Open Access

UNDERSTANDING PSYCHOLOGICAL SAFETY IN CROSS-FUNCTIONAL INDUSTRIAL SECURITY TEAMS THROUGH HR-LED DIVERSITY PROGRAMS

MAHENDRA KUMAR
ASSISTANT PROFESSOR, KALINGA UNIVERSITY, RAIPUR, INDIA.

VIJAY SHANKAR YADAV
ASSISTANT PROFESSOR, KALINGA UNIVERSITY, RAIPUR, INDIA.
EMAIL: ku.vijayshankaryadav@kalingauniversity.ac.in, ORCID ID: 0009-0001-2485-3177

DR. RAMESH CHANDER HOODA
ASSOCIATE PROFESSOR, NEW DELHI INSTITUTE OF MANAGEMENT, NEW DELHI, INDIA
EMAIL: rc.hooda@ndimdelhi.org, ORCID ID: HTTPS://ORCID.ORG/0000-0002-0376-2540

Abstract
The field of industrial security often focuses on technical and procedural elements, neglecting how people and psychological factors feature when building effective teams in high-pressure decision-making environments. This paper illustrates how psychological safety may improve team performance and cohesion in cross-functional teams in industrial security settings, specifically for teams undergoing HR-led diversity initiatives, which consist of members from disciplines such as engineering, information and cybersecurity, operations, and compliance. Cross-functional teams are particularly prone to communication failures, unclear roles, and misplaced interpersonal trust, which can threaten operational readiness and organizational resilience. Using organizational and psychological theory, this research changes HR diversity initiatives from being primarily viewed as a demographic intervention to worthwhile psychological interventions that can contribute to either in brute team performance or at least enhancing team interactions and cohesion based oninclusive team climates, speaking up behaviour, and diminishing threat from stereotypical impostor syndrome. The work makes use of newer approaches, such as team psychological mapping and inclusive leadership models, and is used to demonstrate how strategic involvement from HR practitioners can assist functional managers in minimizing implicit bias, engendering cultures of trust (trust climate) with teams of varied expertise, and leveraging distinct expertise for a unified security mission. Significantly, the study does not solely focus on demographic diversity, but highlights the use of cognitive diversity and functional diversity as forms of collective psychological preparedness. It is hoped this work heightens awareness of the emerging discourse on industrial security, through a collective argument and curry that technical competence and psychological safety be treasured as both underpinning elements of modern risk management and do coalesce together as complementary concepts.

Keywords: Psychological Safety, Cross-Functional Teams, Industrial Security,HR-led Diversity Programs, Trust Climate, Team Dynamics, Inclusive Leadership, Cognitive Diversity, Organizational Psychology, Crisis Preparedness

INTRODUCTION

Industrial security has primarily been viewed as a technical field with connotations related to procedures, surveillance systems, checklists for compliance, and procedures for incident response. However, as threats become more multifaceted and multi-disciplinary approaches to threats become more of a demand, we must appreciate the human elements of industrial security [15]. Industrial security teams are increasingly multi-disciplinary teams; they are often comprised of HR professionals, IT professionals, safety professionals, legal professionals, and operational professionals. Although multi-disciplinary teams are beneficial in applying expertise, they create silos of communication between professionals, ambiguity in their roles, and potential misalignment during stressful times.

In many cases, these high-risk threats exist in environments where every decision is high-stakes, and coordination efforts require rapid decision-making. The importance of psychological safety, the shared belief that it is okay to raise issues without fear of ridicule or punishment, has emerged as a major enabling contribution to team effectiveness. Still, many organizations do not recognize the psychological element of safety; instead, it appears that they only care about the technical competence of the team while ignoring the trust climate within the security piece of their organization [1].

The paradox produced by the research is that we create technically proficient but psychologically broken teams. Fear of self-judgment or judgment from senior members prevents necessary communication actions, which delays early detection of concerns, recognition of unintentional biases, and agile responses. Organizations must address the hidden vulnerability in their industrial security teams by introducing a different mindset, recognizing that psychological readiness is not an added or optional robustness but a fundamental one [2].

Psychological Safety, Trust, and Diversity in Team Systems

1.1. Beyond Technical Expertise: The Psychological Foundations of Team Performance

Psychological safety is a concept developed by Amy Edmondson (1999) and is the shared belief that a team is safe for interpersonal risk-taking [7]. Psychological safety is intended to encourage individuals to speak up about concerns, errors, or their ideas or unique suggestions, without the fear of embarrassment or punishment [3]. For industrial security teams, who work in stressful and uncertain environments, each evening with a rigid command structure, having psychological safety is not just nice to have; it is essential for a smooth and integrated coordinated response [6].

Trust climate is closely related to psychological safety, which describes collective perceptions of trustworthiness, transparency, and integrity within the team. Once in a trust climate, a team can have difficult yet open discussions, make faster decisions, and regulate their emotions during stressful events [5]. In cross-functional security teams with team members from HR, IT, legal, and operations, suspicion and fear levels are heightened when team members observe differences in language, perspectives, priorities, and professional identity from each other [14].

1.2. Trust and Cognitive Diversity: Enablers or Barriers in Security Collaboration?

Cognitive diversity, such as thinking style, problem-solving approaches, and experiential knowledge, improves team innovation and risk prevention, but creates dilemmas when trust is unindexed to other members' perceived ability to contribute and to elicit other dimensions (value, identity).It is not uncommon for team members to exercise some hesitancy in contributing outside of their functional area of expertise. Sometimes this hesitancy arises from fear of being perceived as incompetent, and sometimes it arises from a fear of overstepping perceived boundary lines. In addition, the existence of role ambiguity and/or status differences among team members only adds to these dissatisfactions, creating either recurrent hierarchical silence or group-based marginalization.

Despite these barriers, conceptual frameworks like the Team Performance Maturity Assessment Protocol (TPMAP) contain behavioural metrics designed to link HR-led efforts with psychological outcomes [10]. For example, TPMAP assesses team members' perceptions using metrics related to aspects of communication equity, inclusive leadership, and psychological risk tolerance. Using metrics like those assessed in TPMAP, organizational theories can guide organizations to treat diversity and inclusion, in part, as precincts of psychological capabilities rather than simply demographic endpoints.

Drawing upon these theoretical sources, this article expands on an argument from AH through a neuroscience lens, treating HR diversity programs as specific psychological interventions that can enhance team performance not just in terms of representation but also team functionality. By entrenching structures that can enhance trust and safety within the team, the resilience, adaptability, and decisions of industrial security teams can become significantly enhanced, even when teams are stretching to meet and develop working relationships across functional and cultural divides [4] [10].

HR-Centric Diversity Programs as Psychological Interventions

1.3. Reframing Inclusion as a Behavioural Catalyst, Not Just a Policy

Traditional diversity programs have often emphasized demographic representation and compliance statistics. Nevertheless, HR department diversity programs must increasingly be viewed as strategic psychological interventions that promote trust, reduce bias, and create conditions for collaborative engagement that are both inclusive and cognitively safe. These psychological interventions have the goal of addressing climate change, in that they will not simply facilitate team composition diversity but produce psychological readiness and positive team climate.

1.4. Designing for Safety: The Psychology Behind HR Practices

One intervention is to develop inclusive training programs that go beyond awareness and compliance to create modules that introduce bias interruption, empathy-building, and equity of communication. These modules will be scenario-based, reflective, and grounded in the real operational dilemmas confronted by cross-functional teams.

The second intervention is to develop structured onboarding programs that promote attention to role clarity, team norms for inclusion, and agreement on values across disciplines [12]. This serves to remove role ambiguity early in relationship development and creates a psychological contract of mutual regard/accountability.

Mixed-role mentorship can also be a powerful intervention where senior personnel from functional areas act as mentors with new team members. This provides not only knowledge transfer but also supports the diminishment of status hierarchies and normalizes dialogue across departments, which reinforces team identity.

1.5. Mentorship and Feedback Loops: Tools for Trust Engineering

Ultimately, anonymous feedback systems like platforms or third-party facilitators can help employees express concerns about team dynamics, communication breakdowns, or incidents that support bias without fear of repercussions. These systems support real-time psychological diagnostics and HR interventions promptly.

When these programs are embedded in validated conceptual frameworks, such as Organizational Justice Theory, Social Identity Theory, and Edmondson's Psychological Safety Model, they can be viewed as intentional attempts

to address implicit bias, stereotype threats, and trust impediments that commonly inhibit collaboration in cross-functional teams.

This reframes inclusion not as an outcome, but as a process, where diversity can be conceptualized as a continual psychological experience and HR serves a role as a form of emotional and cognitive alignment. By embedding these interventions in the structures and cultural practices within industrial security teams and organizations, we can strive to create resilient, psychologically safe, and sustainable environments that promote wellness and mission-oriented performance [11].

Case Integration & Applied Insights (Approx. 300–350 words)

To better understand how psychological safety and HR-led diversity programs play out in practice, it is helpful to reflect on lessons learned from real-world examples in complex and high-risk team settings. An excellent example is Google's Project Aristotle, which determined that psychological safety, not technical capability or expertise, was the one single thing associated with creating high-performing teams. Those teams created a climate of open dialogue, mutual respect, and inclusivity in the decision-making process and consistently maximized their innovation, risk awareness/management, and collaboration compared to other teams.

The NASA Crew and Mission Support teams, who operated under extreme interdependence and time-critical factors, also used interventions such as structured team briefings, removing communication hierarchies, and cross-disciplinary inclusion protocols that they believed would have helped maximize team cohesion. Each of those actions resembled many existing HR proposals in this paper, and each linked back to the incident report rates, situational awareness, and cognitive/decision-making flexibility.

Table 1: Psychological Maturity Scoring Matrix Based on TPMAP Framework

Dimension	Indicator	Score (1–5)	Interpretation
Trust Climate	Team members report openness and honesty	4	High, but informal hierarchies still exist
Role Clarity	Clear understanding of cross-functional roles	3	Moderate clarity; some confusion persists
Speaking-Up Behavior	Willingness to share concerns and ideas	2	Low; fear of blame in high-risk contexts
Inclusivity in Decisions	Multiple disciplines are included in decisions	3	Occasional inclusion; not consistently applied
Feedback Safety	Use of anonymous and open feedback channels	5	Strong system with active HR monitoring

Table 1 represents the scoring matrix that applies the Team Performance Maturity Assessment Protocol (TPMAP) to assess psychological readiness in cross-functional security teams [13]. The matrix includes five fundamental dimensions: trust climate, role clarity, speaking-up behaviour, decision inclusiveness, and feedback safety, rated on a 5-point scale. This matrix allows organizations to establish strengths and psychological gaps within the performance of teams, leading to firm and structured HR systems to bridge those gaps and to encourage a safer and more resilient team climate within industrial security settings.

Within the context of industrial security environments, exploring inclusion and psychological interventions that impact team maturity and coordination is possible through the Team Performance Maturity Assessment Protocol (TPMAP). Some TPMAP measures include speaking-up behaviors, resolving conflict without escalation, and ensuring decision safety. Each of those psychological indicators is uniquely aligned with operational performance. Organizations that have implemented HR-supported solutions (i.e., anonymous feedback processes, mentorship programs, and role clarifying onboarding) have experienced improved team resilience, quicker escalation of issues, and reduced loss of security staff. For instance, a multinational manufacturing company, which implemented modules around functional diversity, measured a significant increase in the volume and clarity of risk flagging as a result during plant audits, a behavior associated with increased psychological comfort in raising concerns.
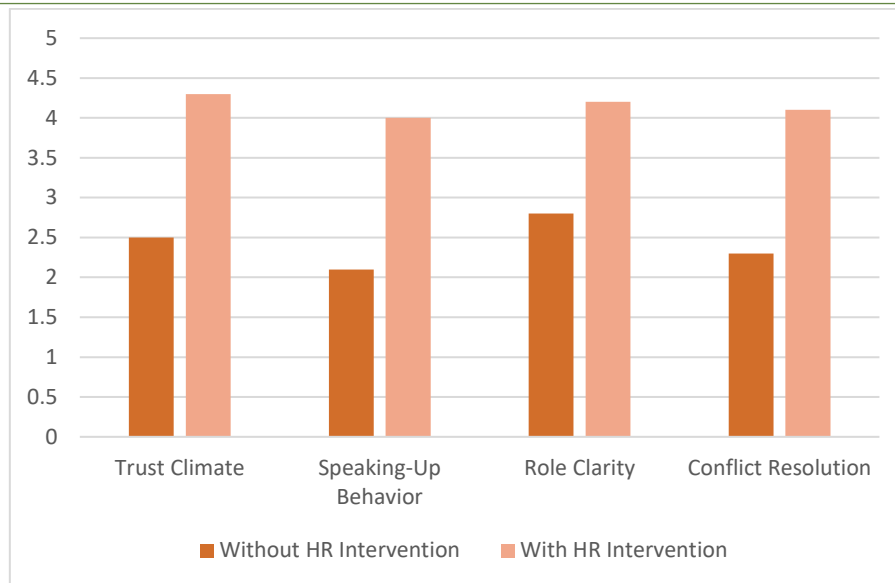
Open Access

Figure 1: Impact of HR-led Diversity Programs on Psychological Safety in Cross-Functional Teams

Figure 1 presents average scores on five key psychological safety aspects comparing cross-functional teams that implemented diversity interventions through HR against those that did not. Teams receiving structured onboarding, inclusive training, mentorship, and the ability to receive anonymous feedback achieved significantly higher trust climates, clearer roles, reporting, and speaking-up behaviours, and inclusion in decision-making, to name a few. The data show the generative psychological impact of HR programs in improving team resilience and risk communication in the industrial security purpose or context.

These applied examples point to the fact that the materialization of effectiveness may not solely be a function of technical systems and compliance within cross-functional teams in industrial security, but also of psychological infrastructure. When HR support contingencies are intensively implemented for trust-focused inclusivity, they create essential supports for safety, accuracy, and flexibility, especially in high-cost silent environments.

CONCLUSION

As industrial systems become increasingly complex and interdependent, the demand for comprehensive security frameworks will also evolve. However, my view is that resilience in industrial security cannot be attained by technical infrastructure, protocols, or compliance systems alone, but rather must also include a human dimension centered on psychological readiness in teams to collaborate in good faith; overcome ambiguity; and adapt under pressure without fragmentation or fear. In this sense, psychological safety is the basis for security that encourages self-managed teams from multiple functions to think critically, openly communicate, and be agile in decision-making if required. The implementation of HR-led diversity programs as psychological interventions to improve this human dimension represents an opportunity to address the human factors dilemma. HR-developed programs can improve team culture through designing inclusionary onboarding, mentorship, feedback, and trust-building interventions, with the end goal to synchronize the diverse functional roles under the overall mission. This change means the organization must embrace a more interdisciplinary environment that purposefully combines dimensions of diversity psychology, organizational behaviour, and team systems design.

REFERENCES

[1]   Rompuy, I. V., & Wilde, P. D. (2025). The Influence of Organizational Culture on Sustainable Business Practices. *International Academic Journal of Innovative Research*, *12*(3), 8–13. https://doi.org/10.71086/IAJIR/V12I3/IAJIR1219

[2]   Mokoena, G., & Nilsson, J. (2023). A Sophisticated Cybersecurity Intrusion Identification Model Using Deep Learning. *International Academic Journal of Science and Engineering*, *10*(3), 17–21. https://doi.org/10.71086/IAJSE/V10I3/IAJSE1026

[3]   Usikalua, M. R., & Unciano, N. (2025). Mathematical modeling of epidemic dynamics: Integrating public health and data science. Bridge: Journal of Multidisciplinary Explorations, 1(1), 11–22.

[4]   Kimeu, & Kioko, F. (2019). An Evaluation of the Role of Teamwork on Employee Performance at Machakos County Government, Kenya. *International Academic Journal of Social Sciences*, *6*(1), 81–87. https://doi.org/10.9756/IAJSS/V6I1/1910008

[5]   Farhangian, H. (2017). Effect of Organizational Commitment and Trust on Job Involvement (Case Study: All Branches of Parsian Bank in Semnan Province). *International Academic Journal of Organizational Behavior and Human Resource Management*, *4*(2), 67–73.

[6]   Usikalua, M. R., & Unciano, N. (2025). Memory reconsolidation and trauma therapy: A new frontier in PTSD treatment. Advances in Cognitive and Neural Studies, 1(1), 1–10.

[7]   Poornimadarshini, S. (2025). Cyberfeminism 4.0: The role of social media and digital platforms in shaping contemporary feminist activism. Journal of Women, Innovation, and Technological Empowerment, 1(1), 25–30.

[8]   Nandkeolyar, R. (2025). Blockchain-enabled secure and scalable SDN control architecture for vehicular ad hoc networks (VANETs). Electronics, Communications, and Computing Summit, 3(2), 49–55.

[9]   Unciano, N., & Khan, Z. (2025). AI-enabled digital twin framework for predictive maintenance in smart urban infrastructure. Journal of Smart Infrastructure and Environmental Sustainability, 2(1), 1–10.

[10]   Brainee, H. J. (2025). The Inheritance of Loss: Examining the Psychological and Emotional Effects of Descendants in Post-Trauma Societies. *Indian Journal of Information Sources and Services*, *15*(2), 98–109. https://doi.org/10.51983/ijiss-2025.IJISS.15.2.14

[11]   Donkor, K., & Zhao, Z. (2024). The Impact of Digital Transformation on Business Models: A Study of Industry Disruption. *Global Perspectives in Management*, *2*(3), 1-12.

[12]   Moreau, I., & Sinclair, T. (2024). A Secure Blockchain-Enabled Framework for Healthcare Record Management and Patient Data Protection. *Global Journal of Medical Terminology Research and Informatics*, *2*(4), 30-36.

[13]   Surendar, A. (2025). Wearable sensor analysis of biomechanics in Yoga Asanas for posture correction. Journal of Yoga, Sports, and Health Sciences, 1(2), 1–7.

[14]   Deshmukh, A., & Malhotra, R. (2024). A Comprehensive Framework for Brand Management Metrics in Assessing Brand Performance. In *Brand Management Metrics* (pp. 1-15). Periodic Series in Multidisciplinary Studies.

[15]   Kumar, A., & Rajeshwari, P. (2024). The Role of Additive Manufacturing in the Era of Industry 5.0. *Association Journal of Interdisciplinary Technics in Engineering Mechanics*, *2*(4), 17-24.

[16]   Kanchan, P., Paikaray, D., Malviya, A., Krishnamoorthy, R., Saraswat, V., & Pund, S. S. (2025). Optimized cloud security: An AI-based data classification approach for financial cloud computing. Journal of Internet Services and Information Security, 15(2), 75–87. https://doi.org/10.58346/JISIS.2025.I2.006

[17]   Rahim, R. (2025). Investigation of phase change material (PCM) integration in metal foam heat sinks for thermal regulation of high-power microelectronics. Advances in Mechanical Engineering and Applications, 1(2), 11–19.

[18]   Parizi, L., Dobrigkeit, J., & Wirth, K. (2025). Trends in software development for embedded systems in cyber-physical systems. SCCTS Journal of Embedded Systems Design and Applications, 2(1), 57–66.c

[19]   Tran, V. D., Le, P. T., & Trinh, V. C. (2023). A Secure Proxy Re-Signature Scheme for IoT. Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications, 14(1), 174-188. https://doi.org/10.58346/JOWUA.2023.I1.014

[20]   Boopathy, E. V., Samraj, S. S., Vishnushree, S., Vigneash, L., Arafat, I. S., & Karthick, L. S. (2025). Intelligent Robotic System for Efficient Solar Panel Monitoring. Archives for Technical Sciences, 1(32), 132–145. https://doi.org/10.70102/afts.2025.1732.132