

Cultural Effects on Occupational Safety Perceptions and Behaviors

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ABSTRACT

This study examines the impact of cultural differences on employees' occupational safety perceptions and behaviors, drawing on data from 500 participants across the construction, manufacturing, healthcare, and service sectors. Quantitative methods, including descriptive statistics, t-tests, ANOVA, and structural equation modeling (SEM), were employed to analyze cultural influences on safety practices. Surveys utilized scales for occupational safety perception and cultural values [1,2].

Findings indicate that individuals with high uncertainty avoidance demonstrate greater compliance with safety procedures, while individualistic cultures prioritize personal safety. SEM analysis reveals a strong correlation between cultural factors and safety perceptions ($R^2 = 0.72$). Results highlight the need for culturally adaptive occupational safety policies and emphasize the role of training in mitigating cultural differences. This research contributes to existing literature by offering insights into how cultural diversity affects workplace safety, proposing culturally responsive strategies for improved compliance.

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Introduction

Occupational safety is a set of policies and practices that aim to reduce employees' risks in their work environments and ensure their safety. Nowadays, with globalization, cultural diversity in workplaces has increased, and this shows that occupational safety perception and practices may be affected by cultural differences [1,2].

Cultural diversity in the work environment is important in shaping employees' risk perception, compliance with rules, and attitudes toward safety practices [3]. For example, it has been observed that individuals working in societies with high levels of uncertainty avoidance comply more with safety rules, while in individualistic societies, the perception of personal security is more dominant [4].

The main purpose of this research is to measure the impact of cultural factors on occupational safety practices by examining the occupational safety perceptions and behaviors of individuals with different cultural backgrounds. It also investigated how security training reduces the impact of cultural differences.

The Concept and Importance of Occupational Safety

Occupational safety is a discipline that includes rules, policies, and practices developed to prevent risks that employees may encounter in the workplace, reduce occupational accidents, and create a healthy working environment [5]. Since the Industrial Revolution, occupational safety has become an important field of study and has been the subject of extensive research to reduce occupational accidents, especially in the 20th century [6].

Occupational safety practices are not limited to legal regulations but are also shaped by many variables, such as organizational structure, leadership, employee motivation, and cultural factors [3]. Globalization and increasing cultural diversity in workplaces make it necessary to examine security perceptions and behaviors in a cultural context [2].

Occupational safety is a discipline that includes rules, procedures, and policies created to prevent hazards that employees may encounter in the workplace, minimize accidents, and provide a healthy working environment [5]. Cultural diversity, which has increased with globalization, has become an important factor in shaping employees' occupational safety perceptions, attitudes, and behaviors [3].

This diversity can influence individuals' perceptions of risk, compliance with security procedures, and attitudes toward security practices [4]. Examining the effects of different cultural structures on occupational safety is important in developing more effective and inclusive policies.

Cultural diversity refers to the working of individuals from different ethnic origins, beliefs, and social norms in a common work environment [1]. This situation can cause significant differences in individuals' risk perception, level of compliance with rules, and tendency to adopt security practices [7].

Relationship between Culture and Occupational Safety

Culture is a basic social structure that determines individuals' values, attitudes, and behaviors (Hofstede, 1991). Understanding the effects of culture on occupational safety allows one to compare safety perceptions across different cultural structures.

Cultural dimensions theory is a frequently used approach in this context [2]. This theory defines culture along the following dimensions: Power Distance: The degree of importance given to authority. In societies with high power distance, compliance with hierarchy and adherence to authority are higher. Regarding occupational safety, compliance with rules is high in such cultures [4].

1. **Uncertainty Avoidance:** Cultures with high uncertainty avoidance comply more with rules and regulations. Adherence to safety procedures is also stronger in these societies (Zeladita-Huaman & Membrillo-Pillpe, 2023).
2. **Individualism vs. Collectivism:** While the perception of personal security is predominant in individualist societies, group security and solidarity are more prominent in collectivist cultures [8].
3. **Masculinity vs. Femininity:** In masculine societies, performance and success orientation may prioritize job security procedures over individual success. In feminine societies, cooperation and risk avoidance are common [9].
4. **Long-term vs. Short-term Orientation:** In long-term-oriented cultures, planning and security measures are more important [10].

The Relationship Between Cultural Diversity and Occupational Safety

Cultural Differences:

Cultural dimensions theory emphasizes the determining role of culture on individuals' values, norms, and behaviors [2]. These dimensions:

1. **Power Distance:** The degree of importance given to authority (high power distance = dependence on authority).
2. **Uncertainty Avoidance:** Tendency to avoid risk (high level = strict security procedures).
3. **Individualism-Collectivism:** Personal security is a priority in individualist societies, and group security is a priority in collectivist societies.

Research shows that employees comply more closely with safety rules in cultures with high uncertainty avoidance, while in individualistic cultures, there is a greater focus on individual security (Zeladita-Huaman & Membrillo-Pillpe, 2023).

Occupational Safety Perception and Behaviors

Perception of occupational safety refers to employees' perception of risks in the workplace and their attitudes toward these risks [1]. The individual's experiences, organizational climate, and cultural factors influence security perception. Research shows that the perception of occupational safety is critical in preventing occupational accidents [7].

Perception of security directly affects employees' behavior. The safety culture model developed by argues that individual safety behaviors are affected not only by the level of individual awareness but also by organizational support, leadership, and training. For example, while employees in individualistic societies take more individual security measures, group security is prioritized in collectivist societies [8,11].

Risk perception relates to how individuals perceive and respond to hazards. Based on Hofstede's cultural dimensions, societies with high levels of uncertainty avoidance appear to have lower risk tolerance [8].

Security Culture and Policy Compliances

Safety culture is the totality of employees' attitudes, perceptions and values toward safety [6]. A strong safety culture in organizations plays a critical role in preventing accidents. Weak safety culture can lead to accidents due to negligence and carelessness [10].

Policy Adaptation: The literature widely discusses the need for security policies to be adapted to cultural diversity [7]. For example, while strict security procedures are adopted in societies with high uncertainty avoidance, more flexible approaches may be preferred in societies with low uncertainty avoidance [5].

The Role of Educational Programs

Training programs are important in improving security perception and behaviors [11]. Training programs, especially those that consider cultural differences, can increase compliance with security practices. The contents of training programs should be designed according to cultural sensitivity and individual awareness levels (Zeladita-Huaman & Membrillo-Pillpe, 2023).

Purpose of the Research and Hypotheses

This research aims to test the following hypotheses by analyzing the effects of cultural factors on occupational safety perception and behavior with quantitative methods:

- H1:** There are significant differences between employees' perceptions of job security from different cultural backgrounds.
- H2:** Cultural differences affect levels of compliance with security practices.
- H3:** Occupational safety training improves safety perception by reducing the effect of cultural differences.

Method

Research Design

This research was designed using the quantitative comparative analysis method. Survey data were analyzed using descriptive statistics, a t-test, ANOVA, and structural equation modeling (SEM).

Sample and Participants

The research sample includes 500 employees from four sectors of Turkey (construction, production, health, and service).

- **Gender Distribution:** 60% male, 40% female.
- **Education Level:** 45% high school graduate, 35% university graduate, 20% graduate graduate.
- **Professional Experience:** 50%, 1–5 years; 30%, 6–10 years; 20%, 11 years or more.
- **Cultural Classification:** Using Hofstede's cultural dimensions, it is grouped according to power distance, individualism, collectivism, and uncertainty avoidance factors.

The research was conducted with a sample of 500 employees from four sectors of Turkey (construction, production, health, and service).

Demographic Information

Variable	Distribution (%)
Gender	Male (60%), Female (40%)
Educational Status	High School (45%), University (35%), Master's Degree (20%)
Professional Experience	1-5 years (50%), 6-10 years (30%), 11+ years (20%)

Data Collection Tools

The data collection tools used in the research are:

1. Job Security Perception Scale [1]: A 7-point Likert scale was used to evaluate job security perception (1 = Strongly Disagree, 7 = Strongly Agree). It was developed by [1]. Cronbach's Alpha = 0.87.
2. Cultural Values Scale (Hofstede, 1991): A 20-item scale measuring power distance, uncertainty avoidance, and individualism-collectivism was applied to determine the participants' cultural values. It was developed by Hofstede (1991). Cronbach's Alpha = 0.91.
3. Demographic Information Form: Includes age, gender, education level, and professional experience. Age, gender, education level, and experience.
4. Training Evaluation Form: A 10-item scale was used to measure the effect of security training on perception.

Data Analysis

- **Descriptive Statistics:** Frequency, percentage, and mean analyses were performed.
- **T-Test and ANOVA:** Used to test the effect of cultural differences on job security perception.
- **SEM Analysis:** Used to evaluate structural relationships between variables.

Findings

This section details the research findings and discusses the results comprehensively. The analyses provide statistical evidence on the demographic characteristics of the participants, the effects of cultural differences on occupational safety perception and behavior, and how the education factor reduces this effect.

Descriptive Statistics

When the Demographic Distribution of the 500 Individuals Participating in the Research is Examined:

Değişken	Coefficient B	Standard Error	p- Value
Power Distance → Perception	0.52	0.12	< 0.01
Uncertainty Avoidance	0.65	0.08	< 0.001
Impact of Education	0.40	0.10	< 0.05

- **Sectoral Distribution:** 30% of the participants work in construction, 25% in production, 20% in healthcare and 25% in the service sector.
- **Gender Distribution:** 60% of the participants are men and 40% are women.
- **Educational Status:** 45% are high school graduates, 35% are university graduates, and 20% are graduates.
- **Experience:** 50% of employees have 1-5 years of experience, 30% have 6-10 years of experience, and 20% have 11 years or more of experience.

These results show that the research is based on a large sample containing various demographic characteristics. This increases the generalizability of the findings.

Hypothesis Testing Results

H1: There are significant differences between employees' perceptions of job security from different cultural backgrounds.

- According to the T-Test and ANOVA results, cultural factors

were found to have a significant effect on the perception of job security ($p < 0.05$).

- For example, employees from cultures with high uncertainty avoidance showed more strict compliance with security procedures, while those with low uncertainty avoidance exhibited more risk-oriented behavior.

H2: Cultural differences affect levels of compliance with security practices.

- Analyses have shown that individuals from high power distance cultures are more compliant with security rules implemented by managers.
- Since employees in individualistic societies care more about the perception of personal security, their voluntary participation rates in security practices are higher ($p < 0.01$).

H3: Occupational safety training improves safety perception by reducing cultural background differences.

- It was found that the security perceptions of individuals participating in training programs improved, and the effect of cultural differences decreased by 40%.
- Levels of risk awareness and compliance with the rules were found to be statistically higher in the trained groups ($p < 0.001$).

Structural Equation Modeling (SEM) Results

The SEM analysis used in the research examined the relationship between cultural variables and perception of job security in more depth:

- Model fit values were quite high (CFI = 0.94, RMSEA = 0.05).
- A strong and positive relationship was found between the perception of job security and cultural factors ($R^2 = 0.72$).
- It has been determined that the education factor reduces the effect of cultural differences on security perception by 40%.

These findings show that cultural factors' effect on occupational safety perception is not only a superficial difference but also structural factors that directly affect individuals' safety behaviors.

Discussion

Research findings have revealed that the perception of job security varies according to cultural factors. Cultural dimensions, especially the level of uncertainty avoidance and power distance, have been found to have significant effects on security practices.

- **Effect of Cultural Differences:** Consistent with Hofstede's cultural dimensions theory, it has been observed that employees who avoid uncertainty adapt to more stringent security practices.
- **Training and Adaptation:** Training programs are effective in improving the perception of security and reducing the barriers created by cultural differences.

Theoretical Contributions

This study expanded and confirmed the results of previous studies measuring the impact of cultural factors on security perception and revealed deeper relationships with SEM analyses.

Practical Contributions

- It has been determined that occupational safety policies should be adapted according to cultural diversity.
- It is recommended that security training be designed with culturally sensitive content.

Conclusions and Recommendations

This research revealed that occupational safety perceptions and behaviors of individuals from different cultural backgrounds differ significantly. The findings emphasize that cultural factors should be considered to increase the effectiveness of occupational safety policies.

The research results show that cultural factors strongly affect occupational safety perception and behavior. Educational programs are effective in reducing these differences.

Cultural factors strongly affect the perception of job security. Training programs reduce the effects of these differences by 40%.

Suggestions

1. Educational content should be restructured according to cultural differences. Awareness campaigns should be organized, especially for cultures with low-risk perceptions.
2. Company policies should be designed to be flexible, taking into account cultural values.
3. Special security procedures should be applied in sectors with high-risk levels, and cultural differences should be considered.
4. Culturally sensitive occupational safety policies should be developed.
5. Occupational safety training should be adapted according to cultural diversity.
6. Research should be conducted with large samples to analyze sectoral and cultural factors in more detail.

Research Limitations and Future Studies

This research was conducted on specific sectors and cultural structures. It is recommended that future research be conducted in different countries and on larger samples.

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