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A New Perspective for Workplace Safety: Psychological Safety and Employee Interaction

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ABSTRACT

It addresses the importance of psychological safety and employee engagement in creating a safe workplace environment. Traditional occupational health and safety approaches generally focus on technical measures and compliance with legal regulations. However, research conducted in recent years reveals that psychological and social factors also play a critical role in developing occupational safety culture. While psychological safety enables employees to report hazards or potential risks without fear of sanctions, employee engagement strengthens the safety culture by increasing commitment to safety policies and practices.

In workplaces with high psychological safety, employees can express danger or risk elements earlier and more comfortably, encouraging more proactive approaches to prevent work accidents. On the other hand, in workplaces where employee loyalty is strong, individuals internalize safety procedures and make safe behavior a natural no
This study comprehensively examines the effects of psychological safety and employee commitment on occupational safety culture through case studies, survey studies, and focus group discussions. Research conducted in the construction, production, and health sectors clearly demonstrates the importance of these two factors in sustaining occupational safety culture and reducing occupational accidents.

The research results emphasize that strategies that promote psychological safety, increase employee loyalty, and strengthen safety communication should be developed. In this context, it is recommended that management adopt a holistic safety management strategy that supports social and psychological approaches to ensure safety in the workplace.rm.

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Introduction

Creating a safe work environment requires a multi-dimensional process not limited to technical measures and regulatory compliance. Occupational health and safety studies emphasize the importance of developing a safety culture in preventing occupational accidents. Safety culture is created to increase employee safety awareness, encourage safe behavior, and reduce work accidents [1]. In order to create this culture, more is needed to determine security procedures, and all employees must internalize these procedures.

Psychological safety is defined as the freedom of employees to express their opinions without fear of being punished if they make mistakes or express risks [2]. This environment of trust allows employees to report potential hazards more quickly and thus take a more effective approach to preventing accidents [3]. On the other hand, employee commitment refers to individuals' voluntary commitment and motivation to workplace safety policies and procedures [4]. Employees with a strong sense of commitment adopt safety practices not only as an obligation but as a form of behavior that becomes the norm in the workplace [5].

In this context, the need to examine the effects of psychological safety and employee commitment on occupational safety culture in more depth emerges. It is of great importance to understand the effects of these two elements on the sustainability of safety culture, especially in sectors where risk is high, such as construction, production, and healthcare [6]. This study aims to comprehensively examine the effects of psychological safety and employee commitment on occupational health and safety by using various methods such as case studies, surveys, and focus group discussions.

It emphasizes the importance of psychological and social elements in occupational safety management and suggests that holistic strategies should be developed to improve safety culture in the workplace. The study offers new approaches to ensuring occupational safety for managers and policymakers.

Occupational health and safety are among the priority issues in the business world in terms of ensuring employees' well being and increasing business efficiency. Although traditional approaches have focused more on technical and legal factors such as security measures and compliance with regulations, modern research reveals that psychological and social factors also play a critical role in creating a safety culture in the workplace [1,7,8]. Creating

a safe culture in the work environment is important for preventing accidents and for employees to feel valued and develop long-term commitment [9].

Psychological safety refers to a work environment where employees can freely express their ideas without fear of retaliation or punishment [2]. This environment of trust encourages the adoption of a preventive and proactive security approach by making it easier for employees to report hazards and risks in a timely manner [3]. For example, if an employee hesitates to report a potential malfunction or dangerous situation in a machine, it can invite accidents. However, in workplaces where psychological safety is ensured, employees are more willing to voice such situations, and this plays an important role in preventing work accidents [10].

However, employee engagement is another critical element in ensuring the permanence of a safety culture. Employee engagement refers to individuals' voluntary participation in workplace goals, policies, and procedures and their motivation to achieve these goals [4]. Employees who show a high level of commitment to security policies develop an awareness not only to comply with the rules but also to minimize risks by internalizing security behaviors [5]. In addition, it has been observed that employees with high commitment tend to transfer their positive attitudes and behaviors regarding safety to their teammates, thus establishing the overall occupational safety culture on a more solid foundation [11].

In this context, it is necessary to examine the effects of psychological safety and employee commitment on occupational safety more comprehensively. Especially in high-risk sectors such as construction, production, mining, and healthcare - the effects of these elements on preventing occupational accidents and the sustainability of the safety culture become more evident [6, 12]. For example, it has been observed that employees in the healthcare sector hesitate to report situations that threaten patient safety due to the fear of making mistakes [13]. Such fears can have serious consequences on employees, customers, and patients.

This study examines the effects of psychological safety and employee commitment on occupational safety culture. Through case analyses, surveys, and focus group discussions, the research aims to reveal the role of these two factors in reducing occupational accidents and strengthening the safety culture. The findings aim to guide managers, human resources professionals, and policymakers in developing holistic approaches that include social and psychological dimensions to increase workplace safety. In addition, attention is drawn to the importance of developing innovative strategies in security communication and confidence-increasing training for employees.

Material and Method
It aims to examine the impact of psychological safety and employee commitment on strengthening the safety culture in the workplace and preventing work accidents. The research used qualitative and quantitative data collection methods, and a total of 450 participants were studied. Participants were selected from individuals working in the construction, manufacturing, and healthcare sectors. The research was designed to evaluate the impact of psychological factors in the workplace on occupational safety culture and to reveal how these effects contribute to preventing accidents.

Literature Review
The literature on psychological safety, employee commitment, and occupational safety culture was thoroughly scanned in the first stage. Academic studies, reports, and case studies examining the impact of psychological safety, leadership, communication quality, safe behaviors, and employee commitment on safety culture have been examined [7, 12, 13]. In this context, important information has been compiled to understand the role of psychological safety and commitment factors in developing a safety culture. The literature review created the theoretical infrastructure of the research and contributed to the preparation of data collection tools.

As the main data collection tool of the research, a survey form was prepared for 450 participants. The survey measured participants' views on security awareness, psychological safety, employee engagement, and security culture. The questions, prepared using a 5-point Likert scale, were answered with options ranging from "strongly disagree" to "strongly agree." The survey questions were structured around the following key themes:

- The ability of employees to freely express their safety concerns at work, give feedback when they make mistakes without feeling guilty, and the managers' reactions to this feedback.
- Employees' motivation towards occupational safety, commitment to safety policies, and tendency to comply with occupational health and safety procedures.
- The existence of a safety culture in the workplace, safe behavior becoming the norm, and integration of safety policies into the daily workflow.
- Effective sharing of safety-related information in the workplace, the level of communication between employees and managers, and the opportunities for employees to provide safety-related feedback.

The survey results were analyzed to numerically evaluate the relationship between psychological safety, employee engagement, and occupational safety culture.

Participant Profile
The research sample was composed of individuals working in the construction, production, and health sectors to address the occupational safety culture of different sectors. Demographic data of the participants were collected under the following headings:
Gender: Distribution of men and women.
Age Groups: 18-24, 25-34, 35-44 and over 45.
Working Period: 0-1 year, 1-5 years, 5-10 years, and 10 years and above.
Sectors: Construction, manufacturing, healthcare, and other sectors.
This demographic information was used to analyze differences in different groups' perspectives on safety culture.

Focus Group Discussions
Following the survey application, focus group interviews were held with security experts and employees in the sector. These interviews were organized to gather suggestions to increase security awareness, improve communication, and encourage safe behavior. During the interviews, employees' perceptions of occupational safety, their difficulties, and their suggestions were discussed in detail.

Data obtained from focus group discussions helped to analyze the survey results in depth and evaluate how employees' psychological safety and commitment levels are reflected in the occupational safety culture. These discussions also allowed the development of strategies to increase employee security awareness.

Data Analysis Method

The collected data were analyzed using statistical analysis programs such as SPSS and NVivo. Quantitative data were subjected to statistical testing to understand the correlations between psychological safety, employee engagement, and safety culture. Qualitative data was evaluated using content analysis methods to determine the themes obtained from focus group interviews and open-ended survey responses.

These methods made it possible to examine the impact of psychological factors on occupational safety culture from a broad perspective. Research findings show that to increase the sustainability of safety culture, it is necessary to focus on psychological safety and employee engagement.

Results

In this research, the effects of psychological safety and employee commitment on occupational safety culture were examined in detail with both quantitative and qualitative analyses. While the research findings reveal the role of psychological safety and employee commitment in preventing occupational accidents, data obtained from different sectors evaluated the contribution of these factors to safety culture with an inter-sectoral comparison.

Relationship between Psychological Safety and Security Culture
According to the survey results, it has been determined that the security awareness and risk reporting tendencies of employees in workplaces with high levels of psychological safety are significantly higher. Specifically, 78% of employees said they feel comfortable reporting safety hazards in environments where psychological safety is strong. This rate dropped to 43% in workplaces with low levels of psychological safety.

In focus group interviews, it was emphasized that psychological safety plays a critical role not only among employees but also in communication between managers and employees. Employees stated that they took a more proactive attitude on security issues in environments where managers were open to feedback. Particularly, participants working in the construction industry emphasized the importance of such an environment of trust in preventing work accidents. In the healthcare sector, it has been stated that the fear of making mistakes reduces psychological security, and this situation can threaten patient safety.

Employee Loyalty and Safe Behaviors

Employee engagement has emerged as an important factor in making safe behavior the norm. 85% of the employees participating in the research stated that they comply more with security policies in workplaces where their commitment levels are high. These employees stated that they had a higher motivation to internalize occupational health and safety procedures.

When evaluated on a sector basis, it has been observed that the effect of employee commitment on safe behaviors is more evident in the production sector. Participants in this industry have reported a 30% reduction in security breaches with increased engagement. Focus group discussions also supported these findings, and it was stated that loyalty could be increased, especially by rewarding employees and encouraging safe behavior.

Development of Security Culture and Sectoral Differences

Research has shown that psychological safety and employee engagement strengthen safety culture. However, it has been determined that this effect varies by sector:

Construction Industry: 65% of the participants stated that the biggest obstacle to strengthening the safety culture is the lack of communication between employees. When psychological safety is increased, clearer communication between employees develops, and accidents are reported to decrease by 25%.
Production Sector: Safety culture has been observed more strongly in workplaces with high employee loyalty. In the manufacturing sector, a positive correlation of 0.82% was detected between the level of commitment and compliance with occupational health and safety procedures.
Healthcare Sector: Fear of making mistakes has emerged as a key factor that complicates the development of a safety culture in this sector. In workplaces where psychological safety is strengthened, 72% of employees stated that the rate of reporting errors has increased.3.4. Security Communication

The Role of Communication and Feedback Mechanisms

Data obtained from surveys and focus group discussions clearly demonstrated the impact of the quality of communication between managers and employees on safety culture. In workplaces where safety-related feedback mechanisms are used effectively, 81% of employees stated that they felt safer at work. In focus group interviews, employees emphasized that security training should be carried out at regular intervals and feedback should be encouraged.

Effects on Reducing Work Accidents

According to the general results of the research, increasing psychological safety and employee commitment together contributes to a significant reduction in work accidents. In the research sample, it was determined that accidents occurred 37% less in workplaces with high levels of psychological safety and strong employee loyalty. Particularly in the manufacturing sector, a significant inverse relationship has been found between the frequency of accidents and employee engagement.

Research findings clearly reveal that psychological safety and employee commitment are of critical importance for the sustainability of occupational safety culture. Psychological safety allows employees to report safety-related risks more quickly, while employee engagement ensures that safe behavior becomes the norm. The results obtained show that managers should prioritize these two factors in order to develop a safety culture in workplaces. In this context, organizations should develop training programs and feedback mechanisms to increase employees' security awareness, as well as adopt strategies to encourage employees' voluntary participation in security policies.

Conclusions

It has revealed in detail the critical role of psychological safety and employee commitment in developing a workplace safety culture. The findings clearly show that not only technical measures but also psychological and social factors should be taken into account to strengthen the safety culture and prevent occupational accidents. While psychological safety increases employees' courage to report dangers and risks in a timely manner, employee engagement ensures that safe behavior becomes the norm.

Contribution of Psychological Safety to Security Culture: It has been observed that security awareness and proactive risk management increase significantly in an environment where employees are not afraid of making mistakes or giving feedback. Psychological safety stands out as a key factor in preventing accidents, especially in high-risk sectors (e.g. construction and healthcare).

Employee Engagement Strengthens Safe Behaviors: Employee engagement allows individuals to internalize safety procedures and voluntarily comply with these procedures. The fact that safe behaviors have become the organizational norm has been observed more widely in workplaces where commitment is strong.

Intersectoral Differences: It has been determined that lack of communication in the construction sector, compliance with procedures in the production sector, and fear of reporting errors in the healthcare sector are the main factors that weaken the safety culture. These findings show that sector-specific strategies need to be developed.

The Importance of Communication and Feedback: It has been determined that open communication and effective feedback mechanisms in the workplace are an important factor in strengthening the safety culture. Employees have stated that they feel safer in environments where feedback is encouraged and reciprocated.

An open communication environment should be provided to reduce employees' fear of making mistakes.
Managers should have a positive attitude towards feedback from employees and actively evaluate this feedback.
Leadership training programs should be organized to promote psychological safety in workplaces.
Reward systems and recognition mechanisms should be used to strengthen employee loyalty.
Training programs should be organized to increase compliance with security procedures and active participation of employees in these programs should be ensured.
A participatory management approach should be adopted so that employees can contribute to security policies.

Construction Industry: Communication channels should be strengthened, and employees should be encouraged to provide feedback on safety issues.

Manufacturing Sector: The integration of security procedures into the workflow should be facilitated and the implementation of these procedures should be constantly monitored.

Healthcare Sector: Error reporting systems should be made anonymous, and employees' fear of reporting errors should be reduced.

Regular training programs should be planned to increase employees' occupational safety awareness. In these trainings, both technical information and approaches that promote psychological safety should be emphasized.

In leadership training, managers should be offered special modules on employee engagement and psychological safety.
Digital platforms or physical suggestion boxes can be used where security-related feedback can be easily conveyed by employees.
Employees' opinions should be taken into account by holding regular feedback meetings, and these opinions should be implemented.
To measure and improve occupational safety culture, surveys should be conducted regularly and the data obtained from these surveys should be analyzed.
Records of occupational accidents should be examined regularly and areas for improvement should be determined in the light of these records.

It emphasizes the necessity of considering psychological safety and employee commitment together in order to strengthen the occupational safety culture. Increasing psychological safety encourages employees' risk reporting behaviors, while employee engagement makes compliance with safety policies and safe behavior the norm. These two factors are of vital importance in preventing work accidents, especially in risky sectors.

Recommendations for managers and policymakers provide comprehensive strategies to improve the safety culture. Creating a safe environment in workplaces will not only improve employee well-being but also contribute to organizational efficiency. In this context, it is clear that psychological and social elements should be prioritized along with technical measures in occupational health and safety strategies [14-24].

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