International Journal of Management Economics and Business, Vol. 21, No. 2, 2025
Uluslararası Yönetim İktisat ve İşletme Dergisi, Cilt 21, Sayı 2, 2025

Research Article / *Araştırma Makalesi*

THE EFFECT OF BUSINESS SCALE ON PERSONAL PROTECTIVE EQUIPMENT USE CULTURE

Canan YILMAZ[1], Tuncay YILMAZ[2]

ABSTRACT

Theoretically, that the lower usage of Personal Protective Equipment (PPE) during accidents in Small and Medium-sized Enterprises (SMEs), compared to large enterprises, suggests that workers who are aware of PPE do not have a common culture of its use. It is hypothesized that the relatively lower use of PPE in SMEs results from a lack of shared PPE culture among workers despite their knowledge of its importance. This raises to the critical question: "Why do employees in SMEs not utilize PPE as adequately as those in larger organizations?" The research explores the relationship between enterprise size and PPE usage culture to address this question and offers potential solutions to enhance PPE adoption. Data was gathered through semi-structured interviews with 20 occupational safety experts, selected via snowball sampling acording to defined criteria. Following data collection, content analysis was performed using MAXQDA, a qualitative data analysis software. The findings indicate that the size of the enterprise significantly influences PPE usage culture. The study recommends that SMEs undergo a shift in perspective regarding PPE usage and broader improvements in occupational health and safety (OHS) practices to strengthen PPE culture within these organizations.

Keywords: *HRM, Personal Protective Equipment Usage Culture, Occupational Health and Safety, Safety Culture, SME*

JEL Classification: *O15, J28, J24*

İŞLETME ÖLÇEĞİNİN KİŞİSEL KORUYUCU EKİPMAN KULLANIMINA ETKİSİ

ÖZET

Teorik olarak, KOBİ'lerde kaza anında Kişisel Koruyucu Ekipman (KKD) kullanımının Büyük Ölçekli işletmelere kıyasla az olması, KKD kullanım bilgisi olan işçilerin KKD kullanım kültürünü paylaşmadığı fikrini vermektedir. Bu bağlamda, "KOBİ'lerde çalışanlar, büyük ölçekli işletmelerde çalışanlara kıyasla neden KKD'yi yeterince kullanmıyor?" sorusu akla gelmektedir. Çalışma; işletme ölçeğinin KKD kullanım kültürüne etkisini belirleyerek çözüm önerileri üretmeyi amaçlamaktadır. Kartopu örnekleme yöntemiyle belirlenen kriterlere göre 20 iş güvenliği uzmanı ile yarı yapılandırılmış görüşmeler yapılarak verilere ulaşılmıştır. Elde edilen verilere içerik analizleri yapılmasının ardından nitel veri analiz programı MAXQDA ile görselleştirilmiştir. Analiz sonucunda, işletme ölçeğinin KKD kullanım

[1] PhD., Sakarya University, Business School, Sakarya, Türkiye, *cananyilmaz@sakarya.edu.tr*
[2] Prof., Sakarya University, Business School, Sakarya, Türkiye, *tyilmaz@sakarya.edu.tr*

ISSN:2147-9208 E-ISSN:2147-9194
http://dx.doi.org/10.17130/ijmeb.1535599
Received: 19.08.2024, Accepted: 22.04.2025
For this study, ethics committee permission was obtained with the decision number 13 of the Sakarya University Social and Human Sciences Ethics Committee meeting dated 01.02.2023 and numbered 54.

kültürünü etkilediği sonucuna varılmıştır. KOBİ'lerde KKD kullanım kültürünün yapılandırılması için KKD kullanımına ve dolayısıyla İSG uygulamalarına temel bakış açısının yapılandırılması gerekmektedir.

Anahtar Kelimeler: *İKY, Kişisel Koruyucu Ekipman Kullanım Kültürü, İş Sağlığı ve Güvenliği, Güvenlik Kültürü, KOBİ'ler*

JEL Sınıflandırması: *O15, J28, J24*

1. Introduction

Ensuring workplace safety has become an increasingly critical concern as individuals spend a significant portion of their lives in their work environments. Implementing effective occupational health and safety (OHS) practices is crucial to safeguarding workers. Given the global prevalence of fatalities caused by workplace accidents, the importance of OHS and the urgent need for progress in this area are indisputable. Workplace accidents represent a substantial cost for employees and employers, with adverse financial and psychological consequences. Moreover, the loss of material and immaterial value resulting from such incidents leads to considerable economic burdens at the national level. Consequently, identifying the causes of workplace accidents, enforcing necessary preventive measures, and cultivating a healthy, safe, and harmonious work environment are fundamental for ensuring productivity and adequate work conditions. OHS training is key in this regard, providing workers with critical information about workplace hazards, risks, and preventative strategies.

A core topic within OHS training is using Personal Protective Equipment (PPE), vital for mitigating workplace risks and threats. While OHS training is a legal requirement for all businesses, it can be assumed that employees possess theoretical knowledge about the proper use of PPE. However, Social Security Institution reports suggest this is not always the case. Between 2001 and 2019, 600 occupational accident reports from Sakarya province involving at least 10% disability were analyzed. It was revealed that 84.7% of the injured employees had not been using PPE despite 78.5% of these workers being provided with PPE by their employers. This finding points to a gap between the theoretical knowledge of PPE usage acquired through OHS training and its practical application in the workplace.

Further analysis of these reports highlighted that 96% of employees who failed to use PPE during the accident were employed in Small and Medium-sized Enterprises (SMEs). In contrast, only 4% of the non-compliant workers were employed by large-scale enterprises. This observation prompts the question: "Why are employees in SMEs in Turkey less likely to utilize PPE adequately compared to their counterparts in larger enterprises?"

The assumption that employees in SMEs, despite possessing knowledge of PPE usage, fail to employ protective equipment during accidents suggests the absence of a robust PPE usage culture. As such, this study aims to explore the influence of enterprise size on developing a PPE usage culture. The significance of this research is underscored by the critical role that human resources play in business operations and the importance of fostering a PPE usage culture.

This study seeks to contribute to the existing literature by examining how the scale of an enterprise impacts the culture surrounding PPE usage. The findings of this research will provide practical insights into the reasons behind the lower efficacy of PPE use among employees

in SMEs compared to those in larger enterprises, offering valuable guidance to SME employers, employees, and safety experts.

There are certain limitations inherent in this study. One notable limitation is the scarcity of directly related studies in the existing literature, which has been addressed through exploratory research. Another challenge was reaching individuals with relevant expertise willing to share their insights. This limitation was mitigated by conducting in-depth interviews with participants recruited via snowball sampling.

The structure of this study begins with a literature review to establish the originality of the research topic. This is followed by an in-depth analysis of PPE usage within SMEs, framed within a conceptual context. The research findings are then presented, followed by recommendations derived from evaluating these findings.

2. Literature Review

Small and medium-sized enterprises (SMEs) are pivotal to the global economy but face significant challenges in implementing effective occupational health and safety (OHS) practices due to financial constraints, lack of expertise, and limited resources (Patel, 2020). According to Singh (2021), despite regulatory frameworks requiring SMEs to adhere to OHS standards, their capacity to effectively implement these practices is often compromised by insufficient training and a lack of safety awareness. Moreover, SMEs' lack of structured safety culture exacerbates the risks, leading to higher workplace accident rates than in larger enterprises (Gurses & Rantanen, 2020).

As noted by Cohen (2021), most SMEs lack dedicated safety officers and well-organized safety management systems commonly found in larger organizations. This disparity makes SMEs more vulnerable to occupational accidents, as employees are often less aware of or fail to adhere to the safety protocols. Furthermore, small businesses frequently overlook safety measures to save costs, a trend that contributes significantly to the higher accident rates observed in these organizations (Gurses &Rantanen, 2020).

Among the 1200 occupational accident reports from Sakarya Province, which resulted in at least 10% disability between 2001 and 2019, 600 accident files, including investigation reports, were examined. The findings revealed that 84.7% of employees involved in these accidents were not using Personal Protective Equipment (PPE) at the time of the incident. Furthermore, despite 78.5% of these employees having PPE provided by their employers, the data suggests a disconnect between the theoretical knowledge of PPE use acquired through Occupational Health and Safety (OHS) training and its actual application in the workplace. An additional noteworthy observation is that 96% of employees provided with PPE but did not use it during the accident were employed in Small and Medium-sized Enterprises (SMEs).

Personal Protective Equipment (PPE) is critical in ensuring worker safety, particularly in environments prone to physical hazards. A study by Kian (2021) underscores the importance of PPE in mitigating risks in SMEs, where hazards such as machinery malfunctions, exposure to harmful substances, and accidents involving manual labor are common. However, while PPE is mandatory by law, it is often underutilized or improperly used in SMEs due to the perception that it is a cost burden and inadequate safety training (Saks, 2021).

Research consistently indicates that unsafe behaviors are responsible for nearly 90% of occupational accidents (Kahya et al., 2019), highlighting that approximately 90% of such accidents could be prevented through proper precautions. Among these preventive measures, PPE is one of the most fundamental (Garrigou et al., 2020). A recent study found that 84.2% of employees receive OHS training, 77.9% undergo training on PPE use, and 84.2% are advised to use PPE (Çetin & Beğik, 2021). Despite this comprehensive training, the rate of actual PPE usage remains relatively low (Kahya et al., 2019).

There are multiple personal and organizational factors influencing the use of PPE by employees in the workplace (Öçal &Çiçek, 2017). These include factors such as accessibility, visibility (Demirbilek &Çakır, 2008), training (MacFarlane et al., 2008), gender, occupation, workplace setting, employees' awareness of the need to protect their health, and the physical suitability of the PPE (Çalışkan, 2017). Additionally, recent research has indicated an inverse relationship between experience and PPE usage (Bayyurt & Ekşi, 2021). Specifically, it was observed that as employees' experience increases, their likelihood of using PPE decreases, suggesting that PPE usage does not become a habit over time. Other reasons for the lack of PPE usage include discomfort, difficulty in use, a lack of motivation, and insufficient encouragement to use it (Çelik &Temel, 2018).

Studies also indicate that the frequency of occupational accidents and the associated risks are higher in small businesses, with accident rates decreasing as businesses grow (Fabiona et al., 2004; Uysal et al., 2005). Table 1 below summarizes the distribution of occupational accidents in Turkey by business size.

Table 1: Distribution of Occupational Accidents by Business Scale

	2018		**2019**		**2020**		**2021**		**2022**	
	Injury	**Mortality**	**Injury**	**Mortality**	**Injury**	**Mortality**	**Injury**	**Mortality**	**Injury**	**Mortality**
1-49 Employees	107.861	859	105.592	651	99.641	704	131.148	798	141.538	871
50-249 Employees	127.463	384	129.037	293	119.219	326	155.565	349	178.346	367
SME Total	**235.324**	**1.243**	**234.629**	**944**	**218.860**	**1.030**	**286.704**	**1.147**	**319.884**	**1.238**
250-499 Employees	65.922	114	68.632	81	61.775	73	79.794	105	93.580	139
500-999 Employees	50.596	84	52.579	54	45.921	56	65.716	81	78.676	65
1000 and above Employees	79.143	100	66.623	68	57.706	72	78.861	49	96.683	75
Large Scale Total	**195.661**	**298**	**187.834**	**203**	**165.402**	**201**	**224.371**	**235**	**268.939**	**279**
Total	**430.985**	**1.541**	**422.463**	**1.147**	**384.262**	**1.231**	**511.075**	**1382**	**588.823**	**1.517**

Source: Derived from SGK Statistics Annuals (2018, 2019, 2020, 2021, 2022). Access: address:http://www.sgk.gov.tr/wps/portal/sgk/tr/kurumsal/istatistik/sgk_istatistik_yilliklari (Date of Access: 28.02.2024)

As shown in Table 1, most occupational accidents, including those resulting in fatalities and injuries, have occurred in SMEs over the last five years. Significantly, almost all fatalities in occupational accidents were recorded in SMEs.

As a developing country, Turkey places great importance on SMEs, which are pivotal in underdeveloped or developing nations (Unnikrishnan et al., 2015). In Turkey, SMEs comprise 99.8% of workplaces, with fewer than 250 employees, and employ 73.5% of the workforce (Haskioğlu, 2019). Table 2 below summarizes the distribution of workplaces by size for the past five years.

Table 2: Workplace Ratio by Business Scale

Number of Employees	**2018**	**2019**	**2020**	**2021**	**2022**
1-49 Employees	1.843,154	1.854,270	1.922,763	2.033,094	2.145,334
50-249 Employees	31.753	32.162	33.108	35.480	46.150
SME Total	**1,874,907**	**1,886,432**	**1,955,871**	**2,068,574**	**2,191,484**
250-499 Employees	3.212	3.363	3.644	3.757	4.055
500-999 Employees	1.204	1.238	1.426	1.515	1.597
1000 and above Employees	448	479	570	607	677
Large Scale Total	**4,864**	**5.080**	**5.640**	**5.879**	**6.329**
Total	**1,879,771**	**1,891,512**	**1,961,511**	**2,074,453**	**2,197,813**

Source: Derived from SGK Statistics Annuals (2018, 2019, 2020, 2021, 2022). Access: address:http://www.sgk.gov.tr/wps/portal/sgk/tr/kurumsal/istatistik/sgk_istatistik_yilliklari (Date of Access: 28.02.2024)

As seen in Table 2, 99% of businesses in Turkey are SMEs. Table 3 summarizes the employment rates by business size for the past five years.

Table 3: Employment Rates by Business Scale

Number of Employees	**2018**	**2019**	**2020**	**2021**	**2022**
1-49 Employees	8.277,908	8.211,153	8.618,871	9.122,998	9.737,837
50-249 Employees	3.152,394	3.378,522	3.294,545	3.534,372	3.802,685
SME Total	**11.430,302**	**11.589,675**	**11.913,416**	**12.657,370**	**13.540,522**
250-499 Employees	1.102,187	1.153,781	1.246,328	1.288,923	1.391,666
500-999 Employees	808.124	833.609	970.049	1.032,813	1.092,141
1000 and above Employees	888.557	907.851	1.073,630	1.163,393	1.308,662
Large Scale Total	**2.798,868**	**2.895,241**	**3.290,007**	**3.485,129**	**3.792,469**
Total	**14.229,170**	**14.484,916**	**15.203,423**	**16.142,499**	**17.332,991**

Source: Derived from SGK Statistics Annuals (2018, 2019, 2020, 2021, 2022). Access: address:http://www.sgk.gov.tr/wps/portal/sgk/tr/kurumsal/istatistik/sgk_istatistik_yilliklari (Date of Access: 28.02.2024)

As Table 3 illustrates, 78% of employees in Turkey were employed in SMEs in 2020. SMEs are the most affected by the consequences of occupational accidents (Alper &Arslandere, 2016). Various factors contribute to this trend. Generally, as businesses expand, the frequency of accidents tends to decrease. Factors such as improved planning, better organizational structure, the presence of dedicated OHS departments, easier access to health service providers, and increased auditability by state institutions play a role in this decline (McVittie et al., 1997). Additional factors include outdated machinery and equipment in SMEs, which contribute to a higher number of occupational accidents (Uysal et al., 2005). The relatively low accident rate in larger businesses can also be attributed to better OHS management practices.

Additionally, SMEs' older technology and equipment and the inability to implement protective technologies due to financial constraints contribute to the heightened risk of accidents (Engin, 2014; Gökbayrak, 2014). Furthermore, the relatively minor workforce in SMEs often requires employees to perform multiple tasks throughout the workday, exposing them to more risks and hazards than employees in larger organizations (Aybek et al., 2001). In Turkey, it is also noted that SMEs suffer from a lack of adequate inspection and control of OHS practices (Yaşar &Saraçoğlu, 2021), which significantly contributes to the higher occurrence of occupational accidents in these businesses (Alper &Arslandere, 2016).

Effective resource utilization and cost reduction are essential in today's competitive environment, especially within SMEs. As a primary resource, employees are particularly important in this regard (Kahya et al., 2019). Protective and preventive measures must be implemented to ensure OHS and create healthy, safe working environments, especially in SMEs where occupational accidents are most prevalent. Personal Protective Equipment (PPE) is one of the most crucial safeguards against risks that cannot be eliminated at their source, thus improving the overall work environment and ensuring employee safety.

According to regulations, employees are responsible for adequately wearing PPE, attending training sessions on PPE usage, ensuring the maintenance and cleanliness of their equipment, and notifying the appropriate authorities when PPE needs repair or replacement (RG, 2019). Employers, on the other hand, are tasked with conducting thorough hazard assessments, selecting suitable PPE based on employee input and the nature of the risks involved, providing the necessary PPE to employees, offering training on PPE usage, and ensuring retraining when changes occur in the workplace or the type of PPE (RG, 2019). Both employees and employers must fulfill their respective roles to maintain the effectiveness of PPE. At this point, the significance of a safety culture within the workplace becomes evident.

The management attitude towards OHS plays a crucial role in developing a safety culture within an organization. In large enterprises, where safety is often integrated into the corporate culture, managers are more likely to support safety initiatives through regular training, safety audits, and the implementation of safety protocols (Patel, 2020). In contrast, SMEs focus on compliance with legal requirements without prioritizing creating a robust safety culture (Singh, 2021).

Research indicates that creating a safety culture is fundamental to achieving a healthy and safe working environment (Bayyurt &Ekşi, 2021). Safety culture refers to the collective values, attitudes, competencies, and behavioral patterns of individuals and groups, which in-

fluence the adequacy, style, and persistence of an organization's health and safety programs (IAEA, 1991). The International Atomic Energy Agency (IAEA) identifies three stages in the development of safety culture: (1) Safety is based on rules and regulations, (2) Safety is an organizational goal, and (3) Safety is continuously improvable (IAEA, 2002). A safety culture within a company is evident through factors such as safety training, a clear safety priority, safety communication, employee participation in safety practices, and management's commitment to safety (Garrigou et al., 2020). Key dimensions of safety culture include management engagement (Muniz et al., 2007), safety priority (Cox &Flin, 1998), safety communication and training (Neal et al., 2000), safety awareness and competence (Lin et al., 2008), employee engagement (Muniz et al., 2007), and a reporting culture (Havold and Nesset, 2009). Numerous studies have highlighted the impact of safety culture on employees' safe behavior, with a common conclusion that employees' perceptions of safety culture significantly influence their safety behavior (Garrigou et al., 2020).

Safe behavior can be categorized into safety compliance and participation (Neal et al., 2000). The level of awareness regarding safe behavior is influenced by corporate culture, management incentives, trust in practices, safety awareness, and competence (Wentz, 1998; Neal et al., 2000). Safe behavior is considered a primary factor in preventing occupational accidents (Kahya et al., 2019; Garrigou et al., 2020). Given the higher frequency of occupational accidents in SMEs compared to large enterprises, coupled with the lack of protective equipment in case of accidents, it suggests that a culture of PPE usage is not as prevalent in SMEs. This observation forms the basis of the methodology section, which seeks to examine the impact of business scale on the culture of PPE usage.

The current study is distinctive for two reasons. First, while other studies in the literature examine the use of PPE within the broader context of safety culture at a macro level, this research focuses specifically on the micro-level culture of PPE usage. Second, while existing studies predominantly address the reasons behind the underuse of PPE, this study centers on the effect of business scale on PPE usage culture. By comparing PPE usage culture in SMEs and large-scale enterprises, the study aims to highlight the differences between the two.

The study will contribute to the literature by elucidating the influence of business scale on the culture of PPE usage. The findings will offer practical insights, particularly regarding why employees in SMEs in Turkey are less likely to use PPE compared to their counterparts in large-scale enterprises. These insights will serve as a valuable guide for SME employers and employees, as well as OHS professionals and researchers in the field.

Despite its contributions, the study does have certain limitations. Notably, there is a lack of direct research within the existing literature, a limitation addressed through an exploratory approach. Another challenge is the difficulty in reaching knowledgeable participants willing to share their insights. This issue was mitigated by conducting in-depth interviews with participants identified through snowball sampling

3. Material and Methods

Given the experimental nature of the study and the intertwined relationship between individual perception and the culture of PPE usage, a qualitative research method was chosen.

The study aims to explore the impact of business scale on the culture of PPE usage, and as the case and context are interconnected, a case study research design was developed. The research process was structured by creating a literature review and conceptual framework alongside identifying themes, codes, and categories. Six overarching themes were selected from the literature to establish the general framework for the study. A total of 86 codes were identified, which were subsequently grouped into 15 categories. Based on these themes, codes, and categories, 18 interview questions were designed. These questions were then reviewed by a professor with expertise in the field, and the final version was finalized.

The target population of the study comprises occupational safety experts. By interviewing these experts, the study aims to gain insights from individuals with experience in both SME and large-scale enterprises, allowing them to compare the two scales. The sampling method was snowball sampling, through which 20 occupational safety experts who met the established criteria were selected for participation. The inclusion criteria for the sample were as follows: having extensive experience as an occupational safety specialist, having worked in both SMEs and large-scale enterprises, holding various certifications, being willing to share their insights, and being directly involved with the subject matter. The sample size was limited to 20 participants, as saturation was reached when responses to the interview questions began to exhibit repetition.

The study employed the interview technique, which is considered the most effective method for understanding individuals' perceptions and definitions (Punch, 2016). A semi-structured interview format was used to facilitate an in-depth exploration of participants' perceptions during the interviews. Each interview lasted approximately two hours, with 38 hours spent conducting all interviews. Following the transcription of the interviews, which amounted to 216 pages of text, the data were analyzed using MAXQDA software. Content analysis was employed using a code-subcode framework to analyze the data systematically.

4. Results

The demographic characteristics of the participants in the sample are summarized in Table 4.

As seen in Table 4, the participants comply with the determined criteria. It is seen that most of the participants have a class B certificate. This is followed by Class A and Class C. Thus, it is seen that the opinions of occupational safety experts from all document classes are taken. It is seen that most of the participants are joint health and safety unit (JHSU) employees. It is seen that the rest are occupational safety experts as company employees. This is important because it reflects the point of view of both JHSU and company employees. In this way, the study data has been enriched with the observations of those who work in several companies, as well as the application of a single company. Finally, it is seen that the participants cover almost all sectors. Thus, we can say that the study data gained validity in general, not for a single industry.

Table 4: Participant Demographics

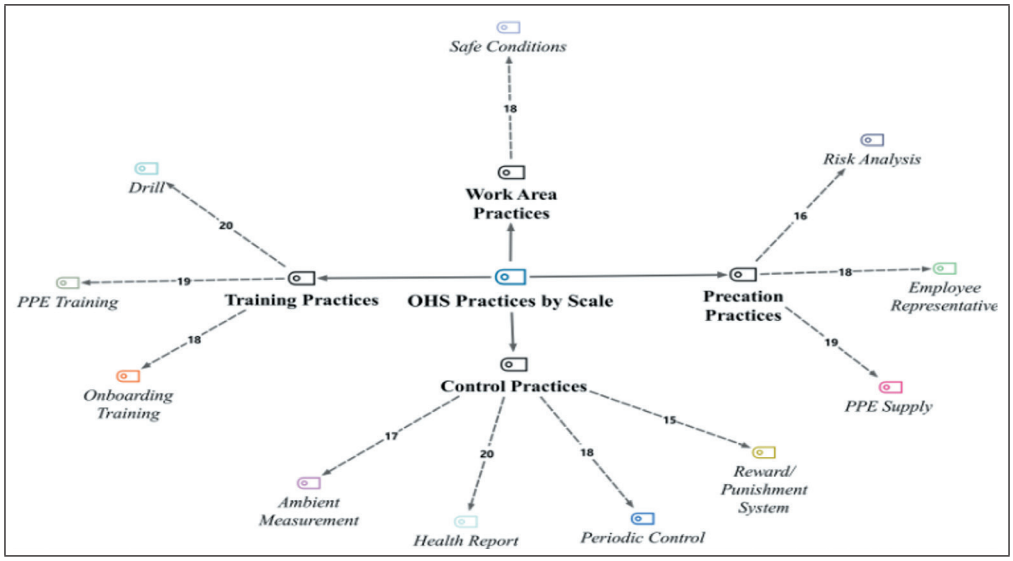
Participant	Age	Education Level	OHS Expertise (Year)	Expert Sertificate Class	Work Place	Sector
K1	35	Postgraduate	7	B	JHSU	Metal, Automotive, Construction
K2	36	Graduate	8	A	JHSU	Petroleum, Banking, Aviation
K3	41	Postgraduate	8	A	Company	Heating and Air Conditioning
K4	45	Graduate	11	B	Company	Automotive
K5	29	Postgraduate	10	A	Company	Metal
K6	37	Graduate	10	B	Company	Heating and Air Conditioning
K7	42	Graduate	5	B	Company	Construction
K8	45	Graduate	11	B	Company	Automotive
K9	47	Postgraduate	12	A	JHSU	Forest Products, Food, Textile
K10	40	Associate Degree	11	C	JHSU	Printing, Hunting, Shooting
K11	46	Postgraduate	10	B	JHSU	Chemistry, Metal, Shipyard
K12	52	Associate Degree	15	A	JHSU	Refinery, Recycling, Construction
K13	43	Graduate	5	B	JHSU	Pallet, Catering, Media
K14	39	Postgraduate	7	B	JHSU	Trade, Plastic, Health, Textile
K15	44	Graduate	7	C	Company	Automotive
K16	49	Graduate	7	C	Company	Textile
K17	32	Graduate	8	B	Company	Food
K18	28	Graduate	5	B	JHSU	Hotel, Construction, Food
K19	49	Graduate	8	B	JHSU	Production, Health, Construction
K20	34	Graduate	8	B	JHSU	Livestock, Water, Service Sector

The research findings were reached using the code sub-code sections model within the framework of content analysis with MAXQDA 2020 on the data obtained from the interviews. The numbers above the arrows in the models show the coded sections in terms of the total number of participants' statements on the subject.

4.1. OHS Practices by Scale

This theme has fifteen codes and four categories. Figure 1 shows the code sub-code sections model of large-scale enterprises.

Figure 1: OHS Practices by Scale for Large-Scale Enterprises



As seen in Figure 1, all participants mention about safe conditions in terms of work area practices. In precaution practices, almost all participants mention the PPE supply, employee representative, and risk analysis. While all the participants mention about the health report on behalf of the control practices, all the participants mention about the drill in the name of the training practices. As an example, expressions like person K2 and K4 are used:

*"Large businesses care about the **drill** point. Or they ask for a **health report** when recruiting. They provide training such as **onboarding training, PPE training**."* (**K2**)

*"…. besides the **drill**, they also perform their **periodic controls**. Here, especially the **employee representative** is elected. It is essential that the employee representative is one of their own doing the same job…"* (**K4**)

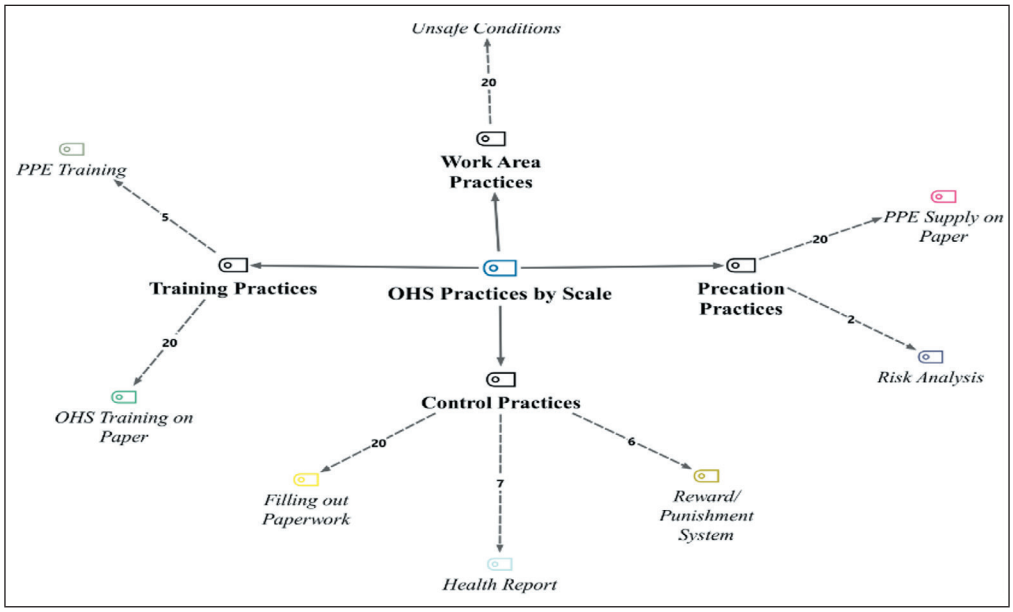
It is understood that mandatory practices such as drills, ambient measurement, PPE supply, and safe conditions are carried out on behalf of OHS practices in large-scale enterprises. In addition, it is seen that necessary practices are also carried out, although they are not obligatory, such as the reward-punishment system, an employee representative. Based on the findings, it is seen that OHS Practices are carried out in large-scale enterprises. Figure 2 shows the code sub-code sections model of SMEs.

As seen in Figure 2, all participants mention about unsafe conditions in terms of work area practices. On behalf of the precaution practices, all the participants mention about the PPE supply on paper, while two people mention about risk analysis. It determined that while all the participants mention about filling out paperwork on behalf of control practices, only a few mention about the health report and reward-punishment system. Finally, it is seen that all participants mention about OHS training on paper in the name of training practices. As an example, expressions like person K9 and K15 are used:

*"There is a work area in which **unsafe conditions** prevail in SMEs. Even **OHS training is given on paper**. Again, **on paper, the PPE supply on**. So, it looks like he gave PPE, but he doesn't. They have a system based on **filling out paperwork**, including health reports."* (**K9**)

*"…The situation in SMEs is just the opposite. **PPE is given on paper, training is on paper**; in short, visits turn into a **filling out paperwork** marathon. But some do not neglect even **risk analysis**. It should also be noted."* (**K15**)

Figure 2: OHS Practices by Scale for SMEs



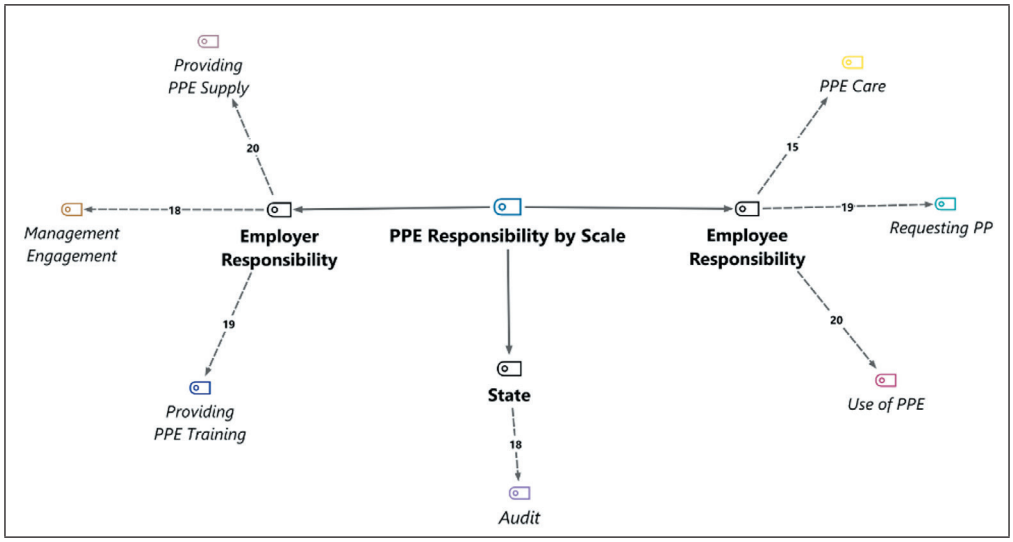
Striking statements such as PPE supply on paper and OHS training on paper on behalf of OHS practices in SMEs draw attention. This finding gives the impression that there is a system in which OHS practices are ignored, and obligations are fulfilled in SMEs. This situation gives the impression that legal responsibilities are tried to be avoided by showing that legal obligations are fulfilled. The fact that unsafe conditions have come to the fore supports our view. Based on the findings, it is seen that OHS Practices in SMEs are carried out on paper.

When the OHS, practices applied in large-scale enterprises and SMEs are compared, it is seen that even the necessary applications are made in addition to the mandatory practices on large-scale enterprises. On the other hand, SMEs seem to adopt a sanction-oriented attitude by making applications on paper, eager to save the day.

4.2. PPE Responsibility by Scale

This theme has nine codes and three categories. Figure 3 shows the code sub-code sections model of large-scale enterprises.

Figure 3: PPE Responsibility by Scale for Large-Scale Enterprises



As seen in Figure 3, almost all participants mentioned that the audit, which is the state's responsibility, is carried out. On behalf of employee responsibility, while all participants mention about the use of PPE, almost all participants also mentioned requesting PPE. In the name of employer responsibility, all participants mention about providing PPE supply. It is also seen that almost all participants mentioned providing PPE training and management engagement. As an example, expressions like person K8 and K12 are used:

*"**PPE is provided** or **used** in large-scale enterprises. They even provide **PPE training**. Suppose PPE is missing; the employee is already **requesting** it. There is such a culture already established."* (**K8**)

*"Large-scale enterprises **supply PPE**. **State controls** are stringent. The **employee uses and cares for PPE. Management** sets an example by using PPE."* (**K12**)

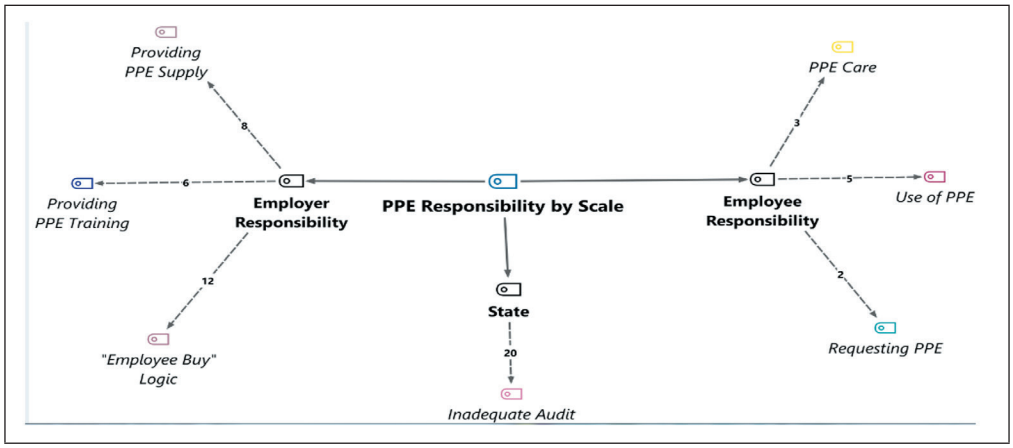
It is understood that in the name of PPE responsibility in large-scale enterprises, the state fulfills its basic responsibilities such as audit, the use of PPE by the employee, and the supply of PPE by the employer. In addition, it is seen that even the necessary responsibilities such as the employer's PPE application training and management engagement, such as the employee's request for PPE and PPE care, are fulfilled, even if they are not essential. Based on the findings, it is seen that the PPE Responsibility is fulfilled by the parties in large-scale enterprises. Figure 4 shows the code sub-code sections model of SMEs.

As shown in Figure 4, all the participants mention that the audit, which is under the state's responsibility, is carried out inadequately. On behalf of employee responsibility, few participants said the use of PPE, requesting PPE, and PPE care. While almost half of the participants mention about the "employee buy" logic on behalf of employer responsibility, very few of them mention PPE supply and application training. As an example, expressions like person K13 and K19 are used:

*"First of all, the **state does not control enough**… There is a logic in SMEs that the **employee should buy** the PPE himself. Yes, the **employer provides PPE**, but not suitable for the job. Sometimes we witness that the **employee requests PPE** here as well."* (**K13**)

"***Controls are inadequate**. The employer expects the **employee to buy the PPE.** Some **employees**, of course, **use PPE**. But it's rare; it's not usually used like this."* (**K19**)

Figure 4: PPE Responsibility by Scale for SMEs



In the name of PPE Responsibility in SMEs, it is noteworthy that the state's audit function is inadequate. This finding gives the impression that the PPE responsibility in SMEs is not fully and correctly fulfilled from top to bottom. The rationale of "employee buy" in the supply of PPE, which is the primary responsibility of the employer, supports this view. Based on the findings, it is seen that the parties do not fulfill the PPE Responsibility in SMEs.

When PPE responsibility in large-scale enterprises and SMEs are compared, it is seen that even the necessary responsibilities are fulfilled in addition to the primary responsibilities on a large scale. On the other hand, SMEs seem to be deficient in fulfilling the responsibilities of all parties, from the state to the employee.

4.3. Factors Affecting Use of PPE by Scale

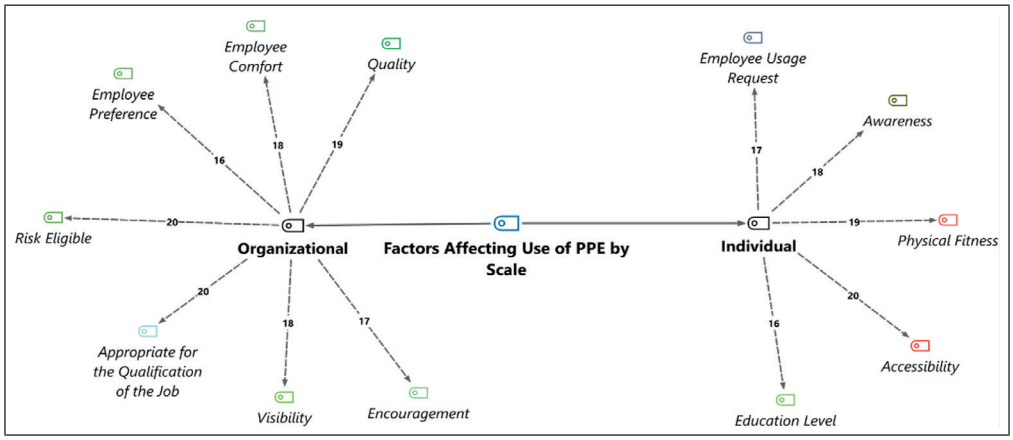
This theme has twenty codes and two categories. Figure 5 shows the code sub-code sections model of large-scale enterprises.

As seen in Figure 5, all participants mention about accessibility in individual factors. It determined that this was followed by physical fitness, awareness, employee usage request to use, and education level. In organizational factors, all participants mention about compliance with risk eligible and appropriate for qualification of the job. It has been determined that this is followed by organizational factors such as quality, visibility, and employee comfort. As an example, expressions like person K1 and K10 are used:

*"In large scales**, PPE is accessible**, **suitable for the nature of the work and the risk.** The employee is in the foreground. You can understand this from the **quality** of PPE and its **employee preference**."* (**K1**)

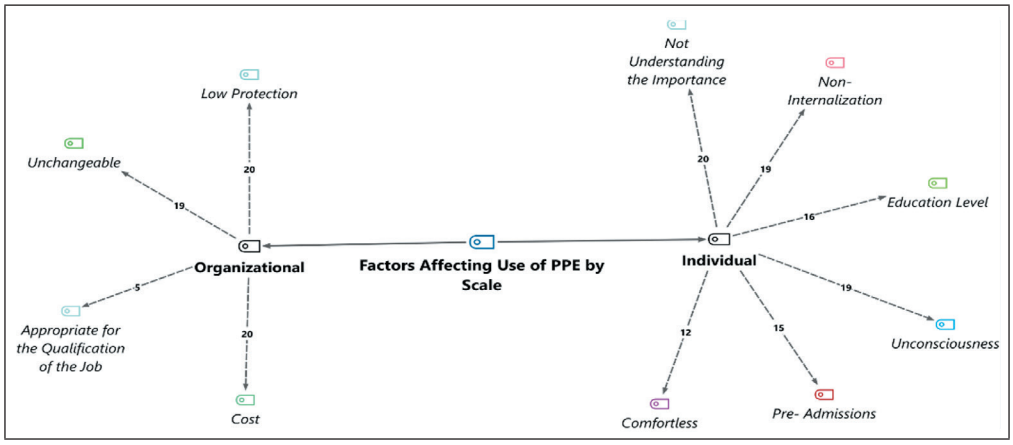
*"…PPE is **accessibility**. You see that it is suitable for both the **appropriate for the qualification of the job** and the **risk eligible**. It is also **physical fitness** for the employee. Another point we would like to draw attention to here is that the **education level is higher** here. The level of education is significant for raising **awareness**."* (**K10**)

Figure 5: Factors Affecting Use of PPE for Large-Scale Enterprises



Considering the individual factors affecting the use of PPE in large-scale enterprises, it is seen that the aspects that dominate the user side, such as physical fitness, come to the fore. This situation gives the impression that the use of PPE in large-scale enterprises is handled from a human-oriented perspective. When the organizational factors affecting the use of PPE in large-scale enterprises are examined, it is seen that the user-oriented aspects, such as employee preference, come to the fore. Thus, we can say that people-orientedness affects the use of PPE in large-scale enterprises. Based on the findings, it is seen that the Factors Affecting the Use of PPE in large-scale enterprises are human-oriented. Figure 6 shows the code sub-code sections model of SMEs.

Figure 6: Factors Affecting Use of PPE for SMEs



As seen in Figure 6, all participants mention about not understanding the importance of individual factors. It has been determined that this is followed by unconsciousness, non-internalization, pre-admission, and comfortless. In organizational factors, all participants mentioned low protection and cost. It determined that the unchangeable factor followed this. A striking point here is the determination that five participants mentioned the factor appropriate for the qualification of the job. As an example, expressions like person K7 and K14 are used:

"The main problem with SMEs is that they do ***not understand the importance*** *of using PPE.* ***Unconsciousness*** *is at its peak. The employer already sees this as a* ***cost****. He buys the material with low protection because what he is doing is cheap.* ***It does not even allow the employee to change the PPE*** *he uses over time."* (**K7**)

"…for one thing, they ***don't understand its importance****. They* ***unconsciously*** *see it as a cost and stick to low-protection equipment. Also, you are dealing with the* ***pre-admissions*** *that nothing will happen to them here and that my master did not use it. He did* ***not internalize*** *the use of PPE that…"* (**K14**)

Individual factors affecting PPE use in SMEs are explained by the factor of not understanding its importance. This statement gives the impression that there is a lack of information about OHS regarding PPE. The fact that unconsciousness and not internalizing factors are at the forefront supports this impression. Here, the presuppositions that include expressions such as "I saw this from my master" also appear as a significant obstacle to PPE use. When we look at the organizational factors affecting PPE use in SMEs, the cost part draws attention. It is stated that the employer sees this as a cost item. It also indicated that they wanted to avoid this expense. This situation leads us to the idea of lack of knowledge again. Based on the findings, it is seen that the Factors Affecting the Use of PPE in SMEs are at the level of ignorance and cost oriented.

When the factors affecting the use of PPE in large-scale enterprises and SMEs are compared, the people-oriented perspective is effective on large-scale enterprises. In SMEs, on the other hand, it is seen that the lack of information and cost-oriented perspective are effective in not understanding the importance of OHS.

4.4. Safety Culture by Scale

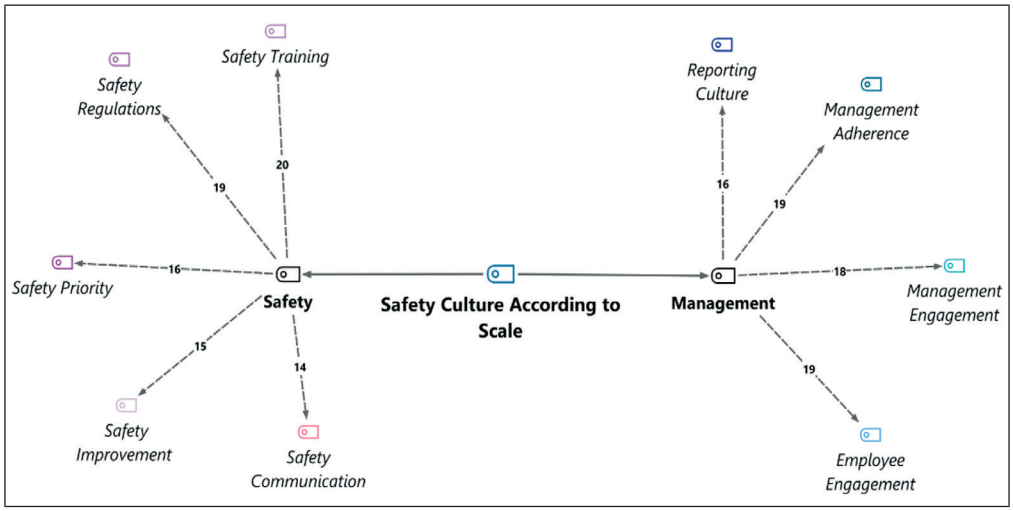
This theme has eleven codes and two categories. Figure 7 shows the code sub-code sections model of large-scale enterprises.

As seen in Figure 7, almost all participants mention about management adherence and employee engagement in terms of management. This is followed by management engagement and reporting culture. In terms of safety, all participants mention about safety training. It is seen that this is followed by statements such as safety regulation, safety priority. As an example, expressions like person K6 and K11 are used:

"There are ***safety regulations*** *such as* ***safety training*** *on a large-scale enterprise. This is where you see* ***management engagement, adherence****, and even* ***employee engagement****. We can also say that the reporting culture is fully established. This ensures that everything is done on time."* (**K6**)

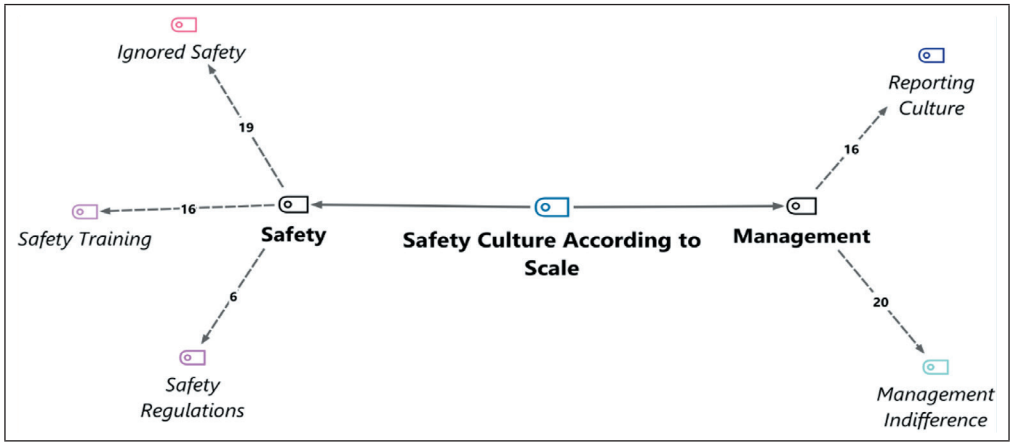
*"Here we can talk about **safety training, safety regulations, safety communication,** and even **safety priority**…there is **employee engagement** as there is **management engagement** in practices…"* (**K11**)

Figure 7: Safety Culture for Large-Scale Enterprises



In large-scale enterprises, it is seen that engagement and adherence in management practices are at the forefront in the name of safety culture. This situation gives the impression that the importance of the subject is understood. It is seen that safety practices are at the forefront, such as training and safety regulations. This situation gives the impression that a structure has been created to enable the concept of safety to be established and even transformed into a culture. Based on the findings, it is seen that the necessary steps have been taken to create a Safety Culture in large-scale enterprises. Figure 8 shows the code sub-code sections model of SMEs.

Figure 8: Safety Culture for SMEs



As seen in Figure 8, all participants mention about management indifference in terms of management. The reporting culture follows this. In terms of safety, almost all respondents mention about ignored safety. This is followed by safety training. It is seen that nearly a quarter of the participants express the safety regulations. As an example, expressions like person K12 and K18 are used:

"It is not right to talk about the safety culture in SMEs. We can say that there is more of a ***reporting culture.*** *Everything is in writing, but not in reality practices. Here we can talk about* ***ignoring safety*** *and* ***management that does not care about it.*** *This is everything…"* (**K12**)

"The most striking thing in SMEs is the ***indifference of the management,*** *both in terms of OHS and in terms of the use of PPE… here,* ***safety is ignored.*** *But they are not aware of that."* (**K18**)

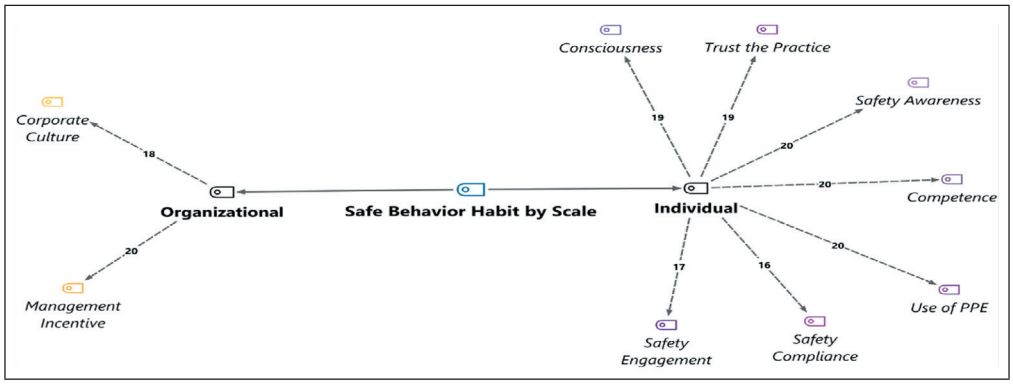
In SMEs, it mentioned management's indifference in the name of safety culture. This statement gives the impression that cannot mentioned the safety culture in SMEs. Likewise, the reporting culture is limited to doing business on paper supports this impression. Again, ignoring safety distracts us from the expectation of safety culture in SMEs. Based on the findings, it is seen that the Safety Culture is not widespread in SMEs, and it is seen that the mistakes in the basic point of view are an obstacle to its general use.

When safety culture in large-scale enterprises and SMEs are compared, it is seen that necessary steps have been taken to establish the concept of safety culture on a large-scale enterprise. In SMEs, it is seen that the safety culture does not become widespread, and the mistakes in the basic point of view prevent its spread.

4.5. Safe Behavior Habit by Scale

This theme has eleven codes and two categories. Figure 9 shows the code sub-code sections model of large-scale enterprises.

Figure 9: Safe Behavior Habit for Large-Scale Enterprises



As seen in Figure 9, all participants mention about safety awareness, use of PPE, and competence in the name of safe behavior individually. This is followed by trusting in the prac-

tices. In organizational terms, all participants mention about management incentives. The corporate culture follows this. As an example, expressions like person K3 and K7 are used:

*"…I think the keyword for large-scale enterprises is **competence**. There is a **management incentive** with a developed **corporate culture**; what more can you ask for. The employee becomes **aware of safety** and tends to display safe behavior… He **uses his PPE**."* (**K3**)

*"There is a **corporate culture** in large-scale enterprises. Safe behavior is already **encouraged by management.** It develops **safety awareness** by **relying on the practices** of the employee. The result is the **use of PPE**."* (**K7**)

In the name of safe behavior in large-scale enterprises, concepts such as individual awareness and competence come to the fore. This situation leads us to be at a level of consciousness that will understand the importance of the subject. It gives the impression that large-scale enterprises have a high level of knowledge on the subject. Mentioning the concepts of management incentives and corporate culture also supports this idea. Based on the findings, it is seen that the necessary steps for Safe Behavior have been taken in large-scale enterprises. Figure 10 shows the code sub-code sections model of SMEs

Figure 10: Safe Behavior Habit for SMEs

As seen in Figure 10, almost all participants mention about not using PPE for safe behavior. In organizational terms, all participants mentioned ignoring. As an example, expressions like person K5 and K13 are used:

*"The situation in SMEs is the opposite. There is a state of **ignorance**. In other words, the employer sees that the employee does not use PPE or does not comply with the OHS rules. But he doesn't even say anything. The result is that the employee does **not use PPE**."* (**K5**)

*"There is a state of **ignorance** in SMEs… the employee does **not use PPE**. Management doesn't see this. Is that possible?"* (**K13**)

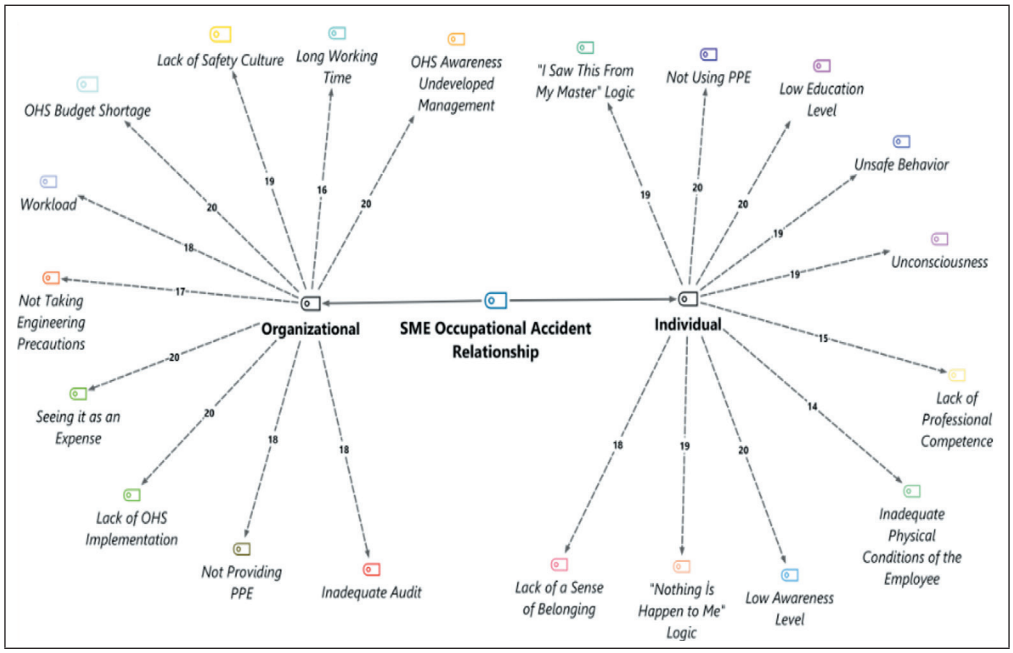
It is mentioned that not using PPE and ignoring it is safe behavior in SMEs. These statements alone give the impression that the necessary steps for safe behavior in SMEs are not taken. The use of PPE is, of course, the responsibility of the employee. However, it is the responsibility of the management to follow it. In this respect, the expression of ignoring gives the impression that cannot mentioned safe behavior in SMEs. Based on the findings, it is seen that the necessary steps for Safe Behavior in SMEs are not taken.

When the safe behavior in large-scale enterprises and SMEs are compared, it is seen that the necessary steps for safe behavior on a large-scale enterprise have been taken. In SMEs, on the other hand, it is seen that the necessary steps for safe behavior are not taken.

4.6. SMEs Occupational Accident Relationship

This theme has twenty codes and two categories. Figure 11 shows the code sub-code sections model.

Figure 11: SMEs Occupational Accident Relationship



As seen in Figure 11, all participants mention about not using PPE, low education level, and low awareness level in the name of SME work occupational relationship. This is followed by almost all participants' "I saw this from my master" logic, unsafe behaviors, unconsciousness, and "nothing happens to me" logic. Organizationally, all the participants mention the OHS awareness undeveloped management, the OHS budget shortage, seeing it as an expense, and the lack of OHS implementation. This is followed by almost all participants' lack of safety culture, workload, not providing PPE, and inadequate audit. As an example, expressions like person K16, K17, and K20 are used:

*"**PPE is not used** in SMEs. Employee **education level** and, accordingly, the **awareness level is low**. The **management's OHS awareness is not developed**, and the **OHS budget is low**. As a result, **OHS implementation is also lacking.** It is perceived as a cost for the employer. I **saw this from my master** says he saw it like that. It is so **unconscious**… **engineering precautions are not** taken here either."* (**K16**)

*"SMEs… there is no **OHS awareness in management**. The **OHS budget is low**; it sees it as a **cost** anyway. As a result, **OHS practices are also few**. His **employee has a low awareness level**, a **low education level** and does **not use PPE**. We are faced with an environment where **unsafe behaviors** dominate. This may be because they are distracted from many **workloads***

*and **long working time**. Or it could be the embodiment of saying that **nothing happens to me**… after all, there is no use of PPE."* (**K17**)

*"…there is a **lack of OHS awareness in the management. OHS practices are lacking**, but its **budget is also low.** He sees this as a cost and avoids it…the **education level of the employees is low**. Accordingly, the **use of PPE is also low**. Because the **level of awareness is low**. Of course, there is also the case of **not providing PPE**. Here, deficiencies such as **corporate culture** and **lack of sense of belonging** are seen here. Another reason is that the **audit is not done adequately**."* (**K20**)

When the SMEs occupational accident relationship is examined, it is seen that basic points such as lack of OHS practice, not using PPE, not providing PPE, lack of safety culture, unsafe behaviors are missing in parallel with the findings obtained in other themes. Here, it is understood that there are deficiencies, especially from top to bottom. The management's lack of awareness on OHS ensures that they do not see the issue beyond the cost item. Thus, as little budget as possible is allocated for OHS. Even PPE is not provided if necessary. At this point, employees do not use PPE because of the indifference of the management, because their education level and awareness level is low, PPE is not provided, their professional competence is lacking, or because they develop logic such as "I saw this from my master," "Nothing happens to me". The lack of corporate culture and a sense of belonging are also important factors here. While all these paves the way for unsafe behaviors, on the other hand, they create an unsafe working area. Finally, the division of work is greater in large-scale enterprises as the number of employees is high. In SMEs, the situation is the opposite. Since the workload and working time are quite high here, it gives the impression that they are faced with reasons such as distraction, and their potential to exhibit unsafe behavior increases. Technical reasons such as insufficient audit and outdated technology of machines also create an unsafe working area. Based on the findings, it is seen that the SME Occupational Accident Relationship has a negative meaning.

5. Discussion

The findings of this research indicate that even though legal requirements such as the provision of personal protective equipment (PPE) and occupational health and safety (OHS) training are technically implemented within SMEs, they often appear to be fulfilled superficially, primarily driven by the desire to meet regulatory obligations rather than to prioritize human health and safety. This suggests that OHS practices in SMEs tend to be more focused on compliance with legal mandates rather than the well-being of employees.

Furthermore, the absence of effective state oversight, such as audits, within SMEs conveys the impression that top-down responsibilities are not adequately or appropriately executed. This reflects a broader issue in which implementing PPE-related responsibilities in SMEs is again driven by the need to meet legal requirements rather than a genuine concern for employee safety.

Factors such as the lack of understanding regarding the importance of PPE in SMEs point to a significant knowledge gap. The prevailing perception of PPE further supports this as a mere cost rather than an essential element of workplace safety. The failure of both employers and employees to recognize the significance of PPE results in incomplete and insufficient implementation of safety measures.

Additionally, the research suggests that misconceptions at the core of OHS practices hinder the establishment of a safety culture within SMEs. It isn't easy to expect employees to engage in safety practices when the management does not fully support or understand their importance. The absence of a shared awareness between management and employees creates a fundamental barrier to cultivating a safe behavior culture in the workplace. This reluctance to adopt and promote safety practices is a significant obstacle to developing a lasting safety culture within SMEs.

6. Conclusion

In large-scale enterprises, management attitudes towards occupational health and safety (OHS) are generally characterized by positive factors such as management engagement, adherence to safety standards, provision of personal protective equipment (PPE), and ongoing training. Employees in these enterprises exhibit positive behaviors, including safe practices, awareness, and active participation. The role of the state is primarily expressed through regular audits. Conversely, in small and medium-sized enterprises (SMEs), the attitudes of management, employees, and the state are often framed negatively. Key issues are prevalent in SMEs, including inadequate implementation of OHS measures, failure to provide or use PPE, lack of a safety culture, and unsafe behaviors.

Specifically, management attitudes in SMEs are often described negatively, such as ignorance, indifference, viewing OHS practices as a cost, and failure to provide PPE. Employees' attitudes are similarly negative, including low levels of education, awareness, and professional competence and a tendency to follow outdated practices such as the "I saw this from my master" mentality or the "nothing happens to me" mindset, which leads to non-compliance with PPE usage. The state's role is also seen as insufficient, particularly in auditing. Based on these findings, it can be concluded that "business scale significantly influences the culture of PPE usage."

Large-scale enterprises are more likely to take the necessary steps to foster a PPE usage culture, aided by factors such as a well-established corporate culture and employee belonging. In contrast, SMEs are notably lacking in these areas, and it would be inaccurate to assert that a widespread PPE culture exists within SMEs. There are fundamental gaps in both perspective and practice that hinder the development of such a culture.

However, it is important to note that some essential practices, such as risk assessments, are being carried out in SMEs, signaling the potential for improvement in fostering a PPE culture. The fact that certain practices are being implemented, albeit to a limited extent, suggests that SMEs can enhance their approach to PPE usage.

To reduce occupational accidents in SMEs, raising awareness about OHS practices is crucial, particularly regarding the importance of PPE usage. This process should begin with the state intensifying audits and imposing stricter sanctions on SMEs. The next step should involve raising employer awareness to prevent the perception of OHS practices as mere costs, emphasizing the long-term financial benefits of preventing accidents through proper PPE provision. Finally, enhancing employee awareness and eliminating misconceptions surrounding PPE is essential, ensuring they recognize its importance.

This study has highlighted that the business scale significantly shapes the culture of personal protective equipment (PPE) usage within enterprises. In large-scale enterprises, management is typically more engaged in OHS practices, emphasizing safety through PPE, regular training, and audits. Employees in these organizations demonstrate higher levels of awareness and compliance with safety practices, as they perceive these measures as integral to their well-being. The state's role in large-scale enterprises, marked by effective audits and regulatory enforcement, further reinforces these practices.

In contrast, SMEs exhibit a distinct set of challenges. Management in SMEs tends to treat OHS measures, including PPE usage, as legal obligations rather than vital safety practices, resulting in a reactive rather than a proactive approach. Employees in SMEs often lack sufficient training, awareness, and motivation to use PPE regularly, which is compounded by outdated attitudes and a lack of a safety-first culture. Furthermore, the state's role in SMEs is less pronounced, with inadequate audits and weak enforcement contributing to the lack of accountability.

The research shows that while certain OHS practices, such as risk assessments, are implemented within SMEs, the overall culture of PPE usage remains underdeveloped. SMEs focus on fulfilling legal requirements rather than embracing a safety culture prioritizing human health and well-being. This highlights a critical gap in the understanding and implementation of OHS practices, with the safety culture in SMEs often limited or absent.

Future studies could explore the barriers to developing a PPE culture in SMEs by examining the perspectives of employees and the state, thereby identifying expanded solutions. Additionally, future research could analyze OHS applications across different business scales, offering an in-depth investigation into the specific practices SMEs are lacking. This approach will make pinpointing key problem areas easier and generating targeted solutions.

The government must enhance its role in promoting OHS practices within SMEs. This can be achieved by increasing inspections, enforcing stricter compliance with regulations, and imposing penalties for non-compliance. Additionally, the state should introduce incentives, such as tax reliefs or grants, to encourage SMEs to invest in PPE and other safety measures. More comprehensive guidelines for SMEs, particularly those under-resourced, would clarify effective OHS practices.

Employers in SMEs should be educated on the long-term financial benefits of investing in employee safety. Often, safety measures are viewed as an additional cost, but a strong safety culture can lead to fewer accidents, lower insurance premiums, and enhanced employee satisfaction and productivity. It is essential to communicate that the potential costs of workplace accidents and legal liabilities far outweigh the cost of PPE and other safety measures.

A comprehensive and continuous training program should be established to raise employee awareness about the importance of PPE and overall workplace safety. Employees need to understand that PPE usage is not only a legal requirement, but also a critical factor in their own health and safety. Training should focus on practical aspects, such as the correct use, maintenance, and disposal of PPE, as well as the importance of safety practices in preventing injuries and fatalities.

Establishing a safety culture in SMEs requires a fundamental shift in attitudes at all organizational levels. Management must lead by example, demonstrating a commitment to safety through consistent actions and a clear focus on the well-being of employees. A participatory approach, where employees are actively involved in safety-related decision-making, can help foster a sense of ownership over OHS practices. Recognizing and rewarding safe behaviors can encourage employees to take safety more seriously.

SMEs can benefit from collaborating with larger enterprises, government bodies, and industry associations to share knowledge and resources related to OHS practices. Through such partnerships, SMEs can access safety programs, PPE supplies, and training workshops, reducing barriers to implementing a comprehensive safety strategy. Collaborative efforts can help SMEs better understand and manage risks specific to their sectors.

Future studies could focus on SMEs' challenges in implementing OHS practices and PPE usage, particularly within different industries and regions. Research could investigate the direct relationship between implementing a safety culture and reducing occupational accidents in SMEs. Furthermore, studies should explore the effectiveness of various intervention strategies, such as safety incentives or peer-to-peer safety programs, to better understand how SMEs can overcome their unique barriers to safety.

In conclusion, the culture of PPE usage in SMEs is significantly influenced by the scale of the business, with large enterprises typically exhibiting a more developed safety culture compared to SMEs. To reduce occupational accidents and enhance safety in SMEs, it is essential to address both the managerial and employee attitudes towards OHS practices. A concerted effort from the government, employers, and employees is required to foster a safety culture beyond mere compliance with legal obligations and protecting human health and well-being. By implementing targeted actions in government regulation, employer awareness, employee training, and safety culture development, SMEs can begin to build a more robust and effective safety environment that will lead to fewer workplace accidents and improved overall productivity.

Ethical Statement

The ethics committee permission for the research was obtained from Sakarya University Ethics Committee. (02/02/2023- Decision no E-61923333-050.99-217502).

Statement of Support and Acknowledgement

This study wasn't supported by any institution.

Conflict of Interest

The author has no conflicts of interest to declare.

Contribution Statement

The authors acknowledged their contribution to this study and approved it for publication.

References

Alper, A., & Arslandere, M. (2016). *KOBİ'lerde işçi sağlığı ve iş güvenliği ve Hyundai yetkili servisinde örnek uygulama*. Uluslararası Katılımlı 16. Üretim Araştırmaları Sempozyumu Bildiri Kitabı, İstanbul, 955-959.

Aybek, A., Aslan, S., & Korlaelçi, M. (2001). Kahramanmaraş ilinde tarım alet ve makinaları imalatı yapan işletmelerin profili ve beklentileri. *Fen ve Mühendislik Dergisi*, *4*(2), 181-195.

Bayyurt, D., & Ekşi, A. (2021). Karayolları sektörü iş sağlığı ve güvenliği uygulamalarında risk ve güvenlik kültürü etkisinin değerlendirilmesi. *HOD, 6*(1), 83-98.

Çalışkan, H. (2017). Sağlık hizmetlerinde kişisel koruyucu ekipman kullanma davranışını etkileyen faktörler. *Hacettepe Sağlık İdaresi Dergisi, 20*(3), 313-328.

Çelik, G., & Temel, C. D. (2018). İnşaat sektöründe kişisel koruyucu donanım kullanımında ödül-ceza uygulamaları. *Çukurova Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi, 33*(4), 197-202.

Çetin, S., & Beğik, V. (2021). İş sağlığı ve güvenliği'nde sürdürülebilir kişisel koruyucu donanım politikalarının uygulanması. *UMAGD*, *13*(1), 202-211.

Cohen, A. (2021). Exploring safety culture in small and medium-sized enterprises: Challenges and opportunities. *Journal of Occupational Health, 63*(1), 45-55.

Cox S., & Flin, R. (1998). Safety culture: Philosopher's stone or man of straw? *Work and Stress, 12*(3), 189-201.

Demirbilek, T., & Çakır, Ö. (2008). Kişisel koruyucu donanımı etkileyen bireysel ve örgütsel değişkenler. *Dokuz Eylül Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *23*(2), 173-192.

Engin, T. (2014). *6331 sayılı kanun çerçevesinde iş sağlığı ve güvenliği hizmetlerinin desteklenmesi*. (Yayımlanmamış Yüksek Lisans Tezi). Uludağ Üniversitesi Sosyal Bilimler Enstitüsü, Bursa.

Fabiano, B., Curro, F., & Pastorino, R. (2004). A study of the relationship between occupational ınjuries and firm size and type in the Italian Industry. *Safety Science*, *42*, 587-600.

Garrigou, A., Laurent, C., Berthet, A., Colosio, C., Jas, N., Daubas-Letourneux, V., Jackson-Filho, J., Jouzel, N., Samuel, O., Baldi, I., Lebailly, P., Galey, L., Goutille, F., & Judon, N. (2020). Critical review of the role of PPE in the prevention of risks related to agricultural pesticide use. *Safety Science*, *123,* 1-24. DOI: 10.1016/j.ssci.2019.104527

Gökbayrak, Ş. (2014). *Küçük ve orta ölçekli işletmelerde risk gruplarına yönelik sosyal politikalar*. Retrieved from: http://www.isguvenligi.net/kucuk-ve-orta-olcekli-isletmelerde-riskgruplarına-yonelik-sosyal-politikalar/ Accessed 14.09.2022.

Gurses, A., & Rantanen, J. (2020). The state of safety culture in SMEs: Current practices and future directions. *Safety Science, 128,* 104-119.

Haskioğlu, F. (2019). *Mikro ve küçük ölçekli işletmelerde çalışanların çalışma koşulları*. (Yüksek lisans tezi). https://tez.yok.gov.tr sayfasından erişilmiştir. Erişim Tarihi: 15.09.2022

Havold, J. I., & Nesset, E. (2009). From safety culture to safety orientation: Validation and simplification of a safety orientation scale using a sample of seafarers working for norwegian ship owners. *Safety Science, 47,* 305-326.

IAEA. (2002*). Safety culture in nuclear installations: Guidance for use in the enhancement of safety culture*. Retrieved from: http://wwwpub.iaea.org/MTCD/publications/PDF/te_1329_web.PDF. Accessed 02.09.2023.

IAEA. (1991). *Safety culture, international safety advisory group*. Safety Series 75-INSAG-4. Vienna: IAEA.

Kahya, E., Ulutaş, B., & Özkan, F. (2019). Metal endüstrisinde kişisel koruyucu donanım kullanımının analizi. *S.Ü. Mühendislik, Bilim ve Teknoloji Dergisi, 7*(2), 420-433.

Kian, M. (2021). Personal protective equipment usage in SMEs: An assessment of the barriers to compliance. *International Journal of Environmental Research and Public Health, 18*(2), 651.

Kişisel Koruyucu Donanım Yönetmeliği (2019). T.C. *Resmî Gazete*, 30761, 1 Mayıs 2019.

Lin, S., Tang, W. J., Miao, J. Y., Wang, Z. M., &Wang, P. X. (2008). Safety climate measurement at workplace in China: A validity and reliability assessment. *Safety Science*, *46*, 1037-1046.

MacFalane, E.,Chapman, A., Benke, G., Meaklim, J., Sim, M., & MacNeil, J. (2008). Training and other predictors of personal protective equipment use in Australian grain farmers using pesticides. *Occup Environ Med. 65,* 141-146.

McVittie, D., Banikin, H., & Brocklebank, W. (1997). The effects of firm size on ınjury frequency in construction. *Safety Science*, *27*(1), 19-23.

Muniz, B. F., Peon, J. M. M., &Ordas, C. J. V. (2007). Safety culture: Analysis of the causal relationships between its key dimensions. *Journal of Safety Research, 38,* 627-641.

Neal, A., Griffin, M. A., & Hart, P. M. (2000). The impact of organizational climate onsafety climate and individual behavior. *Safety Science, 34*, 99-109.

Öçal, M., & Çiçek, Ö. (2017). Türkiye ve Avrupa Birliği'nde iş kazası verilerinin karşılaştırmalı analizi. *Hak İş Uluslararası Emek ve Toplum Dergisi*, *6*(16), 616-637.

Patel, S. (2020). Implementing safety in SMEs: A review of practices and challenges. *Journal of Safety Research, 73,* 95-104.

Punch, K. (2016). *Sosyal araştırmalara giriş*. (D. Bayrak, H. B. Arslan, & Z. Akyüz, Çev.). Ankara: Siyasal Kitabevi.

Saks, M., (2021). Factors influencing safe behavior in SMEs: The role of organizational culture and training. *Journal of Safety Research, 78,* 25-34.

Singh, R., (2021). Safety practices in small and medium-sized enterprises: A comparative study. *International Journal of Occupational Safety and Ergonomics, 27*(4), 425-437.

Unnikrishnan, S., Iqbal, R., Singh, A., & Nimkar, I. M. (2015). Safety management practices in small and medium enterprises in India. *Safety and Health at Work, 6,* 46-55.

Uysal, B., Özçifçi, A., & Kurt, Ş. (2005). Analysis of ındustrial accidents occurred in small and medium-sized furniture manufacturing firms in Turkey. *G.Ü. Fen Bilimleri Dergisi, 18*(3), 439- 451.

Wentz, C. A. (1998). *Safety, health, and environmental protection*. McGraw-Hill Companies, Boston.

Yaşar, M., & Saraçoğlu, T. (2021). Balıkesir ilinde tarım makinaları sanayi çalışanlarının iş güvenliği ve ergonomi algılarının değerlendirilmesi. *Tarım Makinaları Bilimi Dergisi, 17*(1), 1-13.