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Editorial

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RESEARCH ARTICLE

The Role of Open Government in Maintaining Trust in Public Administration

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Abstract

The concept of trust has gained significance in the discourse surrounding traditional public administration, which has been questioned in various respects regarding its relationship with the public. The political, social, and economic changes that have occurred in recent times have led to numerous transformations in the understanding of public administration. It is crucial to maintain trust in relationships, and this is a topic that has been thoroughly discussed. Trust approaches are evaluated within public administration paradigms in this study. The objective of this research is to assess how government openness impacts citizens' trust in the government. To measure the influence of open states on public trust, European social research data and data from the open government index, developed by the World Justice Project, were utilized. To investigate whether the countries' level of open statehood alters trust in public administration, the study initially utilized the Kruskal-Wallis test, followed by the Mann-Whitney U test to identify the variance origin. The findings confirmed the positive impact of open statehood on trust.

Keywords: Public administration, trust, open government.

Öz

Her ilişkinin temelinde yer alan güven duygusu, devlet ve halk arasında geleneksel kamu yönetimi anlayışının birçok bakımdan sorgulanması sonrasında tartışılan kavramlardan biri olmuştur. Kamu yönetimi anlayışı dünyada siyasal, sosyal ve ekonomik değişimlere paralel biçimde çeşitli dönüşümler geçirmiştir. Güven kavramı da üzerinde tartışılan ve önem kazanan bir konu olmuştur. Çalışmada kamu yönetimi paradigmaları çerçevesinde güven olgusu incelenmektedir. Çalışmanın amacı, devletin açıklığa dair uygulamalarının vatandaşın devlete olan güveni üzerindeki etkisini değerlendirmektir. Açık devletlerin halkın güveni üzerindeki etkisini ölçmek amacıyla; Avrupa sosyal araştırma verileri ile World Justice Project tarafından geliştirilen açık devlet indeksinin verileri kullanılmıştır. Ülkelerin, açık devlet olma düzeylerinin kamu yönetimine duyulan güveni etkileyip etkilemediğini incelemek amacıyla ilk olarak Kruskal Wallis testi uygulanmış, sonrasında elde edilen farklılığın kaynağını tespit etmek amacıyla Mann whitney-u testi kullanılmıştır. Elde edilen bulgular sonucunda açık devletin güveni olumlu düzeyde etkilediği tespit edilmiştir.

Anahtar Kelimeler: Kamu yönetimi, güven, açık devlet

Introduction

There is currently no consensus among trust theorists regarding the definition of trust, despite its crucial role in regulating our daily lives. Broadly speaking, trust entails having an expectation and belief that the other party will honor their commitments.

How is trust formed? The perspectives on trust formation provide an answer. From a cultural perspective, trust is considered a permanent trait that is learned during early life, primarily from one's parents. Experiential theories of trust formation, on the other hand, argue that trust is formed by lived experiences. (Sønderskov & Dinesen, 2016, p. 180). From an experiential perspective, impartial and efficient government institutions that in some way influence citizen conduct also foster confidence. (Rothstein & Stolle, 2008, p. 21). Open data sharing by the government will enhance economic growth through transparency and accountability (Eroğlu, 2019, p. 435).

The Weberian paradigm is linked to the Identity-based Trust framework, whereas the New Public Management model is linked to the Calculus-based Trust regime and the New Public Governance model is linked to the Relational Trust regime. Schmidhuber, Ingrams and Hilgers (2020, p. 93) propose an additional approach to trust in open government.

The aim of this study is to assess the evolution of trust in public administration and explore the correlation between open government policies and trust regime. Can open state practices influence trust in public administration? This research seeks to provide an answer. The European Social Survey was utilized to obtain data on public institutions' trust, and the World Justice Project was consulted for the open state index.

Trust within the Framework of Public Administration Paradigms

The idea of trust in public administration was first introduced and thoroughly examined following the fall of the Soviet Union in 1989, through the publication of "Trust" by Francis Fukuyama; a conservative Japanese-American author (Örmeci,

2015, p. 1). Fukuyama claimed that a society's innate sense of trust is the cultural characteristic that determines its well-being and perception of competition in the economy. The adherence to moral values in society may foster the expectation of consistent and truthful conduct which, in turn, can cultivate a sense of trust within society (Fukuyama, 2005, p. 11).

There appear to be discernible differences among various categories of typologies, models, theories and trust (Shapiro et al. 1992, pp. 366-376; Lewicki and Bunker 1996, p. 119; Rousseau et al. 1998, pp. 398-401; Muthusamy and White 2005, pp. 420-423). Bouckaert (2012, p. 17) differentiates three trust regimes, each with a distinct public approach. In addition, Schmidhuber, Ingrams, and Hilgers (2021, p. 93) suggest a trust regime approach bridging open government and trust.

Weberian Approach (Identity-based Trust)

The initial perspective presented is that of the Weberian or Neo-Weberian hierarchical system, which embodies the principles of traditional bureaucracy. The Weberian ideology advocates for the clear definition of rights and responsibilities, with bureaucrats being instrumental in shaping the public sector. This positioning of bureaucrats and their perceived identity are key factors in determining the level of trust within the system. Accordingly, the roles and responsibilities of public officials are key determinants of trust (Schmidhuber et al. 2021, p. 92).

The state is founded on the exercise of power and violence. Its sovereignty is grounded on three factors, namely, traditional, charismatic, and legal-rational authority (Weber, 1993, pp. 132-133). Legal-rational authority is underpinned by logically arranged sets of laws and regulations. In this context, bureaucracy represents the most sophisticated manifestation of legal-rational dominance (Duverger, 1998, p. 186).

Bureaucracy and legal-rational authority are contemporary methods of government and organization. Weber formulated three types of authority, yet it was the traditional authority that underpinned the traditional organizational framework; charismatic authority governed established systems like monarchies and rational-

legal authority governed bureaucratic organizational structures. The bureaucratic organizational structure operates within a framework of predetermined duties, rules, and filing systems. It is characterized by certainty, predictability, division of labor, hierarchy, standardization, continuity, specialization, merit, seniority, career, discipline, and control (Weber, 2005, pp. 44-49).

Weber proposed that the ideal bureaucracy comprises five elements: a hierarchical structure founded on functional specialization clearly defined powers and duties written records that enable predictive power; codes of conduct and informal relationships. Weber posited that the model of a bureaucracy should be anchored in tradition, continuous, disciplined and dependable, in contrast to other forms of organizations (Yeniçeri, 2002, p. 62). In bureaucracies, job descriptions are explicitly defined, and roles are assigned in accordance with the hierarchy, with each position being filled by an expert (Özkalp & Kirel, 2001, pp. 35-36). Powers and authority are rational and depend on legal rules and position (Peker, 1995, p. 87). Each employee is required to follow the instructions of their supervisor and only give orders to their subordinates. This results in a bureaucracy comprised of professional officers who advance their careers through vertical promotion. A person's career advancement, his/her discipline as long as he/she worked, the benefits and drawbacks of the profession and his/her departure from the profession would be determined in detail and take place under various conditions (Duverger, 1998, p. 187). Weber posits that the most rational approach to organizational management is one that aligns with hierarchical bureaucracy. Such a structure ensures that management adheres to pre-determined rules, resulting in a fair and proficient management system.

The notion that the bureaucratic operations of the state differ fundamentally from the management of private economic enterprises is unique to continental Europe, whereas in America, the opposite is the case. To manage departments or offices, a high level of specialized training is necessary - a requirement shared by both the private sector and civil servants. The primary

responsibilities of bureaucratic authority within public organizations and bureaucratic management in the private sector are to oversee compliance with established rules and regulations, ensure the appropriate selection, placement, and management of skilled personnel, and issue commands as necessary. Effective workplace management requires a stable and comprehensive understanding of learnable rules and specialized technical training for officials. Law, public administration, and business studies are the focal points of this educational course (Weber, 1993, p. 292). The primary responsibility of a civil servant who has undergone specialized training is to impartially manage their duties. Their obligation is to perform their tasks without any bias or prejudice. Secondly, it is expected of them to avoid conflicts. Thirdly, as the duties of a political leader differ greatly from those of a civil servant, the civil servant is obliged to follow the instructions of their superior, even if these instructions are incorrect (Weber, 1993, pp. 155-156).

Contemporary public administration is characterized by the pre-existence of abstract rules, rather than issuing orders on every matter. This is in stark contrast to the granting of personal privileges and the bestowal of absolute domination in patrimonialism. Accordingly, the system required to be a civil servant and to be established while carrying out this duty should be constructed as follows (Weber, 1993, pp. 295-296).

The professional advancement of the elected official is not contingent on the superior manager, at least not primarily. The official who assumes the role through appointment by their superior, as opposed to by means of election, typically fulfils a more precise and discerning function. This is because, all other factors considered equal, it is more probable that solely functional reasons and qualities are the decisive factors in their appointment and future prospects. Determining senior executives and their political aides through elections can hinder their ability to perform their duties effectively and impede the smooth functioning of the bureaucracy. It also undermines the commitment of public officials to their superiors in the hierarchy. The existence of various legal guarantees in the case of dismissals and transfers due to arbitrariness will enable those

in the bureaucracy to function without worrying (Weber, 1993, pp. 297-298).

Officials frequently worked in return for nominal security. Salaries were measured by status, type of function, rank, and perhaps terms of service, rather than by job, which is the case with workers' remuneration. Civil servants desire a mechanized rise in promotion and salary, determined by the grades achieved in seniority or specialty examinations. They should be established based on the grade achieved in either the seniority or the specialty examination (Weber, 1993, pp. 298-300). The modern bureaucratic structure necessitates social and economic preconditions. Though the establishment of the monetary economy is a prominent prerequisite, it is not essential for bureaucratization. A fixed income is, however, required to sustain the bureaucracy as a permanent structure. The civil servant should also receive a regular salary (Weber, 1993, p. 307).

Specialized bureaucracy is superior to other forms of management in both its technical and non-technical aspects. Corrective measures can help decrease friction, financial and personal costs by increasing accuracy, speed, clarity, continuity, confidentiality, file information, similar measures and complete reliance whilst performing the task (Weber, 1993, p. 308). Weber argues that the issue with the German state bureaucracy is not rooted in the bureaucracy's cultural embodiment of instrumental rationality, but rather in its unlawful extension of administrative duties into the realm of political leadership (Gay, 2002, p. 76). Weber argued that the capitalist market economy was one of the institutions that desired official administrative affairs in Germany to proceed flawlessly during his time. Bureaucratization refers to conducting business in an impartial manner. The bureaucracy will develop perfectly to the extent that it becomes increasingly separate from humanity, a nature beneficial to capitalism. The peculiar character of bureaucracy is celebrated as its unique virtue. In fact, the implementation of a rational legal system is founded on bureaucracy (Weber, 1993, pp. 309-310). Capitalism is personality-free rationality (Weber, 1993, p. 127).

New Public Management: Calculus-Based Trust

The New Public Management approach, in contrast, employs an account-based trust system founded on financially defined change and accountability. Citizens provide data relating to their expectations, perceptions, satisfaction, and trust in government services, whilst the public sector presents quality models and financial data, along with making comparisons of budget performance. In this era of trust, the decline in confidence in public administration is a result of the government's inadequate performance. To reinstate faith in the government, the public sector must elevate its performance (Schmidhuber et al. 2021, p. 92).

Minnowbrook II differed from Minnowbrook I's assertion that public administration should take the lead on social issues. It encompassed a new vision that incorporated principles such as democracy, ethics, responsibility, philosophy and rational practices, including economics. The two main arguments that were highlighted were: firstly, the renewed emphasis on citizens, stressing interdependence over self-interest, and secondly, the significant role public officials play in the social system. Society should seek the assistance of public administrators to resolve persistent issues. Despite the stagnation of interest in social equality, a notable emphasis has been placed on prioritizing democratic values in public administration. A declaration regarding leadership, accountability, and ethics in public administration has been made, though the debate on normative and behavioral perspectives persists. The value of acknowledging societal and workforce differences remains a central tenet among all participants. Diversity was defined within the scope of multiculturalism, encompassing racial, ethnic, gender, and specialist diversities (Garcia, 2003, pp. 98-99).

Efficient, cost-effective and well-organized service management has always been the key to the ideal public administration. Moreover, budgeting, organization, management, system analysis, planning, personnel, and procurement are perceived as essential topics in high-level municipal management and basic support services. NPA enhances the conventional purpose and rationale by promoting social equality

(Frederickson, 1989, p. 97). In traditional or conventional public administration, the NPA criteria involve determining whether the service offered will aid in social equality by reducing expenses (being cost-effective) while also providing superior service (Frederickson, 1971, p. 283).

Frederickson asserts that pluralistic government discriminates against minorities who lack political and economic resources, such as temporary or permanent farm workers. Such discrimination results from the government's preference for established, fixed bureaucracies and their specialized minority clients, such as the Ministry of Agriculture and large-scale farms. The prevalence of high levels of unemployment, poverty, disease, lack of education and dependence is a negative outcome that can arise during a period of unparalleled economic expansion. This should be condemned on ethical grounds. If this condition persists over an extended period of time, it could jeopardize the viability of any political system. Self-restraint in times of plenty may lead to widespread conflict. Frederickson observed that the public administration has failed to find a solution to the deprivation of minorities. He defines all activities aimed at improving the economic welfare and political power of minorities as social equality (Frederickson, 1971, p. 283).

NPA conducts a systematic investigation into policies and structures that impede social equality. The commitment to social equality not only encompasses the pursuit of change, but also seeks to identify organizational and political models capable of ongoing resilience and habitual change. Traditional bureaucracy has demonstrated a proven capacity for stability. NPA intends to promote and test transformed bureaucratic-organizational models in the analysis of variable structures. Localization, delegation of authority, projects, contracts, sensitivity/awareness training, organizational development, increasing responsibility, confrontation and customer dependence are all defining characteristics of NPA and differ from bureaucratic concepts. Concepts are developed to enhance the potential for social equality, administrative transformation and policy change (Frederickson, 1971, pp. 283-284). The

implementation of a plan-program-budget system, managerial inventory, and social indicators can contribute to the necessary reforms within public administration, and encourage social equality (Frederickson, 1971, p. 284).

Conventional public administration places emphasis on the development and strengthening of institutions to tackle social problems. However, the focus of public administration often strays from institutional concerns. NPA aims to shift the focus back to problems and considers alternative institutional approaches to address these issues. Monetary and manpower investment issues plague institutions responsible for addressing persistent public issues such as urban poverty, widespread drug use, and high crime rates. Public administrators are therefore exploring transforming institutions or developing changes designed to introduce novel and effective solutions (Frederickson, 1971, p. 284).

Lambright's definition of public administration is "public policymaking." Therefore, public administration encompasses both policy and management, drawing upon and shaping orientations across numerous disciplines and specialisms. The historical demarcation between politics and management, however, is eroding, though its spectra still linger. It is widely acknowledged that public administration operates within a political context, necessitating that managers negotiate with the surrounding forces. The manager is involved in the political process; however, their role is not restricted to this. They undertake crucial tasks that entail utilizing personnel, funds and other resources to attain organizational objectives. Nonetheless, research studies have not formulated a model that encompasses both of these roles. The segregation of practice and discipline into two branches results in pessimism. If a public administrator does not function as both an operator (manager) and a politician, they would be unable to formulate public policy. The public administrator cannot focus solely on program direction, otherwise effective management will be neglected. To be an effective public official, it is necessary to fulfill both policy-making and managerial duties, which are essential and honorable tasks. The public

administrator failed due to not performing both roles (Lambright, 1971, pp. 332-334).

New Public Governance: Relational Trust

One additional category of trust regime conceptualizes public trust primarily as a subjective evaluation of government performance information interpreted by individuals (Welch et al. 2005, p. 387). This is a trust regime based on shared knowledge, values, and goals, as described by Bouckaert (2012, p. 16) in the context of new public governance. Within the scope of public governance, there are five different branches, the first of which is socio-political governance. The study of governance can be categorized into three major schools, namely corporate governance, good governance, and public governance. Scholars in this area argue that a comprehensive understanding of the relationships involved in the formulation and execution of public policies is essential. Governments must comprehend that they lack superiority in public policy and depend on other social actors for the legitimacy of practices and the effects they bring about. The second part involves the interaction between policy elites and networks. "Meta-governance" is a recent example of a multi-stakeholder governance network. The third part is administrative governance. It is argued that the disorder will be eliminated through the repositioning of public administration, implementation of public policies, and delivery of public services. This can be achieved if it keeps up with the contemporary world. The fourth aspect is the management of contractual relationships in public service provision under the new public governance. Although modern contracted agencies have limited control, this can be attributed to the fact that the public has become more accountable. The fifth pillar concerns network governance. It has a specific focus on networks that provide public services. It deals with how self-organizing networks function to provide public services both with and without government (Osborne, 2010, p. 6-7).

Open Government

The idea behind "open government" is the capacity to access and consistently employ the resources held by the state without any limitations for the first time (Tauberer, 2014, p. 1). The notion of "open government" denotes individuals' unrestricted access to state-held resources for continuous use. The publicity of government data refers to the availability of legal information for open access. It also includes the idea that government data ought to be available to the public, a belief that can be traced back to Ancient Greece, though its precise origins are unclear. The open accessibility of government data to the law is what is meant by the term "publicity (Tauberer, 2012, p.1). The concept of open government gained widespread use in 2009 when the Open Government Directive was published as part of the policies amended by President Barack Obama in the United States. The concept of open government was defined, and the state application "data.gov" was launched to further this objective (Tauberer, 2014, p. 8). Subsequently, many governments embarked on similar applications through various web portals (Ubaldi, 2013, p. 11). Transparent and accountable open government management requires accessible data generated by the public administration during business processes. This, on the other hand, is expected to promote innovative services and economic growth (Ayers, 2007, p. 95). The open government trust regime is a fourth iteration (Schmidhuber et al. 2021, p. 92). Making state-owned data accessible through a variety of applications is an approach that strives to enable the frequent use of this data, thus providing economic, social, and political advantages in this regard (Eroğlu, 2018, p. 462).

Although the concept of open government shares some similarities with new public governance, such as focusing on citizen engagement and cooperation in state work, it also diverges significantly from traditional governance. Open government is closely linked with technological advancements, including internet platforms and mobile connectivity. Open governments aim to involve citizens as active participants and co-producers in the political system by extensively utilizing the opportunities

presented by digitalization. Open government reformists strive to incorporate citizens' input into policy solutions and fulfill their right to information by disclosing government data online (Schmidhuber et al. 2021, pp. 92-93).

Method

Data Collection Tools

The study is based on the core premise that open government enhances citizens' trust in public institutions and organizations. The null hypothesis, H0, posits that open government has a positive impact on such trust. The study aimed to address the following research questions.

H1: The level of openness of states has a significant positive effect on citizens' trust in Parliament.

H2: The level of openness of states has a significant positive effect on citizens' trust in the rule of law.

H3: The level of openness of states has a significant positive effect on citizens' trust in the police.

H4: The level of openness of states has a significant positive effect on citizens' trust in politicians.

H5: The level of openness of states has a significant positive effect on citizens' trust in political parties.

Data from various sources were used to test hypotheses. Open government data from the "World Justice Project" (WJP) were utilized to access country-level data. The "European Social Project" (ESS) was used as a point of reference to obtain data at the individual level.

The World Justice Project (WJP) is a self-governing organization that seeks to generate, mobilize and promote knowledge and awareness to assure the rule of law. The WJP was established in 2006 with the backing of the American Bar Association (ABA) and 21 additional strategic partners. According to the WJP, the rule of law is defined as the collection of codes, institutions, norms and community commitments that guarantee the principles of responsible conduct, equitable justice, transparent governance, ease of access and unbiasedness. Based on the four

fundamental principles outlined in the WJP definition, the Rule of Law Index for countries is structured around eight primary factors. Open Government Factor (OGF) is a component of WJP's Rule of Law Index that assesses a country's structural openness (The World Justice Project, 2022). The Open Government Factor assesses the accessibility of fundamental laws and legal rights information to the public and evaluates the quality of information the government publishes. It is comprised of four distinct dimensions: laws and government data, the right to information, civil engagement, and grievance mechanisms. The study employs OGF, which was introduced in 2022, and scores range from 0 to 1. As the scores attained by the countries near 1, it is acknowledged that the country is more open (The World Justice Project 2022).

The European Social Project is an academic research program that has been international in scope since its establishment in 2001. As a comprehensive survey research initiative, it provides data on a wide range of indicators that the data obtained through the research program can be compared on the basis of different countries (European Social Survey, 2022).

Within the framework of the European social initiative, participants are interviewed face-to-face every two years. To date, ten research stages have been completed, and the 2020 data from the tenth stage are employed in this analysis. This initiative seeks to gauge the level of trust that European citizens place in their country's parliament, legal system, police force, politicians, and political parties. The study considers five variables as a trust scale across countries. Each variable's confidence level was rated on an 11-point Likert scale, where "0" represents "no trust at all" and "10" represents "full trust" (European Social Survey Round 10, 2020). Trust in public administration is highly linked to trust in political institutions, according to Van de Walle, Van Roosbroek, and Bouckaert (2008). Therefore, trust in these five institutions implies trust in public administration.

Data Classification and Analysis

The analysis incorporated responses from participants in European countries (Bulgaria, Czech Republic, Estonia, France, Finland, Netherlands, Croatia, Italy, Lithuania, Hungary, Macedonia, Norway, Portugal, Slovakia, Slovenia, Greece) with available data in the European Social Project, based on the open government index scores specified in the World Justice Project.

The European countries¹ included in the study, in this study underwent a triple classification based on the ranking of their open state index scores. As per the classification, countries such as Norway, Finland, Netherlands, Estonia, France, and Lithuania, which have open state scores of 0.75 and above, are categorized as “Level 1 Open Government”; since the open government scores of “Czechia, Slovakia, Portugal, Slovenia, Italy, Croatia” are between 0.74-0.61, these states are named as “Level 2 Open Government”; and since the open government scores of “Greece, Bulgaria, Hungary and North Macedonia” are in the range of 0.60 and below, these states are named as “Level 3 Open Government”. Table 1 demonstrates the sample distributions of the countries included in the analysis (European Social Survey Round 10, 2020), including the number of participants and the percentage of samples, which varies by country due to the ESS’s sampling approach.

Table 1. Number of samples by country

Countries	Sample Number
Bulgaria	2,718
Czech Republic	2,476
Estonia	1,542
France	1,977
Finland	1,577
Netherlands	1,470
Croatia	1,592
Macedonia	1,429
Italy	2,640
Lithuania	1,659
Hungary	1,849
Norway	1,411
Portugal	1,838
Slovakia	1,418
Slovenia	1,252
Greece	2,799

¹Bulgaria, Czech Republic, Estonia, France, Finland, Netherlands, Croatia, Italy, Lithuania, Hungary, Macedonia, Norway, Portugal, Slovakia, Slovenia, Greece.

Findings

The data obtained was analyzed using the SPSS 21 program. In order to determine which statistical technique could be used to test whether the level of trust citizens have in public institutions, specifically public administration, differs depending on the level of open government, the Kolmogorov-Smirnov test was employed. For testing normality in large samples, the Kolmogorov-Smirnov test is often preferred. Statistical analysis showed that the data did not follow a normal distribution ($p < 0.05$) and thus, the Kruskal-Wallis non-parametric test was used to answer the research questions. Table 2 presents the statistical results obtained.

Table 2. Results of Kruskal-Wallis test assessing citizen trust in public administration by the level of open government.

	Country	N	Mean Rank	X (Chi-Square)	p	Significant Difference
Trust in Parliament	Level 1 (A)	9636	18017,19	2193,768	,000	A-B: A-C: B-C
	Level 2 (B)	11,216	14002,54			
	Level 3 (C)	8,795	12373,05			
Trust in the rule of law	Level 1 (A)	9636	18458,19	2611,680	,000	A-B: A-C: B-C
	Level 2 (B)	11,216	12914,72			
	Level 3 (C)	8,795	13277,14			
Trust in police department	Level 1 (A)	9636	17877,71	1952,835	,000	A-B: A-C: B-C
	Level 2 (B)	11,216	13897,54			
	Level 3 (C)	8,795	12659,78			
Trust in the politicians	Level 1 (A)	9636	18182,96	2235,414	,000	A-B: A-C
	Level 2 (B)	11,216	13274,37			
	Level 3 (C)	8,795	13120,04			
Trust in political parties	Level 1 (A)	9636	17932,70	1918,991	,000	A-B: A-C: B-C
	Level 2 (B)	11,216	13456,80			
	Level 3 (C)	8,795	13161,59			
Public trust in general ²	Level 1 (A)	9636	18531,03	2710,546	,000	A-B: A-C: B-C
	Level 2 (B)	11,216	13334,91			
	Level 3 (C)	8,795	12661,49			

According to the results of the analysis, the scores of participants’ trust in parliament ($X=2193,768$; $p < 0.05$), trust in the rule of law ($X=2611,680$; $p < 0.05$), trust in police department

² Average of trust in Parliament, the rule of law, the police, politicians and political parties.

($X=1952.835$ $p<0.05$), trust in politicians ($X=2235,414$; $p<0.05$), trust in political parties ($X=1918.991$; $p<0.05$), and public trust in general ($X=1918.991$; $p<0.05$) differ significantly.

Upon analysis of the average rank data, it is evident that the highest rank (18531.03) for the public trust in general belongs to the Level 1 open governments, while the lowest rank (12661.49) belongs to the Level 3 open governments. Level 1 open governments have the highest rank average of trust in parliament, trust in the rule of law, trust in police department, trust in political parties and politicians. Level 3 open governments have the lowest average rank for trust in parliament, trust in police department, trust in politicians and political parties. The countries with the lowest average rank in terms of trust in the rule of law are Level 2 open governments.

Mann Whitney U test was applied for each type of trust in order to determine the source of significant differentiation in all dimensions. Table 3 presents the test results, indicating that participants in “Level 1 open government” demonstrated higher trust levels in the parliament, rule of law, police department, political parties, politicians, and the general public than their counterparts in Level 2 and 3 governments. Participants within the “Level 2 open government” category demonstrate higher levels of trust than those in “Level 3 open government” towards the parliament, rule of law, police department, political parties, and public in general. The test results indicate no significant difference in levels of trust towards politicians between the two categories. It has been determined that individuals in states with a higher degree of openness exhibit greater trust towards public institutions.

Table 3. Results of Mann whitney u test on the effect of governments on public trust by the level of open government

	Country levels	N	Mean Rank	U	z	p	Significant Difference
Trust in Parliament	Level1 (A)	9636	11966,49	39189298,5	-34,463	,000	A-B
	Level2 (B)	11216	9103,44				
	Level1 (A)	9636	10869,20	26444077,0	-44,424	,000	A-C
	Level3 (C)	8795	7404,72				
	Level2 (B)	11216	10507,59	43696487,5	-13,972	,000	B-C
	Level3 (C)	8795	9366,33				
Trust in the rule of law	Level1 (A)	9636	12557,79	33501577,0	-47,669	,000	A-B
	Level2 (B)	11216	8595,45				
	Level 1 (A)	9636	10718,90	27892347,5	-40,384	,000	A-C
	Level 3 (C)	8795	7569,39				
	Level 2 (B)	11216	9927,78	48445027,5	-2,175	,030	B-C
	Level 3 (C)	8795	10105,75				
Trust in police department	Level 1 (A)	9636	11962,38	39238987,0	-34,486	,000	A-B
	Level 2 (B)	11216	9106,98				
	Level 1 (A)	9636	10733,83	27748501,0	-40,899	,000	A-C
	Level 3 (C)	8795	7553,03				
	Level 2 (B)	11216	10399,05	44913874,0	-10,948	,000	B-C
	Level 3 (C)	8795	9504,75				
Trust in the politicians	Level 1 (A)	9636	12281,42	36164676,0	-41,553	,000	A-B
	Level 2 (B)	11216	8832,88				
	Level 1 (A)	9636	10720,04	27881366,0	-40,467	,000	A-C
	Level 3 (C)	8795	7568,14				
	Level 2 (B)	11216	10049,99	48828953,0	-1,229	,219	-
	Level 3 (C)	8795	9949,90				
Trust in political parties	Level 1 (A)	9636	12117,81	37741258,0	-37,885	,000	A-B
	Level 2 (B)	11216	8973,45				
	Level 1 (A)	9636	10633,39	28716343,0	-38,136	,000	A-C
	Level 3 (C)	8795	7663,08				
	Level 2 (B)	11216	10091,85	48359441,5	-2,397	,017	B-C
	Level 3 (C)	8795	9896,52				
Public trust in general ³	Level 1 (A)	9636	12409,76	34928002,0	-44,112	,000	A-B
	Level 2 (B)	11216	8722,67				
	Level 1 (A)	9636	10939,77	25764073,5	-46,052	,000	A-C
	Level 3 (C)	8795	7327,40				
	Level 2 (B)	11216	10220,79	46913328,5	-5,942	,000	B-C
	Level 3 (C)	8795	9732,09				

³ Average of trust in Parliament, the rule of law, the police, politicians and political parties.

Conclusion

Trust is an essential element in interpersonal relationships. However, Fukuyama argues that various types of trust exist among different cultures, which can impact economic and political relations. Weber suggested predetermined rules and appointment criteria for public employees to establish a specialized bureaucracy that can engender high levels of trust through clearly defined roles and responsibilities. In the context of Public Administration, government performance has a direct impact on trust. Criteria such as efficiency, effectiveness, social justice, and equality of government activities can determine the level of trust placed in the government. In the context of evaluating relational trust, the reliability of trustworthiness is examined through socio-political relationships, interactions among policy elites and networks, administrative governance, governance of contractual relationships and network governance within public governance. Trust in open government has a symbiotic relationship. Governments trust citizens by providing them with data access and the opportunity to influence politics. In turn, citizens have faith in public institutions. Positive attitudes towards public institutions are linked to a beneficial view of citizen influence. Governments should publish data, establish a legal infrastructure for information access, and enable access to institutional processes for citizens. Trust based on expertise will evolve into mutual trust over time. Open governance is more than just a transient phenomenon. It has the potential to fundamentally alter the comprehension of the political-administrative system, affecting the core of constitutional and democratic governing structures. Following years of initial testing and technical piloting in specific regions, it is vital to categorise data and types of openness that can generate public benefit by increasing innovation potential, optimising performance and reinforcing legitimacy. For both public institutions and private sector enterprises, it is imperative to establish strategies for openness and initiate their implementation. This necessity's emergence appears to be a matter that the political sphere,

administrative practice, and scientific community should not underestimate.

The research presents evidence that citizens have greater confidence in the public sector, namely public institutions, within nations where there is a high level of government transparency. Although empirical studies suggest that transparency does not always have a positive impact on trust in the government (Mabillard & Pasquier, 2016, p. 87), the presented data argue the opposite. The research illustrates how citizens' trust towards parliament, the rule of law, the police department, politicians, and political parties fluctuates depending on the degree of openness within the government. Overall, it is inferred that public institutions are more trusted in states with higher scores in the open government index. Additionally, the investigation signifies a beneficial correlation between citizens residing in open governments and their trust levels.

Limitations of the study: The data utilized in this article were obtained from two indices, the European Social Survey and the World Justice Project. Moreover, mediating variables that may have an impact on trust in public administration were not taken into account in this study.

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RESEARCH ARTICLE

Determinants of Society's Rape Myths Acceptance

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Abstract

This study was planned to determine the acceptance status of rape myths in society and also the factors affecting this situation. The target population of this descriptive cross-sectional study consisted of individuals living in Turkey. Random sampling method was used in sample selection. It was determined that there were 268 individuals who met the research criteria. The research data was collected online via Google form between April 30, 2021, and January 30, 2022. "Personal Information Form" and "Illinois Rape Myths Acceptance Scale - Short form" were used as data collection tools. Descriptive statistical analyses, One-way ANOVA test, student t test and linear regression test were used to analyze the data. The mean age of the participants was 31.023±9.73 years. 42% of the participants were in the 28-37 age range and 59.9% of the participants were female. Gender, employment status, education level, place of residence and income status explained 28.7% of the acceptance of rape myths ($p<0.001$). It was determined that women accepted rape myths more than men, while the acceptance of rape myths was lower among low-educated participants. Within the scope of this study, it was determined that there are gender differences in the acceptance of rape myths and that the tendency to blame the victim is high. The results of this preliminary study are a reference for other researchers or institutions, and studies with a larger sample group are needed.

Keywords: Rape, Myths, Traditional Roles, Society

Öz

Çalışma; toplumda tecavüz mitlerinin kabul durumunu ve ayrıca bu durumu etkileyen faktörlerin belirlenmesi amacıyla planlanmıştır. Tanımlayıcı kesitsel türdeki çalışmamızın evrenini Türkiye'de yaşamakta olan bireyler oluşturdu. Örneklem seçiminde seçkisiz örnekleme yöntemi kullanıldı. Araştırma kriterlerini karşılayan 268 bireye ulaşıldı. Araştırma verileri 30.04.2021-30.01.2022 tarihleri arasında online ortamda Google form aracılığıyla toplandı. Veri toplama aracı olarak; "Kişisel Bilgi Formu" ve "İllinois Tecavüz Mitlerini Kabul Ölçeği- Kısa formu" kullanıldı. Verilerin analizinde tanımlayıcı istatistiksel analizler, One-way ANOVA, student t testi ve linear regresyon testi kullanıldı. Katılımcıların yaş ortalaması 31.023±9.73 olup, %42'si 28-37 yaş aralığında ve %59.9'u kadın idi. Cinsiyet, çalışma durumu, eğitim düzeyi, yaşanılan yer, gelir durumu tecavüz mitlerini kabulünün %28,7'sini açıklamakta idi ($p<0.001$). Kadınların erkeklere oranla tecavüz mitlerini daha fazla kabul ettikleri, düşük eğitilmiş katılımcıların tecavüz mitlerini kabulünün daha az olduğu belirlendi. Bu çalışmada, tecavüz mitlerini kabulünde cinsiyet farklılıkları olduğu, mağduru suçlama eğiliminin yüksek olduğu belirlendi. Bu konuda ön hazırlık niteliğindeki çalışma sonuçları başka araştırmacı veya kurumlar için referans niteliğinde olup, daha geniş kapsamlı bir örneklem grubuyla çalışmalara ihtiyaç vardır.

Anahtar Kelimeler: Tecavüz, Mitler, Traditional Roller, Toplum

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Introduction

Sexual violence, a phenomenon that we witness almost every day on television, in the news and on social media, is a violation of human rights that has been ongoing throughout human history. Sexual violence is considered one of the most serious crimes because of the physical and psychological damage that can last a lifetime (Çoklar & Meşe, 2015). In the 2014 revised Turkish Penal Code, sexual violence is among the crimes with different regulations depending on the type of occurrence (TPC 102/1- 102/2, 2014). In our laws, sexual violence (the crime of rape) is defined as the violation of the inviolability of personal bodily integrity by using threats, deceit, force against persons who do not consent or whose consent is not valid and who cannot defend themselves (www.mevzuat.gov.tr,2023)

The reason for this violence, which is accepted as a crime all over the world, has been widely researched and the crime of rape has been tried to be explained with many theories. The common point that most of them converge on is the effect of patriarchal structure. A patriarchal structure is also referred to as a social system that reflects male dominance and where traditional gendered roles are prominent. Godenzi (1989) explained the issue with a similar concept by stating that sexual violence is an expression of unequal power relations and is not an individual but a social and political problem. For this reason, stereotypes, attitudes and perceptions have been developed that in the case of rape, where the victims are usually women and the perpetrators are men, the male dominance system is protected, and that it is fair to blame the victim for those who comply with cultural stereotypes (Muray et al, 2023). Stereotypes may lead to a limited understanding of the concepts of 'real' rape and 'ideal' victim, while the negative effects of rape may lead to underestimation of violence (Yancı & Polat, 2019).

Unfortunately, the person who is most tarnished is the person whose rights are violated and stigmatized due to widely accepted "rape myths" that arise as a result of false beliefs about rape victims. A worldview and false beliefs formed by attitudes, norms, values and traditions rooted in social inequalities that support rape have been

defined in many different categories under the title of "rape myths". Interdisciplinary studies have tried to determine the attitudes and belief systems that are effective in accepting these beliefs. At this point, the concept of rape myths was first used as a concept in the 1970s and discussed as 'sexist myths' and 'male rape myths' (Schwedinger & Schwedinger, 1974; Brownmiller, 1975). Smith (2004) defined rape myths as "a culture in which rape or other forms of sexual violence against women and children are both common and accepted as the norm". Smith (2004) argued that rape myths are a part of rape culture. In current definitions, rape myths are defined as "various concepts that support erroneous beliefs about rape victims and perpetrators" (Fakunmoju et al., 2021).

Different studies have shown that these myths are also widely accepted in our country (Gölge, 1997; Sakallı-Uğurlu et al., 2007; Yılmaz & Oskay, 2019; Karaman, 2022). Men's efforts to justify sexual violence and women's efforts to make it accepted that they are strong is a special function of myths (Çamaş & Mete, 2016; Yılmaz & Oskay, 2022). The victim is directly blamed with myths such as "if a woman wear revealing clothes, drinks alcohol, and the rapist does not have a gun, she wanted it and deserved it". These attitudes lead to stigmatization of women, women's lack of socialization, women's discrediting and women seeing themselves as responsible for the assault (Yancı et al, 2018). If rape myths are associated with a religious dimension (such as good things happen to good people), the belief in a just world comes into play as another factor affecting the legitimization of this crime. (Yancı et al, 2018; Barnett et al., 2018; Ok Çelik, 2019).

Acceptance of rape myths can lead to a process of normalization and pave the way for the continuation of sexual victimization. In addition, the impact of prejudices and false beliefs about rape in society should be explored to understand sexual violence (Eker&Erdener, 2011). In literature studies, the sample generally focused on university students(Boateng et al, 2023;Oureshi et al.,2021; Kamal et al,2010) In this study, it was aimed to reach everyone over the age of 18 and to evaluate the community-based perspective. Therefore, it is important to conduct more research on the predictors of rape myth acceptance. In

addition to the belief in this necessity, this study was planned based on the realization that there are few community-based studies conducted in this sense as a result of literature searches. The aim of our study is to determine the acceptance status of rape myths in society and the factors affecting this status.

Method

This study is a descriptive cross-sectional study and the target population consists of individuals living in Turkey. Random sampling method was used in sample selection. In this method, the basic principle is that individuals and objects are included or excluded from the sample by taking into account certain characteristics instead of giving equal chances to every individual and object to be included in the sample. Another important feature of the random sampling method is that it can be applied in a healthy way as a preliminary preparation for the studies to be repeated. In this framework, the inclusion criteria of the participants in the study were determined as being between the ages of 18-65, agreeing to participate in the study, being able to read and write in Turkish, and having no problems in comprehension capacity. Our sample consisted of 268 individuals who met the research criteria. The research data was collected online via Google form (<https://forms.gle/Wred3TKn4UrpeUFx5>) between April 30, 2021, and January 30, 2022. In this study, the "G. Power-3.1.9.7" program was used. In order to detect an 80% power ($\alpha = .05$, two-tailed), we included a gender group of 105 male and 157 female participants ($N=263$) in an independent samples t-test. The smallest effect size of interest was set to $d = 0.415$ was found.

Data Collection Tools: A two-part questionnaire form was used as a data collection tool. The first part of the questionnaire included the "Personal Information Form", which was prepared by the researcher in line with the relevant literature, and the second part included the "Illinois Rape Myths Acceptance Scale - Short Form".

Personel Information Form: The form included demographic information about the participants (gender, age, education level, occupation, income, having children, place of residence) and the

definition of rape/sexual assault and consisted of a total of 10 questions.

Illinois Rape Myths Acceptance Scale - Short Form: The Illinois Rape Myths Acceptance Scale - Short form was developed by Payne et al. in 1999. Turkish validity and reliability of the form was performed by Çoklar and Meşe in 2015. The Illinois Rape Myth Acceptance Scale-Short form, which was developed to determine the views on rape myths and consists of seventeen items, is a 7-point Likert-type scale. The scale items have a ranking system from negative to positive: Scale items are as follows: "1- I strongly disagree, 2- I partially agree, 3- I somewhat agree, 4- I am undecided, 5- I somewhat agree, 6- I partially agree, 7- I completely agree.". A minimum score of 17 and a maximum score of 119 can be obtained from the scale and the higher the score obtained from the scale, the higher the level of acceptance of rape myths. The Cronbach's alpha coefficient of the scale was determined as .90. In this study, the Cronbach's alpha coefficient of the scale was found to be .917.

Ethical consideration

Sinop University Health Sciences Research Ethics Committee gave the ethical approval for the study (Date: (11.02.2021 Decision No: 2021/2).

Data analysis

The data were analyzed using the SPSS 25 software. Descriptive statistics (mean, standard deviation, number, and percentage) and parametrics tests were calculated using the data. Variables predicting acceptance of rape myths were evaluated with linear regression analysis. The significance level was accepted as 0.05.

Results

Demographic results: In our research, the average age of the participants was 31.023 ± 9.73 . 42% of the participants were between the ages of 28-37. 59.9% of the participants were female, 54.6% of the participants were married, 42% of the participants were primary or high school graduates, 70.2% of the participants perceived that their monthly

income was equivalent to their expenses, 34.7% of the participants were civil servants and 36.6% of the participants lived in towns and districts. 60.7% of the participants stated that they did not have children and 88.2% of the participants stated that they had never experienced sexual violence. Some socio-demographic characteristics of the participants are given in Table 1.

Table 1. Demographics characteristics of participants (n=262)

Gender	n	%
Female	157	59,9
Male	105	40,1
Age		
18-27	110	42,0
28-37	86	32,8
38 and above	66	25,2
Education level		
Primary school graduate- High school graduate	48	18,3
Bachelor's degree	179	68,3
Postgraduate	35	13,42
Employment status		
Unemployed	40	15,3
Student	84	32,1
Officer	91	34,7
Worker	21	8,0
Self-employment	26	9,9
Income status		
Income less than expenditure	28	10,7
Income matches expenditure	184	70,2
Income more than expenditure	50	19,1
Place of residence		
Metropolitan	69	26,3
Province	85	32,4
District-town	96	36,6
Village	12	4,6
Marital status		
Married	143	54,6
Single	100	38,2
Divorced	19	7,3
Childbearing status and child's gender		
Yes, a girl	30	11,5
Yes, a boy	32	12,2
Yes, a boy and a girl	41	15,6
No	159	60,7
Experiencing sexual violence		
Yes	31	11,8
No	231	88,2

39,3% of the participants answered the definition of the word rape as "Violation of a person's bodily inviolability without consent". The participants' answers to the definition of rape are shown in Table 2

Table 2: Participants' responses to the meaning of the word "rape"

Definition of "Rape"	N	%
I have no idea; I can't define it.	9	3,4
Disgusting, outrageous behavior, desperation, crime against humanity	50	19,1
Terrible, unforgettable suffering, mental breakdown, criminality	9	3,4
Violation of a person's bodily inviolability without consent	103	39,3
When a person is physically assaulted in a perverted inhuman way	15	5,7
Bullying, dishonor, physical force assault, lack of conscience	44	16,8
Unwanted acceptance	18	6,9
Disappointing for humanity, inhuman	6	2,3
Sexual fling, covert assault	4	1,5
Any act done to a person on the basis of gender, the incapacity of men	2	0,8
Women in revealing clothes attract men	2	0,8

Rape Myth Acceptance Scale

The mean score of the participants on the rape myths scale was 73.97+12.69 (min-max:17-93).

The socio-demographic characteristics of the participants and the mean scores of the rape myths scale are presented in Table 3. The relationship between the mean rape myths scale score and gender ($t=56.307$, $p=0.001$), educational level ($F=2.181$, $p=0.039$), employment status ($F=7.130$, $p=0.001$), income status ($F=10.307$, $p=0.001$), and place of residence ($F=3.84$, $p=0.010$) was found to be significant. When the effect sizes were examined; the average rape myth acceptance levels of women and men differ slightly (Cohen's $d = 0.091$). The education level ($\eta^2=0.024$) and place where individuals live ($\eta^2=0.045$) varied the average level of acceptance of rape myths at a small level, while it was moderately affected by their profession ($\eta^2=0.107$) and income level ($\eta^2=0.078$) at a medium level.

It was found that being young or being old had no effect on the level of myth acceptance ($F=2.181$, $p=0.115$).

According to gender status, it was determined that female participants had higher rape myth acceptance scores than male participants and those

with higher education level had higher rape myth acceptance scores. In terms of employment status, it was determined that student participants had higher rape myth acceptance. Rape myth acceptance was found to be lower as the income level increased and the transition towards rural areas. No significant difference was found between rape myth acceptance and exposure to sexual violence (t:1.077, p=0.300) (Table 3).

Table 3: Comparison of Participants' Demographic Characteristics and Rape Myth Acceptance Scale

	X	SD	Test Value	P
Gender				
Female	78,1275	8,41916	t:56,307	p:0,001
Male	66,8990	15,07566		
Age				
18-27	74,9712	12,53923	F:2,181	p:0,115
28-37	71,2976	11,28362		
38 and above	74,6333	14,72685		
Education level (1-2,1-3)				
Primary school graduate-High school graduate	69,1395	13,89858	F:3,30	p:0,039
Bachelor's degree	74,5789	12,42144		
Postgraduate	74,6471	12,14030		
Employment status (1-5 ,2-4,5 3-5)				
Unemployed	76,2432	10,01778	F:7.130	p:0.001
Student	77,3012	8,62884		
Officer	73,0233	13,22384		
Worker	66,8500	20,62516		
Self-employment	64,0909	12,48584		
Income status (1-3;2-3)				
Income less than expenditure	75,7600	9,29731	F:10.307	p:0,001
Income matches expenditure	75,3543	9,68944		
Income more than expenditure	66,3404	20,13355		
Place of residence (1-2;1-3)				
Metropolitan	78,1538	5,97451	F:3,84	p:0.010
Province	72,3875	14,08338		
District-town	71,8791	14,55704		
Village	71,0000	11,36982		
Marital status				
Married	74,3481	12,05789	F:2,870	p:0.059
Single	71,6277	14,35344		
Divorced	78,6316	6,22906		
Childbearing status and child's gender				
Yes, a girl	73,7333	10,59581	F:1.091	p:0.354
Yes, a boy	70,9643	13,15571		

Yes , a boy and a girl	71,5385	17,16153		
No	74,6689	11,72162		
Experiencing sexual violence				
Yes	71,4194	16,54242	t:1.077	p:0.300
No	73,9631	12,14833		

Regression analysis was used to determine the predictive levels of variables predicting acceptance of rape myths (Table 4). Gender, employment status, education level, place of residence, and income explain 28.7% of rape myth acceptance (p<0.001).

Table 4: Regression analysis results for predicting acceptance of rape myths

Variables	B	S.H	β	t	p	VIF
Constant	93,163	5,892		15,812	,001	
Gender	-	1,48	-	-6,915	,00	1,10
0: Male	10,27	5	,39		1	0
1:Female	0		5			
Employment status	2,897	1,049	,152	2,762	,006	1,024
0:Unemployed						
0:Student						
0:Officer						
0:Worker						
1: Self-employment						
Education level	-5,200	1,322	-,217	-3,933	,001	1,029
0: Primary school graduate-High school graduate						
0: Bachelor's degree						
1: Postgraduate						
Place of residence	-1,439	,816	-,099	-1,763	,079	1,068
0: Province						
0: District-town						
0: Village						
1: Metropolitan						
Income status	-,874	,594	-,084	-1,471	,142	1,109
0: Income less than expenditure						
0: Income matches expenditure						
1: Income more than expenditure						
R=,535	R2= ,287	F=19,377	p<0.001			

Discussion

The mean score of the participants on the rape myths scale was 73.97+12.69 (min-max:17-93). The widespread acceptance of rape myths can be considered as an indicator of cultural attitudes, beliefs, and traditional gender norms. Barnett et al. (2018) suggested that attitudes and opinions in this direction shape attitudes about rape. The high level of traditional sexist norms in our country is an example of the first steps of this social construction process.

Research on acceptance of rape myths shows that men have higher levels of acceptance of rape myths than women (Hayes et al., 2013; Swope, 2014; Karaman, 2022; Avezalma & Chusniyah, 2022). The rate of acceptance of rape myths among women is higher in India, Arab, and African countries (Jayalakshmi et al., 2016). In this study, the level of myth acceptance was found to be higher in women than in men.. The fact that our study did not consist only of university students may also have an impact on this result. In our study, individuals over the age of 38 constitute 25%. In the study conducted by Walfield (2018), it was determined that the acceptance rate of rape myths increased as the participants got older, too. In this case, it can be explained by the fact that both young women and this age group have adopted traditional sexist roles more. This may be an indicator of the patriarchal values and norms adopted in our country and is interpreted as an expression of the view that women are not powerless against rape. In addition, early age victimization increases has indirect effects on the acceptance of rape myths through traditional views of gender roles (Cooke et al., 2020) was also considered as an influence on this result.

Education is recognized as an important approach, especially in violent crimes or in awareness raising activities (Katran-Davran et al, 2022;). However, it may not always be effective enough to bring about the desired change. (Baysan Arabacı & Uygun, 2022). No matter how educated we are, it is not easy to change the attitudes and perceptions shaped by the environment, family, society or group we live in. In studies on violence against women, it has been found that as the level of education increases, negative perspectives

towards violence, progressive attitudes towards violence, and the tendency to experience violence decrease (Han Almiş et al, 2018; Nagel B et al, 2005; Francis et al, 2023). When the relationship between rape myths and education level was analyzed, a negative relationship was found (Bendixen et al.,2014; Yancı et al, 2018). However, in our study, it was determined that the acceptance of rape myths increased as the level of education increased. This may again be an indication that the participants are more committed to traditional gender roles and have stereotypical beliefs. The linear relationship between rape myth acceptance and education level also supports the view that it is an extension of social norms learned during the socialization process. It has been shown that rape education is effective on the acceptance of rape myths (Adesola et al., 2021), and it is thought that training in this sense will be an important approach in reducing the risk.

One of the most prominent variables revealed by studies examining the relationship between education level and attitudes and beliefs regarding violence against women and rape is ambivalent sexism. This situation is more common in individuals with higher education levels (Tarhan, Gündüz & Ekşioğlu 2017). The theory of ambivalent sexism was put forward by Glick and Fiske (1997) to explain the sexist ideology that legitimizes gender inequality with both positive and negative attitudes towards women. Researchers have suggested that sexism towards women has two dimensions: protective and hostile sexism. Hostile sexism is defined as an ideology that argues that women want to control men and try to gain privilege, therefore they are a threat to men, and thus legitimize men's privilege and dominance. Protectionist sexism is defined as an ideology that is seemingly positive, but legitimizes the superior position of men, stating that women are emotional, delicate and beautiful. Although these two forms of sexism involve different attitudes towards women, there is a high correlation between them and together they form a structure that legitimizes gender inequality (Alptekin, 2014). Chapleau, Oswald, and Russell (2007) also showed that rape myths are associated with hostile sexism. Viki and Abrams (2002) investigated the relationship between protective

sexism and blaming married and unmarried rape victims. The findings supported that protective sexism tends to blame marital rape victims if they know the perpetrator. This is because individuals with high protective sexism scores may have perceptions that the married victim was cheating on his or her spouse at the time of the incident.

In this study, a significant difference was found in the rape myth acceptance levels of the participants according to their income levels and employment status. It was observed that the level of acceptance of rape myths was high among unemployed individuals and individuals who perceived their income level as low. The role assigned to men in society is to bring home the bacon, while the role assigned to women is to take care of children, take care of housework and cook at home. Factors such as men being unemployed and having limited financial means create stress and are known to be a cause of domestic violence (Karaman, 2022). This traditional role is a reflection of cultural structure and explains the acceptance of myths. On the other hand, the effect of the just world belief theory as an influential factor on income level and employment status was also considered. In the just world belief theory, people deserve what happens to them and tend to want to believe that they get what they deserve. Therefore, individuals may sometimes resort to preserving the belief in a just world in order to cope with this disturbing feeling, thinking that the victim has behaved in ways that deserve what happened to him/her and that he/she already deserves this action. Thus, there is a tendency to blame the victim. (Yancı & Polat, 2019). In this way, the rate of acceptance of rape myths increases among individuals.

In this study, it was found that the level of acceptance of rape myths differed in terms of the residential unit of residence. Contrary to expectations, this difference was between those living in metropolitan cities and provinces and those living in districts and towns. In Karaman's (2022) study, the rape myth acceptance levels of individuals living in provinces are higher than those living in metropolitan areas. In metropolitan cities, the differentiation of the environment and the increase in opportunities may empower individuals, and their behaviors, attitudes and

habits may change negatively. In this case, there may be a tendency to blame the victim more.

Determining the region of origin of the people, which is one of the limitations of the study, actually shows the deficiency in the effect size of this factor. Because in societies like Turkey, which are built on the concept of honor, changing the perception brought by this concept is a long-term journey. At this very point, honor culture legitimizes inequality and violence between genders. The violence caused by the perception of honor basically stems from gender inequality. In this context, rape myths also automatically emerge in honor cultures. Rape myths are defined as thoughts, actions, and beliefs that justify or deny men's sexual violence against women (Gerger et al., 2007; Eker and Erdener 2011; Longway and Fitzgerald 1995). It is observed that these myths are more common in countries where honor is defined through women. Among rape myths, women secretly desire to be harassed, even if they don't show it. Women who wear revealing clothes and share them on social media leave the door open to harassment. There are assumptions such as women who speak and text in an inviting manner are subject to harassment, and women who consume alcoholic beverages invite rape (Şenses and Karaaslan 2023). In this context, the domination that is established/attempted to be established over women with the instinct of extreme protection and which includes constantly following women ensures that rape myths and the belief in a just world maintain their existence. With this approach, in patriarchal societies like Turkey that have adopted the concept of honor, it would be a better approach to focus on the perception of the social concept in which one is raised rather than on education or the region in which one lives.

Limitations and Strength of the Study

Since the data in this study were collected through the "Illinois Rape Myths Acceptance Scale" and "Personal Information Form", they are limited to the qualities measured by these forms. The data of this study were obtained from individuals between the ages of 18-65, and the low participation caused the study to be terminated on

a small sample size. Therefore, it cannot be generalized.

On the other hand, the fact that there are almost no studies on the community base in Turkey during the literature review process reflects the strength of our research.

Conclusion

It was determined that the acceptance of rape myths was above average, there were gender differences in the acceptance of rape myths and the level of blaming the victim was higher. Gender, employment status, education level, place of residence, and income explain 28.7% of rape myth acceptance. This situation was interpreted as a result of the widespread acceptance of traditional gender roles and the dominance of a culture with a patriarchal structure. However, this situation brings with it an important problem. This problem is the risk of leading to sexual and interpersonal violence, as well as the risk of legitimizing violence. In order to reduce this risk, examining the acceptance of rape myths with a higher sample size and raising awareness are thought to be approaches that will make significant contributions to public health, women's health and forensic sciences.

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RESEARCH ARTICLE

Social Service Practices in Disasters: February 6th Earthquake in Hatay Case

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Abstract

Hatay, one of the provinces most affected by the major earthquakes that occurred on February 6, 2023, was the area most impacted by the event. Immediately following the disaster, to recover from the effects of the earthquake and alleviate its negative impacts, social workers flocked to the region and implemented many social service practices. Social work practices are of critical importance in terms of accelerating the healing processes for the people of the region. In the study, the activities of social workers were evaluated using a case study approach. The aim is to reveal the effectiveness of social work practices from the perspective of social workers working in the earthquake response. Such an approach both supports and guides policy makers and decision makers in establishing new living conditions in the region and reveals the issues that need to be taken into account for future activities. Within the scope of the research, interviews with 30 social workers were analyzed. The results demonstrated that social work practices are extremely important in eliminating social damage in the post-earthquake period; however, human resources should be developed and increased in terms of quality and quantity, and financial and physical resources should be provided for social work practices.

Keywords: Hatay, February 6 2023, Earthquake, Social Work in Disaster

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Öz

6 Şubat 2023'te Kahramanmaraş merkezli gerçekleşen depremler sonrasında Hatay, depremlerden en fazla etkilenen il olmuştur. Felaketin yaşanmasından hemen sonra depremin oluşturduğu yaraları sarmak ve olumsuz etkilerini hafifletmek amacıyla Türkiye'nin her bölgesinden sosyal hizmet çalışanı bölgeye akın etmiş, psiko-sosyal destek, yönlendirme, iyileştirme, korku ve stresle başa çıkma, eğitim, savunuculuk gibi birçok sosyal hizmet uygulamasını hayata geçirmiştir. Depremi yaşayan bölge halkının iyileştirme ve normale dönme süreçlerini hızlandırmak, psikolojik ve sosyal hasarları tamir etmek bakımından sosyal hizmet uygulamaları kritik bir öneme sahiptir. Çalışmada sosyal hizmet çalışanlarının deprem bölgesindeki faaliyetleri, uygulamaları nitel araştırma yöntemlerinden vaka çalışması ile değerlendirilmeye çalışılmıştır. Amaç sosyal hizmet uygulamalarının etkinliğinin deprem alanında faaliyet gösteren sosyal hizmet uzmanlarının bakışıyla ortaya konulması, eksik ve yetersiz yönlerinin tespit edilmesidir. Böyle bir yaklaşım hem bölgede oluşturulacak yeni yaşam şartlarının tesisinde politika üretici ve karar vericilere destek olmak, yol gösterici olmak hem de ilerleyen süreçlerde gerçekleştirecek faaliyetlerde dikkate alınması gerek hususları ortaya koymaktadır. Araştırma kapsamında 30 sosyal hizmet uzmanı / çalışanı ile gerçekleştirilen mülakatlar analiz edilmiş, tespit ve sonuçlara ulaşılmıştır. Elde edilen sonuçlar doğrultusunda sosyal hizmet uygulamalarının deprem sonrası süreçte toplumsal hasarın giderilmesi noktasında son derece önemli olduğu ancak nitelik ve nicelik olarak insan kaynağının geliştirilmesi ve artırılması gerektiği, sosyal hizmet uygulamaları için finansman ve fiziki alan sağlanması gerektiği ortaya çıkmıştır.

Anahtar Kelimeler: Hatay, 6 Şubat 2023 Depremi, Afetlerde Sosyal Hizmetler

Introduction

Turkey is a country with a high risk of disasters, especially earthquakes, due to its geographical and geological structure. First degree earthquake fault lines spread to almost all parts of the country. Such a situation constantly keeps the possibility of encountering an earthquake disaster on the agenda. Unfortunately, it is very difficult to say that despite the radically changed disaster policies and new management mechanisms created after the 1999 Marmara earthquake, social awareness was created in terms of earthquake preparedness. The losses of life and property experienced in the earthquake disasters on February 6 and then on February 20, 2023, horribly reveal how unprepared we are on these matters. More than fifty thousand deaths (WHO, 2023), destruction of hundreds of thousands of residences and workplaces, millions of people becoming homeless (UN-IOM, 2023), and economic losses that will require long years and high costs to compensate are considered as the prominent consequences of the earthquake called "the disaster of the century". In addition to the damage caused by the earthquake in the physical structure, The damage it caused in the social structure should not be forgotten. Anxiety, restlessness, worry, fear, isolation, tension, post-traumatic stress disorders, sleeping and socialization difficulties are just a few of the social and psychological problems caused by the earthquake (Bozkurt, 2023; Tang, Deng, Glik, Dong, and Zhang, 2017).

All these negative symptoms can affect different segments of society in different ways. Particularly vulnerable and fragile groups such as children, disabled people, families of disabled people, elderly people, women, and immigrants are much more affected by the process and face more difficult conditions in terms of sustaining their lives. Conditions that are already very challenging for the general population become even more difficult for these groups, and their vulnerability is literally multiplied. At this point, social work practices provide guidance and advocacy activities to increase the resilience of earthquake-affected citizens and vulnerable groups against disasters, to help them hold on to life, and to meet their basic needs. It is known that

social work practices will make significant contributions to social change and improvement. The needs of earthquake victims and vulnerable groups are identified through the practices carried out by social workers at the individual (micro) and groups (mezzo) levels (Tapan, 2023; Mullally, 1997, pp. 108-134; Pohjola, 2011, p. 12) and appropriate solution mechanisms. Improvement processes are accelerated. In this context, efforts are made to heal social damage through social work intervention such as psychosocial support, education, group work, needs assessment, guidance and advocacy. The basic function of social work in this sense is formulated as acting as a bridge between people damaged by the earthquake and the resources, facilitating the interaction of earthquake victims with each other and with the society, providing guidance and support to social policy makers, and helping to create financial resources for all activities (Tapan, 2023; Pincus and Minahan, 1973, pp. 15-33). Hatay is the province most affected by the earthquakes that occurred on February 6, 2023, and February 20, 2023. More than half of the deaths in these earthquakes occurred in Hatay. On the other hand, hundreds of thousands of Syrian immigrants lived in crowded conditions in old buildings that were relatively earthquake-proof in Hatay. This situation led to both an increase in casualties in Hatay and the formation of vulnerable groups that were disproportionately affected by the earthquake disaster due to the immigrant population presence. (Bozkurt, 2023; Dal Zilio and Ampuero, 2023; Hussain, Kalaycıoğlu, Milliner, etc. 2023).

In this study, the effectiveness of social work policies implemented immediately after the February 2023 earthquake disaster in Hatay is evaluated. The evaluation was carried out using the interview method, one of the qualitative research techniques. Interviews were conducted with 30 experts and professionals who carried out social work activities in Hatay after the earthquake, and these interviews were supplemented by field observations. For the research, approval was obtained from the Hatay Mustafa Kemal University Social and Human Sciences Scientific Research and Publication Ethics Board on June 12th, 2023, protocol number 18, as well as the necessary permissions from the Hatay

Governorship. The information security of the participants was ensured and their post-earthquake sensitivities were taken into special consideration. No participant was coerced into being interviewed, and all regulations regarding the protection of personal information were strictly followed.

The study consists of conceptual framework and literature, methodology, demographic characteristics, findings regarding earthquake experience within the scope of research findings, findings regarding the activity process in the earthquake zone, findings regarding expectations and predictions for the future, and discussion and conclusion sections. It is hoped that the results of this study will be a source of academic studies, especially in the fields of social work and disaster, and will help policy makers and decision makers on the subject.

Literature Review and Conceptual Framework

Social Work and Application Areas in Disasters

Disasters are events that can affect the normal flow of life in many ways. Whether natural or human-caused, disasters are important phenomena that cause many negativities in social life or have the potential to deepen existing negativities and risks (Kadıoğlu, 2020). As Tomanbay states, disasters are events that can disrupt both social balance and the internal and social balance of individuals (Tomanbay, 2000, p. 125). Since disasters occur in unexpected and sudden situations, they are also described as crisis periods. For this reason, disaster management is often handled in coordination with crisis management. Can (2020) criticizes these definitions from the perspective of disaster sociology. He states that the definitions originate from physical sciences rather than social sciences, that nature is held responsible for the damages that occur in the definition of disaster, whereas when the human factor is excluded, it is not possible for nature to produce a disaster in its own course, and that a holistic approach focusing on the before, during and after the disaster is required. Based on these criticisms, Can defines disaster as follows:

“Disaster is a disaster that occurs suddenly or over time in places where human communities live, either by the ordinary movement of nature or by direct or indirect human intervention; “It is a social phenomenon that causes great damage and losses in physical, economic, psychological and many other aspects and has important social consequences in terms of its effects” (Can, 2020, p.20).

The extent to which a society or community is affected by a disaster depends on how resilient it is. This resilience is directly related to vulnerabilities. Resilience and vulnerability are two important key concepts of disasters that are related but conceptually different. There is an inverse proportion between resilience and fragility. More broadly, as resilience increases, vulnerability decreases; as fragility increases, resilience decreases. The concepts of resilience and fragility manifest themselves in many different aspects such as the individual, family, community and society. However, it is often not known who/what is how resilient and how fragile on this scale that varies from individual to society. This situation becomes more visible in the event of a sudden disaster. According to another approach, vulnerability occurs at two levels: social and individual. The situation caused by factors such as poverty, limited educational opportunities, lack of support from society and public institutions, and the health, psychological and social effects of the disaster in the long term expresses fragility at the individual level. It is pointed out that fragility increases at the social level in case of inadequacy or poor management of social service provider institutions for disasters, which ties to the demographic, historical and cultural fabric of society (Akbaş, 2020, p.336). Resilience is related to a society's current economic, social, physical, institutional, social and psychological preparedness level for disasters. In this context, it is evaluated that a disaster management perspective that extends over a long period of time during and after the disaster, including preventive measures starting before the disaster, will increase resilience. It is emphasized that creating a resilient society and culture of resistance is among the functions of social policy (Akbaş, 2020, p.337).

Social work also comes into play at this point and covers the practices carried out to bring an

individual, family, society or community to a more resilient position or situation, starting from the pre-disaster period. As Ceyhan (2023, p.780) states, social work has an extremely important role including the preparation processes before and after disasters, reducing disaster-related risks, and practices that will increase the resilience of the society against a possible disaster. In other words, social work refers to practices, services and approaches that pursue a strategy to reduce the effects of disasters, starting from before the disaster, continuing during the disaster, and afterward, in line with possible scenarios. These applications and services encompass psychosocial support, economic and material support, legal support, and more in all shapes and sizes. In short, social work takes an approach that ensures preparation before highly destructive disasters, especially earthquakes and fires, training fully equipped and well-trained teams, and working in coordination with each other (Özçelik, 2020).

Social work practices can be activated both by the state and in cooperation with non-governmental organizations and some voluntary foundations in the region experiencing the disaster. One of the most important institutions that provide services before and after disasters on a state basis is the Ministry of Family and Social Work. Although in some cases the recovery process in the local area develops spontaneously, it may not always be sufficient. Moreover, when some coordination problems arise, this may cause more harm than good. In this case, when the resources of the affected communities in the region where the disaster occurs are not sufficient, some social support mechanisms get involved. The most important of these is social service provider institutions in the context of non-governmental organizations. In Türkiye, the Red Crescent is the leader of social work in disasters as a non-governmental organization (NGO) (Özçelik, 2020, pp. 52-53). Apart from this, many independent, national and international non-governmental organizations that are not affiliated with local governments or the state implement social service practices.

After disasters, some interventions become necessary, as mentioned above. Perhaps, the most significant of these is providing psychosocial

support. During the post-disaster phase, psychosocial support is provided to individuals, families, or groups to help them cope with the disaster and crisis situation. For this reason, psychosocial support after a disaster is a necessity. The reason is that when this cannot be achieved, the risk situation may increase and reach advanced levels in a negative sense (Kök, 2023, p. 9). According to another evaluation, psychosocial support is a set of multidisciplinary services that includes eliminating the incompatibilities and disorders that may arise after a disaster, increasing the well-being of the individual and society, increasing the resistance to disasters that may occur in the future, and supporting recovery processes. After earthquakes and other disasters, psychosocial support services are provided through public institutions, non-governmental organizations, expert volunteer initiatives and experts within local government organizations. Psychosocial support is critical for disaster victims to hold on to life against problems such as depression, loneliness, alienation, isolation, anomie, and stress caused by disasters. As a matter of fact, the reciting of the adhan after the earthquake was perceived as a support to hold on to life for earthquake victims who thought that life had ended (Bayhan, 2020, p.300-302). On the other hand, an application that is at least as important as psychosocial support is financial aid, which is usually provided for once and helps overcome the crisis situation, giving individuals the opportunity to focus on other problems. Other supports include providing legal counselling by offering necessary guidance in order to prevent possible loss of rights. On the other hand, after highly destructive disasters such as earthquakes, health consultancy and necessary guidance and assistance in this regard also cover extremely important application areas.

Social Work Practices for Disadvantaged/At-Risk Groups in Disasters

The destruction experienced in disaster situations - especially earthquakes - creates special need groups or makes the situation of those who already have special needs more critical (Tomanbay, 2000, p. 125). It can be said that during disasters,

especially those with special needs, or in other words, disadvantaged/risky groups need some social work practices more. Because these groups consist of individuals who have experienced the disaster like everyone else and who, independently of this, have some special needs or needs that differ from those of other segments of the society (Kök, 2023, p. 9). For this reason, there may be a situation of double victimization or double disadvantage, which is of primary importance in social work practices in disasters. The most important issue in the relationship between fragility and disasters is that social conditions determine fragility. Definitions and usage of vulnerable groups may vary depending on geographical regions, organizations and academic research. The term vulnerability is frequently used in social policy, public health and humanitarian work to describe specific groups and produce solutions for their needs. Although disadvantaged groups are defined in different ways for different reasons, evaluations are made that they are more special, vulnerable and fragile than other segments of society due to their qualities. In this context, the disabled, the elderly, immigrants and refugees, children, women, and because of all these processes, the poor are defined as disadvantaged groups (Demir, 2020, p.268-270). Various social policies are being developed to protect vulnerable groups during earthquakes and meet their needs. These policies aim to support vulnerable groups before, during and after the disaster.

Disaster experiences can cause anxiety, lethargy, stress, material and moral losses, displacement or various health problems in individuals. While all of these are experienced by many disaster victims, their devastating effects can be more profound, especially for those who are considered as marginalized or disadvantaged. For this reason, the advocacy of social work practices in this field come to the fore (Ceyhan, 2023, p. 780). Considering that material losses can be compensated over time, it is of primary importance to focus on the moral losses of individuals and intervene in emerging behavioral or personality disorders. Because if no intervention is made at this point, this situation may lead to other negative effects in the future, such as sleep

disorders, post-traumatic stress disorder, and cardiovascular system disorders. For this reason, the most important support to be given after a disaster is considered psychosocial support. Psychosocial support given to disaster victims does not only cover the first moments of the disaster. However, it rather requires long-term case management and a holistic approach. In fact, at this point, other state institutions or non-governmental organizations can be activated by inter-institutional cooperation when necessary (Aykut and Soner Aykut, 2020, pp. 60- 62).

The Role of Social Work in Disaster and Crisis Management

Natural disasters are events that are likely to occur whenever and wherever humanity exists. Disaster management is defined as the set of activities that start before the disaster and continue during and after the disaster in order to eliminate the possible damages that may occur after natural disasters and reduce their effects. One of the most important components of disaster management is the social service interventions carried out by social workers. Social workers are experts who have the necessary equipment and knowledge to reduce and prevent disaster risk. In addition to taking on protective-preventive, rehabilitative and educational roles due to disasters, professionals also play a very active role in disasters with effective case management, planning and consultancy services. By making a plan specific to each individual's needs and situation, social workers can manage disaster-related cases very effectively and take actions to prevent possible crises (Ceyhan, 2023, p. 780-781; Kamrujjaman et al., 2018; Naturale, 2007). On the other hand, social workers can also take on an advocacy role after disasters for the purpose of facilitating disaster and crisis management and raising awareness. In this regard, for example, Tapan (2023, p. 20) aimed to make a socio-political contribution after the disaster by taking on an advocacy role as both a disaster survivor and a social worker after the February 6 earthquakes.

As it is known, Türkiye is a geography prone to natural disasters such as earthquakes, floods, landslides, and fires. In particular, the fact that the continent it is located on is relatively young shows

that it is more prone to seismographic movements, that is, earthquakes. The earthquakes experienced on February 6 are the two biggest examples of this in the last century. Social service practices are of particular importance in geographies where such large earthquakes occur. Because, as Kök (2023, p. 9) states, the larger the geography where the disaster occurs, the more difficult it is to coordinate social service practices after the disaster. Thus, it is very important to plan post-disaster social service practices very well in such large geographies. In this context, the first step that needs to be taken is to identify possible crises in advance and plan measures for them.

Social services act as a crucial reference point for minimizing the problems caused by disasters, both before and after they strike. However, in order to achieve this, it is necessary to create an organizational order and ensure crisis management (Kök, 2023). Crisis management in disasters covers all interventions and services provided before, during and after the disaster. This is simply called integrated disaster management (Altun, 2016, p. 184). Tapan (2023, p. 25) offered several suggestions regarding disaster and crisis management after the recent February 6 earthquakes. These can be summarized as follows: First of all, the withdrawal of disadvantaged groups to safe areas, the equal distribution of resources to the clients, the uninterrupted provision of services by ensuring the cooperation of non-governmental and public organizations, and the provision of consultancy regarding grief and therapy processes to disaster victims who have lost their relatives. In addition to all these, medical social work practices are also extremely important. Within the scope of medical social work, on-site interventions are provided in a health institution in the region where the disaster occurs, or, if there is no such opportunity, in field hospitals established. Social workers fulfill key roles in macro, meso and micro sense in hospitals and health institutions through case management, advocacy roles and various interventions (Karaağaç, 2023, p. 1163).

Problems Encountered by Social Workers in Disasters

Research on the impact of social workers during disasters is among the understudied topics (Kranke et al., 2020). However, there are very few studies on how professionals cope with the stress of being exposed to disasters (Cronin, Ryan, & Brier, 2007, p. 370; Naturale, 2007). Being a social service provider in disasters sometimes creates certain areas of struggle. These can be grouped under several headings: The first of these is the level of emotional and psychological impact of disasters on social workers. Secondly, the social worker becomes physically tired or worn out. Thirdly, the social worker is also a supportive victim. The last one is the lack of adequate planning and coordination in disaster situations. All of these are also critical important factors that can lead to wear and tear, called secondary trauma. Adding to the previous point, while social workers possess considerable training and dedication, some emotional and psychological aspects of being human can inevitably challenge even the most skilled professional. In recent years, studies have begun to explore this phenomenon, and the concept of 'compassion fatigue' has emerged to aptly describe this experience. In recent years, studies have begun to be carried out on this subject, and the concept of "compassion fatigue" has come to explain this expression. As stated by Türk and Kaya (20203), compassion fatigue occurs when social workers listen to clients and establish empathy and intense bonding with their losses, pain, and difficulties they face. As a result, the social worker's energy may be depleted, resulting in a condition called compassion fatigue. For example, in a study researchers conducted with social service workers after the February 6 earthquakes, they examined the effect of practitioners' compassion fatigue on their psychological resilience and found that the secondary traumas experienced significantly negatively affected the psychological state of the employees (Türk and Kaya, 2023, pp. 86-87). Compassion fatigue or secondary traumas refer to social workers experiencing the same types of symptoms experienced by traumatized clients. Distress effects such as insomnia, nightmares,

stomach aches, headaches, fatigue, memory loss, and sadness are examples of a few of the physical, cognitive, emotional, and behavioral domains of the secondary traumatic stress experience (Naturale, 2007).

The second problem faced by social service providers is also related to the first problem mentioned above. Particularly due to compassion fatigue or secondary traumas, the service provider may occasionally neglect their own needs. This brings about physical exhaustion as well as emotional exhaustion (Türk and Kaya, 2023, p.86). AFAD has prepared a guide for emergency and disaster workers on this subject and stated what employees should pay attention to. The guide recommends, employees should allocate time for themselves to rest, not forget to take care of their own needs while taking care of those who ask for help, pay attention to nutrition and sleep, etc. (AFAD, 2023). Thirdly, one of the problems faced by employees is that social workers and managers in disaster environments are also affected by the disaster and the increase in disaster-related needs (Cronin, et al., 2007, p. 378). This situation emerged more clearly with the February 6 earthquakes, and social service workers experienced mental, physical and emotional fatigue due to the fact that they had to serve as disaster victims themselves. However, it can be said that there are not enough studies on this subject.

The last one is that the planning and programs between institutions, individuals or institutions and individuals are not framed well enough. Lack of coordination here can negatively affect both the psychology and working conditions of social workers. For this reason, the coordinated and rotating work of social service workers is very important and functional. In a study conducted on this subject within the scope of the Covid-19 disaster, Şahin Taşgın and Bürüngüz (2021) interviewed social workers who worked in medical social work departments in institutions, municipalities and hospitals affiliated with the Ministry of Family and Social work in Istanbul, and as a result of the study, coordination between institutions was determined. They stated that employees made risky decisions using their own initiative due to reasons such as lack of resources and lack of a flow procedure on what to do in case

of a possible disaster. Considering all these together, during disasters, it is essential for social workers to both cooperate with their teams and practice personal care in order to work most effectively on behalf of their clients (Kranke, et al., 2020).

Hatay Case Study on Social Work Practices in Disasters

Research Method, Research Process and Research Field

Qualitative case study method was used in the study examining the effectiveness of social work practices in Hatay, an earthquake region. This method is used to understand and evaluate the facts through the experiences and opinions of the participants (Creswell, 2015). Within the scope of qualitative research, the interview technique has the feature of facilitating the acquisition of rich data (Yıldırım and Şimşek, 2016). The interview technique has some advantages compared to other research techniques. The advantageous aspects include providing the opportunity to better understand the thoughts, experiences and approaches of the participants, to continue the interview more flexibly and fluently, and to provide guidance when necessary (Merriam, 2009). Researchers should take into account the positive and negative aspects of each technique when choosing a method and shape the research within this framework (Punch, 2005).

In this research, the interview technique, one of the qualitative research methods, was preferred. Semi-structured interview forms were prepared to evaluate the effectiveness of social work practices after the earthquake. In Hatay, the province most affected by the earthquake in Turkey, tent cities and container cities where earthquake victims stayed were visited, and the activities and practices of social service workers working in these areas were observed on-site. The interviews were generally held in a conversational environment in front of tents or containers. No social service worker was forced to interview and only those who were willing were interviewed. The questions in the interview form, where the participants were not interrupted, were directed as part of the

conversation. Personal identification information was handled in accordance with all relevant data privacy regulations, ensuring complete anonymity for participants. In this study, where the effects of social work practices during the earthquake were investigated, Hatay Province was chosen as the field. This choice was influenced by the fact that Hatay, which has enough cultural and architectural knowledge to host many different civilizations historically, is also the city that suffered the most destruction in the earthquake and is accessible to researchers for observation and interviews.

Demographic Features

Within the scope of the research, interviews were held with 30 people who were experts and experienced in their fields and who worked in Hatay during the earthquake. The participants were reached through personal contacts and snowball sampling method. 16 of the participants in the research were women and 14 were men. Each interview lasted an average of 40-50 minutes, and all interviews were deciphered by the researcher. Data continued to be collected until saturation was achieved. All participants are university graduates and have at least a bachelor's degree. The age range varies from 24 to 42. When the participants were asked about their professions, 19 people answered as Social Worker, 6 people as Psychologist, 2 as Psychological Counsellor, 2 as Sociologist and 1 as Rehabilitation Specialist. Professional experience periods vary between 1 year and 12 years. Duty periods in the earthquake zone vary between 2 weeks and 7 months. While 5 of the interviewed participants stated that they were from Hatay, the remaining 25 people expressed that they came from different provinces of Türkiye on assignment or as volunteers. 10 of the participants work in non-governmental organizations and 20 people work in various public institutions. The following questions were asked in general during the interviews: How did you decide to come to the Hatay? Can you tell us about the first sight and feelings you encountered when you came to Hatay, the earthquake zone? Could you separately evaluate the difficulties and conveniences

experienced while operating in the earthquake zone?

Although the general answer to the questions about what field they worked in the earthquake zone was psychosocial support, they declared that they tried to help in every aspect needed in the field. They put forward opinions that, in addition to psychosocial support, they tried to take part in needs assessment, advocacy, guidance, education, hygiene provision, access to resources support, coordination, communication, and all kinds of social service activities imaginable. Frankly, field observations during the interviews also support this claim. The table includes gender, age, profession, professional experience, length of duty in the earthquake region, provinces of origin, mission area in the earthquake region, and working organization (NGO/Governmental). In the parentheses after the participant statements, the participant code (P1, P2, ..), gender (F/M) and age categories are given.

Research Findings

Findings Regarding Earthquake Experience

In the interview form developed to investigate social service activities in Hatay during the February 6 earthquake, the activities related to the earthquake experience consist of questions about the participants' opinions before the activity. In this context, the participants' reasons for choosing Hatay among the eleven provinces considered to be earthquake regions, their first impressions about the effects of the earthquake and the parts it affected the most, and their opinions about the reasons for the extreme destruction caused by the earthquake were investigated. The common point of the topics researched in this section is that the participants provide information about the working environment they encounter before they even start the activity. Such an approach also explains the field climate that affects the opinions of social workers. During the earthquake, the intervention of people who are experts in their fields, knowledgeable, equipped and experienced in every field is extremely important. It is known that such interventions make significant contributions to the reduction of risks and losses in

Tablo 1. Demographic Characteristics of Participants

Participant Code	Gender	Age	Working Organization (NGO/Governmental)	Work Experience	Job	Earthquake Mission Time	Province of Origin	Mission Area
P1	Female	24	NGO	1 Year	Social Worker	2 Week	Manisa	Social Support and Guidance
P2	Male	32	Governmental	11 Year	Social Worker	3 Month	Hatay	Outreach and Review
P3	Male	28	Governmental	5 Year	Social Worker.	2 Month	Kocaeli	Needs Identification/ Guidance
P4	Male	27	Governmental	3 Year	Social Worker.	2 Month	Kütahya	Coordination and Direction
P5	Female	36	Governmental	12 Year	Psychologist	5 Month	Hatay	Psychosocial Support
P6	Male	36	Governmental	8 Year	Social Worker	3 Month	Zonguldak	Household Scanning / Direction
P7	Male	32	NGO	1 Year	Social Worker.	3 Week	Zonguldak	Psychosocial Support
P8	Female	27	NGO	3 Year	Psychologist	2 Week	Sakarya	Psychosocial Support
P9	Female	43	NGO	21 Year	Social Worker.	2 Week	Tekirdağ	Needs Identification/ Guidance
P10	Male	34	NGO	10 Year	Social Worker.	2 Week	Ordu	Family Social Support
P11	Male	26	NGO	1 Year	Social Worker.	2 Week	Ordu	Psychosocial Support
P12	Female	38	NGO	7 Year	Sociologist	2 Week	Kayseri	Household Scanning / Direction
P13	Female	27	Governmental	4 Year	Psychological Cou.	1 Month	Konya	Psychosocial Support
P14	Male	25	NGO	1Year	Psychologist	3 Week	Kayseri	Psychosocial Support
P15	Female	27	NGO	3 Year	Social Worker	3 Week	Konya	Outreach and Review
P16	Female	25	NGO	1 Year	Psychologist	2 Week	Samsun	Psychosocial Support
P17	Female	36	Governmental	12 Year	Psychologist	1 Month	Çorum	Psychosocial Support
P18	Female	29	Governmental	5 Year	Psychological Cou.	7 Month	Hatay	Psychosocial Support
P19	Male	33	Governmental	7 Year	Social Worker	3 Month	Bayburt	Needs Identification/ Guidance
P20	Female	26	Governmental	1,5 Year	Social Worker.	3 Month	Mersin	Outreach and Review
P21	Female	26	Governmental	4 Year	Social Worker.	2 Month	Bilecik	Psychosocial Support
P22	Male	33	Governmental	8 Year	Sociologist	4 Month	Adana	Social Support and Guidance
P23	Male	28	Governmental	3 Year	Social Worker.	2 Month	Adana	Psychosocial Support
P24	Female	29	Governmental	6 Year	Social Worker	3 Month	Osmaniye	Coordination and Direction
P25	Female	28	Governmental	2 Year	Rehabilitation Spec.	7 Month	Hatay	Disabled Care/ Rehabilitation
P26	Male	31	Governmental	9 Year	Social Worker	2,5 Month	İstanbul	Household Scanning / Direction
P27	Male	42	Governmental	16 Year	Psychologist	7 Month	Hatay	Psychosocial Support
P28	Male	38	Governmental	10 Year	Social Worker	3 Month	İstanbul	Social Support and Guidance
P29	Female	35	Governmental	11 Year	Social Worker	7 Month	Hatay	Family Social Support
P30	Female	25	Governmental	4 Year	Social Worker	3 Month	İzmir	Education / Direction

earthquakes and to the recovery and normalization processes. On the other hand, it is evaluated that the profession, especially that of those working in the field of social work, has extremely high feelings of empathy and compassion and is very related to human love and spirituality. As a matter of fact, social workers who heard about the earthquake

disaster that took place on February 6, 2023, took immediate action, and tried to support the earthquake victims in every field where they were needed. A small portion of the social workers interviewed did not leave the earthquake zone while they were already living in Hatay and took

it upon themselves to immediately participate in the process and contribute. A large number of them came from different provinces of Türkiye and tried to take part in every possible activity of social service. When asked why they chose to work in the Hatay region during the earthquake, the interviewees stated that they turned to the region with the most destruction out of a sense of professional and humanitarian responsibility.

I was working in Hatay before the earthquake. I was in a position to easily go to another province. I chose to stay in Hatay. The magnitude of the disaster here was enormous. I could not leave the city where I was born and raised. I chose to stay in Hatay because it has moral advantages and to get social support from my family. My wife and family relatives live in Hatay. This is the land where I was born and raised, I grew up here, I received education from the schools of this place, I blended in with the people of this place, and in my opinion, this place needed the service the most in the period after the earthquake (P18, F, 29). Driven by a desire to help I wanted to help the relatives of our citizens who lost their lives in the earthquake and our injured citizens, and everyone who experienced that pain there, and I had friends in the Hatay region, I received information from them about what was happening and the situations in which I could help, and I decided to go (P16, F, 25). When I chose the department, I studied the PDR department in order to heal people, to support people who are in a difficult situation and in a difficult mood, to be with them and to accompany them on that journey. Again, the institution I work at serves this very well. We work with disadvantaged groups. When the earthquake happened, I tried to empathize with the people there directly. No matter what, I go and do my best; For example, carry a napkin? Feeling like doing even that would be good for me, my friend, and I volunteered (P13, F, 27).

Participants took action immediately after the earthquake, yet they stated that they had serious difficulties in transportation to the Hatay region, that transportation was extremely difficult, and that the difficulty of transportation in these conditions competing against time disrupted their support activities. When they reached the region, they stated that they were shocked by the scene they encountered, that despite all their experience (a significant percentage of the interviewees stated

that they had worked in pandemics, floods and regional earthquakes), they had never encountered such a disaster before and observed that there was no stone left unturned in the city.

While we were going by plane, Hatay Airport was closed, so we landed at Gaziantep Airport and from there we took the shuttle to Hatay. For these reasons, it was a long, tiring and stressful journey. There were cracks in the roads, and the roads were closed in some places. There was an extraordinary crowd. Vehicles bringing aid supplies, ambulances, funeral vehicles and every kind of vehicle you can think of were on the roads. The road trip, which was supposed to take two hours, took about ten hours, and this tested our patience very much (P26, M, 31).

We arrived late at night and the sight we saw on our way to our duty area in the morning horrified us because there was no building that was not destroyed, we realized that 100% of the city was destroyed and it was worse than what was seen on the screens, it made us feel helpless. I felt great sadness and fear, everyone needed help, it was dark everywhere and it was raining (P9, F, 43). All the buildings around me were destroyed, voices calling for help were coming from the houses and I felt a great sadness, I felt helpless and powerless because I couldn't do anything (P3, M, 28).

The late arrival of aid and the increasing number of deaths every day caused me deep anxiety (P30, F, 25). Participants gave similar answers to questions about the causes of the earthquake, making sense of the material and moral losses experienced, and the segments most affected by the earthquake. It has been seen that there is almost a consensus that earthquake is a geological natural event, unpredictable and unpreventable, but if the necessary precautions are taken, the loss of life and material losses can be reduced and social damage can be minimized.

It was a long-awaited earthquake anyway, Hatay is a 1st degree earthquake zone, after all, but I never thought it would be this destructive and cause loss of life. Of course, I believe in fate, but believing in fate does not prevent me from taking precautions (P5, F, 36). Hatay is a region known to have been destroyed seven times in history. I am surprised that we live in a geography full of fault lines and are so unprepared and confused for an earthquake. I prefer to approach natural disasters as a whole. How prepared were we? If the buildings had been built to withstand severe

earthquakes, would we have suffered so many losses (K29, F, 35)? I think an earthquake is a natural disaster, but such a loss of life and property is imprudence. P11, M, 26). Earthquake is a natural disaster. Earthquakes cannot be prevented, but precautions can be taken by foreseeing what will happen afterwards. I attribute the material and moral losses mostly to lack of precaution, and I feel sad (P22, M, 33).

On the other hand, it was stated that the entire population of the region, especially the most vulnerable groups, was affected by the earthquake. Children, disabled people and families with disabled individuals, women, immigrants, and poor citizens had to deeply experience all kinds of negativities of the earthquake. They stated that especially children would not be able to recover from the earthquake disaster and the shock of losing their homes and relatives due to the earthquake for a long time, so they made the greatest effort in this field as social workers.

I think the group most affected by the earthquake is children. Because they are defenseless and in need of protection. They follow the path their families have drawn for them (P16, F, 25). Families of disabled people and chronic patients are the ones most affected by the earthquake. They suffer a lot because they cannot escape easily during an earthquake and have difficulty finding medical supplies after the earthquake (P25, F, 28). Disabled and elderly individuals and their relatives are the groups most affected by the earthquake. While providing home care services is challenging even under normal conditions, this becomes almost impossible when the most basic needs are not met (P4, M, 27). Children are most affected by earthquakes. Such traumatic events experienced during psychosocial development stages can cause permanent problems in adulthood (P21, F, 26).

Findings Regarding Activities, Difficulties and Inadequacies in the Earthquake Region

In this section, where the activities carried out in the earthquake zone were investigated, the participants were asked questions about in which area they carried out their activities and for how long, the difficulties, facilities and inadequacies experienced in this process. In addition, they were asked to convey, with their field experiences, the

factors required to make social service activities in the earthquake zone more effective and efficient. Social work practices in natural disasters such as earthquakes primarily aim to meet the urgent needs of the society and provide support. In this context, the most common types of social service practices in the disaster literature are disaster shelters, psychosocial support, meeting basic needs, community education, family reunification, support for the disabled, and legal consultancy services. Disaster shelters are established during or after the earthquake, and social service workers in these places provide shelter, basic needs and psychosocial support to the victims. Psychosocial support includes support services provided to help people affected by the earthquake cope with post-traumatic stress. This practice may include counseling, group therapy or support groups. Meeting the basic needs of earthquake victims such as food, water, clothing and medical aid is also considered a type of social service activity. Social workers identify these needs and provide access to help. Community education includes informing individuals about earthquake preparedness and emergency plans. This application is an important social service application in terms of helping people learn how to be prepared for an earthquake. Family reunification is a social service practice that provides assistance in reuniting and communicating with family members who were separated during an earthquake, thus minimizing social damage. Within the scope of support for the disabled, disabled individuals are provided with assistance for their special needs and their integration with society is supported. Legal consultancy is a type of social service practice that includes assistance and consultancy services regarding the legal rights and insurance claims of earthquake victims. Social work professionals adapt, increase or decrease their practices according to local conditions and needs.

The Ministry of Family and Social Work stated that they reached more than 3 million citizens in the earthquake zone with many social service practices such as psychosocial support, psychological first aid and coordination of in-kind aid, and that they showed that the state stands by its citizens, and that they carried out social service activities in the

field with more than 12 thousand personnel. It was also emphasized that among these personnel there were social workers who worked devotedly in the field, even though they were earthquake victims themselves (Ministry of Family and Social Services, 2023a). The Ministry also prepares social service projects for earthquake-affected citizens who have gone abroad temporarily, and within the scope of the projects, psychologists, psychological counselors, social workers, and child development experts provide family seminars, psychosocial trainings, and historical-cultural trips, separately for adults and children. Within the scope of the projects stated that improvement activities will be organized. In addition, it is also stated that with the project, which aims to reduce the negative effects of the earthquake on citizens, Turkish families residing in Germany and whose relatives come from the earthquake area will be informed about how to approach their relatives affected by the earthquake and what they should pay attention to (Ministry of Family and Social Services, 2023b). During the earthquake disaster in Hatay, social service experts and employees declared that they contributed to many social service activities. Education, rehabilitation, consultancy, guidance, needs assessment and access to services, especially the psychosocial support services mentioned above, are among the leading activities. The issue frequently mentioned in the interviews with the participants was that the social service personnel operating in the earthquake zone were involved in almost every issue and every social service practice and that they made an effort for this.

I worked in the psychosocial support team in the earthquake zone for 1 week in Antakya, 1 month in Kirikhan, and 3-4 months in the Hassa region. Home visits, individual interviews, psychoeducation and other trainings, activities, children's activities, sports, culture, etc. I worked in all activities (P10, M, 34). I worked in the Children's Services Unit, Women's Services Unit, and Socioeconomic Support Units (P22, M, 33). I worked for weeks in the field of household screening and social activities for children in the container city where we were assigned as the Ministry (P29, F, 35). We worked with both children and families. For example, tents were set up in Antakya. We were going to those tents and doing activities with the children, but we also tried to reach the children who

could not reach them and set up tents with them and support those children. We played games and did activities, and apart from that, we reached the families by visiting the villages and neighborhoods of Samandağ. We asked about their needs and tried to help in terms of psychosocial support (P8, F, 43). We were assigned to the villages and neighborhoods of the provinces or districts to which we had been assigned, and also to container cities. We worked in children's areas, we worked in elderly areas, we helped people with disabilities, home care, individuals in need of socioeconomic support, families and even people trying to reach tents and other shelter needs. We had to not only work in one field but also work outside our own field. Because our employees were affected by the situation at some point, we tried to provide psychosocial support to them (P15, F, 27).

A number of difficulties have been encountered in social work practices in the earthquake zone. Such challenges are inherent in disaster and the social work profession. Access difficulties, emergency coordination, resource shortage, mental problems, communication problems and housing problems stand out as the most frequently encountered difficulties. During earthquakes, infrastructure may be damaged and road and communication networks may be interrupted. This makes it difficult for social service teams to reach affected areas and provide assistance. Since earthquakes often require the participation and intervention of more than one organization, they can lead to lack of coordination and conflicting relief efforts. Earthquakes can require a large number of resources quickly. Social work teams face challenges in the field with inadequate funding or understaffing. On the other hand, earthquakes can cause traumatic events and psychological problems may be common among affected individuals. Social workers also have to deal with such situations. Damage to the communication infrastructure makes it difficult to find missing people and convey requests for help. Many people may become homeless during earthquakes. In such cases, social service teams may have to intervene with rapid planning and implementation to meet temporary shelter and settlement needs. To overcome all these challenges, good preparation, quick response and effective coordination are important. In this context, social service teams

during earthquakes are of critical importance for the well-being of society. Most of the difficulties expressed were also confirmed by social service workers operating in the Hatay region.

As difficulties there was a major organizational problem. Inter-institutional communication was not possible because their phones did not have reception. Since everyone came from outside, they did not know the environment or the staff (P12, F, 38). We visited households in the village in Antakya, but they could not go to the unvisited villages due to bad roads (P5, F, 36). It was very tiring for us to work with a small number of people in the units due to the concentration of applicants to work in the earthquake zone and our colleagues being on administrative leave or passing away. It became very difficult for those of us who were directly exposed to the earthquake to provide psychosocial support. We were sleep deprived, we were sleeping little, we were working all the time, so we were very tired, but frankly, we did not feel so tired because we saw people in those conditions (P29, F, 35). I was staying in a tent city with foreign nationals in the earthquake zone. I had difficulty communicating with adults. Because we don't speak the same language. There was no problem with the children either, they were just too crowded, maybe we can say this as a problem (P7, M, 32). During the activities, we had difficulties in directing them to other government institutions. There was a bit of a coordination problem. Lack of living spaces, people's general psychology, dirty air due to demolition, difficulties in accessing basic services, difficulties experienced in the field (P14, M, 25).

In order for social service activities to be effective and efficient in the earthquake zone, factors such as preparation and planning, cooperation and coordination, human resources, communication, resources, public participation, training and capacity development, psychosocial support, and rapid response come to the fore. Detailed preparation and planning must be made for effective service delivery before, during and after the earthquake. Emergency plans, training, drills and scenario development are important at this stage. Effective cooperation and coordination should be ensured between different institutions, non-governmental organizations, local governments and other stakeholders. This factor is vital as it allows services to be provided without

conflict. Competent and sufficient human resources such as social workers, psychologists, psychiatrists and guidance specialists must be available. These professionals significantly accelerate the healing process through the provision of psychosocial support during crisis periods. Personnel who can communicate effectively with the public and have crisis communication training are required. It is critical to inform and guide the public. Physical resources such as equipment, materials, financial resources and accommodation facilities are extremely important in supporting the effectiveness of service delivery. Community involvement and feedback help tailor services to meet needs. Social work professionals and other crisis management personnel should be regularly trained and kept up to date. The psychosocial needs of earthquake victims should be focused on and emotional support should be provided. It is vital to act quickly and in a coordinated manner immediately after an earthquake to have the potential to minimize loss of life and damage. In the interviews, social service workers operating in the Hatay region also put forward opinions that these factors would significantly increase the effectiveness and efficiency level of social work practices.

More human resources are required. Individuals working in the field (like me) should be supported in training and many issues (P24, F, 29). I think we need more Social Workers and Psychologists and concrete activities that will revive hope in people (P18, F, 29). As an employee in the earthquake zone, I also need psychosocial support and I request that support be provided in this regard (P2, M, 32). Institutions such as family social work, Afad and Red Crescent need to work in cooperation and coordination (P10, M, 34).

Findings Regarding Expectations and Predictions for the Future

Although the expectations and predictions of social workers about the future after the earthquake are different, it is possible to reach certain conclusions based on common points. First of all, after the earthquake, there is an increase in the psychosocial and basic needs of the society, and social workers are expected to work harder to

meet these increasing needs. Secondly, social workers' crisis management skills become even more important. As earthquakes and other natural disasters increase in frequency, experts' skills in emergency response improve and become more efficient. Thirdly, social workers are expected to focus on education and awareness activities to increase society's preparedness for disasters. Fourthly, the importance of closer cooperation and coordination with other institutions, local governments and non-governmental organizations for post-earthquake service delivery is understood. Fifthly social workers can improve service delivery by using technologies such as communication and data analytics more effectively. Sixthly it should not be forgotten that social workers working in post-earthquake services may themselves be under stress. Therefore, it is important for them to be well and get support. Finally, post-earthquake societies have long-term recovery and reconstruction needs. Social workers also play an active role in this process. These insights reflect the challenges and opportunities social workers may face to more effectively respond to the needs of post-earthquake communities. On the other hand, the predictions and expectations for the general society that experienced the earthquake are hopeful that the situation will improve day by day, the wounds will be healed and the material and moral, economic, psychological and social damages will be compensated over time.

I hope that more effective and effective work will be carried out in the future. More effective psychosocial support should be provided by taking into account the psychology of the personnel working in the field (P18, F, 29). As far as I understand, the process will not work any faster than this. But my hope is that a city can be built that will not cause such destruction again (K1, K, 24). I hope that our state will heal the wounds quickly and we will get back on our feet (P22, M, 33). I think that those traumas, those damages, those psychological injuries are not things that will go away easily, we need to give great support as a society, we need to heal the wounds of those people before building a house, buying a car (P8, F, 27). I think people there always need social support. I think part-time assignments from here should be done a little more intensively. Appointed personnel must receive training

on how to treat individuals affected by disaster (K15, K, 27). I do not know how other ministries and other institutions of the state will work professionally.

However, our ministry stated that it will continue psychosocial support. My personal expectation is that in a very short time, people's important needs such as basic shelter, basic security, basic clothing, eating and drinking, and access to food, as well as strengthening and finally access to social services, will be met... I hope my expectations will come true in a very short time (K29, K, 35). In the next period, I hope earthquake-resistant buildings will be built and those in need will not be victimized, especially the demographic structure in Hatay was an example for our whole country, I hope it does not change (P27, M, 42).

Participants working in the field of social work in Hatay had a significant change in their lives before and after the earthquake, they began to value their loved ones much more, they tended to live life minimally, they realized that making others unhappy for financial reasons causes suffering that affects the whole society. This experience heightened their sensitivity and instilled a sense of caution towards natural disasters and their impact. They stated that it is necessary to be more sensitive and cautious about this issue.

I learned to live life minimally. Because I still feel the nothingness of having such a bond with matter when even the breath, we take does not belong to us (P12, F, 38). Material possessions lost their importance and enjoying the moment became important (P14, M, 25). After the earthquake, I learned how valuable my loved ones and the life I live are (P26, M, 31). I changed, my environment changed, it deeply shook my perspective on life (P4, M, 27). I did not have much experience with the suffering before the earthquake, and I experienced the psychological difficulties of working in disasters (P16, F, 25). Nothing is the same anymore, we lost our home and many of our relatives, and we still experience post-traumatic stress symptoms (P5, F, 36).

Discussion

Social service in disasters encompasses a range of activities, including providing emergency shelter, food assistance, and mental health counseling to individuals and groups affected by disasters. In the literature, it is seen that international studies on disaster and social service activities are more

intense than national studies. It is noted that these studies, which mainly focus on social service activities carried out during and after disasters such as earthquakes, fires, hurricanes and finally pandemics, are generally compatible with the findings of this research on social service activities carried out during the February 6 Hatay earthquake. In the Wenchuan earthquake that occurred in China, Huang, Zhou, and Wei (2011) particularly highlighted the healing dimension of social work activities. Frankly, the findings of this research conducted in Hatay point to the same direction. They stated that the medical support, social support and psychosocial activities provided by social service workers aim to improve the physical and mental health of earthquake victims and thus increase their motivation for life. During the Marmara Earthquake, qualified social workers were needed to provide aid and support services in the field. These experts give hope to disaster victims and help them look to the future more optimistically. Hope motivates disaster victims and supports them in achieving their goals, especially in such periods (Javadian, 2007; İbiş and Kesgin, 2014). In his study, Zakour (2008) emphasized the importance of social service workers in creating resources for social work activities in disasters and making these resources accessible to disaster victims. The study carried out in Hatay, the earthquake region, spent weeks and months of household screening, needs assessment and meeting the identified needs for the same purposes. Similar findings emerged in the study conducted by Wong (2018), which touched upon the importance of social service workers during disasters. In their article, Artan and Özkan (2020) focused on the importance of social work and the roles of social workers in disasters and reached similar findings. Another study addressing social work activities at the individual, group and community levels with disaster and post-disaster dimensions was conducted by Alstone, Hazeleger and Hargreaves (2019). The findings of the study are similar to the findings of this study conducted in Hatay, but the activities in Hatay were organized as a whole rather than separately at micro, mezzo and macro levels. The situations of vulnerable groups with unique and special needs were of course considered and support activities

were continued within special programs. Studies by Aydın (2012) and Altun (2016), focusing on the situation of vulnerable groups in disasters, also reached similar findings and highlighted the importance of social service interventions for risk groups. Tuncay (2004), who made significant contributions to the literature with his book titled "Social Service in Disasters, Social Work Practices Realized After the 1999 Marmara and Bolu-Düzce Earthquakes", revealed the nature and characteristics of the social services activated during the earthquake and the difficulties experienced by social service workers during disasters. The findings highlighted in the work are almost the same as the findings in this study conducted in Hatay. As social service intervention, primarily psychosocial support, need identification, access to resources, education, rehabilitation, taking into account the special needs of vulnerable groups, and household screening are the prominent social service intervention areas in both studies. On the other hand, the difficulties experienced by social workers in the earthquake zone such as inadequacy of human resources, inadequacy of space to carry out activities, working for excessive hours, and as a result of all these, the inability to maintain their own well-being stand out as common findings of field studies.

After the disaster, it is extremely important for social service workers who will serve in the regions affected by the disaster to be protected from the psychological effects of the disaster and to be able to continue their professional work effectively (Tuncay, 2004; İbiş and Kesgin 2016). In order to continue their work effectively, rescue personnel must be well prepared, otherwise emotional trauma renders them ineffective (Waeckerle, 1991; İbiş and Kesgin 2016). As a matter of fact, in this study conducted in Hatay, a significant portion of social service workers in the earthquake area stated that they experienced difficulties in protecting their mental health and that they especially needed psychosocial support. Similar findings emerged in Aktaş's (2003) study, in which he investigated how social work intervention would be in crisis situations, the steps of intervention, and the interventions to be carried out at the social level. In a study comparing the

Van and Marmara earthquakes in terms of social service activities, it is evaluated that the special needs of vulnerable groups (especially children, women and disabled people) were not adequately addressed and the desired level of psychosocial support was not reached (Altun, 2016; Tapan, 2023). This situation is partially compatible with this research. The reason the incident is still fresh in Hatay in this this sense, social support services are continuing uninterruptedly.

In his research on the actors involved in disaster management and their roles in terms of social service activities, Özçelik (2020) examined the social service activities carried out by central government organizations (ASHB, AFAD, Kızılay, UMKE etc.), local governments and non-governmental organizations in the field. The findings that all these institutions tried to support disaster victims as much as possible in a coordinated manner during the disaster are fully compatible with the findings of this research. On the other hand, İbiş and Kesgin (2014) touched upon the relationship between social work and medical rescue in their research and discussed the social service practices of the Ministry of Family and Social Services in crisis intervention in case of disaster. Findings have been reached that the implementation objectives of the Ministry and the activities carried out in Hatay are compatible. As a matter of fact, the conclusions that the Ministry entered the earthquake area with as much personnel and resources as possible and did not hesitate to make any sacrifices in supporting the earthquake victims were confirmed by social workers operating in Hatay. It was reported that there was a serious lack or inadequacy of coordination after the Marmara earthquake (Karataş, 2000; Tapan, 2023). This reveals that similar results were obtained with this study conducted in Hatay and that it is compatible with the literature.

Conclusion

Earthquakes are one of the leading disasters that have the effect of radically changing human life. The earthquake disaster that occurred in Hatay on February 6, 2023 affected the lives of all people living in the region, causing wounds that are

difficult to heal and damage that is difficult to compensate. In such incidents, social work practices are of critical importance in minimizing social damage and accelerating healing and normalization activities. In fact from the first moment the earthquake was learned, the Ministry of Family and Social Work, local administrations, non-governmental organizations and volunteer initiatives flocked to the region to provide support in the field of social work and assigned their experts and experienced officials on the subject. It is extremely valuable to make social service activities operational in the region immediately after the earthquake disaster and to carry out these activities with trained, knowledgeable and experienced staff. Because such an initiative reveals the value given to people in the region, the steps taken to reduce suffering, and the belief that the people of the region are not alone in the healing processes. On the other hand, evaluations carried out in line with the opinions and suggestions of social service experts and studies operating in the earthquake region will increase the accuracy of the steps to be taken and the policies to be produced in the field. As a result of the field interviews conducted with experts who are practitioners in the field of social work in the earthquake affected region of Hatay, many conclusions have been drawn that will guide decision makers on this issue.

During the earthquake, there were opinions that there were serious difficulties in transportation to the earthquake area, that transportation delayed arrival to the site, that access to the region could not be achieved during the very valuable hours called golden hours, and it was emphasized that alternative transportation routes should be provided to the region. It was found that there was a lack of coordination between institutions providing social services, which significantly reduced the effectiveness and efficiency of services. The environment of chaos and turmoil created by the lack of coordination has also made it difficult for earthquake-affected citizens to have access to basic needs. On the other hand, the principle of equal and fair access to humanitarian aid has been disrupted by the lack of coordination. At the point of making sense of the causes of the earthquake and earthquake losses, social workers

point out that the earthquake is a natural event and therefore cannot be prevented or predicted. However, they have a consensus that the loss of life and property can be minimized with effective measures to be taken and deterrent measures and controls to be implemented. It has been stated that if the ground surveys are scientific, the construction quality is high and durable, the damage caused by the earthquake will be much more limited. On the other hand, social work practitioners showed vulnerable groups as the segments most affected by the earthquake. It has been stated that especially children, the disabled, women, the poor and immigrants are already vulnerable, and their grievances has increased with the earthquake.

It is possible to talk about a consensus among social workers that for social service activities in the disaster area to be more effective and efficient, a serious preparation process, sufficient human resources in terms of quality and quantity, sufficient financing, and physical space to carry out the activities, and social support are required. The fact that the earthquake occurred in more than one province at the same time and in a very wide geography caused inadequacies, especially in terms of human resources, and therefore a decrease in the quality of social service practices. On the other hand, the problems experienced in shelter and accommodation areas in the early days of the earthquake were significantly resolved during the process. First tent cities and then container cities played an important role in this field.

It is possible to state that there is a generally optimistic approach regarding future expectations and predictions. A very significant part of the social service workers who contributed to the research put forward expectations that, as the state and society, healing processes will be carried out quickly, wounds will be healed, and a new life will be achieved with new hopes. At this point, on the one hand, physical structuring will be emphasized and solid housing and living spaces will be built and on the other hand, the psychological and social damages of the society will be repaired with other social service activities, especially the psychosocial supports.

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Mobbing and Suicide: A Case Study on Suicide Incidents in Turkey

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Abstract

The frequency and persistence of mobbing behavior, which can occur in all professional groups and organizations, has devastating effects on the victim and in some cases leads to suicide. In this study, the characteristics of the individuals who committed suicide due to workplace mobbing and how they experienced this situation was examined through newspaper news on the internet. Case study, which is a qualitative research approach, was used as the research design. Descriptive content analysis was performed in order to analyse the data. The analyses were made after news about suicide incidents in Turkey were found on the internet by typing "mobbing and suicide". 12 of these suicide cases were associated with mobbing by researchers. These cases were examined in terms of variables such as gender, age, profession, type of suicide, suicide note, psychiatric treatment, mobbing claim and type of mobbing. As a result of the analysis, a relationship was found between mobbing and suicide. It has been determined that the majority of those who commit suicide due to mobbing are women and the age range where suicides occur most frequently is the 25-34 age range. It has been found that the majority of those who commit suicide are single. It has been claimed that the professional group in which suicides occur most frequently is doctors and the most common form of suicide is jumping from a height. It has been determined that some of those who committed suicide received psychiatric treatment. It has been observed that almost half of those who committed suicide left a suicide note. The most common forms of mobbing are It has been revealed that these are threats, work pressure, humiliation, isolation, disregard, gossip, slander, interference with lifestyle, arbitrary practices, obstruction of professional advancement and physical violence.

Keywords: Mobbing, Suicide, Türkiye

Öz

Tüm meslek gruplarında ve kuruluşlarda ortaya çıkabilen mobbing davranışının sıklığı ve devam etmesi, mağdur üzerinde yıkıcı etkiler yaratmakta ve bazı durumlarda intihara yol açmaktadır. Bu çalışmada işyerinde maruz kaldıkları mobbing nedeniyle intihar eden bireylerin özellikleri ve bu durumu nasıl deneyimledikleri internette yer alan gazete haberleri aracılığıyla incelenmiştir. Çalışmada araştırma yöntemi olarak nitel bir yöntem olan durum çalışması kullanılmıştır. Elde edilen verilerin analiz edilmesi için betimsel içerik analizi uygulanmıştır. Türkiye'deki intihar olaylarıyla ilgili haberler internette "mobbing ve intihar" yazılarak bulunduktan sonra analizler yapılmıştır. Bu intihar vakalarının 12'si araştırmacılar tarafından mobbing ile ilişkilendirilmiştir. Bu vakalar cinsiyet, yaş, meslek, intihar türü, intihar notu, psikiyatrik tedavi, mobbing iddiası ve mobbing türü gibi değişkenler açısından incelenmiştir. Analizler sonucunda mobbing nedeniyle intihar edenlerin çoğunluğunu kadınların oluşturduğu ve intiharların en sık gerçekleştiği yaş aralığının 25-34 yaş aralığı olduğu tespit edilmiştir. İntihar edenlerin çoğunluğunun bekar oldukları bulgusu ortaya konmuştur. İntiharların en sık gerçekleştiği meslek grubunun doktorlar olduğu ve en yaygın intihar şeklinin yüksekten atlama olduğu bulunmuştur. İntihar edenlerin bir kısmının psikiyatrik tedavi gördüğü tespit edilmiştir. İntihar edenlerin neredeyse yarısının intihar notu bıraktığı görülmüştür. En sık karşılaşılan mobbing biçimlerinin ise; tehdit, iş baskısı, aşağılama, tecrit, umursamama, dedikodu, iftira, yaşam tarzına müdahale, keyfi uygulamalar, mesleki ilerlemenin engellenmesi ve fiziksel şiddet oldukları ortaya konmuştur.

Anahtar Kelimeler: Mobbing, İntihar, Türkiye

Introduction

Although the existence and effects of the concept of mobbing in workplaces have been widely examined by many scholars, especially in the last twenty years, the use of the concept dates back to older times. In 1963, ethologist Konrad Lorenz was the first scientist to introduce the concept of mobbing to the academic world. Lorenz used the concept of mobbing as a group of animals targeting a single animal and harming it in different ways (such as attacking, excluding, eating) (Leyman, 1990). Years later, the same concept was associated with bullying among children by physicist Peter Paul Heinemann (1972) and it was described as violence directed against a single child, usually in groups of children. Mobbing was first adapted to workplaces as a factor that threatens health at work in 1984 by psychologist Heinz Leymann in his report titled "Safety and Health in Work Life", and Leymann is seen as a leading researcher in this field with his important studies. Leymann (1990, 1996) stated in his studies that the mobbing phenomenon occurs in workplaces and that this situation should be prevented.

Mobbing is "a hostile and unethical attack directed systematically and mostly towards one person by one or a few people in organizations" (Leymann, 1990: 120), "a situation that occurs repeatedly and creates stress in employees" (Jennifer, et al., 2003: 492-93), "psychological harassment aimed at excluding the other person from the workplace" (Duffy and Sperry, 2007: 398), "malicious activities aimed at excluding the other person from the workplace by blaming, humiliating, harassing, and emotionally tormenting" (Davenport et al., 2003:22). From these definitions, Einarsen (1999) emphasized that mobbing has two basic features: repetitive and aggressive. Leymann (1996: 170) classified mobbing into five groups: attacks on the mobbing victim's presentation and communication, attacks on his social relations, attacks on his reputation, attacks on his quality of life and professional status, and finally attacks on his health. This classification consists of 45 immoral behaviors such as restricting the victim's opportunity to express himself, preventing the victim from communicating with others, damaging the victim's

dignity, giving the victim a job below his abilities, and forcing the victim to do work that will harm his health. At the same time, in order for a workplace behaviour to be defined as mobbing, the action must be carried out at least once a week and for at least six months (Leymann, 1996). Leymann (1996) suggested that there are four factors in the emergence of mobbing behaviour in business life: deficiencies in job design, deficiencies in leadership behaviours, social position of the victim and low moral standards in units. Leymann (1996) defines mobbing as a four-stage process: "experiencing a critical incident in the workplace", "mobbing and stigmatization", "management participation in the process", "leaving the job or being fired". Mobbing can occur between employees of equal rank or those in a superior-subordinate relationship. Leymann (1996) associated employees' tendency towards mobbing behaviour with four main reasons: forcing them to accept group rules or values, hostility, just for pleasure or boredom, and finally prejudice. Studies have emphasized that women are exposed to mobbing more than men (Leymann, 1996; Hoel et al., 1999; Kaukiainen et al., 2001; Van Fleet & Van Fleet, 2012).

The frequency and continuation of mobbing behavior, which can occur in all professional groups and organizations, has devastating effects on the victim. These effects are psychological, psychosomatic (Leymann, 1996: 168), damage to self-confidence and self-esteem (Leymann and Gustafsson, 1996: 273), humiliation, loss of professional prestige (Duffy and Sperry, 2007: 398), low productivity, low job satisfaction, low performance (Öntürk, 2018, Dick and Wagner, 2001), stress, burnout (Nielsen and Einarsen, 2012; Yıldız, 2017), sleep disorders (Naime, 2003:8, Hansen et al., 2016:29-30). It is expressed as alienation (Özkul and Çarıkçı, 2010) and disruptions in social relations (Sperry and Duffy, 2009). At the last stage of the mobbing process, which negatively affects the mental health of employees, suicide may occur with its most devastating effect (Brousse et al., 2008; Leymann, 1990; Nielsen et al., 2016; O'Donnell and MacIntosh, 2016; Tinaz, 2006).

Interpersonal Theory of Suicide (IPTs) provides a conceptual path to how and why workplace

mobbing can lead to suicide (Nielsen, 2015). The theory mentions two important facts that reveal suicidal thoughts. The first is "thwarted belongingness", which expresses the feeling of social alienation from social environments. The second is 'perceived burdensomeness', which is the perception of being a burden to others. It suggests that individuals tend to commit suicidal behavior as a result of frequent exposure to these two risk factors (Nielsen, 2015; Orden, 2010). In a study conducted with 184 patients, it was found that patients experiencing psychological problems due to mobbing had suicidal thoughts (Brousse, et al., 2008). In 48 mobbing cases monitored for approximately one year, a decrease in suicidal thoughts was observed in people who reported a decrease in mobbing behavior (Romeo, 2013).

Based largely on his clinical experience, Leymann (1990) emphasized that approximately 15% of suicide cases in Sweden had a history of mobbing. According to the data of the German Federal Ministry of Labor, 10% of suicides occur due to mobbing (Act: Bozbel and Palaz, 2007: 66-80). In the longitudinal study conducted by Nielsen et al. (2016) in Norway, the suicidal ideation of mobbing victims was examined, and the prevalence of suicidal ideation was measured as 4%, 5% and 4.2% in the measurements made in 2005, 2007 and 2010.

Suicide is an important public health problem that occurs at every stage of life and is one of the leading causes of death in different geographies of the world, especially psychological factors play a role in its source. Although it varies between countries, the rapid increase in the visibility of suicide deaths every year increases the interest in the subject. It is known that suicide attempts are much higher than completed suicides (World Health Organisation, 2016). While more than 800,000 people die by suicide on average every year, many more attempt suicides. It is estimated that the average suicide rate in the world is 16 per 100,000, and approximately one million people die due to suicide every year (Swahn et al. 2012). Mental disorders are detected in a significant majority of individuals who engage in suicidal behaviour, and according to Schaller (2001: 85), this rate is approaching 90%. When suicidal behaviours around the world are examined, it is

seen that men commit suicide at a higher rate than women in almost all countries (Hawton, 2000). In 2018, 3161 people (75.64% men, 24.36% women) committed suicide in Turkey, and the highest number of suicide cases occurred in Istanbul with 432 deaths (TUIK).

Durkheim (2013:5), who organized the previous studies that are frequently used in suicide studies, defines the act of suicide in his work titled *Le Suicide* as "Every act of death that is a direct or indirect result of a positive or negative act, performed by the victim himself, with a known outcome, is called suicide". Suicidal behaviour is a person's reaction to a psychological pain that he encounters and cannot bear (Shneidman, 1998). According to Adler (1965), the individual's failure to achieve the goal he/she wants to achieve creates a psychological depression in the individual, and the pain of this failure drives the individual to suicide. Suicidal behaviour often occurs as a result of a mental illness (Bertolote et al., 2004) and is more common in people without a mental illness (Pridmore and Walter, 2014). Culture (Durkheim, 1951), genetics (Mc Guffin et al., 2001), depression (Eskin, Ertekin, Dereboy, & Demirkıran, 2007), hopelessness (Beck et al., 2006), loneliness (Page et al., 2006), familial factors (Brent et al., 1994), previous suicidal ideation and attempt (Joiner, Rudd, Rouleau, & Wagner, 2000), academic problems, failure to achieve autonomy, feeling of shame influence suicidal behaviour (Martin, Richardson, Bergen, Roeger, & Allison, 2005). It has also been determined that there are other important factors such as the inability to cope, the inability to get rid of the feeling of anger (Rasmussen et al. 2014), neuroticism, introversion and low self-esteem (Beautrais 1990).

The most prominent suicide methods are hanging, using firearms and jumping from a high place (Akin, 2018:33, see Table 1). Gender differences appear to be an important factor in preferred suicide methods, and there are differences between men and women in the preferred methods. Lester (2017) found that "women use non-lethal methods, while men choose lethal methods" and in a study he conducted, he found that women prefer suicide by taking high doses of drugs, while men use the method of shooting with a gun. It has been

observed that most of the women in Turkey prefer "chemical substances" in their suicide attempts (Eskin, 2012: 32).

Table 1. Suicide Methods

Suicide Methods	Number of People	Percentage
1 Hanging	1515	% 47
2 Using firearms	865	%27
3 Jumping from a high place	413	%13
4 Chemical substance use	202	%6
5 Drowning	63	%2
6 Other	59	%2
7 Cutting with a sharp object	55	%2
8 Throwing in front of a train or similar motor vehicle	14	%0,5
9 Using gas or LPG-like substances	14	%0,5
10 Burning	11	%0,4

(Akin, 2018:33, Prepared according to 2015 TUIK data)

As a result, mobbing, which some employees in organizations in all sectors are exposed to, has recently become an important organizational problem in working life and has become one of the frequently encountered phenomena. Mobbing, which is of English origin, as an umbrella term gathers different concepts together such as psychological terror, psychological harassment, psychological violence, psychological pressure, harassment, disturbing, distressing, bullying, siege, mass attack and intimidation (Einarsen, 1999; Davenport et al., 2003; Duffy and Sperry, 2007; Jennifer, et al., 2003; Leymann, 1990, 1996). Research has shown that mobbing practices are very common and that such practices have negative consequences on both the employee and the organization (Dick and Wagner, 2001; Duffy and Sperry, 2007; Leymann, 1996; Leymann and Gustafsson, 1996; Öntürk, 2018; Sperry and Duffy, 2009). Mobbing may cause low productivity, low job satisfaction, low performance, stress, burnout (Nielsen and Einarsen, 2012; Yıldız, 2017), sleep disorders (Naime, 2003, Hansen et al., 2016) and it may directly affect employees' psychological wellbeing and job performances. Mobbing is considered a serious problem, and it is observed that the productivity and commitment to work of its victims in organizations decrease, they experience serious health problems and some even turn to suicide. Suicide cases caused by mobbing

have been increasing in many countries and are considered an important problem today (Brousse et al., 2008; Leymann, 1990; Nielsen et al., 2016; O'Donnell and MacIntosh, 2016; Tinaz, 2006). The administrative teams of the organisations and counsellors who are working at organisations need to be aware of the possible harmful effects of the mobbing on employees' mental health and on the environment of organizations. Gaining awareness about some of the common characteristics and/or experiences of the people who committed suicide due to mobbing may be helpful to understand possible risk factors that make people vulnerable psychologically. The administrators and counsellor of the organisations may benefit from evidence-based information of research in order to conduct some preventive practices or produce preventive policies at organisations. Therefore, the aim of this study is to examine the characteristics of the individuals who committed suicide due to workplace mobbing and how they experienced this situation. In this context, some of the newspaper news about suicides from internet sources were examined.

Methodology

In this study, case study, which is one of the qualitative research design, was used as a research design as this research aims to interpreting the existing situation by describing the characteristics of individuals who committed suicide due to mobbing and how they experience this situation. Case study research is one of the important qualitative approaches which focuses on an issue with the case (individual, activity or multiple individuals etc) selected to provide insight into the issue (Creswell, Hanson, Clark, and Morales, 2007). The descriptive content analysis was performed to analyse the data. The aim of content analysis is to obtain data from the documents examined for the research. A code list is created by coding the analysed data within a general framework, and in this process, meanings and regularities are collected under themes. Then, findings are revealed to answer the research questions under these themes (Merriam, 2013: 173).

In this study, data were collected by examining some of the newspaper news related to mobbing and suicide and analysis was made on this newspaper news. The sample of the research is a criterion sample, which is a type of purposeful sampling (Yıldırım and Şimşek, 2006), and consists of news that appear by typing "mobbing and suicide" into the Google search engine. Purposive sampling allows for in-depth research by selecting information-rich situations depending on the purpose of the research. Criterion sampling, which is a type of purposive sampling, is a method carried out by researchers using a certain criterion (Yıldırım and Şimşek, 2006).

The news obtained was examined by collecting the opinions of experts working in the relevant fields. The cases reached were evaluated by three experts. 12 of these suicide cases were associated with mobbing by researchers. These cases were examined based on gender, age, profession, type of suicide, suicide note, psychiatric treatment, mobbing claim and type of mobbing. The formula developed by Miles and Huberman (1994) ($\text{Reliability} = \text{Consensus} / (\text{Consensus} + \text{Dissensus})$) was preferred for the reliability of the study. According to the calculation made, the reliability of the research was found to be 82%. The fact that this rate is over 70% indicates that the study is reliable (Miles and Huberman, 1994; Yıldırım and Şimşek, 2006:233).

Results and Discussion

The 12 suicide cases were examined based on gender, age, profession, type of suicide, suicide note, psychiatric treatment, mobbing claim and type of mobbing. The results of the analysis and relevant discussion related to the results were presented under the following sub-topics.

3.3.1. Gender

Fatal suicides are more common in men than women in almost all countries. According to the 2002 report of the World Health Organization (WHO), it is stated that the rate of suicides resulting in death is higher in young men than in young women in all countries except China (Harmancı, 2015). In 2018, 75.64% of those who committed suicide in Turkey were men and 24.36% were women (TUIK). The gender information of 11

of the 12 cases examined was obtained, but the gender information of case 5 was not obtained during the examination. Of those who committed suicide due to mobbing, 8 (73%) were women and 3 (27%) were men. The suicide rate of women is 2.7 times that of men. In suicide rates caused by mobbing, female suicide rates are much higher than male suicide rates. This situation is thought to be related to the fact that women are more exposed to mobbing (Leymann, 1996; Naime, 2000; Ak and Okur-Çakıcı, 2018).

Age

In Turkey, the age group where suicides are concentrated is between 15 and 34, and it is observed that women commit suicide at a younger age than men in this range (Harmancı, 2015). According to TUIK 2015 data, half of the suicides in Turkey are in the 20-39 age group (Akın, 2018:32). In the study, the age groups in which mobbing-related suicides are concentrated are the 25-29 (36%) and 30-34 (36%) age groups, and this range supports the age groups in which suicides are concentrated in Turkey in general.

Marital status

According to 2002-2015 TUIK data, 52% of the suicide cases in Turkey are married, 38% are single, 6% are divorced and 4% are those whose spouses died (Özcan et al., 2018:) 7 of the suicide cases reached in our study. of them (58%) were single, 4 (33%) were married and 1 was divorced. In mobbing-related suicides, the suicide rate of single people is approximately twice that of married people.

Profession

Mobbing behaviour can occur in all professional groups, and the health sector is the sector where it is most frequently seen (Kaplan, Er Piskin, and Ayar, 2013). In the examination, cases from different professional groups were found. These professions are teacher, academician, doctor (2 research assistants, 1 faculty member), banker, retired MIT personnel, sociologist, candidate judge, archaeologist, dismissed first lieutenant and

production manager. In the study, doctors are the professional group in which suicide cases are most frequently seen, with a rate of 25%.

Type of Suicide

While men generally use violent and more lethal methods such as firearms and hanging themselves, women use methods such as taking high doses of drugs or jumping from a high place (Lester, 1997). The most common suicide methods in Turkey are hanging, using firearms and jumping from a high place (Akin, 2018). In our study, the most common suicide method was jumping from a height with 50%, followed by using a firearm with 16%.

Suicide Note

The suicide note is the most important source we will use to understand the reason for the person's suicide and is the element that best reflects the person's mental state. People who commit suicide usually leave suicide notes to explain the reason for their suicide. In the study conducted after forensic deaths by suicide in Eskişehir and covering the period between 2002 and 2011, it was found that 42.1% of those who left a suicide note (Karbeyaz et al., 2014:275-276). In our study, information was obtained that 5 out of 12 cases (42%) left suicide notes, and the notes of 3 of them were accessed. In 5 cases, women left suicide notes. Before Case 1's suicide, she wrote on her social media account, "My students, please forgive me." I took good care of them all, so they shouldn't be upset, I couldn't help but be mobbed. "You are entrusted to God, my dear students". In another post, she wrote: "Always remember me well, the last time we cut a cake, I leave you cakes with red hearts. I haven't forgotten my promise to my other students, I hope to see you one day. God bless you, your teacher who always loved you and "I am sick and tired of being told that you are hanging by a thread every day" was seen writing. Case 3 suicide note: "After reading this note, everything will change, everyone will take responsibility, everyone will work for the well-being of people. I apologise to my mother. Life is very difficult for me. I'm tired of this life. I hope my death will lead to some good changes. No one should gossip about

anyone else. Damn hospitals shouldn't keep blaming doctors. "And if I don't die instantly, my choice is to die, no one should try to keep me alive." wrote. In the suicide note of Case 10, she wrote, "Forgive me for the mistakes I have made, may God forgive me, I can't stand it."

Psychiatric Treatment

Suicidal behaviour is more common in people with mental illness. In our review, no information about the type of the mental illness was found in cases of suicide. On the other hand, according to the information we could access during the investigation, 5 of 12 cases (42%) were receiving psychiatric treatment.

Mobbing Allegation

Information that 12 cases were suicides due to mobbing was obtained from the family, co-workers, himself, his union and the notes left by the person who committed suicide.

Case 1 told her family that school administrators constantly put pressure on her. Case 1, who also talked about this situation to her close friends, stated that her managers often said to her and other trainee teachers, "Your life as a civil servant is hanging by a thread. He said he put pressure on you by saying, "We will finish you off." Family members, who claimed that the Rector systematically applied mobbing, stated that Case 2, who was successful in her field and proved this, even used psychiatric drugs to withstand the pressure, but that she did not get any results and found the solution in suicide. Case 3's father said, "The working conditions were harsh." Besides the seizures, the professors were sarcastic towards the assistants. "From time to time she would say, 'Brother, I can't stand it anymore, they are mobbing me.' Some co-workers claimed that Case 4 committed suicide due to work pressure. The manager of Case 5, whom he accused of mobbing, was dismissed and made a regular civil servant after the suicide.

At the press conference held by the Office Workers Union (BES) Representative, it was claimed that the manager applied mobbing to the employees, including Case 6. The father of Case 7

said that her manager called his daughter to his room and said, "You will swear allegiance to us," but his daughter did not accept this. She was saying that so much pressure was being applied to her that she could not stand it. I thought about suicide a lot too. "I know that mood," said her friend. It is claimed that Case 8 committed suicide due to the pressure of the manager of the institution where she worked. The suicide note left by Case 8 is cited as the basis for the allegations. Case 9 told her friends that the manager had insulted her the day before she committed suicide. They knowingly sent her to death. Case 10: The sister of case 10, who said that she wanted to be a doctor and always worked for it, said: "She passed TUS. She transferred to the Training and Research Hospital. It was hell there. The associate professor did not let the children breathe. There was a false report about her." "Her colleague said that Case 11, who committed suicide, shared her experiences with him before she died. Case 11 was consciously driven to commit suicide," he said. The wife of Case 12 claims that the pressure from her boss was behind the suicide of her husband, who worked as a production manager in an electricity company.

Type of Mobbing

In the examination, it was determined that the cases manifested themselves in accordance with Leyman's Mobbing typology and that their communication was prevented and that there were attacks on their social relations, professional reputation, quality of life and health.

Case 1 claimed to her family that the school principal and his assistant were constantly putting pressure on her. Case 1, who also talked about this situation to her close friends, reported that the school principal and his assistant frequently told her and other trainee teachers, "Your life as a civil servant is hanging by a thread. She said he put pressure on us by saying, "We will finish you off." She called her mother 10 minutes before committing suicide, asking for forgiveness and said, "They ended my teaching career and punched me in front of the students."

My sister said that the rector, called me to talk then she went to talk to the rector with excitement but she told me that she became even more

depressed afterwards. "The rector calls my sister to his office. She goes to the rector's room with great joy and stays under the smoke in the rector's room for 4 hours. She said that: 'The rector mocked and belittled me, saying that if I give you a position, they will laugh at me. She is a lecturer with a very successful career. It is said that case 2 has experienced the same treatment systematically for a long time, that she was not given her rights, that she could not be appointed to a faculty position, and that she was told to find a place for herself.

Case 3's father said, "The working conditions were harsh." Besides the seizures, the professors were sarcastic towards the assistants. My daughter said that they were even afraid to ask questions. Once, the nurse, who said that she was very tired, said 'Lie down and rest for a while' and then went and called her lecturer. The young doctor wrote the following in her letter: "I apologize to my mother. Life is very difficult for me. I'm tired of this life. I hope my death will lead to some good changes. No one should gossip about anyone else. Damn hospitals shouldn't keep blaming doctors".

Some colleagues of Case 4 claimed that the young banker committed suicide due to work pressure. His colleagues stated that Case 4 was subjected to a temporary change of duty by the bank management, and although the banker repeatedly expressed his dissatisfaction with this practice, no work was done to resolve the problem. His colleagues also brought forward allegations that the banker's name was on the list of those to be dismissed.

The headmistress, whom Case 5 accused of mobbing, was dismissed to civil servant position after the suicide. The fact that everything spoken and every comment made is known by the headmistress and the headmistress raises suspicions that the headmistress receives news through the diary by saying to the staff, "You go up and sit here, you go up and sit there" and placing people close to her where she wants, and also, at every opportunity, the headmistress says, "You said so". He confirms this situation with statements such as "I am even aware of the breath you take." Even the simplest work-related mistake is called to the principal's office and warned using offensive and derogatory language. The administration is closed to all suggestions regarding the operation

and simply says "these are the rules here" or "it's my order". All the 50 staff are forced to go to the her office every morning and say "good morning" and "good evening" every evening.

Case 6 locked his six colleagues in a room, killed them with a gun, and committed suicide. At the press conference held by the Bureau Workers Union (BES) Representative, it was claimed that the manager applied mobbing to the employees, including Case 6. He claimed that arbitrary practices were carried out, such as transferring employees to a higher hospital only for union members, based on their health reports, where they were assigned based on their ethnicity, beliefs, and political opinions, rather than their tenure and success. Case 6 was subjected to mobbing, a discriminatory attitude was displayed due to his ethnic origin, he was kept on constant watch because he did not attend Friday prayers, he was not allowed to take the leaves he was legally entitled to, and he was isolated by his colleagues. Requests for appointment were not responded to. "8 investigations were opened against him in the 1.5 years he started working," he said.

Case 7 committed suicide in a hotel room. Four HSYK members of the period found Case 7 unsuccessful in the exam and did not accept him into the profession because she "wore tights and did not find her lifestyle appropriate". Case 7, who graduated from Selçuk University Faculty of Law in 2009, was given a disciplinary penalty for 'submitting documents with incomplete signatures' and 'making false statements to the administration' a week before her appointment after the judgeship exam. It was stated that Case 7 was not assigned because she was actually wearing tights and drinking alcohol. The father of Case 7 said that one HSYK member called her daughter to his room and said, "You will swear allegiance to us," but her daughter did not accept this. The message written by Case 7, in which she explains what happened to her, is as follows: "Hello, I am a judge candidate from the 12th term. I am going through the same process you are going through. When I was at the last academy, I was under investigation without my knowledge. Everything about me was investigated for months. I was searched for any missing documents. There was a deficiency in a referral paper that I submitted to the

academy in April which the doctor forgot to sign. Months later, in July, I received a disciplinary penalty for making a false statement to the administration a week before I was accepted to the profession. I was not accepted to the profession. I experienced the same things during the HSYK process, "Do you have an alcohol problem?", "Do you have a problem with your life?" questions, insults... Unproven rumours about me among my friends of my time...

Case 8 committed suicide by jumping from the eighth floor of the building where her family lived in her hometown. It is claimed that she committed suicide due to pressure from her manager at her workplace. The suicide note she left is cited as the basis for the allegations. The Museum Director asks Case 8 to register the unregistered works on display instead of the 150 lost historical artifacts. When Case 8 did not accept this, the director asked other employees of the commission to defend him.

Case 9 committed suicide by driving her car off a 250-meter cliff into the sea. Two of her friends wrote a accusation letter to YÖK about her. Doctors claimed that the Rector kicked Case 9 out of his room after she asked for his approval for a scholarship in the USA. As soon as Case 9's friend learned that she had won the scholarship, Case 9 excitedly went to the department head's office and was not given permission. She even told me that she was 'scolded'. And I said, 'Go to the dean, or if not, go to the rector.' The dean did not allow it. The Rector asked Case 9, 'What are you doing in America? He said, 'You don't need to go', and when she insisted, he kicked out Case 9, saying 'Get out of my room'. The day before she committed suicide, she told her friends that the head of the department had insulted her.

It was learned that Case 10, who committed suicide by jumping from the 6th floor of the hospital where she worked, received two warnings in the last two months. The first warning was given at Ümraniye Hospital. Case 10, who worked as an assistant in the Emergency Department, received a warning for not being at work during working hours. When Case 10, who objected to the decision, was not accepted, she was assigned to Samatya Training and Research Hospital upon her own request, where she defended himself as a routine

Table 2. Summary of Findings

Case No	Gender	Age	Marital Status	Occupation	Type of Suicide	Suicide Note	Psychiatric Medication/Treatment	Mobbing Allegation	Form of Mobbing
1	Female	25-29	Single	Teacher	Jumping from a high place	Yes	No (Family claim)	Note and family	Threatening, Physical Violence
2	Female	30-34	Married	Academic	Jumping from a high place	Yes 16 pages long letter	Yes (One week before suicide)	Family	Humiliation, Blocking Academic Promotion
3	Female	25-29	Single	Doctor (MD)	Jumping from a high place	Yes	N/A	Family	Intensive workload and worse working conditions, sarcastic remarks from lecturers and nurses, gossip
4	Male	35-40	Married	Bank Officer	Jumping into sea from bridge	No	N/A	Colleagues	Work Pressure, Change of place of duty, claim to be on the layoff list
5	Unknown	-	Married	Retired (MIT)	Jumping from a high place	Letter	Yes	Letter	Humiliation, Displacement, Threat, Not taken seriously
6	Male	30-34	Single	Sociologist	By firearm	No	Had a treatment	Family Colleagues. Union	Administrative punishment Isolation and Arbitrary Practices
7	Female	25-29	Single	Judge (Nominee)	High dose	No	N/A	Family Colleagues. Herself	Interference with Lifestyle, Allegiance, Disciplinary Punishment
8	Female	30-34	Single	Archeologist	Jumping from a high place	Yes	N/A	Herself and Family	Forced to do illegal acts, Administrative investigation
9	Female	35-40	Single	Academic (Medicine)	Driving towards cliff	No	N/A	Family and Colleagues.	Psychological pressure, scolding, insult, expulsion from the room, prevention of education abroad
10	Female	30-34	Single	Doctor (MD)	Jumping from a high place	Yes	No (Family claim)	Family	Workload, Slander, Unfair Administrative Punishment
11	Female	25-29	Divorced	Lieutenant	By firearm	No	N/A	Family Colleagues.	Interference with way of dressing and private life, Administrative Investigation and Dismissal from work
12	Male	41-45	Married	Production Manager	Jumping into sea from bridge	No	Had a treatment	Family	Insult and Giving another job before the previous one completed

practice upon the complaint of a citizen who called the Ministry of Health Communication Center (SABİM) on 22 November just walking around the Emergency Service and the Urology Service. In the complaint document, which the Ministry of Health said "No", a defence is requested from Case 10 with the signature of the chief physician. Case 10, who was on guard duty for 48 hours, commits suicide by jumping with the investigation paper in her hand. When we meet

with the complaining patient's relative, we learn that there is actually no direct complaint about her. "She passed TUS and transferred to Ümraniye Training and Research Hospital. It was hell there. The summary of the study is shown in detail in Table 2.

The associate professor did not let the children breathe. They kept a false report about her there. One night while she was on duty, she was not there between 02-05:00. Then a warning letter was

written about that. However, Case 10 said, "I was trying to get the patient to breathe in the next room." Before my sister's statement was taken, the chief physician's office wrote that statement and sent it to the governor's office. She was devastated by this article. She was either obsessed or resentful. All she said to me was, "Sister, what hurts me the most is that a colleague of mine slandered me."

"While I was in my room, there was a knock on my door, Case 11 First Lieutenant entered my room. She is a person I did not know until that day.

"Can I come in?" she said uneasily. I welcomed her. She said, 'Similar things have happened to you too, can I share something?' She said that they first summoned her for interrogation in February 2012 and started to tell about the persecutions inflicted on her. Why do you wear tight tracksuits, why do you work out in tight sweatpants at the lodging, why did you break up with your husband? They constantly mobbed the girl with expressions such as, "Why did you go to dinner with them? Are you in a relationship with that teacher?", "When she went to Izmir for a course, she met a captain, which is quite natural, "What did you do with him, where did you go, what did you do in Izmir?" I saw that she was incredibly stressed, distressed, and depressed in the same way I was. Her relationship with the Turkish Air Force was terminated, citing 'immorality and lack of discipline'.

In the statement given to the prosecutor's office by his wife, who claimed that the pressure from her boss was behind the suicide of Case 12, "My wife was very angry with her boss's words, 'You seem to work hard but you do not do any work, you are of no use'. Her boss was putting pressure on her at work. She started doing another job without completing one job." It was learned that he said, "My wife, whose psychology was damaged due to these events, even received psychiatric treatment."

Conclusion

In this study, the characteristics of the individuals who committed suicide due to mobbing and how they experienced this situation tried to be described through suicide cases. In the research, "mobbing and suicide" was written on the internet and the cases reached were evaluated by three

experts. 12 of these suicide cases were associated with mobbing by researchers. These cases were examined on features such as gender, age, profession, type of suicide, suicide note, psychiatric treatment, mobbing claim and type of mobbing. As a result of the research, female suicide rates (73%) due to mobbing are much higher than male suicide rates. This situation is thought to be related to the fact that women are more exposed to mobbing. In the study, the age groups in which mobbing-related suicides are concentrated are the 25-29 (36%) and 30-34 (36%) age groups, and this range supports the age groups in which suicides are concentrated in Turkey in general. Of the suicide cases reached in our study, 7 (58%) were single, 4 (33%) were married and 1 was divorced. In mobbing-related suicides, the suicide rate of single people is approximately twice that of married people. In the study, doctors are the professional group in which suicide cases are most frequently seen, with a rate of 25%. Research shows that healthcare workers are at greater risk of being subjected to violence than other service sector workers (Kaplan, Er Piskin, and Ayar, 2013). In our study, the most common suicide method was jumping from a height with 50%, followed by using a firearm with 16%. In our study, information was obtained that 5 out of 12 cases (42%) left suicide notes, and the notes of 3 of them were accessed. In 5 cases, women left suicide notes. According to the information we could access during the investigation, 5 of 12 cases (42%) were receiving psychiatric treatment. Claims that the 12 cases we examined committed suicide due to mobbing were reached through the family, co-workers, themselves, their union and the notes they left behind. In the research, before committing suicide, the victims were subjected to threats, physical violence, work pressure, intense working conditions, gossip, humiliation, interference with lifestyle, disregard, arbitrary practices, administrative investigations, insults, obstruction of professional promotion, change of place of duty, threats, mobbing such as isolation and slander. It has been observed that he was exposed to these practices.

Undoubtedly, all the results reported so far are limited to the cases of the research and the information obtained from newspaper news. First

of all, the research is based on the notes left by the suicide cases that occurred as a result of mobbing, their posts and the claims of their relatives reflected in the newspaper news. It is thought that a comparative study, including people who have attempted or considered suicide due to mobbing, may provide clearer results. Therefore, it would be a correct approach to take these limitations into consideration and not make generalizations when evaluating the findings. It is also believed that this study will contribute significantly to comprehensive research to be conducted in other countries. The managers and counsellors of the organisations may benefit from the evidence-based information of this research in order to conduct effective preventive practices or produce preventive policies at organisations. The results of the study may help them to find ideas about some of the common characteristics and/or experiences of the people who committed suicide due to mobbing.

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RESEARCH ARTICLE

The Relationship Between Pre-School Teachers' Computational Thinking Skills and Their Use of Technology

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Abstract

This research was conducted in 5 central districts of Kayseri province in the 2022-2023 academic year in order to examine the pre-school teachers' levels of computational thinking skills and their attitudes towards using technological tools and the relationship between these two variables. The sample of the study consists of 210 preschool teachers. The survey model, which is one of the quantitative research methods, was used in the research. "Demographic Information Form", "Computational Thinking Skills Scale" and "Attitude Scale Towards the Use of Technological Tools in Preschool Education" were used to obtain research data. In this study, pre-school teachers' computational thinking skills and attitudes towards technology use were examined in terms of teachers' gender, educational status, seniority, technology-related education status, and it was tried to determine whether there was a significant relationship between these 2 variables. At the end of the research findings, it was revealed that there is a positive and moderate relationship between pre-service teachers' computational thinking skills and attitude towards technology use. In addition, it was concluded that the pre-school teachers' computational thinking skills and attitudes towards the use of technological tools and equipment did not make a significant difference according to the variables of gender, educational status, professional seniority, and education status related to technology.

Keywords: Preschool Teacher, Computational Thinking Skills, Technology Usage, Attitude

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Öz

Bu araştırma, okul öncesi öğretmenlerinin bilgi işlemsel düşünme düzeyleri ve teknolojik araç kullanmaya yönelik tutumları ve bu iki değişken arasındaki ilişkiyi incelemek amacıyla 2022-2023 eğitim öğretim yılı içerisinde Kayseri ilinin 5 merkez ilçesinde (Melikgazi, Talas, Kocasinan, İncesu, Hacılar) yapılmıştır. Araştırmanın örneklemini 210 okul öncesi öğretmeni oluşturmaktadır. Araştırmada nicel araştırma yöntemlerinden birisi olan tarama modeli kullanılmıştır. Araştırma verilerini elde etmek "Demografik Bilgi Formu", "Bilgisayarca Düşünme Becerileri Ölçeği" ve "Okul Öncesi Eğitimde Teknolojik Araç-Gereç Kullanımına Yönelik Tutum Ölçeği" kullanılmıştır. Bu çalışmada okul öncesi öğretmenlerinin bilgi işlemsel düşünme becerileri ile teknoloji kullanımlarına yönelik tutumları öğretmenlerin cinsiyet, öğrenim durumu, kıdem, teknoloji ile ilgili eğitim alma durumu değişkenleri açısından incelenmiş ve bu 2 değişken arasında anlamlı bir ilişki olup olmadığı belirlenmeye çalışılmıştır. Araştırma bulguları sonunda öğretmen adaylarının bilgi işlemsel düşünme becerileri ile teknoloji kullanımları arasında pozitif yönde ve orta seviyede bir ilişki olduğu ortaya çıkmıştır. Ayrıca okul öncesi öğretmenlerinin bilgi işlemsel düşünme becerilerinin ve teknolojik araç-gereç kullanımına yönelik tutumlarının cinsiyet, öğrenim durumu, mesleki kıdem, teknoloji ile ilgili eğitim alma durumu değişkenlerine göre anlamlı bir fark oluşturmadığı sonucuna ulaşılmıştır.

Anahtar Kelimeler: Okul Öncesi Öğretmeni, Bilgi İşlemsel Düşünme Becerisi, Teknoloji Kullanımı, Tutum.

Introduction

With the advancements in the fields of technology and communication, access to information has become easier. However, this development has also caused the problems faced by individuals to become more complex. Thus, individuals are expected to both produce solutions to these problems and have characteristics called 21st century skills such as collaboration, creativity, critical thinking and entrepreneurship. In this context, the concept of "computational thinking", which includes many skills, has gained importance. Computational thinking is a multidimensional skill set that has an impact on the development of creative thinking, algorithmic thinking, critical thinking, problem solving, collaborative learning and communication skills (Brennan and Resnick, 2012). Computational thinking skill is a problem-solving and analytical thinking skill that is developed by combining technology with thinking skill (Wing, 2008).

Although introduced by Papert in 1980, computational thinking (CT) has become known with Wing's three-page article "Computational Thinking" published in 2006. There is no complete clarity about the definitions of the concept "computational thinking" in the literature. The researchers have not reached a definite consensus in the definition for this concept since it is new, and its content covers wide and complex areas. In Turkish literature, there are different translations of the concept such as "Bilgisayarca düşünme" (Akman & Bircan, 2021; Çatlak et al., 2015; Çakır & Yaman, 2018; Çimentepe, 2019; Kirit et al., 2018; Korkmaz et al., 2015; Özkan Hıdıroğlu & Hıdıroğlu, 2021; Sade, 2020; Yünkül et al., 2017), "bilişimsel düşünme" (Çakır et al., 2019; Çiftci et al., 2018; Dolmacı & Akhan, 2020; Özkeş, 2016), hesaplamalı düşünme (Aydoğdu, 2020; Çelik Arslan, 2021; Özçınar, 2017; Özçınar & Öztürk, 2018; Ünsal Serim, 2019), "komputasyonel düşünme" (Şahiner & Kert, 2016). On the other hand, it can be stated that the concept of CT is more commonly translated as "bilgi işlemsel düşünme" in the Turkish literature (Demir & Seferoğlu, 2017, p. 470).

CT skill can be counted as one of the competencies needed to solve problems in all areas

of human life. Thanks to computational thinking, an individual can develop an algorithmic mindset and find solutions to most problems. CT is an effective thought process that a computer or human needs in order to formulate a problem and find a solution directly (Kirit et al., 2018, p. 18). Wing (2008) stated that CT can be accepted as an approach in which the basic terms related to computer science is utilized for the purpose of figuring out problems, developing systems and comprehending the behaviors of human beings. The core notion behind CT is to contemplate in the same way as a computer scientist would do when one confronts a difficult matter (Grover & Pea, 2013). According to Aho (2012), CT is the thought procedures necessary to formulate problems so that solutions can be symbolized by computational steps and algorithms. According to Şahiner and Kert (2016), CT skill is a competency that contributes to a better comprehension of the surroundings in which people live and to solving problems. Like reading, writing and arithmetic, Wing (2006) argued that CT is a fundamental skill for everyone and that this mindset must be made a part of all the children's analytical ability.

CT skill has many components. Wing (2006) acknowledged that computational thinking includes different processes such as "problem solving, critical thinking, abstraction, analytical and algorithmic thinking". Kazimoğlu et al. (2012) described the five basic skills of computational thinking as "problem solving, algorithm building, debugging, simulation, and socialization". Kalelioğlu et al. (2016) emphasized that "abstraction, algorithmic thinking and problem solving" are the three most accepted components of CT. ISTE (2015) stated that CT is a combination of "creativity, algorithmic thinking, critical thinking, problem solving and collaboration".

CT skills, which include many factors such as being able to critically look at a subject, think algorithmically, be creative, make decisions, solve problems, develop communication skills, work in cooperation, and achieve success, can be acquired in educational institutions during the teaching process (Akgün, 2020, pp. 635-636). According to Wing (2008), if it is desired to provide common and strong foundations for everyone to understand and apply computational thinking, the necessary

instruction should be given starting from the first years of the 0-8 years old period of the individual, which is called early childhood. In order for pupils to improve their CT skills, in the first place, instructors should be able to teach this skill in connection with their own fields, and thus they should have this skill themselves. Teachers' development of students' knowledge and skills in computational thinking depends on their ability to relate this competency to what their students have learned during the learning process (Yadav et al., 2017, p. 58). It is seen that one of the first actions to be taken in this context is teacher training. Besides, in order to support the professional development of educators, they should be provided with access to educational resources related to their fields, and their needs should be met in this sense. According to Voogt and Roblin (2012, p. 308), these knowledge and competences are 21st century skills in the education and that the main factor for developing these competencies is the teacher. In addition to the fact that teachers' information and communication technology competencies have an impact on student learning, it is also known that they have a positive effect on equipping pupils with the knowledge and skills demanded by the era and on their attitudes towards technology and their use of technology (Çakır & Önal, 2015, pp. 1028).

The concept of CT skills provides support to teachers and students on how to teach technology, to perceive where, in which process and how technology can be used to solve problems (Barr et al, 2011, pp. 23) and to offer the ability to benefit from technology in problem solving (Yadav et al., 2014, pp. 1-2). In this respect, it can be said that the concepts of CT skills and information and communication technologies competence are close to each other (Akgün, 2020, pp. 636).

Technology has become an inevitable part of education as an expected consequence of the rapid advances in the 21st century. The competencies that students acquire during their education period play a valuable role in preparing students for the business life they will enter in the following years. It can be said that information and communication technology competencies are the most important of these competencies (Eryılmaz, 2018, p. 38). In other words, it can be stated that

educational institutions are obliged to prepare the generation in line with the needs of the society; that is, to provide the skills related to the information and communication technology (ICT) necessary to survive in the information society.

The inclusion of ICT in the education process provides great benefits not only for students but also for teachers. In order to provide students with information and communication technology skills, teachers must have ICT proficiency. Especially as the importance of technology increases in the domain of teaching, it is very crucial for teachers to utilize these tools in the classroom settings. Information and communication technologies possess a facilitating effect during course planning, course preparation, course execution and evaluation processes (Keaster & Metze, 2006). One of the factors that have the most important effect on educators' use of technological equipment is teachers' attitudes about this practice.

According to Topaloğlu (2008) and Mahajan (2016), teachers' attitudes towards technology are as important as the usage of technology in the education system. In their study, Zhao et al. (2001) reached the conclusion that the attitudes of teachers have a direct relationship with computer use in the classroom. In all activities to be carried out during the instructions in the class, teachers should hold a positive attitude towards technology if they are to use technology efficiently in their practices (Rana, 2012). According to Kıyıcı et al. (2012), the attitudes of individuals towards technology, their favorable or adverse views about technology are one of the most critical factors affecting their use of technology.

As the teachers' attitude towards the use of technology is important, the subject has drawn attention in the literature. There are many studies on teachers' attitude towards the use of technology (Aztekin, 2020; Çörekçi, 2020; Ardıç, 2021; Gülen, 2021; Kenar & Balcı, 2013; Kıyıcı et al., 2012; Koçak & Gülcü, 2013; Kol, 2012; Köroğlu, 2014; Miliiazim Memet & Şentürk 2021; Sarı & Kartal, 2018; Topaloğlu, 2008; Yılmaz, 2016; Yılmaz, et al., 2016). Computational skill is also a popular subject among researchers. While many studies have been found on CT in the literature, these studies mostly concentrate on the definition and scope of this skill in addition to CT levels of learners and educators

in different branches (Akman & Bircan, 2021; Aydođdu, 2020; Critten et al., 2022; akır & Yaman, 2018; akır et al., 2019; elik Arslan, 2021; iftci et al., 2018; imentepe, 2019; Dagiene et al., 2022; Dolmacı & Akhan, 2020; Fessakis & Prantsoudi, 2019; Gabriele et al., 2019; İbili, Günbatar, & Sırakaya, 2020; Kirit et al., 2018; Korkmaz et al., 2015; Kousis, 2019; Oluk & Korkmaz, 2016; Oluk & akır, 2019; Özcınar & Öztürk, 2018; Özkan-Hıdırođlu & Hıdırođlu, 2021; Özkeş, 2016; Rehmat et al., 2020; Sade, 2020; Sayın, 2020; Ünsal Serim, 2019; Yang et al., 2020; Yünkül, et al., 2017).

Considering that the CT skill should be acquired in the pre-school age period, it is a must for pre-school teachers to be aware of these concepts and skills and focus on them. In this sense, the present research is believed to provide a contribution to the literature by promoting preschool teachers' recognition the concept of CT skills and leading them to give the necessary importance to integrate it into the education and training process. Likewise, while there are many studies in the literature on the use of technology in instruction, both in the preschool branch and in different branches (Akbaba & Ertaş Kılıç, 2022; Ardıç, 2021; Ardies et al., 2015; Chen & Hwang, 2019; etin et al., 2012; Dwivedi et al., 2019; Goh & Sandars, 2020; Gülen, 2021; Gündüzalp & Yıldız, 2020; Katrancı & Uygun, 2013; Kenar & Balcı, 2013; Körođlu, 2014; Li et al., Miliazim Memet & Şentürk, 2021; Pazilah et al., 2019; Sarı & Kartal, 2018; Yılmaz et al., 2015; Yılmaz et al., 2016), no study has been found on the relationship between the CT skill and the attitude towards the use of technology of the preschool teachers or any other branches. In Turkish sources, only one study with pre-service teachers has been found (Akgün, 2020). Thanks to the rapid technological advances in recent years, computational thinking and concepts related to technology have become one of the basics of education such as literacy and mathematics. For this reason, it is important that teachers, who are the most important part of education, have CT skills and usage technology in their classrooms. For this reason, in this study, the relationship between CT skills and attitude towards the use technological tools and equipment was examined.

In this context, answers to the following sub-problems were sought.

1. Is there a significant difference in preschool teachers' CT skills and attitudes towards the use of technological tools and equipment according to gender?
2. Is there a significant difference in pre-school teachers' CT skills and attitudes towards the use of technological tools and equipment according to educational status?
3. Is there a significant difference in pre-school teachers' CT skills and attitudes towards the use of technological tools and equipment according to their professional experience?
4. Is there a significant difference in the pre-school teachers' CT skills and their attitudes towards the use of technological equipment according to whether they received any technology-related education?
5. Is there a significant relationship between pre-school teachers' CT and their attitudes towards the use of technological equipment?

Method

In this section of the research, information about “the research model, universe and sample, data collection tools, data collection and analysis” were presented.

Model of the Research

In the present study, correlational survey model was preferred among the quantitative research methods. The correlational survey model is an approach which predicts the existence of a covariance between at least two variables, or even more and which tries to determine how the change occurs if there is any (Karasar, 2012).

Population and Sample of the Research

The population chosen for this research is the pre-school teachers working in public and private institutions of pre-school education in 5 central

districts of Kayseri (Melikgazi, Talas, Kocasinan, İncesu, Hacılar). 210 preschool teachers, who were determined by convenience sampling method constitute the sample in the research. In the convenient sampling method, which is based on accessibility and convenience, the researcher collects data from the most easily accessible subjects until the sample size is reached (Gürbüz & Şahin, 2015). In this study, data were collected from preschool teachers who were easily accessible by the researchers. The distribution of demographic information belonging to the study group is shown in Table 1.

Table 1. Distribution of Demographic Characteristics of Preschool Teachers

		f	%
Gender	Female	197	93.8
	Male	13	6.2
Educational status	Associate Degree	12	5.7
	Undergraduate	168	80.0
	Postgraduate	30	14.3
Years of experience	1-5 Years	23	11.0
	6-10 Years	35	16.7
	11-15 Years	104	49.5
	16-20 Years	30	14.3
	21 Years	18	8.6
Have you received any training on the use of technology?	Yes	117	55.7
	No	93	44.3
Total		210	1000

Table 1 shows the demographic characteristics of the preschool educators participating in the study. As seen in the table, 93.8% (197) of the educators taking part in the study are female while 6.2% (13) of the participants are male. 5.7% (12) of the teachers have associate degree, 80% (168) have undergraduate degree and 14.3% (30) have postgraduate degree. 11% (23) of the teachers participating in the research have between 1-5 years, 16.7% (35) have between 6-10 years, 49.5% (104) have between 11-15 years, 14.3% (30) have between 16-20 years and 8.6% (18) have 21 years or more of professional seniority. Finally, 55.7% (117) of the teachers have received training on technology use, while 44.3% (93) have not.

Data Collection Tools

In this study, "Demographic Information Form", "Computational Thinking Skills Scale" and "Attitude Scale Towards the Use of Technological Tools in Preschool Education" were utilized to collect the necessary data for the research. With the aim of obtaining some personal information about the participants, a demographic information form was devised and questions were asked about the participants' "gender, educational level, professional experience, whether they received education on the use of technology." Two different scales were conducted to obtain the essential data to make the calculations.

"Computational Thinking Skills" Scale

The "CT Skills Scale" developed by Korkmaz et al. (2017) was used to calculate the CT skills of the teachers. There are 29 items under 5 factors in the scale which is a five-point Likert. The factor called "Algorithmic Thinking" consists of 6 items and the coefficient of internal consistency is 0.869; the factor called "Critical Thinking" consists of 5 items and the coefficient of internal consistency is 0.784; the factor called "Creativity" consists of 8 items and the coefficient of internal consistency is 0.843; the factor called "Problem Solving" consists of 6 items and the internal consistency coefficient is 0.727; lastly the factor called "Collaboration" consists of 4 items and the internal consistency coefficient is determined as 0.865. The coefficient of internal consistency for the whole scale was calculated as 0.822 (Korkmaz et al., 2017).

The Cronbach Alpha reliability coefficient of the total "Computational Thinking Skills" scale used in the research was found to be .936. In addition, it was determined that the reliability coefficients of the sub-dimensions were between .867 and .954. While the lowest reliability coefficient was in the "Problem Solving" sub-dimension (.867), the highest reliability coefficient was in the "Collaborative Learning" sub-dimension (.954). The reliability coefficient was found to be .928 in the "Creative Thinking" sub-dimension, .936 in the "Algorithmic Thinking" sub-dimension, and .909 in the "Critical thinking" sub-dimension. Accordingly, it can be said that the

scale used in the research has a very high level of reliability.

“Attitude Scale towards the Use of Technological Tools and Equipment in Pre-School Education”

In order to measure the attitudes of educators towards the usage of technology in the education and training process, "Attitude Scale towards the Use of Technological Tools and Equipment in Pre-School Education", which was devised by Kol (2012), was preferred. In the scale, positive questions were graded as "I strongly disagree", "I do not agree", "I am undecided", "I agree" and "I totally agree" and scores were made from 1 to 5 for positive items, and vice versa for the negative items. As a result of the examination made by 6 preschool teachers and 11 experts with respect to content validity and the adequacy of the way of expression, some items were corrected in line with their opinions and suggestions, and some were taken out of the draft scale. The percentage of variance explained by the scale was found to be 41,181, and the eigenvalue was found to be 8,188. The Spearman Brown coefficient was calculated as 0.90 and the Cronbach Alpha reliability coefficient as 0.92 (Kol, 2012).

For the present study, it was determined that the Cronbach Alpha reliability coefficient of the total "Attitude Towards the Use of Technological Tools and Equipment in Preschool Education" scale was .909. Accordingly, it can be said that the scale used in the research has a very high level of reliability.

Data Collection and Analysis

After data collection tools were determined, first of all, the necessary approval was taken from the Ethics Committee of Erciyes University, and then the permission for the application was obtained from "Kayseri Provincial Directorate of National Education." The demographic information form and scales answered by the participants were created through Google forms and the participants could use their phones, tablets, computers, etc., where they have internet access. They participated by answering questions through technological tools. The demographic information form and scales used took approximately 10 minutes to

complete for each participant. The results of the normality analysis of the scales are presented in Table 2.

Table 2. Normality Test Results of the Scales Used in the Study

	Kolmogorov-Smirnov		
	Statistic	sd	p
Creativity	.162	210	.000
Algorithmic Thinking	.071	210	.013
Cooperativity	.212	210	.000
Critical Thinking	.129	210	.000
Problem Solving	.102	210	.000
Computational Thinking Skills Scale total	.066	210	.028
“Attitude Scale towards the Use of Technological Tools and Equipment in Pre-School Education”	.082	210	.002

The Kolmogorof-Smirnov normality test results of the scales are shown in Table 2. According to this table, it was observed that the data did not reflect the characteristics of a normal distribution ($p < .05$). Besides, he skewness and kurtosis values of the data were examined and since these values were not between +1/-1, it was accepted that the data did not show a normal distribution. Non-parametric tests were carried out in cases where the data are not normally distributed. For this reason, Spearman Rank correlation analysis, Mann-Whitney U test in paired groups and Kruskal Wallis-H test in groups of three or more were used to determine the relationships between variables.

Findings

In this section of the article, the scores of the preschool educators taking part in the study were examined according to their demographic characteristics and presented in tables, and then the results were discussed using the literature.

Preschool Teachers "Computational Thinking (CT)" Levels and "Attitudes Towards the Use of Technological Tools and Equipment (ATUTTE)" Evaluation by Gender

Table 3. shows the differentiation of preschool teachers' CT levels and ATUTTE by gender.

Table 3. Mann-Whitney-U Test Results Regarding the Difference Between the Mean Scores of the Scales According to the Gender of the Teachers

	Gender	N	Mean Rank	Sum Of Ranks	U	p
Creativity	Female	19	105.03	20690.00	1187.0	.658
	Male	13	112.69	1465.00		
Algorithmic Thinking	Female	19	103.70	20429.50	926.5	.095
	Male	13	132.73	1725.50		
Cooperativity	Female	19	105.32	20749.00	1246.0	.866
	Male	13	108.15	1406.00		
Critical Thinking	Female	19	104.77	20640.50	1137.5	.499
	Male	13	116.50	1514.50		
Problem Solving	Female	19	105.69	20820.50	1243.5	.861
	Male	13	102.65	1334.50		
CT Skills Scale Total	Female	19	104.75	20636.50	1133.5	.488
	Male	13	116.81	1518.50		
ATUTTE	Female	19	105.19	20722.00	1219.0	.772
	Male	13	110.23	1433.00		

As seen in the table, no significant difference was detected for the gender variable of the teachers in the total score of the "CT Skills" scale ($U=1133.5$, $p>.05$), in the "Creativity" sub-dimension ($U=1187.0$, $p>.05$), in the "Algorithmic Thinking" sub-dimension ($U=926.5$, $p>.05$), "Cooperativity" sub-dimension ($U=1246.0$, $p>.05$), "Critical Thinking" sub-dimension ($U=1137.5$, $p>.05$) and in the "Problem Solving" sub-dimension ($U=1243.5$, $p>.05$).

As for the total scores obtained from "Attitudes Scale towards the Use of Technological Tools and Equipment in Pre-School Education", it has been detected that the groups did not differ from each other in terms of gender ($U=1219.0$, $p>.05$), either.

Differentiation of Preschool Teachers' CT Skills and ATUTTE by Educational Status

The differentiation of pre-school teachers' CT skills and ATUTTE according to their educational status is presented on Table 4.

Table 4. Kruskal Wallis-H Test Results Regarding the Difference Between the Mean Scores of the Scales According to the Educational Status of the Teachers

	Educational level	N	Mean Rank	sd	χ^2	p	Meaningful Difference
Creativity	Associate Degree	1	78.67		2.533	.282	
	Undergraduate	6	106.83				
	Postgraduate	3	108.80				
Algorithmic Thinking	Associate Degree	1	65.17		6.895	.032*	1<2 1<3
	Undergraduate	6	105.89				
	Postgraduate	3	119.43				
Cooperativity	Associate Degree	1	99.58		.169	.919	
	Undergraduate	6	106.20				
	Postgraduate	3	103.93				
Critical Thinking	Associate Degree	1	98.63		2.855	.240	
	Undergraduate	6	102.93				
	Postgraduate	3	122.62				
Problem Solving	Associate Degree	1	108.67		.503	.778	
	Undergraduate	6	104.06				
	Postgraduate	3	112.28				
CT Skills Scale Total	Associate Degree	1	78.92		3.249	.07	
	Undergraduate	6	105.47				
	Postgraduate	3	116.32				
ATUTTE	Associate Degree	1	82.75		2.649	.266	
	Undergraduate	6	105.18				
	Postgraduate	3	116.37				

* $p<.05$, (1) Associate degree, (2) Undergraduate, (3) Postgraduate)

According to Table 4, in the total score of the "CT Skills" scale ($\chi^2=3.249$, $sd=2$, $p>.05$), in the "Creativity" sub-dimension ($\chi^2=2.533$, $sd=2$, $p>.05$), in the "Cooperativity" sub-dimension ($\chi^2=.169$,

sd=2, p>.05), in the "Critical Thinking" sub-dimension ($X^2=2.855$, sd=2, p>.05) and in the "Problem Solving" sub-dimension ($X^2=.503$, sd=2, p>.05), the groups did not differ in a significant way according to the educational status of the teachers. Only in the "Algorithmic Thinking" sub-dimension, the groups differed from one another in a significant way according to the educational status of the teachers ($X^2=6.895$, sd=2, p<.05). For this sub-dimension, to find out which groups differ from each other, Mann Whitney-U test was carried out. The analysis has revealed that there was a difference between the teachers with an associate degree and those with an undergraduate degree and between teachers with an associate degree and post graduate degree in favor of the latter (p<.05). In the total score ($X^2=2.649$, sd=2, p>.05) of the scale of "Attitudes towards the Use of Technological Tools and Equipment in Pre-School Education", it was seen that the groups did not differ in a significant way according to the educational status of the teachers.

Differentiation of Preschool Teachers' CT Skills and ATUTTE by Professional Seniority

The differentiation status of pre-school teachers' CT skills and ATUTTE according to their professional seniority is presented on Table 5.

Table 5. Kruskal Wallis-H Test Results Regarding the Difference Between Scores of the Scales According to the Professional Seniority of the Teachers Participating in the Research

	Years of Seniority	N	Mean Rank	sd	X ²	p
Creativity	"1-5 Years"	23	92.85	4	2.410	.661
	"6-10 Years"	35	97.79			
	"11-15 Years"	104	107.82			
	"16-20 Years"	30	110.03			
	"21 Years and above"	18	115.69			
Algorithmic Thinking	"1-5 Years"	23	77.78	4	7.312	.120
	"6-10 Years"	35	121.49			
	"11-15 Years"	104	105.78			
	"16-20 Years"	30	104.80			

Cooperativity	"21 Years and above"	18	109.36	4	2.515	.642
	"1-5 Years"	23	94.17			
	"6-10 Years"	35	98.47			
	"11-15 Years"	104	111.07			
	"16-20 Years"	30	106.67			
Critical Thinking	"21 Years and above"	18	99.50	4	2.207	.698
	"1-5 Years"	23	89.20			
	"6-10 Years"	35	107.59			
	"11-15 Years"	104	109.06			
	"16-20 Years"	30	106.32			
Problem Solving	"21 Years and above"	18	100.33	4	7.475	.113
	"1-5 Years"	23	99.61			
	"6-10 Years"	35	95.26			
	"11-15 Years"	104	112.40			
	"16-20 Years"	30	115.42			
CT Skills Scale total	"21 Years and above"	18	76.56	4	5.584	.232
	"1-5 Years"	23	78.43			
	"6-10 Years"	35	106.36			
	"11-15 Years"	104	110.41			
	"16-20 Years"	30	110.88			
ATUTTE	"21 Years and above"	18	101.06	4	3.513	.476
	"1-5 Years"	23	94.67			
	"6-10 Years"	35	117.30			
	"11-15 Years"	104	104.87			
	"16-20 Years"	30	111.47			
ATUTTE	"21 Years and above"	18	90.08	4	3.513	.476
	"16-20 Years"	30	111.47			
	"11-15 Years"	104	104.87			

According to Table 5, the groups did not differ from each other in terms of their work experience in the total score of the "CT Skills" scale ($X^2=5.584$,

sd=4, p>.05), in the "Creativity" sub-dimension (X²=2.410, sd=4, p>.05), in the "Algorithmic Thinking" sub-dimension (X²=7.312, sd=4, p>.05), in the "Cooperativity" sub-dimension (X²=2.515, sd=4, p>.05), "Critical Thinking" sub-dimension (X²=2.207, sd=4, p>.05) and in the "Problem Solving" sub-dimension (X²=7.475, sd=4, p>.05). This finding suggests that teachers' year of seniority is not a statistically meaningful variable for their CT skills.

Similarly, no significant difference was found in the total score (X²=3.513, sd=4, p>.05) of the scale of "Attitudes towards the Use of Technological Tools and Equipment in Preschool Education" according to the professional seniority of the teachers.

Differentiation of Preschool Teachers' CT Skills and ATUTTE According to the Status of Receiving Technology-related Education

The differentiation status of pre-school teachers' CT skills and their ATUTTE according to their attending technology-related training is presented in Table 6.

Table 6. The Mann-Whitney-U Test Results Regarding the Difference Between the Scores of the Scales According to their Attendance to the Technology-Related Education

	Receiving education	N	Mean Rank	Sum Of Ranks	U	p
Creativity	Yes	11	110.0	1287.7	4907.0	.22
	No	93	99.76	9278.0		
Algorithmic Thinking	Yes	11	110.4	1292.6	4858.0	.18
	No	93	99.24	9229.0		
Cooperativity	Yes	11	102.0	1194.2	5039.5	.34
	No	93	109.8	10212.5		
Critical Thinking	Yes	11	111.6	1306.4	4720.0	.09
	No	93	97.75	9091.0		
Problem Solving	Yes	11	105.9	1239.2	5391.5	.91
	No	93	104.9	9762.5		
CT Skills Scale total	Yes	11	108.4	1268.6	5097.5	.43
	No	93	101.8	9468.5		
ATUTTE	Yes	11	107.8	1261.4	5169.5	.53
		7	2	50	5	5

No	93	102.5	9540.5
		9	0

According to Table 6, in the total score of the "CT Skills" scale (U=5097.5, p>.05), in the "Creative Thinking" sub-dimension (U=4907.0, p>.05), in the "Algorithmic Thinking" sub-dimension (U=4858.0, p>.05), "Collaborative Learning" sub-dimension (U=5039.5, p>.05), "Critical Thinking" sub-dimension (U=4720.0, p>.05) and "Problem Solving" sub-dimension (U=5391.5, p>.05) no significant difference was found in terms of teachers' technology-related education status.

According to the findings, there was also no significant difference in the "Attitude Scale towards the Use of Technological Tools and Equipment in Pre-School Education" regarding the teachers' having education related to technology (U=5169.5, p>.05).

The Relationship Between the CT Skills and the ATUTTE in Pre-School Education

In the study, the relationship between the CT skills and the ATUTTE in pre-school education was also examined and the obtained results were presented in Table 7.

Table 7. Correlation Test Results for the Relationship Between CT Skills and Attitude Towards the Use of Technological Tools and Equipment in Pre-School Education

	1	2	3	4	5	6	7
Creativity	1						
Algorithmic Thinking	.507*	1					
Cooperativity	.587*	.420*	1				
Critical Thinking	.672*	.659*	.630*	1			
Problem Solving	.155*	.242*	.161*	.168*	1		
CT Skills Scale Total	.755*	.790*	.706*	.811*	.519*	1	
ATUTTE	.308*	.156*	.355*	.290*	.233*	.349*	1

Table 7 shows the Spearman Rank correlation analysis results, which were conducted to determine the relationship between the "Computational Thinking Skills" scale and its sub-dimensions and the "Attitude towards the Use of Technological Tools and Equipment in Preschool Education" scale. Considering the results of the analysis, a positive and moderately significant relationship was determined between the total

score of the "Computational Thinking Skills" scale and the "Attitude towards the Use of Technological Tools and Equipment in Preschool Education" [$r=.349$; $p<.05$]. When the relationship between the sub-dimensions of the "Computational Thinking Skills" scale and the "Attitude towards the Use of Technological Tools and Equipment in Pre-School Education" scale was examined, it was observed that there were positive and significant relationships between all sub-dimensions and "Attitude towards the Use of Technological Tools and Equipment in Preschool Education" scale ($p<.05$). Besides, it was seen that the lowest relationship was in the "Algorithmic Thinking" sub-dimension ($r=.156$), and the highest relationship was in the "Cooperative Learning" sub-dimension ($r=.355$).

Discussion and Conclusion

The examination of preschool teachers' CT skills according to their gender revealed that male and female educators did not differ from each other both at the total scores and the sub-dimensions of the "Computational Thinking Skills Scale" used in the research and that the means of the teachers who took part in the study were similar to each other. The absence of difference is thought to result from the fact that male and female teachers benefit from the same educational opportunities in the process of teacher training and inequality in the society decreases in this sense. When the literature on CT was reviewed, it was identified that Atmatzidou and Demetriadis (2016), Alsancak Sırakaya (2019), Yıldız Durak et al. (2019) and Yağcı (2018) also obtained similar results in their research and concluded that gender had no effect on CT. Unlike these results, Akgün (2020) found in his research that there is a significant difference in the CT skills of teachers according to their gender and concluded that male pre-service teachers' CT skill means are higher than female pre-service teachers. Similarly, Roman Gonzalez et al. (2016), Sarıtepeci (2017) and Kirit et al. (2018) also concluded that the gender variable had a significant effect on CT skills.

When "the attitudes of preschool teachers towards the use of technological tools and equipment" in the classrooms was examined

according to their gender, it was seen that the male group did not differ from the female group in terms of their means scores. It is thought that the different findings in the literature examining the "Attitudes towards the use of technological tools and equipment (ATUTTE)" in instruction in the context of gender may result from the fact that the selected sample groups and sample numbers are not the same, and that there is no balanced distribution based on gender due to the fact that the pre-school teachers are mostly women. When the literature on the ATUTTE in classroom settings was examined, it was observed that Gujjar et al. (2013), Rana (2012), Çelik and Bindak (2005), Koçak and Gülcü (2013), Koroğlu (2014), Çınarlar et al. (2016), Aztekin (2020) and Konca and Tantekin Erden (2021) had similar results and did not find any relationship between gender and attitudes towards using technology in the preschool education process. In the study of Can and Namlı (2019), which did not coincide with the results of the research, it was found that the attitude scores of male pre-service teachers were higher compared to the attitude scores of female pre-service educators. Likewise, Gülen (2021), Markauskaite (2006), Houtz and Gupta (2006), Campbell (1990) determined that male educators had a higher level of ATUTTE in the education process than females. In his study, Yılmaz (2016), on the other hand, found that unlike Gülen (2021), Can & Namlı (2019), female teachers' attitudes towards the use of technological equipment were more positive than male group.

When the CT skills of preschool teachers according to their education levels were examined, it was seen that while the education status of the teachers working in pre-school education institutions did not lead to any difference in "creativity", "problem solving", "cooperativity" and "critical thinking" sub-levels of the "Computational Thinking Skills Scale", it was determined that the educational status created a significant difference on the algorithmic thinking sub-level. According to this finding, it was observed that pre-school teachers with associate degrees have lower algorithmic thinking skills.

Algorithmic thinking is the process of considering all the possible possibilities and solutions for the solution of a problem and

revealing them step by step (Aydoğdu, 2020, pp. 5). Considering that algorithms surround most of the daily life, it is clear that the development of this step will be an important gain for the individual (Korkmaz et al., 2015, pp. 70).

In addition, it was seen that the educational status of the preschool did not make a significant difference in the educators' attitude towards the use of technology. The reason for this can be that the teachers received similar education on the use of technology during their educational activities at the university. When examining the literature on the ATUTTE in education, it was seen that there are studies with similar results. Köroğlu (2014), Çınarar et al. (2016) and Yılmaz et al. (2016) concluded in their research that the educational levels of the teachers did not make a significant difference on their attitude towards using technological equipment in education. Gülen (2021), who reached a conclusion different from the results obtained from present research, concluded that educational status made a significant difference on the instructors' attitudes and that preschool teachers with a postgraduate degree have a more positive attitude towards the use of technological tools and equipment in the education process. Aztekin (2020), on the other hand, concluded that undergraduate teachers have a more positive attitude towards using technology in the education process compared to teachers at other education levels.

When CT skills of preschool teachers and their attitudes towards the use of technology tools and equipment seniority were examined according to their professional, it was concluded that there was no significant difference according to the seniority of the pre-school teachers who participated in the research. When the literature on teachers' attitudes towards the use of technological equipment in the educational process was examined, it was seen that Çınarar et al. (2016), Çörekçi (2020) and Gülen (2021) reached similar results showing there was no significant relationship between the years of seniority of teachers and their use of technology. Çakmaz (2010), on the other hand, stated in his research that he reached a significant difference in this regard and the result was that teachers who are new to the profession use new technological tools, while senior teachers choose old

technological tools and equipment with classical methods. Aztekin (2020) also determined that the attitude scores of teachers who are 21 years or more of professional seniority were lower in this regard. The reasons for the different results in the literature examining the levels of "Attitudes towards the Use of Technological Tools and Equipment in Pre-School Education" in the context of seniority may be due to the different sample groups and sample numbers participating in the research and whether they received in-service education on using technological tools.

When the computational thinking skills of pre-school teachers and their attitudes towards using technological tools and equipment in the educational process is examined in terms of whether they have received any training on the use of technological tools and equipment, it has been seen that there is no meaningful difference according to that variable. The mean scores of the preschool teachers who participated in the survey were similar to each other. When relevant literature was examined, unlike the results of the current research, Akgün (2020) concluded that there was a relationship between two variables in his study investigating the effect of receiving technology-related training on computational thinking skills. When the literature was examined, it was observed that the results of the present study were similar to those of Çakmaz's (2010) and Köroğlu's (2014). The researchers reached the conclusion that there was no significant difference between the teachers' attitude towards technology use according to getting education on the use of technological tools and equipment. However, Gülen (2021) stated in her research that the attitudes of teachers who received training on the use of technological tools and equipment in the pre-school education process were higher than the attitude levels of those who did not receive any training. Similarly, Aztekin (2020) found a significant difference in favor of the trained teachers in this regard. Yıldırım (2000), on the other hand, stated that the teachers' attitudes towards technology increased after various computer courses according to the data he obtained as a result of his research. These findings differ from the findings of the present research. When the literature is examined for studies

investigating the relationship between the teachers' receiving technology-related training and their level of "Attitude Towards the Use of Technological Tools and Equipment in Pre-School Education", different results have been reached. It is thought that teachers who receive training on the use of technology in education can offer a higher quality education to their students by providing a learning process enriched with technological tools and equipment (Gülen, 2021, p. 55).

Finally, when the relationship between pre-school teachers' CT skills and their attitudes towards the use of technology tools in the education process was analyzed, it was identified that there was a positive correlation between the sub-dimensions of the "Computational Thinking Skills" scale and the "Attitude towards the Use of Technological Tools and Equipment in Preschool Education" scale. It can be said that there was a moderately significant relationship. As a result of this, it was concluded that as the CT skills of preschool teachers increased, their attitudes towards the use of technology also increased. In the literature, Akgün (2020), in his research in which he evaluated teachers' ICT and ICT skills in terms of different variables, concluded that there is a positive and weak relationship between CT competencies and ICT skills. While the positive correlation found between the two variables is similar to the findings of the presents study, its being low differs from this study's findings. A thorough review of the literature has shown that while there are many studies on the use of technological tools and equipment in education, the studies on CT are not enough. Likewise, there are not enough studies that measure the relationship between teachers' CT skills and their use of technological equipment in education.

Recommendations

Based on the results obtained from the research, the following suggestions can be made for new research to be carried out:

Preschool teachers' CT skills and their attitudes towards the use of technology in education can also be examined through their different demographic characteristics.

Teachers who have a high level of attitude towards the use of technology in pre-school education can be examined by comparing the activity practices that include technology.

Based on the different results obtained in the studies in the literature, it can be stated that much more studies are needed to reveal the relationship between the gender variable and CT skills. In addition, if, as a result of the researches, it is determined that one of the female or male teachers is more advanced in computational thinking skills, in order for the students to receive a similar quality education from all their teachers regardless of male or female, it is necessary to plan the solution process by making a deeper research on the subject.

In this study, one data collection tool was used to determine teachers' computational thinking skills. In order to obtain deeper and more comprehensive data in future research, evaluations can be made by using different data collection tools such as "observation" and "interview". Since it is a high-level mental skill, making deep and comprehensive evaluations can provide better quality results by observing the research from different angles.

It has been seen that studies on CT skills mostly focus on students of different age groups. In this sense, it is important to increase the number of studies in this field in order to better understand computational thinking and to see its benefits.

It is thought that this research will contribute to researchers who want to work on the relevant subject and in the context of different variables. By investigating the relationship between teachers in different branches and their CT skills and their use of technology, a contribution can be made to the very limited literature on this subject.

Sub-dimensions of CT skills can be used to improve the quality of all courses, and these skills can be reflected in the teaching process, objectives and evaluation. For this, practical in-service trainings can be given to teachers for the application of this skill in curricula, and projects can be realized.

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