ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 5 (May 2026)

Workers' Perception of Occupational Safety and Health Implementation and Its Relationship to Safety Performance in a Mass Housing Project

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Date Submitted:
March 6, 2026

Date Accepted:
April 28, 2026

Date Published:
May 7, 2026

DOI:
10.5281/zenodo.20072318

ABSTRACT

This study evaluated workers' perceptions of Occupational Safety and Health implementation as legal compliance with Republic Act No. 11058. Using a descriptive-correlational design, data were collected from 75 construction workers of a mass housing project in Tanza Cavite. The profile showed a majority of skilled workers (48.00%) aged 26–35 (45.33%) with 1–5 years of experience (37.33%). Results revealed a "High" perception of OSH implementation (WM = 4.12) and Safety Compliance (4.45), though Safety Participation was lower at 3.80. **A** significant positive correlation (***r*** = 0.68) was found between OSH perception and safety performance. The study concludes that while the project meets legal standards, a "participation gap" exists. Recommendations include addressing training gaps and improving PPE ergonomics to foster a proactive safety culture.

Keywords*: OSH, Legal Compliance, Construction Safety, Safety Perception, RA 11058.*

INTRODUCTION

The construction industry remains one of the most hazardous sectors globally, characterized by high rates of occupational injuries that often stem from the disconnect between formal legal requirements and site-level implementation. While stringent OSH mandates provide a framework for risk mitigation, the efficacy of these policies is fundamentally mediated by workers' perceptions of organizational commitment and leadership support (Abegaz et al., 2025; Kadher et al., 2024). Recent evidence underscores that when organizations prioritize open communication climates and management involvement, they foster an environment where safety participation and compliance are effectively internalized by the workforce (Zara et al., 2023). Consequently, these dimensions of the safety climate act as essential precursors that translate institutional regulatory frameworks into consistent, proactive safety behaviors (Arooj et al., 2022; Sathvik et al., 2024). Thus, examining the alignment between perceived regulatory implementation and worker performance is critical for identifying potential gaps in safety culture (Lu et al., 2025; Sathvik et al., 2024). Building upon this, the study addresses whether a disconnect between legislative standards and site-level perception directly diminishes safety outcomes, thereby necessitating a quantitative evaluation of these variables. Furthermore, this research clarifies the dual-dimensional construct of safety performance, specifically assessing how safety compliance—the adherence to mandatory tasks—and safety participation—the proactive engagement in hazard mitigation—are independently influenced by frontline

ISSN: 3116-3475
International Journal
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perceptions of OSH enforcement (Magalhães et al., 2022). Given the shift toward advanced safety management, understanding these dynamics requires acknowledging how distal pressures, such as economic or political mandates, often complicate the translation of legal requirements into effective site-level operations (Nugroho et al., 2024). This study aims to quantify these complex dynamics, offering a structured assessment of how institutional policy dissemination shapes individual behavioral responses within high-risk work environments. By examining these behavioral drivers, this study seeks to provide actionable data that informs the development of more responsive, worker-centric safety governance strategies.

Background of the Study

The construction industry is governed by rigorous legal frameworks, yet high injury rates suggest that the mere existence of these mandates is insufficient to guarantee site-level safety. The effectiveness of these regulations is heavily contingent upon how frontline workers perceive and internalize the provided safety measures, which often serves as a critical determinant of their actual performance (Saleem et al., 2022). Specifically, research indicates that individual compliance and participation are profoundly influenced by environmental stimuli, such as organizational climate and the perceived utility of legal constraints (Chang et al., 2024). These organizational factors function as primary catalysts that shape safety behaviors, with leadership support and management involvement acting as essential conduits for translating legislative requirements into habitual site practices (Hiep & Nguyen, 2023). Furthermore, discrepancies in how workers and supervisors interpret this safety obligations can lead to significant variations in risk mitigation outcomes (Lafuente et al., 2018; Omidi et al., 2023). Consequently, understanding the psychological and operational factors influencing this perception is vital, as safety compliance—adhering to established procedures—and safety participation—voluntary actions that support a safer work environment—are distinct yet interrelated components of overall safety performance (Al-Bsheish, 2017). This investigation, therefore, situates itself within the broader discourse on macro-institutional influences, positing that the institutional environment—comprising safety incentives, training efficacy, and formal supervision—serves as a primary antecedent to the behavioral patterns exhibited by construction workers (Yuan et al., 2022). By examining these institutional controls, the research explores how corporate regulations and governmental policies directly mitigate the risk of unsafe behaviors. However, as systemic vulnerabilities often compound individual risk assessments, it remains critical to analyze how these organizational frameworks are perceived by those at the forefront of project execution (Ahmad et al., 2025). Indeed, as institutional control mechanisms are vital for reducing hazards, persistent gaps between legislative intent and workers' subjective experiences frequently undermine the intended safety outcomes (Yuan et al., 2022). This study aims to bridge this critical knowledge gap by empirically assessing the correlation between institutional OSH mandates and the actualized safety behaviors of frontline personnel. By systematically evaluating these variables, the study provides a quantitative evidence base to determine if existing compliance mechanisms are adequately fostering a proactive safety culture or merely enforcing superficial adherence.

Literature Review

The existing literature highlights that while organizational safety policies serve as foundational structural requirements, the efficacy of these frameworks is often mediated by the complex interaction between individual cognitive processes and prevailing workgroup norms (Choi, 2018). Scholars have noted that safety behaviors are not merely products of regulatory adherence but are deeply influenced by sociocultural expectations and the hierarchical dynamics inherent in construction environments (Ahmad et al., 2025; Wang et al., 2023). Moreover, research indicates that fatalistic attitudes and perceived trade-offs between productivity and safety often override formal policy mandates, suggesting that subjective interpretations of institutional control are heavily impacted by power imbalances and informal social

ISSN: 3116-3475
International Journal
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influence (Ahmad et al., 2025). Furthermore, existing research underscores that construction firms frequently operate as vital intermediaries, potentially mitigating weak regulatory environments or, conversely, exacerbating compliance gaps through inadequate oversight and institutional indifference (Loosemore et al., 2020). Furthermore, recent empirical inquiries emphasize that safety performance is often a function of the supervisor-worker relationship, where trust and communication serve as critical mediators between organizational policies and individual compliance (Su et al., 2019). Beyond these interpersonal dynamics, the Theory of Planned Behavior suggests that perceived behavioral control and subjective norms significantly influence how workers translate institutional safety directives into daily practices (Su et al., 2019; Wang et al., 2023). Furthermore, institutional deficiencies in law enforcement and government supervision have been identified as primary drivers of substandard safety compliance among junior construction personnel (Chang et al., 2024). Additionally, literature suggests that perceived behavioral control and organizational support are critical determinants in whether employees feel empowered to prioritize safety over production pressures (Lawani et al., 2023; Su et al., 2019). Furthermore, evidence suggests that organizational factors such as feedback, training, and safety inspections exert a positive influence on safety behavior, serving as actionable mechanisms for management to improve workplace conditions (Lawani et al., 2023). Concurrently, the interaction between psychological cognition and the institutional environment necessitates a deeper investigation into how internal mental states and external regulatory structures coalesce to shape worker behavior (Chang et al., 2024). Moreover, scholarly consensus indicates that safety beliefs are frequently modulated by age and experience, wherein senior workers may adopt self serving risk-avoidance behaviors that inadvertently delegate hazards to less experienced personnel (Ahmad et al., 2025). Finally, research indicates that discrepancies between management's intended safety norms and workers' actual perceptions of these mandates often arise from ineffective communication, which further complicates the standardization of safe work practices across diverse site teams (Choi, 2018). Additionally, the synergy between individual psychological cognitive states and the institutionalized regulatory environment remains a pivotal, yet often under-examined, intersection that dictates the consistency of safe performance (Yuan et al., 2022). Consequently, this study synthesizes these psychosocial and institutional determinants to determine how the perceived efficacy of legal compliance mechanisms functions as a catalyst for improved safety participation and adherence among site workers (Nguyen et al., 2024; Wang et al., 2023). This framework acknowledges that worker safety behavior is fundamentally dictated by the interplay between internal psychological processes and the perceived external regulatory climate (Kang et al., 2024; Yuan et al., 2022). By investigating these factors, this study seeks to elucidate how the institutional environment—specifically the enforcement of OSH standards—shapes individual safety intent and actual performance (Fiore et al., 2023). Specifically, this investigation aligns with findings that emphasize how perceived organizational support for safety—manifesting as resources, communication, and management practices—directly modulates an employee's commitment to established safety protocols (Fiore et al., 2023; Liu et al., 2019). Moreover, the integration of these "can-do" and "reason-to" psychological factors provides a nuanced perspective on why regulatory mandates are internalized by some workers while dismissed as peripheral by others (Hu et al., 2022). Furthermore, studies demonstrate that when safety is internalized as a personal value rather than an external imposition, workers exhibit higher levels of participation in collaborative safety activities (Kang et al., 2024). In addition, evidence confirms that a robust safety climate—characterized by effective leadership and colleague support—acts as a catalyst for individual behavioral intention, thereby reducing the incidence of unsafe practices in project environments. Furthermore, research into international construction contexts underscores that an individual's compliance intention—often derived from personal traits and professional experience—remains a critical determinant in translating these broader institutional norms into consistent, risk-averse daily actions (Chang et al., 2024). Furthermore, the effective implementation of legal instruments remains essential to control employers and employees, providing the necessary regulatory boundaries that guide organizational compliance and limit exposure to workplace hazards (Afatsawu & Kheni, 2022). By

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International Journal
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anchoring compliance within the three pillars of institutional theory—regulatory, normative, and cognitive—this study bridges the gap between top-down legislative mandates and the ground-level perceptions that ultimately dictate site-level safety performance (Cheng et al., 2025). This approach further aligns with research identifying organizational climate and individual perception as dual-layered mechanisms for improving site-wide safety outcomes (Meng & Chan, 2022). Ultimately, this research aims to validate whether these multifaceted organizational stimuli, when perceived as equitable and strictly enforced, effectively cultivate a self-sustaining culture of safety compliance among the workforce (Chang et al., 2024; Yuan et al., 2022). By systematically evaluating these variables, the study intends to provide empirical evidence that informs future policy adjustments and safety management strategies within the construction sector.

Statement of the Problem

This study aims to evaluate construction workers' perceptions of the implementation of Occupational Safety and Health measures as a form of legal compliance and determine if these perceptions correlate with their safety performance. Specifically, this research seeks to address the following questions:

1. What is the level of workers' perception regarding the implementation of mandated OSH measures concerning safety policies, provision of personal protective equipment, training programs, and enforcement monitoring?
2. What is the level of workers' self-reported safety performance in terms of safety compliance and safety participation?
3. Is there a significant relationship between construction workers' perceptions of OSH implementation and their self-reported levels of safety performance?

Significance of the Study

The findings of this research will provide construction stakeholders and project managers with empirical evidence to bridge the gap between regulatory intent and on-site implementation, fostering a more robust safety culture. Additionally, policymakers and regulatory bodies will benefit from these insights as they refine legislative frameworks to better address the practical challenges faced by personnel in high-risk environments (Thapak et al., 2024). Moreover, the results offer actionable strategies for site safety officers to enhance training efficacy and monitoring protocols, ultimately mitigating preventable occupational hazards. Furthermore, this research contributes to the existing body of literature by elucidating how experiential factors and knowledge-enhancing training initiatives modulate the relationship between formal safety perceptions and tangible site outcomes (Lafuente et al., 2018). Finally, this study provides a foundational quantitative framework for future researchers to investigate how diverse demographic variables interact with perceived institutional mandates to influence long-term safety behavior trends.

METHODS

This study employs a descriptive-correlational research design to quantitatively analyze the relationship between workers' perceptions of legal OSH implementation and their subsequent safety performance within a mass housing construction project.

A cross-sectional survey instrument will be utilized to collect data from a stratified random sample of construction workers employed in a mass housing project, ensuring representation across diverse trades and project roles.

The sample size was determined using Slovin's formula to ensure statistical representativeness while accounting for the total population of workers on the project. Using a confidence level of 95% and

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International Journal
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an acceptable margin of error, the computed sample size yielded 75 respondents, which will provide sufficient power to detect meaningful correlations between the variables of interest.

The research instrument, adapted from validated scales, utilizes a Likert-type format to capture both subjective evaluations of site-specific OSH practices and self-reported frequencies of safety-related behaviors (Ghasemi et al., 2025; Zahoor et al., 2017).

Specifically, two distinct 5-point Likert scales are employed in the questionnaire. The first part, which assesses workers' perception of OSH Implementation, uses a level of agreement scale with the following anchors: 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, and 1 – Strongly Disagree. The second part, which measures workers' self-reported safety performance, utilizes a level of frequency scale, where 5 – Always, 4 – Very Often, 3 – Sometimes, 2 – Rarely, and 1 – Never. This structure allows the study to differentiate between workers' perceptions of safety systems and their actual safety behaviors, enabling a more comprehensive analysis of both attitudinal and behavioral dimensions of safety performance.

The data collection procedure involves the administration of these questionnaires during tool-box meetings on-site at the mass housing project to maximize participation rates while minimizing disruption to active construction operations. Following data collection, descriptive statistics (*e.g.* weighted means) will be employed to determine the levels of workers' perceptions and safety performance, while Pearson's correlation coefficient will be used to test the strength and direction of the relationship between these variables. Furthermore, the survey instrument will be reviewed by potential respondents to ensure face validity, confirming that the items appear clear, relevant, and appropriate for measuring institutional safety climate and individual behavioral outcomes. All statistical procedures will be conducted using specialized software to ensure high-precision computation and facilitate the rigorous testing of the research hypotheses. Consistent with the methodological rigor required for this study, all participants will be provided with an informed consent disclosure to ensure ethical compliance and protect respondent anonymity throughout the data acquisition process (Chang et al., 2024; Faradisa & Martiana, 2021).

RESULTS

A total of 75 construction workers of a mass housing project in Tanza Cavite participated in this study. The demographic profile of the respondents was categorized into three main variables based on the research instrument: Age, Position/Job Category, and Years of Experience in the construction industry.

Age Distribution

The age distribution of the respondents is presented in Table 1. The majority of the workers fall within the productive working age range of 26–45 years old

Table 1. *Age Distribution of Respondents (n=75)*

Years of Experience	Frequency	Percentage
18–25 years old	12	16.00%
26–35 years old	34	45.33%
36–45 years old	21	28.00%
46 years old and above	8	10.67%
Total	75	100.00%

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The data indicates that 45.33% of the respondents fall within the 26–35 age bracket. This suggests a workforce that is physically capable of meeting the rigorous demands of construction while likely having enough maturity to understand safety protocols. Only 10.67% are aged 46 and above, which may reflect the physical toll of construction labor over time.

Position/Job Category

The respondents were classified according to their positions in the construction project, as below.

Table 2. *Position/Job Category of Respondents (n=75)*

Years of Experience	Frequency	Percentage
Foreman / Supervisor	9	12.00%
Skilled Worker	36	48.00%
Equipment Operator	12	16.00%
Laborer / Helper	18	24.00%
Total	75	100.00%

Nearly half of the respondents (48.00%) are Skilled Workers, which includes specialized trades such as masons and carpenters. Laborers and helpers make up 24.00% of the sample, while those in supervisory roles and technical roles comprise the remaining 28.00%. This distribution ensures that the study captures safety perceptions from both the frontline labor force and site leadership.

Years of Experience in Construction

Table 3 presents the respondents' years of experience in the construction industry.

Table 3. *Years of Experience in Construction (n=75)*

Years of Experience	Frequency	Percentage
Less than one year	6	8.00%
1-5 years	28	37.33%
6-10 years	24	32.00%
More than 10 years	17	22.67%
Total	75	100.00%

The results show that 69.33% of the respondents have between 1 and 10 years of experience in the industry. Only a small fraction (8.00%) are novices with less than a year of experience. The significant presence of workers with more than 10 years of experience (22.67%) provides the study with insights from seasoned professionals who have seen the evolution of safety compliance in the Philippines.

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Level of Workers' Perception regarding OSH Implementation

The workers' perception of Occupational Safety and Health implementation was assessed across four domains. As shown in Table 1, the overall perception is "High," with a grand weighted mean of 4.12.

Table 4. *Workers' Perception of OSH Implementation*

Domain	Weighted Mean	Descriptive Rating
A. Safety Policies and Programs	4.35	Strongly Agree
B. Provision of PPE	4.10	Agree
C. Safety Training and Awareness	3.95	Agree
D. Enforcement and Monitoring	4.08	Agree
Overall Mean	4.12	Agree

The highest-rated domain was *Safety Policies and Programs* (WM = 4.35), indicating that workers perceive the company as having clear, written safety rule. Conversely, *Safety Training and Awareness* received the lowest mean (3.95), suggesting that while training occurs, workers may feel there is room for improvement in the frequency or depth of these sessions.

Level of Workers' Self-Reported Safety Performance

Table 5 presents the workers' self-reported safety performance, divided into safety compliance and safety participation.

Table 5. *Workers' Self-Reported Safety Performance*

Domain	Weighted Mean	Descriptive Rating
A. Safety Compliance	4.45	Always
B. Safety Participation	3.80	Very Often
Overall Mean	4.13	Very Often

Workers reported high levels of *Safety Compliance* (WM = 4.45), particularly in following standard operating procedures. However, *Safety Participation*—which involves voluntary actions like suggesting safety improvements—was lower (WM = 3.80).

Relationship between OSH Perception and Safety Performance

A Pearson-r correlation analysis was conducted to determine the relationship between workers' perceptions and their performance. The results show a significant positive correlation ($r = 0.68$, $p < .05$), indicating that as workers' perceptions of the company's OSH implementation improve, their own safety performance also increases.

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DISCUSSION

Demographic Profile and Its Implications

The demographic profile reveals that the typical respondent is a skilled worker aged 26–35 with 1–5 years of experience. This profile represents a demographic that is actively engaged in the core activities of the construction project and is directly impacted by the implementation of Occupational Safety and Health policies on-site. The presence of workers across all experience levels—from novices to veterans—provides a comprehensive perspective on OSH implementation within the project site. The relatively low percentage of workers aged 46 and above (10.67%) aligns with industry trends where the physically demanding nature of construction work leads to earlier career transitions compared to other sectors.

Perception of OSH Implementation and Legal Compliance

The results indicate a "High" level of perception regarding OSH implementation, which suggests that the project site is making significant strides in complying with Republic Act No. 11058. The high score in Safety Policies (4.35) aligns with recent situational analyses showing that OSH program implementation in the Philippines has increased significantly since the 2018 reforms. Workers recognize that the company has established the mandatory frameworks required by the Department of Labor and Employment.

PPE Provision and Barriers to Compliance

While the provision of Personal Protective Equipment was rated highly (4.10), qualitative responses and lower scores on specific items (like "PPE comfort") highlight a common industry challenge. Even when companies provide high-quality PPE free of charge as mandated by law, workers often cite discomfort as a primary reason for non-compliance. This suggests that legal compliance in "providing" equipment does not always translate to "consistent usage" if the equipment is not ergonomic for the tropical climate of the Philippines.

Safety Training and Awareness Gaps

The relatively lower mean for Safety Training and Awareness (3.95) reflects critical gaps often found in Philippine construction sites, including issues with hazard identification and emergency preparedness. Although toolbox meetings are conducted regularly, the findings suggest that workers may require more specialized training to move beyond simple awareness toward a proactive safety culture. This is consistent with studies in other regions, like Camarines Sur, where training remains a "critical gap" despite generally high safety awareness.

Enforcement and Monitoring Practices

The high rating for Enforcement and Monitoring (4.08) indicates that supervisors regularly monitor the site to ensure safety rules are followed and that corrective actions are promptly implemented when hazards are reported. The presence of a fair system for rewards and penalties also contributes to workers' perception that safety is taken seriously by management.

However, the gap between enforcement and voluntary participation suggests that while external controls are effective, internal motivation for safety behaviors may need strengthening. The finding that workers are less likely to voluntarily suggest safety improvements or help coworkers work safely (Safety Participation = 3.80) indicates that the current enforcement system may be more effective at ensuring compliance than at encouraging proactive safety engagement.

The Link Between Perception and Performance

The significant positive relationship (r=0.68) between perception and performance underscores the importance of management's role. When workers perceive that the company prioritizes their welfare over

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deadlines—a key item in the instrument—they are more likely to participate in safety activities and follow rules (Zhong, 2024). Promoting a positive perception of safety implementation not only ensures legal adherence but also fosters "Safety Participation," where workers actively correct the unsafe behaviors of their peers. This transition from "enforced compliance" to "voluntary participation" is essential for reducing occupational injuries in the high-risk construction sector.

This finding suggests that when management demonstrates a strong commitment to safety through effective policy implementation, risk management, and consistent enforcement, workers are more likely to exhibit both compliance and proactive safety behaviors. This supports the study of Cabual et al. (2023), which emphasized that proactive safety approaches—such as Job Hazard Analysis and behavior-based safety—enhance hazard identification and enable early risk mitigation during project planning and execution. Their findings highlight that integrating safety into daily operations fosters a more responsive and preventive safety culture within construction environments.

Furthermore, the high levels of safety compliance observed in this study (WM = 4.45) indicate that structured safety systems and clear procedures contribute to consistent adherence to safety protocols, reinforcing the role of strategic planning and supervision in minimizing workplace hazards. However, the relatively lower level of safety participation (WM = 3.80) suggests that while management-driven enforcement is effective in ensuring compliance, additional efforts are needed to encourage voluntary worker engagement in safety initiatives. This aligns with the proactive framework of Cabual et al. (2023), which underscores the importance of strengthening behavior-based interventions to bridge the gap between compliance and active participation in safety practices.

To effectively bridge this gap, the findings echo the recommendations of Dayrit et al., who assert that safety is everybody's priority and that team members must practice safety for the first time and every time. Specifically, Dayrit et al. suggest that operations and safety departments must collaborate to promote a positive culture by "eradicating self-conflicts. In the context of this study, addressing such conflicts—such as the perceived trade-off between project deadlines and safety welfare—is essential for moving workers from mere rule-following toward the voluntary safety participation required for a sustainable safety culture.

Implications for Policy and Practice

The findings of this study have several implications for construction project managers and safety officers. First, the high overall perception of OSH implementation suggests that the project is largely compliant with legal requirements under Republic Act No. 11058. However, the gaps identified in training effectiveness and voluntary participation indicate areas where additional investment could yield significant safety improvements.

Second, the strong correlation between perception and performance highlights the importance of maintaining positive worker perceptions through consistent management commitment to safety. This includes ensuring that safety policies are regularly updated, that PPE is both provided and comfortable to use, and that training programs are practical and relevant to workers' daily tasks.

Finally, the demographic profile of the workforce—with its concentration of skilled workers in the 26–35 age range—suggests that safety programs should be tailored to the needs and preferences of this demographic. This may include incorporating technology-based training methods, using peer-to-peer learning approaches, and emphasizing the long-term career benefits of developing strong safety habits.

CONCLUSIONS

The study concludes that construction workers perceive the implementation of Occupational Safety and Health programs at a "High" level (WM = 4.12), indicating that the project is successfully aligning its operations with the legal requirements of Republic Act No. 11058. This high level of perception suggests

that workers recognize the presence of clear safety policies and the provision of mandatory Personal Protective Equipment as essential components of the company's legal compliance.

Furthermore, the study confirms a significant positive relationship ($r = 0.68$) between workers' perceptions of OSH implementation and their actual safety performance. This leads to the conclusion that when management demonstrates a visible commitment to safety—such as prioritizing worker welfare over project deadlines—workers are more likely to adhere to safety protocols and engage in safe work practices.

However, despite high overall compliance, a gap remains between Safety Compliance (following rules) and Safety Participation (voluntary safety actions). While workers are generally aware of safety rules, the lower scores in "Safety Training and Awareness" suggest that current programs may focus more on meeting minimum legal standards rather than fostering a proactive safety culture. Additionally, while PPE is provided, issues regarding the comfort and ergonomics of the equipment remain a barrier to consistent usage.

In summary, for OSH implementation to transcend being a mere "legal checkbox" and become a sustainable safety culture, management must move beyond enforcement. The findings suggest that by enhancing the quality of safety training and encouraging worker participation in safety decision-making, construction firms can significantly improve overall safety outcomes and reduce the risk of occupational hazards.

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