INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT

OPEN ACCESS JOURNAL

Vol 15, Issue 4, (2026) E-ISSN: 2226-6348

Employee-Centred Safety Management in UAE Construction: Psychosocial Safety Climate and Safety Performance

Roshan Ramkrushna Rajas, Florianna Lendai Michael

Faculty of Cognitive Sciences and Human Development, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia

DOI Link: http://dx.doi.org/10.6007/IJARPED/v15-i4/29116

Published Online: 08 November 2026

Abstract

Construction safety depends not only on formal occupational health and safety management systems (OHSMS) but also on how employees experience management priorities, communication, and opportunities to participate. This study examined the relationships among OHSMS, psychosocial safety climate (PSC), and safety performance in the United Arab Emirates (UAE) construction industry, with particular attention to the indirect role of PSC. Data were obtained through a cross-sectional online survey of employees in medium and large construction companies. Of 189 responses, 159 valid cases were retained. Partial least squares structural equation modelling was conducted in SmartPLS 4 using a Type II reflective-formative higher-order construct specification. OHSMS was positively associated with PSC ($\beta = 0.821$, $p < .001$) and safety performance ($\beta = 0.485$, $p < .001$), while PSC was positively associated with safety performance ($\beta = 0.421$, $p < .001$). The indirect association from OHSMS to safety performance through PSC was significant ($\beta = 0.346$, $p = .001$, 95% CI [0.158, 0.552]), while the direct association remained significant. The findings indicate that employee-facing aspects of safety management, including training, communication, accountability, and participation, are closely connected with the psychosocial climate in which safety practices are experienced. Cross-sectional and self-reported data limit causal interpretation.

Keywords: Construction Safety, Occupational Health and Safety Management Systems, Psychosocial Safety Climate, Employee Safety Performance, United Arab Emirates

Introduction

Construction safety remains an important organisational and social concern because employees' safety-related behaviour is shaped not only by formal procedures but also by management practices, workplace communication, and opportunities for participation. Construction employees must interpret instructions, recognise changing hazards, and communicate concerns while working within project environments that may involve multiple contractors, supervisory levels, and competing production demands. Consequently, understanding safety performance requires attention to both the formal arrangements established by organisations and the workplace conditions through which employees experience and apply those arrangements (Hinze et al., 2013; Lingard et al., 2010).

These issues are particularly relevant to the United Arab Emirates (UAE) construction industry, where principal contractors and subcontractors often coordinate work involving employees from diverse professional, linguistic, and cultural backgrounds. Such arrangements make consistent communication, supervision, and accountability important aspects of everyday safety management. Although occupational health and safety management systems (OHSMS) provide a structured approach to managing workplace hazards, their relationship with employees' psychosocial work environment and safety performance warrants further examination in this context (Alhajeri, 2011; Kim et al., 2019; Yiu et al., 2019).

Two complementary perspectives are relevant to this issue: OHSMS, which represents formal organisational arrangements for managing occupational safety, and psychosocial safety climate (PSC), which concerns employees' perceptions of management priorities and practices relating to psychological health and safety (Dollard & Bakker, 2010). While both perspectives address organisational conditions, they emphasise different aspects of the workplace. Examining OHSMS, PSC, and employee safety performance together may provide a more integrated understanding of how formal safety arrangements are associated with employees' experiences and safety-related behaviour. Accordingly, this study examines the relationships among these three constructs in medium and large construction companies in the UAE, including whether PSC accounts for an indirect part of the association between OHSMS and safety performance. The study's contribution is to bring formal safety management, psychosocial workplace climate, and employee safety performance together within an employee-centred framework relevant to organisational behaviour and workplace relations.

Literature Review and Hypotheses

Occupational health and safety management systems (OHSMS) provide a structured way of organising these activities. A multidimensional OHSMS can include policy, training, communication, prevention planning, hazard controls, incentives, management commitment, subcontractor involvement, and accountability (Fernández-Muñiz et al., 2007; Kim et al., 2019). Several of these components are explicitly employee-facing. Training develops competence, communication supports the exchange of safety information, and accountability and management commitment signal the importance attached to safe work. OHSMS can therefore be viewed not simply as a compliance arrangement but also as a framework through which employees learn what safe work requires and how seriously management expects those requirements to be followed.

Psychosocial safety climate (PSC) adds a complementary people-focused dimension. PSC concerns employee perceptions that management gives priority to policies, practices, and procedures that protect psychological health and safety (Dollard & Bakker, 2010; Dollard et al., 2019). Its established domains include management commitment, management priority, organisational communication, and organisational participation (Hall et al., 2010). In demanding work settings, these perceptions may matter because they influence whether employees feel able to discuss work pressures, raise concerns, and participate in safety-related decisions. PSC has been associated with psychological health and work characteristics, and recent research has also linked it with safety behaviour and organisational injury-related outcomes (Dollard et al., 2024; Idris et al., 2014; Zhao & Li, 2024).

Safety performance likewise has an important employee component. Beyond the occurrence of injuries, safety performance can be expressed through safety compliance and safety participation, which capture whether employees follow required procedures and contribute voluntarily to safer work practices (Griffin & Neal, 2000; Neal & Griffin, 2006). This broad view is consistent with construction research showing that safety outcomes depend on the interaction of management practices, worker behaviour, communication, and the wider work environment (Christian et al., 2009; Clarke, 2006).

Although OHSMS and PSC are related to organisational conditions, they focus on different aspects of the workplace: formal arrangements for managing occupational safety and management priorities concerning psychological health and safety, respectively. Considering these perspectives together provides an opportunity to examine how they are associated with employee safety performance within a single analytical framework. In the present study, this relationship is examined among employees in medium and large construction companies in the UAE. The analysis focuses on the direct associations between OHSMS, PSC, and safety performance, as well as the indirect association between OHSMS and safety performance through PSC. The following hypotheses are developed from the relevant literature..

OHSMS and Safety Performance

Systematic safety management provides the organisational infrastructure for identifying hazards, establishing procedures, developing competence, implementing controls, and monitoring performance. Evidence from construction and other safety-critical settings indicates that such management practices are associated with safety behaviour and performance (Fernández-Muñiz et al., 2007; Kineber et al., 2023; Yiu et al., 2019). From an employee-development perspective, training and communication also support the knowledge and routines needed for safe performance. Accordingly, the first hypothesis was:
H1: OHSMS implementation is positively associated with employee safety performance in the UAE construction industry.

OHSMS and Psychosocial Safety Climate

OHSMS also include practices that can shape the social meaning of safety at work. Visible management commitment, communication, employee involvement, and accountability can signal whether worker concerns are taken seriously. PSC focuses specifically on perceptions that psychological health and safety receive organisational priority, making it conceptually related to but distinct from formal safety management (Dollard & Bakker, 2010; Hall et al., 2010). Construction research on safety climate similarly indicates that organisational climate can be connected to the implementation of safety management systems (Kim et al., 2019). The second hypothesis was therefore:
H2: OHSMS implementation is positively associated with PSC in the UAE construction industry.

PSC and Safety Performance

Safety performance is shaped by the conditions in which employees carry out work. When management communicates openly, encourages participation, and demonstrates commitment to employee well-being, workers may have greater opportunity to share safety information and raise concerns. The established safety-climate literature links these organisational perceptions to safety behaviour (Clarke, 2006; Christian et al., 2009), while

recent PSC research has reported relationships with safety behaviour in construction (Zhao & Li, 2024). The third hypothesis was:

H3: PSC is positively associated with employee safety performance in the UAE construction industry.

PSC as an Indirect Link

The three relationships above can be considered jointly. Formal safety systems provide structures and resources, but employees encounter those systems through communication, supervision, participation, and management decisions. PSC may therefore represent one organisational pathway through which formal safety arrangements are linked with employee safety performance. A significant indirect association would not establish a causal sequence in cross-sectional data, but it would show that part of the statistical relationship between OHSMS and safety performance is shared with PSC. The Job Demands-Resources framework provides a useful interpretive lens because organisational resources are more likely to support employee functioning when they are experienced within a supportive work context (Bakker & Demerouti, 2017). The present study did not measure job demands, strain, or engagement directly and therefore does not test the full JD-R process. The fourth hypothesis was:

H4: PSC carries part of the association between OHSMS implementation and employee safety performance in the UAE construction industry.

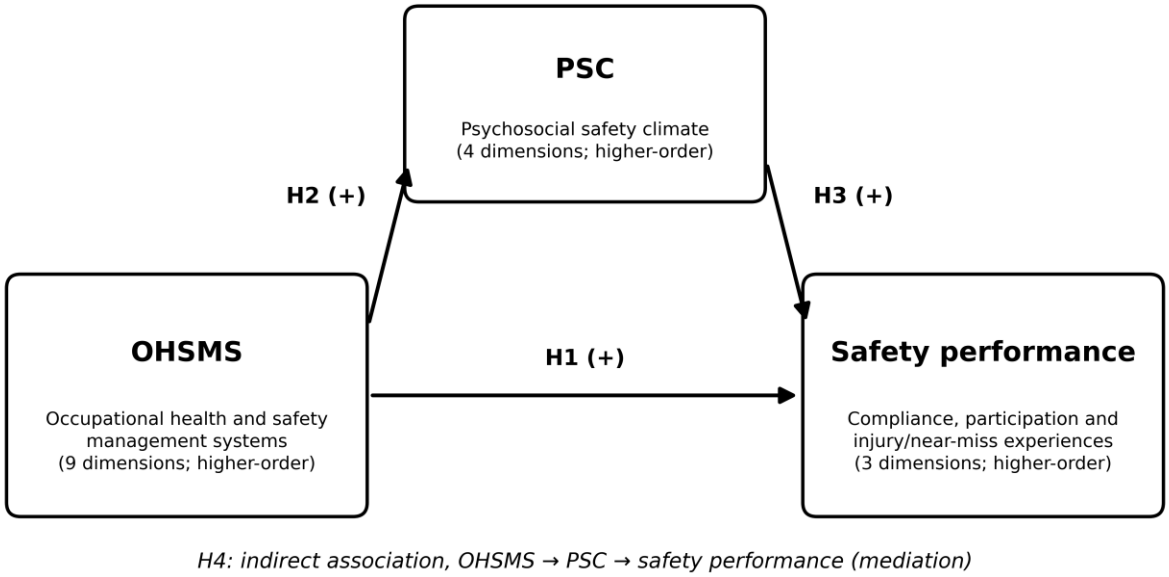


Figure 1. Conceptual model and hypotheses.
H1-H3 represent direct associations; H4 represents the indirect pathway through PSC.

Methodology

Research Design and Participants

A quantitative cross-sectional survey design was used. The target population comprised employees working in medium and large construction companies operating in the UAE. Non-probability purposive and convenience sampling was used because access to organisations and respondents was constrained. The questionnaire was distributed online through professional construction networks, health, safety and environment (HSE) associations, and

organisational contacts during 2024. Participation was voluntary and anonymous, and informed consent was obtained before questionnaire completion.

A total of 189 responses were received. After screening for incomplete submissions and low-engagement or patterned responses, 159 valid cases were retained. Respondents represented principal contractors, subcontractors, and other construction roles. The sample was not intended to provide population-level estimates; its purpose was to test the proposed structural relationships within the accessible study population.

Table 1
Selected respondent and organisational characteristics (N = 159).

Characteristic	Most frequent category	n	%
Organisation type	Principal contractor	68	42.8
Organisation type	Subcontractor	45	28.3
Organisation size	101-500 employees	92	57.9
Gender	Male	127	79.9
Age	36-50 years	89	56.0
Education	Bachelor's degree	87	54.7
Industry experience	4-10 years	85	53.5

Note: Only the most frequent category of each characteristic is shown; percentages are rounded from the reported distribution.

Sample adequacy was checked using the inverse square root method for PLS-SEM. At a 5% significance level, 80% power, and a minimum path coefficient of approximately 0.20, the estimated minimum sample was about 155 cases (Kock & Hadaya, 2018). The final sample of 159 met this threshold, although the margin was small and is considered when interpreting generalisability.

Measures and Instrument Development
All constructs were measured using established scales with a five-point Likert response format ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was reviewed by academic and occupational health and safety experts for content clarity. It was available in English and Arabic using a translation process appropriate to the study context. A pilot involving 12 participants was conducted to assess item clarity, language suitability, questionnaire structure, and administration. One safety-compliance item was removed after the pilot, and wording of OHS training items in the Arabic version was adjusted (Julious, 2005).

Table 2
Operationalisation of the study constructs and measurement specification.

Higher-order construct	Lower-order dimensions	Measurement specification	Primary sources
Occupational health and safety management systems (OHSMS)	OHS policy; OHS training; OHS communication; prevention planning; OHS controls; OHS incentives; management commitment; subcontractor involvement; OHS accountability	Reflective dimensions; formative higher-order construct	Fernández-Muñiz et al. (2007); Kim et al. (2019)
Psychosocial safety climate (PSC)	Management commitment; management priority; organisational communication; organisational participation	Reflective dimensions; formative higher-order construct	Dollard & Bakker (2010); Hall et al. (2010)
Safety performance	Safety compliance; safety participation; occupational injuries and near-miss experiences	Reflective dimensions; formative higher-order construct	Griffin & Neal (2000); Neal & Griffin (2006)

Data Analysis

Data screening was conducted using IBM SPSS Statistics. Missing data, response engagement, response patterns, outliers, and distributional characteristics were examined before structural modelling. Kolmogorov-Smirnov and Shapiro-Wilk tests indicated significant departures from normality ($p < .001$), supporting the use of a variance-based approach. Common method variance was examined using the full-collinearity variance inflation factor (VIF) approach; the available analysis showed values below 3.3, indicating no material common method bias concern (Kock, 2015).

PLS-SEM was conducted in SmartPLS 4. OHSMS, PSC, and safety performance were modelled as Type II reflective-formative higher-order constructs. Indicators were treated as reflective manifestations of their lower-order dimensions, whereas the dimensions were treated as formative components of the higher-order constructs because they represent distinct aspects of the broader domains. A disjoint two-stage procedure was used (Becker et al., 2012; Sarstedt et al., 2019). Stage 1 assessed indicator reliability, internal consistency, and convergent validity. Stage 2 used lower-order latent variable scores to estimate the higher-order constructs and the structural model. The injury and near-miss dimension reflects respondents' self-reported experiences rather than verified incident records.

The structural model was evaluated using standardised path coefficients (β), bootstrapped t-values and p-values, coefficient of determination (R^2), predictive relevance (Q^2), and effect sizes (f^2). Bootstrapping used 5,000 resamples. The indirect pathway was assessed through its bootstrapped confidence interval and the retained direct association, following contemporary mediation guidance (Preacher et al., 2007; Zhao et al., 2010).

Ethical Considerations

The study received ethical approval from the relevant university research ethics committee before data collection (Approval No. HREC(NM)/2023(3)/11). Participation was voluntary and anonymous, informed consent was obtained electronically, no incentives were provided, and no directly identifying personal information was collected.

Results

Measurement Model

The final model retained the Type II reflective-formative higher-order specification. Across the 16 lower-order dimensions, Cronbach's alpha ranged from 0.799 to 0.942, composite reliability from 0.876 to 0.954, and average variance extracted from 0.677 to 0.872. Indicator loadings ranged from 0.605 to 0.949 for OHSMS dimensions, 0.875 to 0.941 for PSC dimensions, and 0.672 to 0.901 for safety-performance dimensions. Three indicators fell below 0.70 (0.605 for prevention planning, 0.650 for OHS training, and 0.672 for safety compliance) but were retained because the relevant lower-order constructs satisfied reliability and convergent-validity criteria and the items retained substantive content value.

Table 3

Reliability and convergent validity of reflective lower-order dimensions.

Higher-order construct	Dimension	α	CR	AVE	HOC loading
OHSMS	OHS policy	0.807	0.876	0.703	0.626
OHSMS	OHS training	0.920	0.935	0.677	0.796
OHSMS	OHS communication	0.887	0.930	0.816	0.791
OHSMS	Prevention planning	0.931	0.945	0.712	0.730
OHSMS	OHS controls	0.885	0.915	0.686	0.767
OHSMS	OHS incentives	0.799	0.882	0.714	0.721
OHSMS	Management commitment	0.855	0.932	0.872	0.697
OHSMS	Subcontractor involvement	0.825	0.918	0.848	0.510
OHSMS	OHS accountability	0.868	0.910	0.717	0.820
PSC	Management commitment	0.884	0.928	0.812	0.879
PSC	Management priority	0.898	0.937	0.832	0.771
PSC	Organisational communication	0.902	0.938	0.834	0.719
PSC	Organisational participation	0.925	0.952	0.870	0.894
Safety performance	Safety compliance	0.916	0.936	0.710	0.945
Safety performance	Safety participation	0.942	0.954	0.776	0.882
Safety performance	Injuries and near-miss experiences	0.882	0.919	0.739	0.687

Note. α = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted; HOC loading = correlation between the lower-order dimension score and its higher-order construct score.

At the higher-order level, outer VIF values ranged from 1.514 to 3.155, indicating no problematic collinearity among formative components. Six of the 16 outer weights were statistically significant: OHS training, OHS controls, PSC management commitment, PSC organisational participation, safety compliance, and safety participation. The largest weights were organisational participation for PSC (0.498) and safety compliance for safety performance (0.573). The negative but non-significant weight for subcontractor involvement (-0.068, p = .493) does not indicate a harmful relationship; rather, it suggests no unique contribution after the other OHSMS dimensions are considered. Because most outer weights were non-significant, the higher-order constructs are best interpreted as composites and individual dimension weights should not be over-interpreted.

Table 4
Formative higher-order construct assessment.

Higher-order construct	Dimension	Weight	t	p	Outer VIF
OHSMS	OHS policy	0.150	1.672	.095	1.514
OHSMS	OHS training	0.207	2.232	.026	2.008
OHSMS	OHS communication	0.177	1.685	.092	2.581
OHSMS	Prevention planning	0.097	1.088	.277	1.985
OHSMS	OHS controls	0.260	2.726	.006	1.803
OHSMS	OHS incentives	0.075	1.003	.316	1.947
OHSMS	Management commitment	0.173	1.835	.066	1.732
OHSMS	Subcontractor involvement	-0.068	0.686	.493	1.973
OHSMS	OHS accountability	0.233	1.912	.056	3.155
PSC	Management commitment	0.355	3.470	.001	2.615
PSC	Management priority	0.106	0.852	.394	2.249
PSC	Organisational communication	0.224	1.736	.083	1.579
PSC	Organisational participation	0.498	6.564	< .001	1.829
Safety performance	Safety compliance	0.573	5.748	< .001	2.308
Safety performance	Safety participation	0.395	4.278	< .001	2.075
Safety performance	Injuries and near-miss experiences	0.160	1.173	.241	1.532

Note. Six of the 16 outer weights were statistically significant at p < .05; all dimensions were retained because their higher-order loadings exceeded 0.50 and they were substantively part of their respective construct domains.

Discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratio. The OHSMS-PSC ratio was 0.835 and the OHSMS-safety performance ratio was 0.832, both below 0.85. The PSC-safety performance ratio was 0.851, marginally above the conservative 0.85 criterion but below 0.90. Given the formative higher-order specification, the HTMT values are interpreted as indicative rather than definitive evidence of construct separation. The close

OHSMS-PSC relationship is also theoretically plausible because both constructs include management commitment and communication.

Table 5
Discriminant validity assessed using the heterotrait-monotrait ratio.

Construct pair	HTMT	Interpretation
OHSMS - PSC	0.835	Below 0.85
OHSMS - Safety performance	0.832	Below 0.85
PSC - Safety performance	0.851	Marginally above 0.85; below 0.90

Structural Relationships
OHSMS explained 67.3% of the variance in PSC (R^2 = 0.673; adjusted R^2 = 0.671), while OHSMS and PSC together explained 74.8% of the variance in safety performance (R^2 = 0.748; adjusted R^2 = 0.745). Predictive relevance values were positive for PSC (Q^2 = 0.557) and safety performance (Q^2 = 0.542). The structural relationships are summarised in Table 6.

Table 6
Direct and indirect structural relationships.

Hypothesis / path	β	t	p	f^2
H1: OHSMS -> Safety performance	0.485	4.279	< .001	0.305
H2: OHSMS -> PSC	0.821	11.944	< .001	2.063
H3: PSC -> Safety performance	0.421	3.522	< .001	0.230
H4: OHSMS -> PSC -> Safety performance	0.346	3.383	.001	-

Note: β = standardised path coefficient; f^2 = effect size. Bootstrapping used 5,000 resamples.

All three direct associations were positive and statistically significant. OHSMS was positively associated with safety performance (β = 0.485, p < .001), OHSMS was positively associated with PSC (β = 0.821, p < .001), and PSC was positively associated with safety performance (β = 0.421, p < .001). The strongest path was OHSMS to PSC (f^2 = 2.063), while the effect sizes for OHSMS to safety performance (f^2 = 0.305) and PSC to safety performance (f^2 = 0.230) were also meaningful within the model.

The indirect association from OHSMS to safety performance through PSC was statistically significant (β = 0.346, t = 3.383, p = .001, 95% bootstrap CI [0.158, 0.552]). Because the direct OHSMS-safety performance association remained significant, the pattern is consistent with complementary partial mediation, with a variance accounted for (VAF) of 41.6%. The result should be understood as an indirect statistical association in the observed data rather than evidence that OHSMS causes PSC or safety performance.

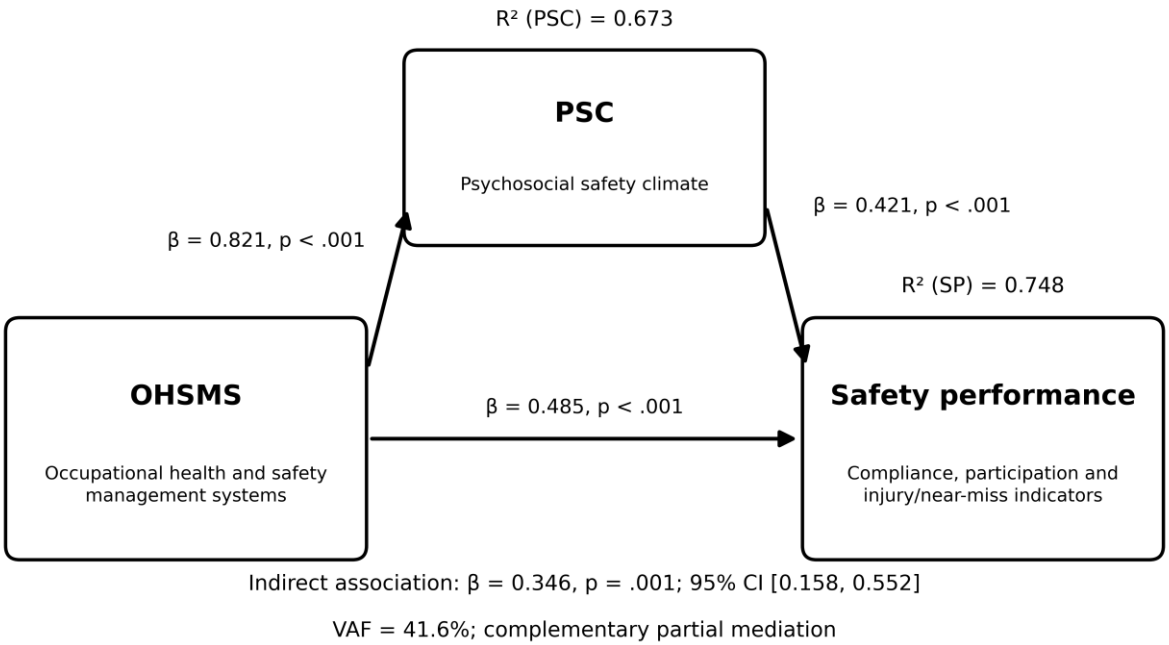


Figure 2. Estimated structural model.
Coefficients are standardised; direct paths are significant at p < .001 and the indirect association is significant at p = .001. VAF = variance accounted for.

Discussion

The findings provide a people-centred reading of safety management in the UAE construction sector. The model shows that formal safety management is closely connected with the psychosocial environment experienced by employees, and that PSC shares a statistically significant part of the association between OHSMS and safety performance. This does not mean that psychosocial climate replaces formal safety management. Rather, the results indicate that formal systems and employee perceptions operate in the same organisational space, where procedures, communication, training, accountability, and participation are interpreted and enacted by workers.

The particularly strong OHSMS-PSC association (β = 0.821) deserves careful interpretation. The result is consistent with research showing that organisational climate and safety-management implementation are connected (Kim et al., 2019), and with PSC theory, which places management priorities and communication near the organisational roots of employee psychosocial working conditions (Dollard & Bakker, 2010; Dollard et al., 2019). At the same time, the strength of the relationship may partly reflect conceptual proximity. Management commitment and communication appear in both domains, although PSC directs these ideas specifically toward psychological health and safety. The HTMT results reinforce the need to treat the constructs as related rather than completely independent.

The positive OHSMS-safety performance association is also consistent with previous evidence that systematic safety management supports safer behaviour and construction outcomes (Fernández-Muñiz et al., 2007; Kineber et al., 2023; Yiu et al., 2019). The employee-centred contribution of the present study is to emphasise that such systems are implemented through employee competence and everyday participation. Training is a learning process, communication is an information-sharing process, and accountability depends on employees

and supervisors understanding what is expected and how deviations are handled. The finding therefore supports an implementation view of OHSMS in which the quality of employee engagement with the system matters alongside its formal design.

The PSC-safety performance relationship (β = 0.421) complements established research on safety climate and safety behaviour. When employees perceive management communication as open and participation as legitimate, they may have more opportunities to identify hazards, discuss changing work conditions, and contribute to safety activities. This interpretation is compatible with prior PSC research and with the construction-specific evidence reported by Zhao and Li (2024). Importantly, the current study did not measure psychological strain, engagement, or safety motivation, so the mechanisms behind the observed association cannot be established from the data.

The indirect pathway is the most informative result for the integrated model. Approximately two-fifths of the estimated OHSMS-safety performance association was statistically accounted for through PSC while the direct association remained. This pattern suggests that formal systems and psychosocial climate may be complementary organisational conditions. One interpretation is that employees may be more likely to treat safety procedures, training, and reporting mechanisms as credible when management priorities and communication practices also support psychological safety and participation. An alternative interpretation is also plausible: a constructive psychosocial climate may help organisations implement safety systems more effectively. Kim et al. (2019) provides a basis for this reverse ordering, and cross-sectional data cannot distinguish between the two.

For employee development and supervisory practice, the results draw attention to areas where safety management and people management intersect. Training should not be considered only as evidence that a requirement has been completed; it is also the means by which employees acquire and refresh safety knowledge. Communication should not be reduced to issuing instructions; it includes the availability of channels through which workers can clarify procedures and raise concerns. Participation is similarly relevant because employees often possess information about changing site conditions that is difficult to capture fully in formal documentation. These interpretations are consistent with the employee-facing dimensions of the instruments used in this study, but they should not be read as tested intervention effects.

The UAE context also matters. Principal contractor and subcontractor relationships can create discontinuities in communication, supervision, and responsibility, while workforce diversity can make language and management communication important to everyday safety work. The current sample includes both contractor and subcontractor respondents, but it does not compare groups statistically. The result is therefore best viewed as contextual evidence that an employee-centred safety lens is relevant in this setting, not as evidence that UAE construction differs universally from other national contexts.

Limitations and Future Research

Several limitations should be considered. First, the cross-sectional design does not establish temporal order or causality. The model treats OHSMS as preceding PSC, but the reverse relationship is also theoretically plausible. Longitudinal research should examine whether

changes in formal safety management precede changes in climate and performance, or whether climate supports subsequent system implementation.

Second, the study relies on self-report data. Although responses were anonymous and a full-collinearity assessment did not indicate a material common method problem, shared method and response effects cannot be ruled out. The injury and near-miss dimension also reflects respondents' experiences rather than verified organisational records. Future studies should combine employee surveys with supervisor assessments, training records, safety audits, near-miss data, and verified incident records.

Third, the purposive and convenience sample limits generalisability. The analysis focused on medium and large construction companies and may not represent smaller firms, lower-tier subcontractors, or workers who have limited access to online surveys or the languages used in the questionnaire. The sample was predominantly male, and differences by nationality, role, organisational level, or project type were not tested.

Fourth, OHSMS and PSC were empirically close, and the PSC-safety performance HTMT value was marginally above 0.85. In addition, most formative outer weights were non-significant. These findings do not invalidate the model, but they indicate that the relative contribution of individual dimensions is not estimated precisely in this sample. Future research could use more differentiated operational definitions and larger samples to examine whether the constructs remain distinct across organisational contexts.

Finally, PSC is conceptually a shared organisational climate, while the present analysis was conducted at the individual level. Responses may therefore be nested within organisations or project teams, but clustering was not modelled. Multilevel research would be useful for separating individual perceptions from organisation-level climate and for testing whether organisational maturity, project type, subcontractor structure, or supervisor practices alter the observed relationships.

Conclusion

This study examined OHSMS, PSC, and safety performance as interconnected employee-centred dimensions of construction safety in the UAE. OHSMS was positively associated with PSC and safety performance, PSC was positively associated with safety performance, and the indirect pathway through PSC was statistically significant while the direct OHSMS-safety performance relationship remained. The findings therefore connect formal safety management with the organisational climate through which employees experience management priorities, communication, participation, and support.

The contribution of this study is to bring formal safety management, psychosocial safety climate, and employee safety performance together within an employee-centred framework. This integrated perspective extends the discussion beyond formal safety arrangements by considering how organisational climate and employee experiences are associated with safety-related performance. In social-science terms, the findings contribute to understanding the relationship between organisational practices, workplace climate, and employee behaviour in a complex construction setting. For practice, they highlight the relevance of considering training, communication, supervision, accountability, and employee participation alongside

formal safety procedures. These implications should be interpreted cautiously because the cross-sectional design does not establish causality. Longitudinal studies, multi-source safety-performance measures, and multilevel analyses are needed to examine the robustness and direction of these relationships across organisations and workforce groups.

Funding
No external funding was received for this study.

References

Alhajeri, M. (2011). Health and safety in the construction industry: Challenges and solutions in the UAE [Doctoral thesis, Coventry University]. Coventry University Pure. https://pureportal.coventry.ac.uk/en/studentTheses/health-and-safety-in-the-construction-industry-challenges-and-sol/

Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273-285. https://doi.org/10.1037/ocp0000056

Becker, J.-M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: Guidelines for using reflective-formative type models. *Long Range Planning*, 45(5-6), 359-394. https://doi.org/10.1016/j.lrp.2012.10.001

Christian, M. S., Bradley, J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace safety: A meta-analysis of the roles of person and situation factors. *Journal of Applied Psychology*, 94(5), 1103-1127.

Clarke, S. (2006). The relationship between safety climate and safety performance: A meta-analytic review. *Journal of Occupational Health Psychology*, 11(4), 315-327.

Dollard, M. F., & Bailey, T. (2021). Building psychosocial safety climate in turbulent times: The case of COVID-19. *Journal of Applied Psychology*, 106(7), 951-964. https://doi.org/10.1037/apl0000939

Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*, 83(3), 579-599. https://doi.org/10.1348/096317909X470690

Dollard, M. F., Dormann, C., & Idris, M. A. (2019). Psychosocial safety climate: A new work stress theory and implications for method. In M. F. Dollard, C. Dormann, & M. A. Idris (Eds.), Psychosocial safety climate: A new work stress theory (pp. 3-30). Springer. https://doi.org/10.1007/978-3-030-20319-1_1

Dollard, M. F., Loh, M., Becher, H., Neser, D., Richter, S., Zadow, A., Afsharian, A., & Potter, R. (2024). Psychosocial safety climate as an organisational level determinant of working time lost and expenditure following workplace injuries and illnesses. *Safety Science*, 177, Article 106602. https://doi.org/10.1016/j.ssci.2024.106602

Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2007). Safety management system: Development and validation of a multidimensional scale. *Journal of Loss Prevention in the Process Industries*, 20(1), 52-68. https://doi.org/10.1016/j.jlp.2006.10.002

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.

Hall, G. B., Dollard, M. F., & Coward, J. (2010). Psychosocial safety climate: Development of the PSC-12. International Journal of Stress Management, 17(4), 353-383. https://doi.org/10.1037/a0021320

Hinze, J., Thurman, S., & Wehle, A. (2013). Leading indicators of construction safety performance. *Safety Science*, 51(1), 23-28.

Idris, M. A., Dollard, M. F., Coward, J., & Dormann, C. (2012). Psychosocial safety climate: Conceptual distinctiveness and effect on job demands and worker psychological health. *Safety Science*, 50(1), 19-28. https://doi.org/10.1016/j.ssci.2011.06.005

Idris, M. A., Dollard, M. F., & Yulita. (2014). Psychosocial safety climate, emotional demands, burnout, and depression: A longitudinal multilevel study in the Malaysian private sector. *Journal of Occupational Health Psychology*, 19(3), 291-302. https://doi.org/10.1037/a0036599

Julious, S. A. (2005). Sample size of 12 per group rule of thumb for a pilot study. Pharmaceutical Statistics, 4(4), 287-291.

Kim, N. K., Rahim, N. F. A., Iranmanesh, M., & Foroughi, B. (2019). The role of the safety climate in the successful implementation of safety management systems. *Safety Science*, 118, 48-56. https://doi.org/10.1016/j.ssci.2019.05.008

Kineber, A. F., Antwi-Afari, M. F., Elghaish, F., Zamil, A. M. A., Alhusban, M., & Qaralleh, T. J. O. (2023). Benefits of implementing occupational health and safety management systems for the sustainable construction industry: A systematic literature review. *Sustainability*, 15(17), Article 12697. https://doi.org/10.3390/su151712697

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. International *Journal of e-Collaboration*, 11(4), 1-10. https://doi.org/10.4018/ijec.2015100101

Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. *Information Systems Journal*, 28(1), 227-261. https://doi.org/10.1111/isj.12131

Lingard, H., Cooke, T., & Blismas, N. (2010). Safety climate in conditions of construction subcontracting: A multi-level analysis. *Construction Management and Economics*, 28(8), 813-825. https://doi.org/10.1080/01446190903480035

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.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185-227. https://doi.org/10.1080/00273170701341316

Sarstedt, M., Hair, J. F., Cheah, J.-H., Becker, J.-M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal*, 27(3), 197-211. https://doi.org/10.1016/j.ausmj.2019.05.003

Yiu, N. S. N., Chan, D. W. M., Shan, M., & Sze, N. N. (2019). Implementation of safety management system in managing construction projects: Benefits and obstacles. *Safety Science*, 117, 23-32.

Zhao, W., & Li, S. (2024). How does psychosocial safety climate affect safety behavior in the construction industry? A cross-level analysis. *Frontiers in Public Health*, 12, Article 1473449. https://doi.org/10.3389/fpubh.2024.1473449

Zhao, X., Lynch, J. G., Jr., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197-206. https://doi.org/10.1086/651257