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The Role of Psychological Safety and Employee Engagement in Improving Workplace Safety

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ABSTRACT

It explores the importance of psychological safety and employee engagement in creating a safe environment at work. Traditional occupational safety approaches have mostly focused on technical measures and compliance with legal regulations. However, recent research shows that psychological factors also play a critical role in developing occupational safety culture. While psychological safety enables employees to report potential dangers without fear of sanctions, employee engagement strengthens the safety culture by increasing commitment to safety policies and practices. Employees in workplaces with a high level of psychological safety can express risks and dangers more quickly, encouraging a proactive approach to preventing work accidents.

Individuals with high employee commitment internalize safety procedures and make safe behavior the norm. This study comprehensively discusses the effects of psychological safety and employee commitment on occupational safety culture through case studies, surveys, and focus group discussions. Research conducted in the construction, manufacturing, and healthcare sectors reveals the impact of these two factors on the sustainability of safety culture and the reduction of occupational accidents. Research findings emphasize that strategies that promote psychological safety, increase employee loyalty, and strengthen safety communication should be developed to strengthen the safety culture. 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.

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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 (Guldenmund, 2000) [1]. Safety culture is created to increase employee safety awareness, encourage safe behavior, and reduce work accidents [2]. In order to create this culture, more is needed to determine security procedures, and all employees must internalize these procedures.

Research conducted in recent years reveals that social and psychological factors such as psychological safety and employee commitment should be considered to sustainably strengthen the occupational safety culture [3]. Psychological safety enables employees to openly discuss risks and dangers without fear of sanctions, thus allowing early interventions. In workplaces with a high level of psychological safety, employees do not refrain from expressing risks. In contrast, in workplaces with a low perception of psychological safety, situations such as hiding or ignoring risks may occur [4]. Therefore, ensuring psychological safety is critical for the sustainability of occupational safety culture.

Employee engagement contributes to making safe behaviors the norm in the workplace and strengthening the safety culture (Zohar, 2002). Effective development of security culture increases employees' commitment to security policies and ensures the integration of these policies into daily work processes [5]. Employees with high levels of commitment are more willing to comply with security procedures and actively integrate security awareness into business processes. This is necessary to prevent occupational accidents and to establish a permanent safety culture [6].

This study examines the role of psychological safety and employee engagement in ensuring workplace safety. The research discusses elements such as increasing psychological safety, strengthening employees' security awareness, and encouraging safe behaviors in creating a security culture. Psychological safety and employee commitment are two basic factors affecting employees' perceptions and behaviors toward occupational safety culture. The study's findings will emphasize the importance of considering social and psychological factors in occupational safety management strategies. They will contribute to developing new approaches to sustain a safe work environment.

Material and Method
It aims to examine the role of psychological safety and employee engagement in improving safety in the workplace. The research used qualitative and quantitative data collection techniques on 400 individuals working in the construction, manufacturing and health sectors. The study's main purpose is to evaluate the impact of psychological factors such as psychological safety and employee commitment on occupational safety culture and to reveal how these factors contribute to the prevention of occupational accidents.

Data Collection Method
The research was carried out with a three-stage method: literature review, survey application and focus group interviews. In the first stage, the existing literature on psychological safety, employee commitment and occupational safety culture was scanned; Academic studies, reports and case studies examining the relationship between these concepts were reviewed. In this context, studies on the impact of leadership, communication quality, safe behaviors and employee commitment in developing safety culture were considered [3, 4]. The literature review was conducted to understand the impact of psychological safety and employee engagement on safety culture and identify areas of missing knowledge on this subject.

Survey Study
As the main data collection tool of the research, a survey form was prepared for 400 participants. The survey was structured to obtain participants' opinions on security awareness, psychological safety, employee loyalty and security culture. The questions were prepared using a 5-point Likert scale, allowing evaluations ranging from "strongly disagree" to "strongly agree". Survey questions consist of basic topics as follows:
1. The ability to freely express workplace safety concerns, the opportunity for employees to communicate openly without feeling guilty when they make mistakes, and managers' reactions to feedback.
2. Employees' motivation for workplace safety, commitment to safety policies, and tendency to comply with occupational health and safety procedures.
3. The existence of a safety culture in the workplace, safe behavior becoming the norm and the integration of safety policies into daily workflows.
4. Effective sharing of safety-related information in the workplace, the level of communication between managers and employees, and the opportunity for employees to provide safety-related feedback.

Participant Profile
The sample of the research consists of individuals working in construction, manufacturing and healthcare sectors to evaluate the safety culture in different sectors from a broad perspective. The demographic characteristics of the participants are collected under the following headings:
• **Gender:** Distribution of men and women.
• **Age Group:** 18-24, 25-34, 35-44 and over 45.
• **Working Period:** 0-1 year, 1-5 years, 5-10 years, 10 years and above.
• **Industry:** Construction, manufacturing, healthcare and other.

Focus Group Discussions
Following the survey application, focus group interviews were held with security experts and employees in the sector. During these meetings, suggestions were received to increase security awareness, improve communication, and encourage safe behavior. During the interviews, detailed information was obtained about the strategies that should be implemented to increase employees' safety awareness and strengthen the occupational health and safety culture. These interviews aim to analyze the survey results in depth and evaluate how employees' psychological safety and commitment levels are reflected in the occupational safety culture.

Results
In this research, surveys and focus group discussions were conducted on 400 people working in the construction, manufacturing and healthcare sectors to evaluate the effects of psychological safety and employee engagement on the safety culture in the workplace. The findings were evaluated to reveal the relationships between psychological safety, employee commitment, safety communication and safe behaviors.

Participant Demographic Characteristics
When the demographic characteristics of the participants were examined, the gender distribution was determined as 55% male and 45% female. In terms of age groups, 20% of the participants were determined to be between the ages of 18-24, 30% were determined to be between the ages of 25-34, 25% were determined to be between the ages of 35-44 and 25% were determined to be 45 years and above. When evaluated in terms of working time, it was seen that 15% had 0-1 year of work experience, 35% had 1-5 years of work experience, 30% had 5-10 years of work experience and 20% had 10 years or more of work experience. Sectoral distribution is 30% construction, 25% manufacturing, 20% health and 25% other sectors. This demographic diversity provides the opportunity to examine the security culture in different sectors from a broader perspective.

Psychological Safety Level
According to the survey results, participants' perceptions of psychological safety are as follows:
• Strongly Disagree: 8%
• Disagree: 12%
• I am undecided: 20%
• Agree: 40%
• Strongly Agree: 20%

This distribution shows that 60% of the participants can easily express their concerns about safety at work, while 20% are undecided on this issue. Additionally, the fact that 20% have a low perception of psychological security indicates that these individuals may hesitate to give feedback regarding security. Employees with high psychological safety reported being more willing to report potential hazards and provide feedback on safety measures. This finding shows that increasing the level of psychological safety is of critical importance in terms of workplace safety communication and preventive measures.

Employee Engagement
Employee engagement was assessed based on participants' adherence to safety procedures and compliance with safety practices. According to the survey results, the distribution of employee loyalty is as follows:
• Strongly Disagree: 7%
• Disagree: 13%
• I am undecided: 15%
• Agree: 45%
• Strongly Agree: 20%

65% of the participants said they adhere to security procedures and comply with security rules. However, it was observed that 15% were undecided and 20% had low commitment to security

practices. This result indicates that employee loyalty needs to be increased. In focus group interviews, it was stated that engaged employees exhibited safe behaviors more frequently and showed higher compliance with occupational safety procedures. Employee commitment stands out as a factor that supports safety culture, and it has been observed that safety accidents are lower in workplaces where commitment is high.

Security Communication
Security communication was evaluated according to the employees' ability to access security-related information from their managers and communicate openly on security issues. According to the survey results, the distribution of security communication is as follows:
- Strongly Disagree: 6%
- Disagree: 14%
- I am undecided: 18%
- Agree: 42%
- Strongly Agree: 20%

While 62% of the participants stated that security communication in the workplace was sufficient, 20% were undecided, and 20% stated they could not access sufficient security information. In focus group discussions, it was emphasized that safety awareness is also low in workplaces where safety communication is weak, and this situation causes work accidents. Employees at workplaces with strong safety communication stated that they had more knowledge about safety procedures and noticed risks earlier. These findings suggest that effective safety communication improves safety culture in the workplace.

Safe Behaviors
Prevalence of safe behaviors was assessed by responses to the question "I constantly use safety equipment." The results are as follows:
- Strongly Disagree: 5%
- Disagree: 10%
- I am undecided: 15%
- Agree: 45%
- Strongly Agree: 25%

The fact that 70% of respondents use safety equipment regularly indicates that this behavior is significantly ingrained in the workplace. However, a 15% undecided segment reveals the need for awareness and training on using safety equipment. Work accidents are lower in workplaces where safe behavior is common. In focus group discussions, it was stated that reward systems that encourage employees to use safety equipment regularly reinforce safe behavioral habits.

The Relationship Between Psychological Safety, Employee Engagement and Safety Culture
Data shows that psychological safety and employee engagement levels directly impact safety culture. Employees in workplaces that have high psychological safety and support a safety culture apply safety procedures more frequently and can recognize potential risks more easily. In workplaces with high employee loyalty, greater compliance with safety rules and safe behavior is more widely adopted as a norm. These results reveal the importance of increasing workplace psychological safety and employee loyalty to strengthen the safety culture.

Relationship with Work Accidents
The survey participants' occupational accident status in the last year was also evaluated. 85% of the participants stated that they had not had a work accident in the last year, and 15% stated that they had a work accident. It was observed that among the participants who had a work accident, the rate of those with low psychological safety and poor safety communication perception was higher. This situation emphasizes the importance of psychological safety and safety communication to prevent work accidents. The fact that occupational accidents are low in workplaces with high psychological safety and commitment shows that safety culture is an effective factor in preventing occupational accidents.

Conclusions
He examined in depth the role of psychological safety and employee commitment in developing a safety culture in the workplace. He revealed the critical importance of these two factors in disseminating safe behaviors, preventing work accidents and creating a sustainable safety culture. Findings show that in workplaces where psychological safety and employee commitment are high, employees can recognize security risks more quickly, comply with security procedures more strictly, and adopt safe behaviors as the norm. The results obtained in this direction emphasize the necessity of considering psychological and social factors in occupational safety management strategies.

Relationship Between Psychological Safety and Security Culture
The research findings show that employees in workplaces with high levels of psychological safety can express their concerns about safety and dangerous situations more clearly. Psychological safety makes it easier for employees to voice safety risks, thus enabling early intervention in the workplace. Psychological safety supports a safety culture and allows employees to feel more connected to the workplace and take responsibility for safety issues. Therefore, developing strategies to increase psychological safety in the workplace is an important step for the continuity of safety culture.

Employee Loyalty and Safe Behaviors
In workplaces with high employee commitment, safe behaviors are more common and employees voluntarily comply with occupational safety procedures. Engaged employees show greater motivation to ensure and maintain safety in the workplace and integrate their commitment to safety policies into the workflow. It has been determined that there are difficulties in adopting safe behaviors in workplaces where employee loyalty is low. This result points to the importance of implementing programs and reward systems that will increase employee loyalty to strengthen workplace safety culture.

Security Communication and Security Awareness
It has been observed that in workplaces where security communication is effective, employees have more knowledge about security procedures and possible risks and are more willing to integrate this information into daily work processes. Security communication provides a clear and continuous flow of information in the workplace and increases employees' security awareness. Research results show that employees in workplaces where security communication is strong have higher security awareness and are more prepared for risky situations. Therefore, increasing safety communication is considered an effective strategy to prevent occupational accidents.

Sustainability of Security Culture
One of the important findings of the research is the positive effect of the interaction between psychological safety, employee commitment and safety communication on the sustainability of

safety culture. It has been observed that in workplaces with high levels of psychological safety and commitment, the safety culture is built on stronger foundations and this culture is sustainable in the long term. Sustainability of safety culture is possible by internalizing occupational safety procedures by employees and integrating safe behaviors into daily workflows. In this context, to ensure the sustainability of the safety culture, it is recommended to implement practices that encourage psychological safety in the workplace, increase employee loyalty and provide continuous safety communication.

Suggestions

The research results reveal that occupational safety management should not be limited to only technical measures and procedures to create a safe work environment. In order to effectively develop a safety culture, it is important to focus on social and psychological factors that promote psychological safety and employee loyalty. In this regard, the following suggestions are offered:

Leadership approaches that will increase psychological safety must be adopted so employees can express their concerns about security without hesitation. Open communication channels and a supportive management approach will make employees feel safer.

Safety focused reward systems and loyalty programs should be implemented to encourage employee loyalty in the workplace. Practices that reward safe behavior and make these behaviors a norm will strengthen employee loyalty. Providing effective communication on security issues will help employees better understand and comply with security procedures. It is recommended that managers regularly provide security briefings and receive employee feedback. To strengthen the security culture, leaders' and managers' commitment to security policies will support employees' adoption of these policies. Regular training programs and awareness activities should be carried out to sustain the security culture.

This study emphasizes the importance of psychological safety, employee commitment and safety communication to ensure safety in the workplace. It reveals that social and psychological factors should be considered for the sustainable safety culture development. It has been observed that safe behaviors are more common in workplaces where psychological safety and employee loyalty are high and the safety culture can be sustained in the long term. These results show the importance of adopting a holistic approach in occupational safety management and implementing strategies to strengthen employees' perceptions of safety.

The research points out that in order to ensure a sustainable safety culture, occupational safety policies should not remain only on paper, but employees should internalize these policies and apply them in their daily workflows. Increasing employees' safety awareness, strengthening safety communication and encouraging safe behavior are vital for the sustainability of safety in the workplace. In this context, both managers and employees need to act in cooperation to strengthen the safety culture [7-12].

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