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Research Article - Araştırma Makalesi

Occupational Health and Safety Culture After Pandemic Conditions

Pandemi Koşulları Sonrasında İş Sağlığı ve Güvenliği Kültürü

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ABSTRACT

Practices regarding occupational health and safety in organizations do not go beyond a legal obligation, and the perspective regarding its adoption as a corporate culture is inadequate. The COVID-19 pandemic has taken on a role that can directly affect business applications and individual safety and risk prevention workplace practices. Ongoing awareness of precautions related to individual risk perception after the pandemic can also affect the emergence of an occupational health and safety culture against risks in organizations. The aim of this study is to examine how risk-preventive practices implemented by corporate management and individuals themselves in organizations under pandemic conditions will affect the occupational health and safety culture in the future. The scope of the study is to examine this relationship in organizations in the service sector, where face-to-face communication is particularly limited and is expected to be more affected than the production sector in the pandemic term. The quantitative research method was preferred in the study, which was conducted with a sample of 245 individuals determined by the convenience sampling method. Correlation and multiple linear regression were applied to diagnose the proposed relationships among variables after examining the data collected through scales and achieving reliability and validity tests through descriptive statistical analysis. According to the research findings, the policy dimension of culture and the strategy-oriented workplace safety and employee health dimension of culture are affected by workplace safety management practices during the pandemic period. The research has originality in terms of revealing which dimensions of the occupational health and safety culture were affected by the pandemic period and workplace safety management practices after the pandemic for service-sector enterprises in Turkey. Adopting occupational health and safety practices as a dimension of organizational culture beyond a legal obligation will ensure that occupational health and safety systems are designed and implemented effectively.

Keywords: Occupational health and safety, occupational safety culture, pandemic, COVID-19, risk

ÖZ

İşletmelerde iş sağlığı ve güvenliği ile ilgili uygulamalar bir hukuki zorunluluktan öteye gitmemekte ve bir kurum kültürü olarak benimsenmesi ile ilgili bakış açısı yetersiz kalmaktadır. Covid-19 pandemisi, iş yapma usullerini ve bireysel güvenlik ve risk önleyici iş yeri uygulamalarını doğrudan etkileyebilecek bir rol üstlenmiştir. Pandemi sonrasında bireysel risk algısı ile önlemlere yönelik devam eden farkındalık risklere karşı işletmelerde iş sağlığı ve güvenliği kültürünün ortaya çıkmasını da etkileyebilecektir. Bu çalışmanın amacı, pandemi koşullarında işletmelerde kurum yönetimi ve bireylerin kendilerince uygulanan risk önleyici uygulamaların sonraki süreçte de iş sağlığı ve güvenliği kültürünü nasıl etkilediğini incelemektir. Çalışmanın kapsamı, yüz yüze iletişimin özellikle sınırlandırılmış olduğu ve üretim sektörüne göre daha çok etkilenmesi beklenen hizmet sektöründeki işletmelerde söz konusu ilişkiyi incelemektir. Kolayda örnekleme yöntemi ile belirlenen 245 kişilik örneklem ile gerçekleştirilen çalışmada nicel araştırma yöntemi tercih edilmiştir. Güvenirlik ve geçerlilik çalışması yapılmış ölçekler aracılığıyla toplanan verilerin betimleyici istatistiksel analiz ile incelenmesinin arasından değişkenler arası önerilen ilişkilerin teşhisi için korelasyon ve çoklu doğrusal regresyon uygulanmıştır. Araştırma bulgularına göre, iş sağlığı ve güvenliği kültürünün politikalar boyutu ile strateji yönelimli işyeri güvenliği ve çalışan sağlığı boyutu pandemi dönemi işyeri işgüvenliği uygulamalarından etkilenmektedir. Araştırma, pandemi dönemi sonrasında Türk hizmet sektörü işletmelerinde incelenen iş sağlığı ve güvenliği kültürünün hangi boyutlarının pandemi dönemi önlemlerinden etkilendiğini ortaya çıkarması açısından özgün değere sahiptir. İş sağlığı ve güvenliği uygulamalarını, hukuki bir zorunluluğun ilerisinde bir örgüt kültürü boyutu haline getirip benimsemek iş sağlığı ve güvenliği sistemlerinin tasarlanması ve etkin bir şekilde yürütülmesini sağlayacaktır.

Anahtar Sözcükler: İş sağlığı ve güvenliği, iş güvenliği kültürü, pandemi, Covid-19, risk

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INTRODUCTION

Studies have shown that a high perception of job security as a dimension of organizational culture positively affects employee motivation (Cinel et al., 2021). Occupational health and safety (OHS) practices play an active role in the emergence of the level of safety that individuals perceive in their workplaces.

The emergence of new business areas and production methods, especially due to the development of technology, requires the reorganization of existing occupational health and safety practices in a form suitable for renewed work environments and business procedures (Şensöğüt, 2018). In Turkey, with OHS Law No. 6331 published in the Legal Gazette in 2012, legislation on occupational health and safety practices has been published, and its implementation has been made mandatory for all public institutions and private sector organizations. In this context, business management needs to put into effect proactive and reactive measures in accordance with the legislation to prevent social, material, and moral losses and damages that may arise due to occupational accidents that employees may be exposed to, as well as to prevent losses due to occupational accidents in employee performances and outputs of units and to prevent a decrease in corporate reputation.

In taking proactive steps to prevent occupational accidents before they occur and implementing corrective actions after the accident occurs (reactive measures), the efforts of organizations to fully implement the published legislation are critical. The employer's awareness of this issue and providing occupational health and safety training to employees is an important requirement in terms of employees' perception of risks in their work environment, to what extent they can prevent the risk, and how they can reduce it (Kılkış and Demir, 2012). Effective implementation of preventive and corrective actions and achieving the expected benefit will be possible with an OHS culture that will be adopted by the management team and all employees.

Practices such as protecting physical distance, preventing crowded environments, and ensuring personal hygiene have led to changes in the ways of working in work environments with the onset of the COVID-19 pandemic. Due to the pandemic, the occupational health and safety risks that individuals perceive in their workplaces will also increase. In the following period, the new measures brought about by the changes in working conditions due to the pandemic will not be completely abandoned, and individual perceptions about the changing risk in the workplace may change perceptions about the usefulness of occupational health and safety practices in the workplace in the post-pandemic period. This increased awareness of risks in workplaces will bring about a change in the culture of occupational health and safety in workplaces. In other words, how the occupational health and safety culture will change over time depending on pandemic conditions is the research question of this study.

The study aims to examine how the occupational health and safety culture perceived by employees depends on the occupational health and safety activities of organizations and is evaluated depending on the workplace risk measures taken during the pandemic period. Determining the impact of implemented risk prevention measures in the pandemic period on which dimensions of OHS culture will be practically informative for the development of OHS systems with the aim of creating a safe working environment for employees in service sector organizations, where face-to-face communication is especially limited under pandemic conditions, and which are expected to be affected more than the production sector.

After explaining the effects of pandemic conditions on organizations and changes in labor legislation and commands regarding the workplace, pandemic practices of organizations are mentioned

in this study. By describing OHS culture, the relationship between OHS culture and workplace safety management practices in the pandemic period is highlighted for proposing hypotheses in the following section. After clarifying the field study steps (sampling, method, and findings), the conclusion of the study and discussion part are offered.

I- LITERATURE FRAMEWORK AND HYPOTHESES

A- The Effects of Pandemic Conditions on Organizations

Due to COVID-19, nations had to make changes in the way they work and their organizational structures (Foss, 2020). The fact that the disease spreads more easily in closed spaces has necessitated changes in working environments. One of the most important effects of the pandemic on organizations has been the transition to a remote working model (Baycık et al., 2021).

Before the pandemic, remote working was applied only to certain job fields and job titles, while with the pandemic, it has been learned how many tasks can be performed with the remote working model. Article 12 of the Legal Regulation on Teleworking and the Employer's Obligation states that "The employer is obliged to inform the employee about occupational health and safety measures, to provide the necessary training, to provide health surveillance, and to take the necessary occupational safety measures regarding the equipment it provides, taking into account the nature of the work performed by the remote worker." In this context, the rights of the individual working in a different location from the workplace within the scope of remote work must be observed and protected. During this period, the Ministry of Family, Labor, and Social Services shared a guide titled 'Measures to be Taken by Occupational Health and Safety Professionals in Workplaces within the Scope of the New Coronavirus Outbreak' (https://www.csgb.gov.tr/media/42183/yeni-koronavirus-salgini-kapsaminda-is-sagligi-ve-guvenligi-profesyonellerinin-isyerlerinde-aldiracagi-tedbirler.pdf).

The pandemic measures taken have had negative consequences for the sectors in which companies operate. The report published by the International Civil Aviation Organization (ICAO) announced that there was a 90.7% decrease in the number of domestic passengers worldwide and a 98.9% decrease in international flights between April 2019 and April 2020 (Eşsiz and Durucan, 2021). This situation also affects the travel and accommodation sectors, which are linked to the aviation sector. Another sector most affected by the epidemic is the tourism sector. This great decrease in the number of foreign tourists will negatively affect many sectors, such as accommodation, entertainment, and food and beverage, which fall under the heading of the tourism sector. (Tunalı, 2020). When the foreign trade data of the pandemic period is examined, it is seen that there are negative effects on economic indicators defined as foreign trade, exports, imports, foreign trade volume, and foreign trade volume economic balance (Tunalı, 2020).

According to the TUSIAD report (2021), the sectors greatly affected by the COVID-19 epidemic for the 2nd and 4th quarters of 2020 are transportation - warehouse (50%), accommodation and food services (58% and 47%), and other services (%44 and 30%), wholesale-retail trade (63% and 38%) for the 2nd and 4th quarters of 2020, respectively. In the study, 63% of medium-sized enterprises stated that their business volume decreased. The three sectors where business volume contracted the most compared to the same period last year were transportation and storage (85%), wholesale and retail (72%), and accommodation and food services (71%). According to the TUSIAD report (2021), 62% of medium-sized enterprises work remotely.

Depending on the pandemic conditions, the contraction in the economic volumes of service sector firms may be a challenging factor for these companies to comply with the COVID-19

pandemic practices. This commitment to COVID-19 pandemic safety management practices at the organizational level is expected to positively affect the motivation of employees regarding the implementation of workplace safety management practices.

B- Changes in Labor Legislation and Commands Regarding Workplaces

The crisis caused by the pandemic has adversely affected tenant employers economically. Therefore, in the Legal Gazette numbered 31080, the provision was included in the Official Gazette numbered 31080 regarding the tenant employers' failure to pay the rental fee. To prevent loss of employment, temporary article 10 of Labor Law No. 4857 introduced the prohibition of dismissal of the employee and the practice of putting the employee on unpaid leave, and temporary article 24 of Unemployment Law No. 4447 introduced short time working allowance and cash wage support practices. (Ertopuz and Suyaran, 2021). With the decisions taken, it was ensured that employees receive monthly wage support for a certain period in order to eliminate economic difficulties that may arise in case of leave, and it was also prohibited to dismiss employees within certain periods.

Those who will feel the negative effects of many sectors the most will be the employees hired in these sectors.

When the employment data for May 2020 is examined, it is seen that there is a decrease of 2 million 411 thousand people compared to the same month of the previous year. The employment rate decreased by 4.7% and reached 41.4%. There is a decrease of 1 million 622 thousand people in the service sector (TUİK, 2020). When the figures are evaluated in general, it can be interpreted that the worst consequence of the epidemic is unemployment (Yurdakul et al., 2020). According to the TUSIAD report (2021), 57% of the companies reduced their employment by 57% compared to the same period last year. For medium-sized enterprises, this rate is 58%.

Mandatory staff reduction efforts, especially by service sector companies, increase awareness of the seriousness of the pandemic crisis. In addition to this awareness, savings in personnel costs will cause the companies to increase their efforts towards the correct implementation of pandemic measures due to the possible financial resource transfer. Employees of organizations that implement pandemic measures correctly are expected to be more committed to workplace safety management practices.

C- Occupational Health and Safety (OHS) Culture

Organizational culture includes different dimensions within itself. One of these is the value orientation in which occupational health and safety is taken as the main goal and the business is conducted according to this understanding (Şensöğüt, 2018). The concept of OHS Culture was developed with different approaches, its essence is to use the resources of the organization to make workplaces and the working lives of employees safe. The critical point is that this understanding covers the whole organization, that is, the adoption of occupational health and safety practices from the top management to the lowest individual because modern technologies and specially designed workplaces cannot completely protect the health of employees. Top management plays a significant role in creating a culture of OHS. The support of occupational health and safety training and activities by top management will both increase the effectiveness of the training and contribute to the adoption of the culture by employees (Şerifoğlu and Sungur, 2007).

Cooper (2000) stated that the most important characteristic of high-risk sectors should be safety

culture. According to him, safety culture consists of three dependent variables, and changes in these variables affect each other. These three variables are: the person, behavior, and situation.

Safety culture is a systematic organizational functioning established to avoid accidents that endanger the health of employees, consumers, and other individuals by organizing cultural elements such as norms, beliefs, and values (Pidgeon, 1991:130). With this understanding, safety culture is the prevention of problems that may arise before they occur by organizing cultural elements (Turner et al., 1989).

Since one of the main aims of organizations is to make a profit, there is a tendency to give up some of these proactive and reactive measures to reduce costs. The ethical dilemmas experienced in the effort to increase the level of profit and reduce costs may also arise for occupational health and safety practices (Alper et al., 2015). Although the Occupational Health and Safety Law (No. 6331) was intended to reduce problems in the workplace, it has placed a financial burden on small enterprises. The importance given to occupational health and safety activities may also decrease, especially in periods when there will be financial resource transfers such as budget requirements, the purchase of devices and equipment, the employment of a new labor force, etc. to catch up with the trendy new technologies in the sector, and this directly increases the risks that employees will be exposed to occupational accidents. This situation directs attention to the development of an OHS culture within the organization. The awareness of the top management about the importance of safety culture will be effective in eliminating the ethical dilemma that will arise due to the high cost of realizing occupational health and safety practices (Akalp and Yamankaradeniz, 2013: 107).

D- OHS Culture under Pandemic Conditions and Research Hypotheses

Various measures have been taken to protect employees during the pandemic and limit the spread of the virus. Organizations have made significant managerial and organizational adjustments to respond to the unique challenges of the pandemic (Eşsiz and Durucan, 2021). These changes include the use of administrative and annual leave, adoption of social distancing measures, mandatory use of personal protective equipment, improved sanitation practices, and remote and/or rotational working (Hasanhanoğlu, 2020; Ateş, 2020; Baycık et al., 2021).

The pandemic has increased the importance of safety culture and safety climate in organizations. An important level of safety culture, defined by shared values, norms, and attitudes towards occupational health and safety, provides the working environment necessary to cope with adverse situations that arise in times of crisis. System Theory sees the situation in which occupational accidents may occur as a 3-part system: man, machine, and environment (Dizdar, 2001). The man factor that uses “Machie” and is located in an organizational “environment” will interact with the other two factors for a safety culture to be developed to prevent occupational accidents. Research shows that organizations with a strong safety culture are better equipped to adapt to changing conditions and implement effective occupational safety measures (Guldenmund, 2000; Hale and Hovden, 1998). In this context, it is thought that occupational health and safety practices conducted by organizations during the pandemic period contribute to the formation of a safety culture.

In Maslow’s hierarchy of needs, security is the second-level basic need. In F. Herzberg’s dual factor theory, the need for security is defined as a hygiene factor. Security, which is defined as a need in motivation theories, can assume the role of an antecedent factor in culture formation, with the values, beliefs, and behavioral norms to be developed based on this need (Malcolmson, 2009). In terms of the new institutional theory, institutionalization is “the process by which certain

forms of behavior and thought acquire a rule-like status" (Meyer and Rowan, 1977, as cited in Özen, 2013: 124). The obligation to follow pandemic-era workplace occupational safety practices becomes a sufficient condition for the emergence of coercive uniformity. Many organizations reach a uniform situation by using these practices that they adopt as morally correct (Özen, 2013). Thus, pandemic-era workplace occupational safety practices have become the right management practices to develop the desired OHS culture. Pandemic-era workplace occupational safety practices, which are legitimized to this extent, have become institutionalized enough to have a meaningful impact on the development of OHS culture. The following hypothesis can be proposed for the effect of occupational safety practices in pandemic-era workplaces on the establishment of an occupational health and safety culture.

H1: Pandemic-period workplace safety management practices positively affects the organization's formation of occupational health and safety culture.

Management commitment has a major role in reducing workplace accidents. Studies have shown that there is a significant relationship between management commitment and occupational accidents and that an increase in management commitment leads to a decrease in occupational accidents (McGonagle et al., 2016; Berhan, 2020; Taufek et al., 2016; Zhou et al., 2008). Management commitment in organizations positively affects employees' participation in safety activities and compliance with safety legislation (Mashi et al., 2018). For the employees, management's commitment to occupational safety causes employees to engage in occupational safety behaviors and increases the occupational safety performance of the work environment (Michael et al., 2005; Neal et al., 2000; Zohar, 1980). Consistent management practices will play a key role in the formation of an occupational health and safety culture in organizations (Choudhry et al., 2007). It can be thought that the perception of the management's commitment to workplace occupational safety practices during the pandemic period by the employees will positively affect the formation of the desired occupational health and safety culture by developing values and beliefs that consider the occupational health and safety of the employees and, at the same time, by demonstrating behaviors.

H1a: The management commitment dimension of pandemic-period workplace safety management practices positively affects the organization's formation of occupational health and safety culture.

Research has revealed that safety training is one of the most fundamental elements of creating a safety culture within an organization (Wu et al., 2007; Boughaba et al., 2014). Safety trainings enable employees to identify the risks in their work environment and develop behaviors to protect themselves and work equipment with proactive and reactive measures against these risks, thus creating a safety culture within the organization (Marquardt et al., 2021). More engaging, targeted, and effective training enables employees to learn more easily and reduce accidents and diseases (Burke et al., 2006). It is also known that employees with safety training are more successful in perceiving and preventing hazards and risks than those without training (Duffy, 2003). The realization of an adequate level of training and the effectiveness of training are closely related to the role of management during the pandemic period. The importance given by management to safety trainings will be effective in creating the desired occupational health and safety culture by reflecting the participation of employees and the behaviors learned after the training. In this period of increased risks and dangers, such as the pandemic, the importance of safety training has increased considerably. Occupational safety trainings carried out during the pandemic period can play a guiding role in proactive and reactive measures to be taken for various hazards and risks that may arise in crisis situations in the following period. Therefore, it can be said that the outputs of occupational safety training conducted during this period will have a positive impact on the development of the desired occupational health and safety culture.

H1b: The safety training dimension of pandemic-period workplace safety management practices positively affects the organization's formation of occupational health and safety culture.

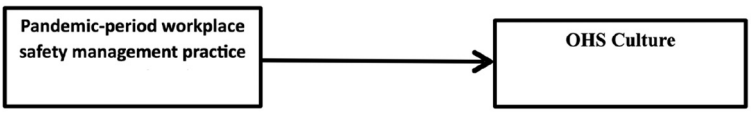
Clear and accurately prepared safety rules and procedures in workplaces increase the safety behaviors of employees (Vinodkumar and Bhasi, 2010). Studies conducted in different sectors show that the correct definition of safety rules and procedures is a crucial factor in reducing accident rates in workplaces (Cox and Cheyne, 2000; Mearns et al., 2003; Glendon and Litherland, 2001). Wachter and Yorio (2013) emphasized the importance of safety rules and procedures defined in safety management systems to improve workplace safety performance and reduce occupational accidents. For these reasons, it can be said that occupational safety rules and procedures that are clearly and accurately explained during the pandemic period can play a positive role in the formation of the desired safety culture within the organization.

H1c: The safety rules and procedures dimension of pandemic-period workplace safety management practices positively affects the organization's formation of occupational health and safety culture.

It is generally accepted that 80%-90% of workplace accidents are caused by human error (EU-OSHA, 2012). Human Factors theory, one of the theories of occupational accidents, links accidents to a chain of events that ultimately result from human error. The theory includes three principal factors that lead to human error: Overload, inappropriate reaction and activities not performed correctly (Yılmaz, 2013: 30). Developing a safety culture within the organization is an important approach to reduce the rate of human error. Employee participation contributes positively to the development of safety culture in the organization (Choudhry et al., 2007). Therefore, to create a safety culture, employees' perspectives on occupational safety practices should be positive. If employees' general safety perceptions about their organization are positive, they are much more likely to participate in safety activities and comply with safety rules and procedures (Amponsah-Tawaih and Adu, 2016). A prominent level of safety motivation of employees is an important prerequisite for increasing safety performance and creating a safety climate within the organization (Christian et al., 2009). Wachter and Yorio (2013) state that to increase safety performance and reduce occupational accidents, safety management systems as well as employees' acceptance of these practices are necessary. The dramatic effects of the global crisis during the pandemic period are a crucial factor in the adoption of these practices. In this period, employees' participation in workplace occupational safety practices can play a positive role in the formation of the desired safety culture within the organization.

H1d: The employee participation dimension of pandemic-period workplace safety management practices positively affects the organization's formation of occupational health and safety culture.

Figure 1. *Research Model*



II- APPLICATION

A- Sampling

In the study, white-collar employees from service sector organizations were selected by the convenience sampling method. The study was conducted with individuals from various sub-job fields of the service sector (occupational health and safety, finance and banking, retail and wholesale trade accommodation and hospitality, restaurant and food, health tourism, ready-to-wear clothing, automotive sales), where face-to-face communication was particularly limited under pandemic conditions. According to annual TUIK data, the current number of personnel working in the service sector is 17.378.000 (https://data.tuik.gov.tr/Bulten/Index?p=Isgucu-Istatistikleri-2022-49390). One of the criteria used to decide the scale of the organization is the number of employees (Koçel, 1993; Çelik and Akgemci, 2010; Mecek, 2020). In the classification made by the Organization for Economic Cooperation and Development (OECD), SMEs with 100–499 employees are classified as medium-sized (Mecek, 2020). The organizations where the individuals sampled in this study are in the medium-sized group regarding the number of employees. According to KOSGEB statistics, the rate of employees in medium-sized SMEs is 16.1% (https://www.kosgeb.gov.tr/site/tr/genel/detay/8622/kucuk-ve-orta-buyukluktekigirisim-istatistikleri). The population volume for employees working in middle-size enterprises in the service sector is 2.797.858. According to the sample size formula:

$n = N.z^2.pq / (N. d^2 + z^2.P.Q)$,

in the formula, n: sample size, z: standard normal distribution table value, d: sensitivity for measurement, P: observation rate of considering elements in the universe, frequency of occurrence of the event (probability of occurrence): depends on the homogeneity of the sample, Q: (1-P): rate of not observing the considering element, frequency of not-occurrence of the event (Yazıcıoğlu, 2010)

For the study, d = 5%, z = 1,966, P = 0,80, and Q= 0,20. The companies from which the data were collected in the study were required to be medium sized in the beginning. For this reason, it can be assumed that the organizations in which the sample was taken into consideration are homogeneous in terms of individuals. P = 0.8 and Q = 0.2 can be accepted depending on the high level of homogeneity in the selection of the participants. By calculating the formula, the required n is determined to be 245. This study was conducted with 245 participants. The research was carried out with the ethical approval of the Ethical Committee for Social Science and Humanities, Alanya Alaaddin Keykubat University, dated June, 08, 2022 and numbered 03/08.

B- Method

A quantitative research method was adopted for the study. Data were collected through scales. The demographic information of the participants includes age, gender, education level, organizational tenure, total work experience, and job tenure in the workplace. Scales used in the research:

Occupational Health and Safety Culture: The 20-item OHS culture scale developed by Dalkıran and Çiçek (2019) was used. Researchers have defined six dimensions for occupational health and safety culture (systemic perspective, cost-human, economic aspect of change, reactive orientation, behavior, and collective value). The researchers determined the internal consistency reliability to be 0.703. Items 5, 7, 8, 12, 13, 14, 15, 19, and 20 on the scale are reverse scored. The researchers used a 6-point Likert rating for measurement. Since odd-numbered rating scales contain a midpoint, it is recommended to use an even-numbered rating scale instead of an odd-numbered rating scale

to avoid the central tendency effect when participants answer the scale (Douven, 2018). For this research, it was considered proper to evaluate the answers on their original scale with a 6-point Likert rating.

Pandemic-Period Workplace Safety Management Practices: Four dimensions are defined in the scale developed by Vinodkumar and Bhasi (2010) and adopted for pandemic conditions by Vu et al. (2022). Management commitment, safety training, safety rules and procedures, and employee participation They defined the sub-dimensions of this scale, which they adapted in accordance with the COVID-19 pandemic conditions, as formative conceptual structures. There is a need to conduct reliability and validity studies of the scale in question in different cultures. Scale questions were evaluated with a 5-point Likert rating, remaining true to the original rating.

Descriptive statistical calculations (mean, maximum, minimum, standard deviation, skewness, and kurtosis) were used in the analysis of the data. Exploratory and confirmatory factor analysis, internal consistency coefficients (Cronbach alpha), and CR and AVE coefficients were utilized to diagnose the reliability and validity of the scales. Correlation and multiple linear regression analyses were used to diagnose the proposed relationships between variables. Statistical analyses were performed with SPSS.22 and Lisrel 10.2 software.

III- FINDINGS

A- Demographic Data

A total of 245 participants—161 men and 84 women—participated in the study. 58.4% of the participants were between the ages of 20 and 30, while 22% were between the ages of 30 and 40. This shows that most of the participants are young and middle-aged. 41.2% of participants have a bachelor's degree. It is seen that 42.8% of the participants have 1–5 years of seniority, and 40% have 1–5 years of work experience in their current workplace.

B- Descriptive Statistics for Variables

Descriptive statistical values of the variables are seen in Table 1.

Table 1. *Descriptive Statistical Values of the Variables*

	mean	Standard deviation	skewness	qurtosis	minimum	maximum
Occupational Health and Safety culture	3,89	0,53	-0,206	-0,162	2,35	5,05
Pandemic-period workplace safety management practice	3,89	0,96	0,734	-0,168	1,11	5

Since the skewness and kurtosis coefficients of the variables are $-1<x<1$, it is accepted that they meet the normal distribution condition (Şencan, 2005).

C- Reliability and Validity

Exploratory factor analysis with Varimax rotation was applied. In the approach of grouping the scale items into factors, a factor load of at least 0.40 and an eigenvalue of 1 were determined. Factor

analysis iterations were continued by removing items that loaded on two factors with a difference of less than 0.1. AVE>0,50; CR>070; the total variance explained >0.50 was decided as threshold values. The OHS culture exploratory factor analysis and reliability value are shown in Table 2.

Table 2. *Exploratory Factor Analysis and Reliability Value of "Ohs Culture"*

Factor	Items	Factor Loads	Eigenvalue	Explained variance (%), AVE, CR	Reliability
1	8. There is no established Occupational Health and Safety….(R)	0,802	3,985	21,498 0,498; 0,854	0,786
	14. The current system applications related ….(R)	0,751			
	19 The budget allocated throughout the organization....(R)	0,708			
	15. A change in systemic practices related to Occupa...(R)	0,74			
	5. Employees have a fatalistic…(R)	0,678			
	7. There are no unionized....(R)	0,523			
2	17. A reward system is applied….	0,844	3,191	17,522; 0,511; 0,804	-0,277 0,729
	18. In order to prevent occupational accidents……	0,714			
	16. Strategic planning on Occupational……	0,694			
	13. Since occupational accidents are…..(R)	0,631			
	10. In the occupational health and safety system, roles are not…..	0,585			
3	1. Workplace safety and employee health is an important strategy….	0,882	1,568	15,636; 0,547; 0,823	0,728
	2. Workplace safety and worker health….	0,842			
	9. The life and health of workers is more important than….	0,6			
	3. Investments in workplace safety and….	0,585			
Total				54,655	0,72

Kaiser-Meyer-Olkin		0,778
Bartlett's Test of Sphericity	Approx. Chi-square	836,484
	df	120
	Sig.	0

The grouped items did not reveal the original factor structure from which the study was taken (Dalkıran and Çiçek, 2019). In the second factor in which the items were grouped in the factor analysis, Item 13 was preferred not to be used in determining this factor because it reduced the reliability value of the subscale. Depending on the propositions stated in the occupational health and safety culture paradigm (Güven, 2018), the factors are named as follows according to the semantic content of the grouped items:

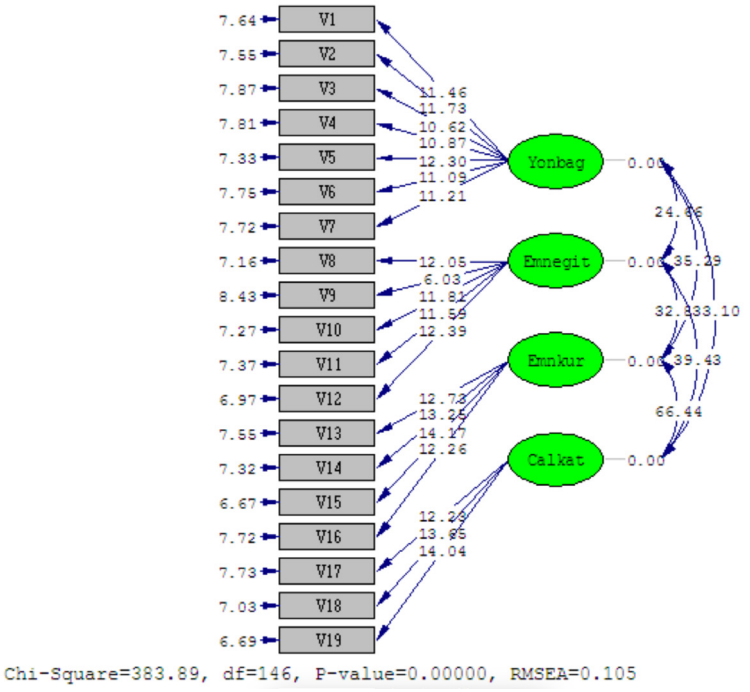
1: OHS corporate image and openness to change

2: OHS policies

3: Strategy-oriented workplace safety and employee health

The confirmatory factor structure t values of the pandemic period workplace safety management practices scale are seen in Figure 2.

Figure 2. *T Values of Pandemic Period Workplace Safety Management Practices Scale*



Although the 4-factor structure is confirmed by t values, the fit index values are below the accepted threshold value (Table 3). Therefore, exploratory factor analysis was performed to diagnose the sub-variable structure for this sample (Table 4)

Table 3. *Fit İndex Values of Pandemic Period Workplace Safety Management Practices Variable*

X2	d.f.	X2/d.f.	RMSEA	GFI	AGFI	SRMR	NNFI	CFI
383,89	146	2,629	0,105	0,85	0,8	0,038	0,98	0,98

Table 4. *Exploratory Factor Analysis and Reliability Value of "Pandemic Period Workplace Safety Management Practices"*

Factor	Items	Factor Loads	Eigenvalue	Explained variance (%), AVE, CR	Reliability
1	The safety rules and procedures followed…..	0,81	5,848	34,402; 0,532; 0,91	0,955
	Managers consulted with employees…..	0,783			
	Employees had enough opportunities….	0,753			
	Safety inspections of COVID-19….	0,749			
	My managers always tried to enforce…..	0,744			
	Training programs on COVID-19….	0,7			
	My company strictly and effectively…...	0,675			
	Managers promoted employees' involvement…...	0,674			
	My company gave comprehensive training…..	0,667			
2	When COVID-19 was reported, my management…..	0,77	3,405	20,030 0,510; 0,806	0,876
	When the COVID-19 pandemic broke out, the company….	0,734			
	My company provided sufficient…..	0,686			
	My company developed a full range…..	0,663			
3	Corrective action was…..	0,77	2,645	15,558; 0,539; 0,78	0,869
	Safety rules and procedures….	0,754			
	Safety was given….	0,676			
4	All employees must have ……..	0,936	1,269	7,466	
Total				77,457	0,964
Kaiser-Meyer-Olkin			0,934		
Bartlett's Test of Sphericity	Approx. Chi-square		2226,108		
	df		136		
	Sig.		0		

Since one item is grouped into the last factor, a single variable is not considered to constitute a latent factor structure. For this reason, it was not used in subsequent analysis steps regarding the diagnosis of relationships. Factors are named by adhering to the semantic content of the grouped items and the names in the original factor structure;

1. Safety training, rules, procedures, and employee participation
2. Proactive and reactive measures of management
3. The importance given by the management.

It was seen that the three dimensions in the original scale structure were grouped together in the first factor. The management commitment dimension of the original scale was divided into two separate factors in this research. The 2nd and 3rd factors were named in this way because the semantic content of the subscale items of management's commitment to pandemic period workplace safety management practices indicates the proactive and reactive measures taken by the management and the importance given by the management.

In the diagnosis of common method judgment, it was examined whether the factor on which most of the items were collected corresponded to most of the total variance explained. (Demirtaş and Biçkes, 2014). Variances explained by each of the three dimensions that emerged for the occupational health and safety culture variable (21,5; 17,5; 15,6) are less than 50% of the total variance (54.65). Variances explained by each of the four dimensions that emerged for the pandemic period workplace safety practices variable (34,4; 20,0; 15,56; 7,46) are less than 50% of the total variance (77,457). For this reason, there can be no common method of judgment in the measurement of both variables.

D- Relationships Among Variables

Calculated Pearson correlation values are seen in Table 5. The appropriate range for the correlation value is between 0.30-0.70 (Pehlivanoğlu, 2018, Aydoğan, and Şencan, 2019).

Table 5. *Correlation Among Variables*

	1[1]	2[2]	3[3]	4[4]	5[5]	6[6]
1	1					
2	-0,113	1				
3	0,202*	0,327**	1			
4	0,294**	0,675**	0,491**	1		
5	0,248**	0,539**	0,450**	0,797**	1	
6	0,248**	0,643**	0,536**	0,771**	0,739**	1

According to the results of the correlation analysis, the highest relationship between the independent variables and dependent variables determined for the study was found between occupational health and safety policies, safety training, rules, procedures, and employee participation. The

[1] OHS corporate image and openness to change
[2] OHS policies
[3] Strategy-oriented workplace safety and employee health
[4] Safety training, rules, procedures and employee participation
[5] Proactive and reactive measures of managemenThe importance given by the management
[6] The importance given by the management

relatively highest relationship between the independent variables was found between OHS policies and the strategy-oriented workplace safety and employee health dimension. The relatively highest relationship among the dependent variables is between safety training, rules, procedures, employee participation, and the proactive and reactive measures of management. The relationship between all dimensions of pandemic period workplace safety management practices and all dimensions of occupational health and safety culture is statistically significant ($p<0.05$). Although all the specified correlation values are statistically significant, a correlation value of 0.3 and above can be considered to indicate a relationship status. The independent variable with the lowest relationship with the dependent variables is OHS corporate image and openness to change.

The explanatory effect of pandemic period workplace safety management practices (the main variable) on the change in OHC culture (the main variable) is shown in Table 6. The explanatory effect of the sub-dimensions of workplace safety management practices during the pandemic period on the change in OHS culture dimensions is given in Table 7.

Table 6. *The Explanatory Effect of Workplace Safety Management Practices on the Change For OHC Culture*

Dependent variable:	**OHC Culture (main)**		
	Standard beta	**t**	**p**
workplace safety management practices during the pandemic period (main)	0,753	13,927	0
R2		0,567	
Adj R2		0,564	
F		193,968	
P value	0		

The impact of workplace occupational safety practices during the pandemic period on OHC culture is significant and positive in general. Pandemic period workplace safety management practices explain 56% of the change in occupational health and safety culture.

Table 7. *The Explanatory Effect of Workplace Safety Management Practices on the Change in Dimensions of Occupational Health and Safety Culture*

	Dependent variables								
	1			**2**			**3**		
	Standard beta	**t**	**p**	**Standard beta**	**t**	**p**	**Standard beta**	**t**	**p**
4	0,239	1,633	0,105	0,505	4,646	0	0,174	1,36	0,176
5	0,023	0,168	0,867	-0,113	-1,1	0,273	0,03	0,25	0,803
6	0,047	0,357	0,722	0,337	3,462	0,001	0,38	3,3	0,001
R2		0,088			0,497			0,302	
Adj R2		0,069			0,486			0,288	
F		4,668			48,018			21,104	
P value		0,004			0			0	

Tolerance >0.2, VIF < 5, CI <30 conditions were taken into consideration in diagnosing multicollinearity in regression equations. According to the regression analysis findings,

Although the regression between pandemic period workplace safety management practices and the "OHS corporate image and openness to change" dimension of occupational health and safety culture is significant, the effects of all dimensions of pandemic period workplace safety management practices on explaining the 8.8% change in variance are not significant.

"The safety training, rules, procedures, and employee participation" dimension and the "importance given by the management" dimension of pandemic period workplace safety management practices can explain 49.7% of the change in the "OHS policies" dimension of occupational health and safety culture. Management's proactive and reactive measures did not display a significant effect on the "OHS policies" dimension of occupational health and safety culture. The explanatory effect of safety training, rules, procedures, and employee participation on the change in OHS policies is relatively higher.

The "importance given by the management" dimension of workplace safety management practices during the pandemic period can explain 30.2% of the change in the "strategy-oriented workplace safety and employee health" dimension of occupational health and safety culture. The "safety training, rules, procedures, and employee participation" dimension and the "importance given by the management" dimension did not show a significant effect on the "strategy-oriented workplace safety and employee health" dimension.

IV- CONCLUSION

In the study, it was examined how the risk-preventive practices implemented by the corporate management and individuals themselves in the organizations during the pandemic period affected occupational health and safety culture in the following processes. When the findings of all correlation and regression analyses are considered, pandemic-period workplace occupational safety practices positively affected the formation of occupational health and safety culture, and hypothesis H1 was accepted. Safety training, rules, procedures, and employee participation dimensions of pandemic-era workplace occupational safety practices had a positive and significant effect only on the OHS policies dimension of occupational health and safety culture. Therefore, it can be stated that hypotheses H1b, H1c, and H1d are partially confirmed. In this study, the management commitment dimension in the original scale structure was grouped into two separate dimensions: proactive and reactive measures of management and the importance given by management. The dimension of management's proactive and reactive measures did not have a significant effect on occupational health and safety dimensions, whereas the dimension of importance given by management showed a positive effect on the dimensions of "OHS policies of occupational health and safety culture" and "strategy-oriented workplace safety and employee health." Therefore, hypothesis H1a is partially confirmed.

The dimension of "Management's proactive and reactive measures" of workplace occupational safety practices during the pandemic period did not show a significant explanatory effect on any occupational health and safety culture dimension. None of the pandemic period workplace occupational safety practices had an explanatory effect on the corporate image or openness to change dimensions of OHS culture.

A- Discussion

Pandemic period practices, especially economic contractions in service sector companies, personnel layoffs, and efforts to reduce personnel costs, along with the transition to a remote working system explained in detail in the literature, show the impact of pandemic period workplace safety management practices in developing an OHS culture. These sectorial effects at the macro level play a role in improving the occupational health and safety culture at the individual level by confirming Carrol's (1998) safety culture description. The importance of pandemic practices at the sector and organization level can also be explained by their significant effect on the dimension "OHS policies" of OHS culture. Caroll defined safety culture as the high importance given to employee and public safety by all individuals. Similarly, Doğan and Şimşek (2022) showed in their study that the COVID-19 pandemic had a positive impact on developments in the occupational health and safety system.

Unlike the findings of this study, Kocaay and Biçer (2022) determined that employees' perception of the OHS competence of their corporate management during the pandemic period was at an average level. The reason for the lack of effect of proactive and reactive measures of workplace occupational safety practices during the pandemic period in this study can be stated as the fact that the management did not take initiative in this issue and preferred to apply the rules and procedures defined by the World Health Organization (WHO) and national authorities. It is expected that fewer COVID-19 cases will be diagnosed in the sampled, mostly medium-sized workplaces than in large-sized organizations where the number of employees is much higher. Depending on the number of cases experienced, the top management of the organizations, instead of taking the initiative for the reactive measures to be defined by themselves, put into effect the pre-determined and defined measures to be done and taken after the COVID-19 case occurs.

Especially during the pandemic period, with the increase in COVID-19 cases, well-known organizations exhibited a bad corporate image. In this period, it is perceived as risky to make a change in the OHS culture other than what is known. This risky situation may be a reason why the attitude of being open to change was not affected by pandemic-era workplace occupational safety practices. The fact that workplace occupational safety practices during the pandemic period did not affect the corporate image dimension of OHS culture can also be interpreted as a result of the fact that COVID-19-infected individuals who were not registered were not disclosed to the public. An adverse situation that is not announced in terms of workplace occupational safety during the pandemic and the effort to correct it will not have an impact on the corporate image dimension of OHS culture as an undisclosed organizational event. The sampled organizations are medium-sized and have relatively fewer personnel than large-scale organizations. It is stated that formalization has a moderate correlation with the number of personnel (Tengilimoğlu and Akgöz, 2019). In organizations with an important level of formalization and a strict hierarchical structure, formal communication channels are insufficient to inform employees, and it is thought that there is an increase in informal forms of communication for employees who cannot be informed through formal channels (Özbolat, 2018). Informal communication directly affects communication satisfaction (Çillioğlu, 2018). It can be said that the informal communication process will not assume a functional role that will change the corporate image evaluations of employees in terms of direction or effect size in organizations that are thought to have a medium level of formalization due to their scale.

The fact that the "proactive and reactive measures of management" dimension of workplace occupational safety practices during the pandemic period did not have a significant effect on the "OHS policies" and "Strategy-Oriented Workplace Safety and Employee Health" dimensions of the OHS culture can be explained by the System Theory and Combination Theory of OHS theories. Contrary to expectations, Doğan and Şimşek (2022) found in their study that COVID-19 had a negative relationship with the dimensions of OHS management and cooperation among employees. The system theory does not consider the COVID-19 pandemic as an environmental factor or a single factor in the occurrence of occupational accidents, and the effect that will ensure a change in OHS culture will not be revealed. Similarly, combination theory states that a single theory or factor cannot explain all incidents and that the real cause of occupational accidents is the combination of two or more models (Dizdar, 2001). According to the theory, the simple effect of a single environmental factor (COVID-19) will be insufficient to explain a meaningful change in OHS culture. As stated by the Human Factors Theory, since occupational accidents are ultimately linked to a chain of events caused by human error (Dizdar, 2001), the human factor that will cause an occupational accident that a person will experience at work will be the most important factor in shaping OHS policies and enacting strategy-oriented workplace safety and worker health activities. In an organizational context where the impact of the human factor on occupational accidents and thus the change in OHS culture is not experienced, "proactive and reactive measures to be taken by the management" will not be sufficient to develop OHS policies and may not provide the expected effect in putting strategy-oriented workplace safety and occupational health activities into effect. The sampled organizations operate in the sub-business lines of the service sector and are in the group with low hazards in terms of OHS and within the scope of the C-class occupational health and safety specialist. Psychosocial risk factors gain importance as an element that may cause occupational accidents in the service sector (Olcay, 2019). The psychosocial effects of the COVID-19 pandemic on individuals assume a role that can affect OHS culture as a factor directly experienced by the "human" element. Occupational safety practices that will reduce this psychosocial risk factor in service sector workplaces have positively affected the occupational health and safety culture.

It is possible to talk about the sustainability of practices and regulations that have gained institutional quality within the organization (Özen, 2013). In this context, the common understanding and attitudes developed in terms of safety training, rules, and procedures in organizations gain meaning and stability and turn into a uniform structure among organizations (Scott, 1995; Özen, 2013). These uniformity mechanisms emerge as a result of organizations' efforts to gain cognitive, moral, and utilitarian legitimacy through the institutional practices they adopt (Özen, 2013: 125). The moral dimension of the functioning that will gain institutional quality is the correctness and appropriateness of the understanding and behavior that are characterized as an institution in the functioning of organizations on the plane of morality. The career elements to be mentioned in the moral dimension are the training received, the process of professionalization, and the certification process (Özen, 2013). OHS training, which is carried out at a certain time and content by the legislation, is applied at a certain standard level without any change in terms of defined rules and procedures for organizations. One of the main arguments of the new institutional theory is that organizations within the same environmental area form a uniformity depending on various dynamics (DiMaggio and Powell, 1983). In addition, since the activities to be conducted in the

OHSAS 18001 (Occupational Health and Safety System) certification process are standardized, they do not vary between organizations. Therefore, these activities, which do not change, can be stated as the reason why the dimension of "safety training, rules, procedures, and employee participation," one of the workplace occupational safety practices during the pandemic period, does not explain the dimension of "strategy-oriented workplace safety and employee health" of OHS culture. Similarly, Dursun (2011) did not report a significant effect on safety compliance and safe participation, which he defined as components of safe behavior for safety training. Doğan and Simçek (2022) did not also demonstrate the relationship between the COVID-19 pandemic and OHS training.

Managers learn through OHS training that OHS rules and procedures increase efficiency by improving business performance. Thus, they attribute a moral value to these practices and make it possible for employees to take part. To achieve the desired OHS performance, having employee participation for all employees in each organization will not reveal variability, and therefore, there will be no explanatory effect on the strategy-oriented workplace safety and occupational health culture.

The view supported by the findings of this research is that occupational health and safety culture has a dynamic structure because the causes of occupational accidents are mostly related to psychosocial factors. Environmental factors such as COVID-19 will have a significant impact on the development of the desired OHS culture through interaction with the organizational context in which "human" is directly related. This situation also reveals the importance of social base variables that are directly related to the work environment, such as organizational culture, organizational commitment, commitment to work, and work motivation (Güler et al., 2018).

B- Managerial Implications

In Turkey, 1 law, 42 regulations, and 10 communiqués have been enacted on OHS. However, it is not enough to only comply with legal regulations and make technical updates while creating occupational health and safety policies. Today, the development of a people-oriented business culture in workplaces emphasizes the importance of conscious employees for organizations aiming to improve occupational health and safety performance.

The employer plays a key role in the adoption of a safety culture. Measures such as determining risk assessment and risk management approaches, ensuring that everyone working in the workplace benefits from OHS services, and establishing an appropriate organization for emergencies are among the responsibilities of the employer in developing the desired occupational health and safety culture (Güler et al., 2018).

Safety culture reflects the organization's willingness to learn from mistakes, work accidents, and experienced events and to improve in this direction. The learning organization model to be adopted by top management will bring about change at the unit and organizational level in a dynamic process to predict the antecedent factors of the OHS culture to be developed and the extent to which the relationship between these factors can provide the desired effect.

The following elements gain importance in developing the targeted OHS culture (Parker et al., 2006; Gökçe, 2020):

- Having a safety system is not limited to proactive controls but also includes collecting and analyzing information from accidents and near misses, and sharing findings,
- Create a culture that encourages employees to report errors and violations,
- Encouraging employees to learn and apply safety-related knowledge and rewarding such behavior, as well as clearly defining the boundaries of acceptable and unacceptable behavior,
- Flexibility to change organizational structure in the face of a dynamic and challenging mission environment,
- No resistance to getting the right results from the security system and making changes.

Wachter and Yorio (2013) emphasize the importance of safety management systems focused on individual performance. In this way, the incentives and guidance required to create a safety culture can be provided through individual goals and reward mechanisms. Employees' perceptions of safety must be frequently evaluated by senior management.

Instead of investing in material factors in occupational health and safety practices, organizations with an important level of institutionalization have turned to policies to create an employee profile with a high level of consciousness and awareness. Training plays a significant role in creating this employee profile (Güler et al., 2018).

Remote working by using technological communication tools, which have become widespread with the pandemic, has ensured that post-pandemic business processes are mostly carried out in a technology-based structure. The employer's responsibility to take occupational health and safety measures also continues for remote working business models. For example, ergonomic information should be provided to staff who will work using computers (Erdoğan and Genç, 2018).

C- Further Studies and Limitations

The evaluation of the effectiveness of OHS training to be given to employees can be examined as a subject of further research, with the role of a regulating variable in the proposed relationship. The structure variables (formalization, centralization, control area, communication channels, etc.) related to remote working hybrid systems, which have become widespread and sustained with the pandemic in many sectors, are a research topic for the extended version of the study. Management activities to be implemented for safety (total quality management, benchmarking, etc.) and the direct impact of individual values on OHS culture are other research topics.

The research also has limitations. The research is not classified separately for sub-job fields in the sector classification but presents a general result for the service sector. To increase the generalizability of the results, it would be useful to repeat the study for each of the service sector sub-business lines with sufficient samples. The fact that the data collection in the study was carried out using a normative scale (Likert) may cause respondents to give answers with high social favorability in determining the values of the variables. Another limitation is that the factor grouped with a single item in the scale of workplace occupational safety practices could not be used in the analyses conducted to diagnose the relationships.

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