TEHRAN UNIVERSITY OF MEDICAL SCIENCES

IJOH
INTERNATIONAL JOURNAL OF OCCUPATIONAL HYGIENE
eISSN: 2008-5435

IRANIAN OCCUPATIONAL HEALTH ASSOCIATION IOHA

ORIGINAL ARTICLE

The Relationships Between Organization Culture and Safety Climate with The Mediating Role of Mental Health of Workers: Using Structural Equation Modeling

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Received 2025-02-01; Revised 2025-03-08; Accepted 2025-06-29

ABSTRACT

Background: This study aimed to investigate the relationship between organizational culture and safety climate through the mediating role of mental health among workers at Iran Khodro Company.

Methods: This descriptive–analytical study, employing a modeling approach, was conducted in 2024 among workers at one of Iran Khodro Automobile Company's dealerships. The sample size was determined using the Cochran formula and 410 individuals were selected through random sampling. Data were collected using standardized questionnaires: the Organizational Culture Assessment Instrument (OCAI), the Mental Health Questionnaire (MHQ), and the Nordic Safety Climate Questionnaire (NOSACQ). The reliability of these instruments was confirmed by Cronbach's alpha, with values of 0.875 for organizational culture, 0.994 for safety climate, and 0.911 for mental health. Data were analyzed using Pearson's correlation test and structural equation modeling (SEM) in SPSS and AMOS software.

Results: The study revealed significant positive correlations between organizational culture components, such as leadership (r=0.523), strategic emphases (r=0.512), and employee management (r=0.491) and safety climate (P<0.001). Structural equation modeling confirmed model validity (CFI=0.93, RMSEA=0.06), demonstrating interlinks among culture, safety, and mental health (R=0.467). Leadership and strategic priorities were key predictors, while mental health mediated safety outcomes.

Conclusion: Organizational culture is fundamental in fostering an effective safety climate and promoting mental health of employees. Enhancing organizational culture through managerial commitment, employee participation, improved communication, and appropriate allocation of resources can lead to improved safety conditions and mental well-being among the workforce. Moreover, a concurrent focus on both safety climate and mental health can significantly augment the effectiveness of safety programs within the organization.

KEYWORDS: *Organizational Culture; Safety Climate; Mental Health; Employees*

How to cite this article: Mohammadi H, Barzegar A, Mousavi Fard ZS, Vosoughi S, Moradi Hanifi S. The Relationships Between Organization Culture and Safety Climate with The Mediating Role of Mental Health of Workers: Using Structural Equation Modeling. Int J Occup Hyg. 2025;17(4):227-233.

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INTRODUCTION

Workplace safety represents a crucial aspect of organizational management, significantly influencing employees' health and well-being. Reports from the World Health Organization (WHO) and the International Labour Organization (ILO) indicate that [1], Millions of occupational accidents and illnesses occur globally each year, imposing significant economic costs on organizations while inflicting irreversible harm on the workforce. In this context, the safety climate, defined as employees' collective perceptions regarding the importance of safety within an organization, plays a crucial role in reducing accidents and ensuring compliance with safety standards [2]. Research has indicated that one of the most significant factors influencing the safety climate is organizational culture. Organizational culture encompasses the shared values, beliefs, attitudes, and norms that shape the behaviors, interactions, and decision-making processes of an organization's members [3]. A robust organizational culture that prioritizes safety as a core value can enhance employees' commitment to adhering to safety principles and mitigate unsafe behaviors [4]. Conversely, organizations that place less emphasis on safety often experience higher accident rates and reduced workforce productivity. Another critical component of workplace safety is employees' mental health. Optimal mental well-being is essential for reducing stress, improving focus, and enhancing overall workplace safety performance. Employees who receive psychological support are more likely to comply with safety protocols, report hazards, and actively engage in organizational safety initiatives. In contrast, chronic stress, anxiety, and occupational burnout can lead to decreased attention, increased human error, and, ultimately, workplace accidents [5]. Therefore, investigating the interplay between organizational culture, mental health, and safety climate can assist organizations in developing more effective strategies for establishing a safe and sustainable work environment Figure 1. Recent studies across various industries, including manufacturing, transportation, construction, and healthcare, have illustrated that fostering a positive organizational culture not only enhances the safety climate but also yields significant benefits for employees' mental well-being [6]. Organizations that prioritize safety values through supportive policies, ongoing training, and effective reporting systems can decrease accident rates and improve employee productivity [7]. Considering the critical importance of this issue, this research investigates the role of organizational culture in enhancing the safety climate, with a specific focus on employees' mental well-being in industrial environments. Iran Khodro Company has been selected as a case study due to the complexity of its industry and the potential workplace hazards associated with it. The findings of this study are expected to offer valuable insights for managers, policymakers, and researchers in the fields of workplace safety culture and the enhancement of employees' mental health.

MATERIALS AND METHODS

Study Design

This descriptive-analytical study with a modeling approach was conducted in 2024 among workers of one of Iran Khodro Automobile Company's dealerships. For data collection, the research employed a field-based methodology, integrating both descriptive and correlational approaches. The sample size was determined using the Cochran formula, resulting in a calculated sample of 410 participants. To ensure representativeness and validity, a random sampling method was utilized. Questionnaires were distributed anonymously to participants to maintain the confidentiality of their responses.

Data Collection Tools

Data collection methods and instruments data for the research was gathered through both field and library research methods. The research instruments included three standardized questionnaires:

1. Organizational Culture Questionnaire (Cameron & Quinn, 2010) [8]:

This questionnaire comprises 24 items, assessed on a five-point Likert scale, with response options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The total score can range from 24 to 120 and encompasses six distinct dimensions: dominant organizational characteristics, organizational leadership, employee management, organizational bonding mechanisms, strategies, and success criteria.

2. Mental Health Questionnaire [9]:

This questionnaire consists of 16 items, assessed on a five-point Likert scale. The total score is derived by summing the responses, with a higher score indicative of better mental health.

3. Safety Climate Questionnaire (Nordic, 2001) [10] :

This questionnaire comprises 35 items, evaluated on a five-point Likert scale. It encompasses seven key dimensions: management's safety priority and

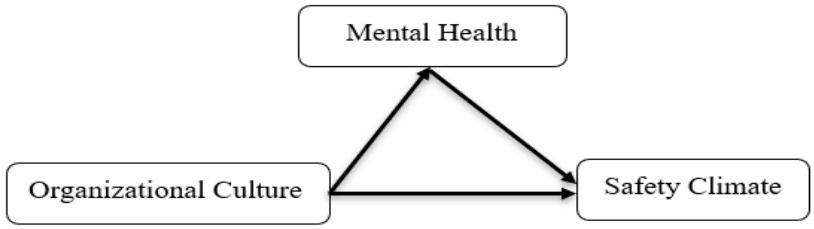

Figure 1. Conceptual model of study

Table 1. Cronbach's Alpha coefficients for the research questionnaires

Variable	Cronbach's Alpha	Result
Organizational Culture	0.875	Reliability Confirmed
Safety Climate	0.994	Reliability Confirmed
Mental Health	0.911	Reliability Confirmed

capability, management's safety justice, management's safety judgment, employee safety commitment, employee safety priority and risk-taking, mutual safety communication, and learning and trust in safety capabilities, as well as trust in the effectiveness of safety systems.

The validity and reliability of the research instruments have been confirmed through multiple assessments, and all instruments are standardized. To evaluate reliability, Cronbach's alpha was employed. The Cronbach's alpha coefficients obtained for the questionnaires are presented in Table 1.

These values indicate a strong correlation among the questionnaire items, demonstrating high reliability of the research instruments.

Statistical analysis

The collected data were analyzed using SPSS version 25 and Amos version 24 software. Initially, descriptive statistics, including mean, median, standard deviation, and frequency tables, were computed. Subsequently, inferential statistical tests such as the Kolmogorov-Smirnov test, Pearson correlation coefficient, and structural equation modeling were employed.

RESULTS

This study examined the influence of organizational culture on workers' safety climate perceptions through the mediating role of mental health. The analytical procedures involved three key stages: (1) assessing the demographic profile of participants, (2) calculating descriptive statistics for core variables, and (3) testing hypotheses through inferential statistical methods. These steps ensured a comprehensive evaluation of both sample characteristics and the relationships between organizational culture and safety climate indicators.

The sample comprised 410 participants, predominantly male (74.4%), with 45.6% aged 30–40 years, 29.2% were between 20 and 30 years old, 19.6% were between 40 and 50 years old, and 5.6% over 50 years. Educational attainment varied significantly, with 37.6% holding a high school diploma or less and only 6.6% possessing graduate degrees. Work experience distribution revealed that 41.2% had 5–10 years of tenure, 28.6% had less than 5 years, 21.7% had between 10 and 20 years, and 8.5% exceeded 20 years. Descriptive analysis of core variables (measured on a 1–5 Likert scale) demonstrated distinct patterns across dimensions, as detailed in Table 2. These findings provide foundational insights into workforce demographics and preliminary trends in safety climate perceptions, establishing a basis for subsequent inferential analysis.

Organizational Culture and Safety Climate Relationships

The analysis identified significant positive correlations ($P < 0.001$) between key organizational culture components and employee safety climate. Organizational leadership emerged as the strongest predictor (r=0.523), highlighting its central role in shaping safety practices through vision alignment and accountability. Strategic emphases (r=0.512) and employee management (r= 0.491) also demonstrated robust relationships, emphasizing the importance of long-term planning and effective workforce engagement in fostering safety adherence. Moderately strong correlations were observed for organizational links (r=0.436)

Table 2. Descriptive Statistics of Research Variables.

Variable	Component	Mean	Standard Deviation
Organizational Culture	Organizational Characteristics	3.45	0.87
	Organizational Leadership	3.62	0.92
	Employee Management	3.51	0.85
	Organizational Connectors	3.39	0.91
	Strategic Emphases	3.57	0.88
	Success Criteria	3.48	0.93
	Total (Organizational Culture)	3.50	0.89
Mental Well-being		3.71	0.82
Safety Climate	Management Safety Priority and Ability	3.58	0.90
	Management Safety Power	3.63	0.86
	Management Safety Judgment	3.55	0.92
	Employee Safety Commitment	3.67	0.84
	Employee Safety Priority and Risk Aversion	3.49	0.89
	Cross-Safety Communication	3.60	0.91
	Learning and Trust in Safety Ability	3.52	0.87
	Trust in the Effectiveness of Safety Systems	3.56	0.93
	Total (Safety Climate)	3.58	0.89

Table 3. Correlation results between different study variables

Variables	R	P*
Organizational Characteristics and Safety Climate	0.478	<0.001
Organizational Leadership and Safety Climate	0.523	<0.001
Employee Management and Safety Climate	0.491	<0.001
Organizational Links and Safety Climate	0.436	<0.001
Strategic Emphases and Safety Climate	0.512	<0.001
Success Measures and Safety Climate	0.467	<0.001
Organizational Culture and Employee Mental Health	0.467	<0.001

*Significance Level <0.001

and success measures ($r = 0.467$), suggesting that cross-departmental collaboration and performance metrics aligned with safety goals contribute to systemic safety improvements (Table 3).

Mental Health and Organizational Culture

A moderate yet significant relationship was found between organizational culture and employee mental health ($r = 0.467$). This indicates that workplaces prioritizing supportive cultural practices such as open communication, recognition of employee well-being, and stress management are more likely to enhance both psychological resilience and safety compliance. The dual focus on mental health and safety underscores the interconnectedness of physical and psychological well-being in organizational settings (Table 3).

Model Validity and Normality Assumptions

The Kolmogorov-Smirnov test confirmed normal data distribution ($P > 0.05$), validating the use of parametric statistical analyses. Structural equation modeling (SEM) further demonstrated strong model fit, with indices such as CFI (0.93) and RMSEA (0.06) meeting established thresholds for acceptability (CFI ≥ 0.90; RMSEA ≤ 0.08). These results confirm the conceptual model's robustness in explaining how organizational culture drives safety climate and mental health outcomes.

The findings indicate that organizational culture, particularly through organizational leadership and strategic emphases, plays a significant role in improving employee safety climate. Strengthening elements like employee management, organizational links, and commitment to safety values can lead to enhanced safety levels and a reduction in workplace accidents. This highlights the importance of developing organizational policies based on culture and employee mental health.

DISCUSSION

The results of this research indicate that various

components of organizational culture and safety strategies play a key role in enhancing safety climate and mental health of employees at Iran Khodro Company. The investigations show that an optimal organizational culture, characterized by respect, justice, transparency, mutual support, and employee participation, can have significant positive impacts on the safety climate, employee empowerment, and their mental health. This, in turn, leads to a reduction in workplace accidents and an increase in employee productivity and job satisfaction.

The research also revealed that organizational leadership and employee management have a major influence on improving safety climate. Organizational leaders can enhance employee motivation and commitment to safety by creating a safety vision, promoting safety-centered values, and applying transformational and participative leadership styles. On the other hand, employee management, focusing on training, empowerment, and involving employees in safety decision-making, can strengthen employees' safety attitudes and behaviors. Additionally, organizational linkages such as shared values, unit coordination, effective communication, and employee commitment positively impact safety climate. Strengthening these linkages through promoting a safety culture and creating coordination between units can improve employee interactions and enhance safety performance within the organization. Furthermore, the organization's strategic emphasis on safety and resource allocation significantly affects safety climate and facilitate safer conditions for employees through the continuous monitoring and improvement of safety performance.

In terms of organizational culture and employee mental health, the results indicate that an optimal organizational culture can help improve employee mental health. Organizational support, attention to work-life balance, and providing safe and healthy working conditions are among the most important factors that enhance employees' mental health. In contrast, an unfavorable organizational culture characterized by mistrust, discrimination, and lack of transparency can lead to stress, anxiety, and decreased job satisfaction among employees. Therefore, creating and maintaining a positive and supportive organizational culture not only enhances employee mental health but also increases the organization's productivity and efficiency. The results of this research emphasize that simultaneous attention to organizational culture, leadership, safety strategies, and organizational linkages can serve as a comprehensive approach to creating better conditions for enhancing safety climate and mental health of employees.

Previous research also indicates that organizational culture not only impacts safety enhancement but can also improve innovation, trust-building, and organizational learning. In this regard, strengthening a culture of organizational learning and involving employees in decision-making processes can further improve safety climate and strengthen intra-organizational communication. In this context, Bashlideh et al. [11], in a study titled "Investigation the Relationship Between Organizational Learning Culture, Psychological Empowerment, and Organizational Innovation," demonstrated that organizational learning culture has a direct impact on organizational learning, which in turn affects psychological empowerment and organizational innovation. Additionally, the indirect effect of organizational learning culture through organizational learning on psychological empowerment and organizational innovation was confirmed. Omidy [12] also Investigation the relationship between organizational culture and organizational learning of nurses at Tehran University of Medical Sciences hospitals and concluded that organizational culture has a positive and significant influence on organizational learning, indicating that enhancing the structure of organizational culture can increase organizational learning.

Pasandipoor et al. [13] investigated the effects of different dimensions of organizational culture on trust-building in executive agencies in Sirjan and showed that the components of task orientation and support orientation do not have a positive and significant impact on trust-building, whereas success orientation and power orientation have a negative and significant influence. Haririzadeh et al. [14] also studied the effect of organizational culture on employee empowerment in the National Library and Archives of Iran, with results indicating that various components of organizational culture, such as risk-taking, management support, formal control, self-control, reward systems, participation in decision-making, and organizational identity have a positive and significant relationship with employee capabilities. In another research, Kharazmi et al. [15] evaluated organizational culture among the station personnel of the Mashhad Urban Railway line based on the Denison model and found that the adaptability dimension had the highest satisfaction level, while the integration dimension ranked lowest.

Bagheri Karachi and Ghasemi Zad [16] identified desirable components of organizational culture in medical universities and achieved significant results concerning innovative thinking, customer orientation, and interaction and partnership as key components. Mosadeghrad and Sokhanvar [17] conducted a study on the organizational culture in nursing departments of Tehran hospitals, revealing that the acceptance of new ideas by managers, teamwork, and a spirit of creativity and innovation among nurses significantly affect organizational culture. Regarding research that addresses the impact of information technology and organizational learning on organizational performance, Khodadad Hosseini and Lajevardi [18] demonstrated that knowledge management has a stronger direct impact on organizational performance. However, the inclusion of organizational learning does not provide an additional effect on this relationship. Arditi et al. [19] showed that organizational cultures in the United States and India differ, and this difference affects delays in construction projects. Furthermore, Banerjee et al. [20] investigated the influence of organizational learning culture on workers' motivation to transfer training, concluding that a positive perception of organizational learning culture is positively related to the willingness to transfer training.

In another study [21], organizational and non-educational learning processes within a large healthcare system were investigated, showing that various patterns of organizational learning (adaptive and dialectical) and non-educational (continuous and enforced behavior) have different impacts on organizational performance. Additionally, in a study [22], the relationship between organizational culture, organizational learning, and the company's responsiveness to customer needs were investigated, demonstrating that organizational culture has a significant indirect impact on organizational learning and the quality of company services. Overall, these studies emphasize the multiple effects of organizational culture on organizational learning, employee empowerment, innovation, trust-building, and other dimensions of organizational performance. These Results indicate that effective management of organizational culture can significantly improve organizational performance, productivity, and competitive advantage.

CONCLUSION

Based on the results of this research, it is recommended that Iran Khodro Company focuses on strengthening the components of organizational culture to create an environment conducive to enhancing safety climate and improving mental well-being of employees. This can be achieved through actions such as commitment and support from senior management for safety and health of employees, developing effective safety management systems, involving employees in decision-making processes, establishing open and effective communication, allocating sufficient resources for safety and health programs, and defining success criteria related to safety and health. Additionally, paying attention to work-life balance and promoting a healthy lifestyle can contribute to enhancing the mental well-being of employees.

The findings of this study emphasize that improving safety climate and mental well-being of employees requires a comprehensive and systematic approach, where organizational culture is considered a fundamental and influential factor. By creating and strengthening a positive organizational culture that emphasizes safety and health values, it is expected that safety climate and mental well-being of employees will improve, thereby enhancing organizational performance and efficiency.

Acknowledgements

This article is based on the results of the HSE Master's thesis of the Safety and Environment Department of Larestan University of Medical Sciences, which was conducted at Iran Khodro Company, Tehran. We sincerely thank the esteemed research and technology vice presidency of the university, as well as the respected management, the personnel responsible for the safety and health unit of the company under study, and all those who collaborated with us in the completion of this thesis.

Conflict of Interest

The authors declare no conflict of interest.

Funding

This work was supported by the Larestan University of Medical Sciences as part of a Master's thesis project. No external funding was received for this study.

Author's Contributions

Study Conception or Design: HM, SV
Data Acquisition: HM, AB
Data Analysis or Interpretation: HM, SMH
Manuscript Drafting: AB, ZSMF
Critical Manuscript Revision: ZSMF, SV, SMH
All authors have approved the final manuscript and are responsible for all aspects of the work.

AI Statement

The authors confirm that no AI tools or services were used during the preparation of this work.

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