 2000; Hofmann et al., 2003). Second, the majority of SCB research has been conducted in Western cultural contexts, leaving a gap in understanding how SCB manifests in developing countries with different workplace norms and safety cultures. Third, there remains a lack of systematic reviews that comprehensively map the theoretical, methodological, and contextual development of SCB, particularly in the last decade.

In response to these gaps, the primary objective of this systematic literature review is to (1) critically synthesize empirical research on SCB indexed in the Scopus database, (2) identify emerging trends and developments in terms of theoretical frameworks, dimensions, industrial settings, and methodologies, and (3) highlight key research gaps to guide future studies in the field of workplace safety. Through this approach, the review aims to contribute both theoretically and practically to the advancement of participatory and sustainable safety cultures.

2. Method

This systematic literature review (SLR) was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021), which provide a structured and transparent process for identifying, selecting, and synthesizing relevant literature. The review focused exclusively on peer-reviewed journal articles indexed in the Scopus database, as Scopus is widely recognized for its comprehensive coverage and rigorous indexing standards in the fields of psychology, social sciences, and organizational behavior.

The literature search was performed in June 2024 using the keyword phrase "Safety Citizenship Behavior." To ensure relevance, several filters were applied: publication year was limited to the range between 2014 and 2024, the document type was restricted to journal articles only (excluding reviews, conference proceedings, editorials, and book chapters), and only English-language publications were considered. The search targeted subject areas related to psychology, business, management, and social sciences.

The selection process followed four main phases as outlined in the PRISMA framework: identification, screening, eligibility, and inclusion. In the identification phase, a total of 63 records were retrieved from the Scopus database. During the screening phase, duplicate records and non-journal publications were excluded, resulting in 55 unique articles for title and abstract review. After limiting the subject area to Business, Management and Accounting and Psychology, the final number of potentially relevant articles was reduced to 14.

The inclusion criteria required that articles be empirical in nature, explicitly focus on SCB either as a main construct or through specific dimensions (e.g., helping, voice, stewardship, whistleblowing), and be published in peer-reviewed journals indexed by Scopus. Exclusion criteria included conceptual papers, non-English publications, and studies in which SCB was only briefly mentioned or treated as a minor variable.

Data from the included studies were systematically extracted and analyzed. Key information collected from each article included the author(s), year of publication, research objectives, geographical context, research design (quantitative, qualitative, or mixed methods), theoretical framework, SCB dimensions, and main findings. The data were then thematically categorized to identify trends in theoretical development, methodological approaches, and contextual applications of SCB research over the past decade.

3. Result and Discussion

From a theoretical development standpoint, the literature demonstrates a diverse but converging focus on motivational and relational frameworks. The most frequently applied theories include *Social Exchange Theory* (Hofmann et al., 2003; Reader et al., 2017; Wang et al., 2023), which emphasizes reciprocal relationships between employees and organizations, and the *Theory of Planned Behavior* combined with the *Norm Activation Model* (Liu et al., 2020), which highlights attitudinal and normative influences on SCB. Additionally, *Leader-Member Exchange* (Lu et al., 2017) and *Transformational Leadership Theory* (Dartey-Baah et al., 2021) were utilized to explain the influence of leadership dynamics, while newer perspectives such as *Mindfulness Theory* (Curcuruto et al., 2024) and *Gamification Motivation* (Wallius et al., 2024) mark a shift toward more contemporary cognitive and behavioral models. This theoretical variety illustrates an evolving and increasingly multidimensional understanding of SCB, moving beyond basic organizational citizenship behavior (OCB) frameworks.

In terms of methodological approaches, the vast majority of the reviewed studies employed quantitative research designs, typically using cross-sectional survey data and structural equation modeling or regression-based analyses. This includes studies conducted in both developed and developing countries, indicating the methodological robustness and generalizability of SCB constructs across cultures. Only one study (Rusyda et al., 2020) adopted a qualitative ethnomethodological approach to explore proactive safety behavior among youth workers, revealing the underrepresentation of qualitative or mixed-method designs in the SCB literature. This suggests a notable gap and opportunity for future research to incorporate more contextual and exploratory methodologies to capture the complexity of SCB in practice.

Regarding contextual applications, SCB research has been conducted across a variety of industrial sectors and geographic regions. Notably, construction (Liu et al., 2020; Ning et al., 2024; Zhang et al., 2023), energy (Dartey-Baah et al., 2021), maritime logistics (Lu et al., 2017), and garment manufacturing (Rahaman & Arefin, 2022) were among the most common settings. Most of the studies originated from Asian countries—particularly China, Taiwan, and Bangladesh—demonstrating growing attention to SCB in non-Western contexts. However, studies from Africa (Ghana) and Europe also contributed to this literature. Despite this global interest, the mining sector—particularly in Southeast Asia—remains underexplored, presenting an important avenue for future contextual application of SCB research.

Author(s)	Year	Research Objectives	Geographical Context	Research Design	Theoretical Framework	SCB Dimensions	Main Findings
Curcuruto et al.	2019	Investigate motivational drivers and outcomes of safety proactivity Examine collective mindfulness	Europe	Quantitative	Self-determination theory	Proactivity, Voice	Motivation predicts safety proactivity and related outcomes
Curcuruto et al.	2024	and safety citizenship via participative safety self-efficacy	Europe	Quantitative	Mindfulness theory	Helping, Voice	Participative efficacy mediates mindfulness and SCB
Dartey-Baah et al.	2021	Compare leadership styles' impact on SCB Explore climate's moderation on leader-member exchange and citizenship	Ghana	Quantitative	Transformational and Transactional Leadership	Helping, Voice	Transformational leadership positively influences SCB
Hofmann et al.	2020	Analyze psychological drivers of SCB among construction workers	USA	Quantitative	Social exchange theory	Helping	Safety climate moderates LMX-SCB link
Liu et al.	2020	Link LMX and safety climate to SCB	China	Quantitative	Theory of Planned Behavior & Norm Activation	Helping, Voice	Attitudes and norms shape SCB
Lu et al.	2017	Study image risk as barrier to SCB	Taiwan	Quantitative	LMX theory	Helping, Stewardship	Positive LMX and climate foster SCB
Ning et al.	2024	Assess influence of supervisor behavior, motivation, and job insecurity	China	Quantitative	Image risk theory	Whistleblowing	Anticipated image risk deters SCB
Quansah et al.	2022	Link safety climate and prosocial motivation to SCB	Ghana	Quantitative	Safety motivation model	Helping, Voice	Supervisor support and safety motivation enhance SCB
Rahaman & Arefin	2022	Examine org. support and safety citizenship	Bangladesh	Quantitative	Prosocial motivation theory	Helping	Prosocial motivation mediates SCB
Reader et al.	2017	Explore proactive safety behavior among youth	UK	Quantitative	Social exchange theory	Helping, Voice	Perceived support boosts SCB via exchange trust
Rusyda et al.	2020	Study gamification's role in compliance and SCB	Malaysia	Qualitative	Ethnomethodology	Proactivity, Helping	Youth enact SCB via cultural and peer influences
Wallius et al.	2024	Assess LMX differentiation's effect on SCB	Finland	Quantitative	Motivational affordance theory	Helping, Compliance	Gamification enhances voluntary SCB
Wang et al.	2023	Investigate owner management behavior's influence on SCB	China	Quantitative	Social identity & responsibility theory	Helping, Voice	LMX affects SCB via identity and responsibility
Zhang et al.	2023		China	Quantitative	Behavioral management theory	Helping, Voice	Owner behavior significantly impacts SCB

Table 1. Literature Review

4. Discussion

The findings of this systematic literature review provide meaningful insights into how Safety Citizenship Behaviour (SCB) has evolved as a construct in occupational safety research over the past decade. By examining 14 empirical studies across various industries and regions, several key patterns emerged related to theoretical grounding, methodological preferences, and contextual deployment of SCB.

First, the theoretical foundations of SCB research reflect a shift from general organizational behaviour models toward more nuanced and integrated frameworks. While foundational theories such as *Social Exchange Theory* (e.g., Hofmann et al., 2003; Reader et al., 2017) remain prominent, newer studies have incorporated psychological constructs like *Mindfulness Theory* (Curcuruto et al., 2024), *Image Risk Theory* (Ning et al., 2024), and *Prosocial Motivation* (Rahaman & Arefin, 2022). This indicates an increasing recognition of the complex interplay between individual cognition, emotion, and contextual factors in predicting SCB. Such theoretical diversification enhances our understanding of not only *why* employees engage in safety-promoting behaviours but also *how* these behaviours are shaped by both internal drivers and external conditions.

Second, the methodological landscape of SCB research has been dominated by quantitative designs. Most studies relied on cross-sectional surveys and statistical modelling, such as regression or structural equation modelling, to examine predictors and outcomes of SCB. While this approach allows for empirical generalization and model testing, it also highlights a notable gap in qualitative and mixed-method studies. Only one study (Rusyda et al., 2020) adopted a qualitative design to explore the lived experiences of young workers in Malaysia, suggesting that the subjective and cultural dimensions of SCB remain underexplored. This overreliance on quantitative data may limit the depth of understanding about how SCB manifests in real-world safety contexts and how it is interpreted by employees themselves.

Third, the contextual applications of SCB research were primarily concentrated in high-risk industries such as construction, manufacturing, energy, and logistics. A strong geographical focus on Asian contexts—particularly China, Taiwan, Malaysia, and Bangladesh—demonstrates growing interest in safety behavior within rapidly developing economies where industrial safety concerns are heightened. Nevertheless, certain sectors with high safety risks, such as mining and oil & gas, were noticeably absent from the reviewed literature, especially in Southeast Asia. This gap is particularly significant given the increasing rates of workplace accidents in industries like mining, where SCB could play a crucial role in promoting proactive and participative safety cultures.

Another notable finding is the variation in SCB dimensions studied. While helping and voice behaviours were most commonly examined, fewer studies included dimensions such as whistleblowing or stewardship. This may be due to cultural barriers or organizational climates that do not always support upward communication or peer correction, particularly in hierarchical or collectivist cultures. Future research should investigate the conditions under which less visible or more sensitive forms of SCB—like reporting violations—can be encouraged and sustained.

In sum, the review suggests that while SCB has garnered substantial academic interest, its development remains uneven. Theoretical exploration is expanding, but often remains siloed within certain disciplines. Methodologically, there is room to incorporate more interpretive and participatory designs. Contextually, SCB research

would benefit from broader representation across industries and cultures, especially in sectors with high accident prevalence. Addressing these gaps could significantly enrich both theoretical contributions and practical interventions aimed at cultivating proactive, safety-oriented workforces.

5. Conclusion

This systematic literature review set out to critically synthesize empirical research on Safety Citizenship Behavior (SCB), identify its theoretical and methodological trends, and uncover contextual gaps within the past decade of scholarly work. The findings demonstrate that SCB has evolved beyond its roots in organizational citizenship behavior, emerging as a distinct construct shaped by motivational, relational, and cognitive mechanisms. Theoretical developments indicate a shift toward more integrated psychological models—such as mindfulness, image risk, and prosocial motivation—that offer deeper explanatory power for voluntary safety behaviors. However, methodological homogeneity, with a dominant reliance on quantitative approaches, suggests a need for more interpretive and context-sensitive research designs to capture SCB in practice. Furthermore, while SCB research is gaining momentum in non-Western contexts, its application remains limited in critical high-risk sectors like mining, particularly in Southeast Asia. These insights point to the importance of contextualizing SCB within cultural, industrial, and organizational realities. Novel contributions from this review lie in highlighting how psychological constructs—such as identity, efficacy, and image management—mediate safety behavior beyond formal safety compliance. As such, SCB serves not only as a behavioral expression of workplace safety culture but also as a psychological mechanism for proactive risk management. This synthesis contributes to the advancement of psychology by demonstrating how individual agency, shaped by social and organizational factors, plays a central role in enhancing collective safety outcomes—an insight crucial for both theory development and applied psychological interventions in occupational settings.

Implication

The findings of this review underscore the importance of integrating psychological insights into organizational safety strategies. For future research, there is a pressing need to explore SCB through qualitative and mixed-method approaches to capture the contextual and cultural nuances that shape safety behavior in practice—especially in underrepresented high-risk sectors such as mining in Southeast Asia. Policymakers and organizational leaders should consider embedding SCB-promoting mechanisms—such as leadership training, participative safety programs, and recognition systems—into formal safety management frameworks. Furthermore, safety interventions must move beyond compliance-based models by fostering prosocial motivation, psychological safety, and trust, which are foundational for sustained safety citizenship. By doing so, organizations can cultivate a safety culture that empowers employees not only to follow rules but also to take ownership of collective well-being.

6. References

Badan Pusat Statistik. (2023). *Statistik Ketenagakerjaan Indonesia 2022*. BPS-Statistics Indonesia.

- Curcuruto, M., Parker, S. K., & Griffin, M. A. (2019). Proactivity towards workplace safety improvement: An investigation of its motivational drivers and organizational outcomes. *European Journal of Work and Organizational Psychology*, 28(2), 221–238. <https://doi.org/10.1080/1359432X.2019.1572115>
- Curcuruto, M., Renecke, M., Gracia, F., Morgan, J. I., & Tomas, I. (2024). Improving workplace safety through mindful organizing: Participative safety self-efficacy as a mediational link between collective mindfulness and employees' safety citizenship. *Journal of Risk Research*, 27(1), 85–107. <https://doi.org/10.1080/13669877.2023.2293043>
- Dartey-Baah, K., Quartey, S. H., & Adotey, A. (2021). Examining transformational and transactional leadership styles and safety citizenship behaviors in the power distribution sector: Evidence from Ghana. *International Journal of Energy Sector Management*, 15(1), 173–194. <https://doi.org/10.1108/IJESM-07-2020-0008>
- Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, 5(3), 347–358. <https://doi.org/10.1037/1076-8998.5.3.347>
- Hofmann, D. A., Morgeson, F. P., & Gerrass, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: Safety climate as an exemplar. *Journal of Applied Psychology*, 88(1), 170–178. <https://doi.org/10.1037/0021-9010.88.1.170>
- Liu, Q., Xu, N., Jiang, H., Wang, S., Wang, W., & Wang, J. (2020). Psychological driving mechanism of safety citizenship behaviors of construction workers: Application of the theory of planned behavior and norm activation model. *Journal of Construction Engineering and Management*, 146(4). [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001793](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001793)
- Lu, C.-S., Weng, H.-K., & Lee, C.-W. (2017). Leader-member exchange, safety climate and employees' safety organizational citizenship behaviors in container terminal operators. *Maritime Business Review*, 2(4), 331–348. <https://doi.org/10.1108/MABR-11-2017-0028>
- Neal, A., & Griffin, M. A. (2006). A study of the lagged relationships among safety climate, safety motivation, safety behavior, and accidents at the individual and group levels. *Journal of Applied Psychology*, 91(4), 946–953. <https://doi.org/10.1037/0021-9010.91.4.946>
- Ning, X., Zhai, F., Xia, N., & Hu, X. (2024). Protecting the ego: Anticipated image risk as a psychological deterrent to construction workers' safety citizenship behavior. *Journal of Construction Engineering and Management*, 150(1). <https://doi.org/10.1061/JCEMD4.COENG-13850>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Quansah, P. E., Zhu, Y., & Obeng, A. F. (2022). Assessment of the effects of supervisor behaviour, safety motivation and perceived job insecurity on underground miner's safety citizenship behaviour. *Chinese Management Studies*, 16(2), 356–381. <https://doi.org/10.1108/CMS-08-2020-0361>
- Rahaman, M., & Arefin, M. S. (2022). Linking safety climate and safety citizenship behaviour in the Bangladeshi garment industry: Role of employees' prosocial

- motivation. *South Asian Journal of Human Resources Management*, 9(2), 350–372.
<https://doi.org/10.1177/23220937221125551>
- Reader, T. W., Mearns, K., Lopes, C., & Kuha, J. (2017). Organizational support for the workforce and employee safety citizenship behaviors: A social exchange relationship. *Human Relations*, 70(3), 362–385.
<https://doi.org/10.1177/0018726716655863>
- Rusyda, H. M., Daniella, M. M., Salleh, M. A. M., Noremy, M. A., Manap, J. H., Ghani, A. A., & Nur Saadah, M. A. (2020). Predicting proactive safety behaviour of the young Malaysian workers: An ethno-methodological analysis. *International Journal of Psychosocial Rehabilitation*, 24(4 Special Issue 1), 1731–1748.
<https://doi.org/10.37200/IJPR/V24SP1/PR201558>
- Wallius, E., Klock, A. C. T., & Hamari, J. (2024). From forceful compliance to motivated endorsement: Effects of gamification on policy compliance during COVID-19. *Behaviour and Information Technology*, 43(15), 3657–3675.
<https://doi.org/10.1080/0144929X.2023.2286344>
- Wang, D., Huang, R., Qiao, Y., Sheng, Z., Li, K., & Zhao, L. (2023). How perceived leader-member exchange differentiation affects construction workers' safety citizenship behavior: Organizational identity and felt safety responsibility as mediators. *Journal of Construction Engineering and Management*, 149(11).
<https://doi.org/10.1061/JCEMD4.COENG-13557>
- Zhang, L., Liu, Y., & Chu, Z. (2023). The influence mechanism of owners' safety management behavior on construction workers' safety citizenship behavior. *Behavioral Sciences*, 13(9). <https://doi.org/10.3390/bs13090721>