AN EXAMINATION OF THE CORRELATION BETWEEN DISASTER AWARENESS AND PSYCHOLOGICAL PREPAREDNESS

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

MERVE GÜZEL BANK

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF EDUCATIONAL SCIENCES, CURRICULUM AND INSTRUCTION

DECEMBER 2024

Approval of the thesis:

AN EXAMINATION OF THE CORRELATION BETWEEN DISASTER AWARENESS AND PSYCHOLOGICAL PREPAREDNESS

submitted by **MERVE GÜZEL BANK** in partial fulfillment of the requirements for the degree of **Master of Science in Educational Sciences, Curriculum and Instruction, the Graduate School of Social Sciences of Middle East Technical University** by,

Prof. Dr. Sadettin KİRAZCI
Dean
Graduate School of Social Sciences _____

Prof. Dr. Zeynep SÜMER
Head of Department
Department of Educational Sciences _____

Assoc. Prof. Dr. Pervin Oya TANERİ
Supervisor
Department of Educational Sciences _____

Examining Committee Members:

Prof. Dr. Cennet ENGİN (Head of the Examining Committee)
Middle East Technical University
Department of Educational Sciences _____

Assoc. Prof. Dr. Pervin Oya TANERİ (Supervisor)
Middle East Technical University
Department of Educational Sciences _____

Prof. Dr. Gürcü KOÇ
Gazi University
Department of Educational Sciences _____

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last Name: MERVE GÜZEL BANK

Signature:

ABSTRACT

AN EXAMINATION OF THE CORRELATION BETWEEN DISASTER AWARENESS AND PSYCHOLOGICAL PREPAREDNESS

GÜZEL BANK, Merve
M.S., The Department of Educational Sciences, Curriculum and Instruction
Supervisor: Assoc. Prof. Dr. Pervin Oya TANERİ

December 2024, 103 pages

This study examines the relationship between disaster awareness and psychological preparedness for disaster threats and provides implications about effective disaster education for undergraduate students. 412 undergraduate students selected from different regions and universities of Türkiye participated in the research. This study employs a correlational research design to examine the relationship between disaster awareness and psychological preparedness for disaster threats. Data are collected using "The Disaster Awareness Scale" developed by Dikmenli et al. (2018) and "The Turkish Version of the Psychological Preparedness for Disaster Threat Scale (PPDTS-T21) by Türkdoğan Görgün et al. (2023). Correlation analyses were performed to measure the direction and strength of the relationship between these variables. Findings suggest that enhancing disaster awareness among undergraduate students can improve their psychological preparedness for emergencies. This study makes a unique contribution to the literature by focusing on the relationship between disaster awareness and psychological preparedness and emphasizing that disaster education is necessary for all undergraduate departments based on the relationship found.

Keywords: Natural Disasters, Disaster Awareness, Natural Disasters Education, Disaster Preparedness, Undergraduate Students

ÖZ

AFET FARKINDALIĞI İLE PSİKOLOJİK HAZIRLIK ARASINDAKİ İLİŞKİNİN İNCELENMESİ

GÜZEL BANK Merve
Yüksek Lisans, Eğitim Bilimleri, Eğitim Programları ve Öğretim Bölümü
Tez Yöneticisi: Doç. Dr. Pervin Oya TANERİ

Aralık 2024, 103 sayfa

Bu çalışma, afet farkındalığı ile afet tehdidine karşı psikolojik hazırlık arasındaki ilişkiyi inceleyerek, lisans öğrencilerine yönelik etkili afet eğitimiyle ilgili öneriler vermeyi amaçlamaktadır. Araştırmaya, Türkiye'nin farklı bölgelerinden ve üniversitelerinden seçilen 412 lisans öğrencisi katılmıştır. Çalışmadaki veriler Dikmenli vd. (2018) tarafından geliştirilen "Afet Farkındalığı Ölçeği" ve Türkdoğan Görgün vd. (2023) tarafından Türkçe versiyonu geliştirilen "Afet Tehdidi için Psikolojik Hazırlık Ölçeği" aracılığıyla toplanmıştır. İki değişken arasındaki ilişkinin yönünü ve gücünü anlamak için korelasyon analizleri yapılmıştır. Sonuçlar, genel olarak afet farkındalığı ile psikolojik hazırlık arasında olumlu bir ilişki olduğunu göstermiştir. Çalışmanın bulguları, afet eğitimlerinin sadece bilgi vermek yerine, insanların psikolojik hazırlık seviyelerini de desteklemesi gerektiğine işaret ediyor. Bu nedenle, afet eğitimlerinin sadece belirli bir lisans bölümü için değil, her lisans dalı için gerekli olduğu ve düzenlemelerin bu doğrultuda yapılması gerektiği vurgulanır.

Anahtar Kelimeler: Doğal Afetler, Afet Farkındalığı, Doğal Afet Eğitimi, Afet Hazırlığı

To those who lost their lives in the Kahramanmaraş earthquake on February 6, 2023

ACKNOWLEDGMENTS

First and foremost, I would like to express my deepest gratitude to my supervisor, Assoc. Prof. Pervin Oya Taneri. Her positivity and support have always been a source of motivation for me, especially during times when I struggled to find motivation. She has consistently been ready and willing to assist me at any time, and her invaluable academic guidance has contributed significantly to bridging my knowledge gaps. I feel incredibly fortunate to be her student.

I am also profoundly grateful for the endless support from my spouse, Ulaş. I sincerely appreciate his trust in me, ability to motivate me about the future, and willingness to dream alongside me. His encouragement and presence have made this journey much more meaningful.

I want to acknowledge my beloved dog, Düğme. Her constant companionship and playful presence have brought joy and comfort during this intense period. Her little gestures have been a source of light and happiness. Thank you, Düğme, for being my cheerful and loyal friend throughout this journey.

I also feel incredibly fortunate to have a colleague like Perihan. Her support throughout this process has been invaluable. She has been a true work partner in problem-solving and critical thinking, and her ability to work through challenges with me has been invaluable. I am genuinely grateful for her presence and support.

I would also like to extend my heartfelt thanks to my family, who experienced the 2023 Kahramanmaraş earthquake. Their firsthand experience of such a devastating event and our shared emotions have profoundly influenced my interest in this topic. Their resilience and strength have been a source of inspiration for me throughout this journey.

Additionally, I would like to thank TÜBİTAK for the scholarship they provided me to conduct this study.

Finally, I would like to express my gratitude to all my friends, who have patiently listened to me as I repeatedly discussed my thesis. Their understanding and support in tolerating my constant updates and thoughts have been greatly appreciated. Thank you for your patience and for being there throughout this process.

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CHAPTER 1

INTRODUCTION

This chapter provides an overview of the study for the readers. It begins with the background of the study and the research questions. The significance of the study is then presented, followed by an explanation of the key terminology in the field.

1.1. Background to the Study

Natural disasters have a wide range of negative consequences on individuals. In Türkiye, natural disasters like earthquakes, floods, and wildfires continue to cause significant harm (Büyükkaracığan, 2017). Between 2020 and 2024, numerous disasters affected most of the population, leaving many individuals injured, homeless, or needing assistance (Centre for Research on the Epidemiology Disasters, 2024). Among these disasters, the February 6, 2023, earthquakes centered in Kahramanmaraş stand out as some of the most destructive natural disasters in recent history, causing thousands of deaths, injuries, and widespread destruction (Ata, 2023). The economic impacts of these disasters are severe, affecting both individuals and the state. For example, the economic damage caused by the 2023 earthquakes in Türkiye was estimated at $104 billion, representing 9% of Türkiye's GDP (Büyükoğlu et al., 2024). This damage destroyed residential buildings, public infrastructure, and private sector facilities. These financial burdens often intensify existing socioeconomic inequalities and cause low-income individuals to be particularly vulnerable to the long-term effects of disasters (Deng et al., 2021). Studies have shown that individuals who lose their homes or livelihoods face challenges like unpaid rent, debt, and dependence on community support (Johar et al., 2022). Furthermore, during evacuation phases, wealthier individuals are more likely to leave affected areas, highlighting the disparities in disaster response based on economic status (Yabe & Ukkusuri, 2020).

In addition to economic impacts, natural disasters have significant social impacts, too**.** They can disrupt essential social services such as shelters, support centers, and healthcare facilities. The 2023 Kahramanmaraş earthquakes damaged many services and affected vulnerable populations like children, women, and the elderly (Presidency of the Republic of Turkey, 2023). Disasters often widen the gap between different socioeconomic groups, increasing social inequality and reducing social cohesion (Yabe & Ukkusuri, 2020). Research has shown that community resilience and social support are critical in mitigating these effects and aiding post-disaster recovery (Gim & Shin, 2022).

The psychological impacts of natural disasters are profound and long-lasting. Many individuals experience trauma, anxiety, and post-traumatic stress disorder (PTSD) as a result of direct or indirect exposure to disasters (Rosenberg et al., 2022). For example, the 2023 earthquakes in Türkiye caused significant mental health challenges for survivors (Çınaroğlu, 2024). Not only disaster victims but also first responders, such as search and rescue teams, are at high risk of developing PTSD (Iseri & Baltaci, 2024) Psychological distress can affect decision-making, reduce risk-taking abilities, and hinder long-term recovery efforts. Studies have highlighted the importance of addressing mental health in disaster management and recovery (Saeed & Gargano, 2022). Additionally, indirect exposure through media can also lead to psychological effects, as seen in reactions to the 7.0 magnitude Jiuzhaigou earthquake in China (Ai et al., 2023).

Given these wide-ranging consequences**,** there is an urgent need to improve disaster awareness and psychological preparedness**.** Türkiye's disaster management system has traditionally focused on post-disaster recovery efforts (Baris, 2009). However, disaster awareness should be promoted not just after disasters but also before and during them (Kyne, 2023). Increasing awareness before disasters can help individuals remain calm and resilient, improving overall crisis management skills (Tercan, 2024). Education is vital in this process, providing people with material, informational, and social resources that reduce their vulnerability to disasters (Hoffmann & Blecha, 2020). By equipping individuals with disaster education,

communities can better handle emergencies and reduce the negative impacts of disasters.

Psychological preparedness is another critical component of effective disaster management. Incorporating psychological preparedness into disaster management strategies can enhance overall resilience and response effectiveness (Zulch et al., 2012). Ensuring that individuals are mentally and emotionally prepared for disasters is just as important as raising awareness of physical threats. Psychological preparedness can help individuals manage stress, make informed decisions during emergencies, and recover quickly after a disaster.

This study explores the relationship between disaster awareness and psychological preparedness among a selected sample of undergraduate students. Understanding this relationship is essential for developing comprehensive disaster education programs. These programs provide essential knowledge and build confidence and psychological resilience in emergencies. By enhancing awareness and preparedness, communities can better cope with the devastating impacts of natural disasters, ultimately promoting recovery and reducing inequalities in the aftermath of such events.

1.2. Purpose of the Study

This study aims to investigate the relationship between disaster awareness and the psychological preparedness of undergraduate students for disaster threats. Given the increasing severity of disasters and their harm, it is believed that raising disaster awareness will increase individuals' psychological preparedness. The study's conclusion is intended to provide recommendations for disaster education based on the relationship between individuals' disaster awareness and psychological preparedness.

1.3. Research Questions

Considering the abovementioned aims, this thesis attempts to shed light on the following research questions:

1. Is there any significant relationship between disaster education awareness and psychological preparedness for disaster threats?
2. Is there any significant relationship between pre-disaster awareness and psychological preparedness for disaster threats?
3. Is there any significant relationship between false disaster awareness and psychological preparedness for disaster threats?
4. Is there any significant relationship between after-disaster awareness and psychological preparedness for disaster threats?

1.4. Significance of the Study

As the level and frequency of natural disasters increase in Türkiye, minimizing their devastating effects has become more critical than ever. The most effective way to address this growing problem is to ensure that individuals possess sufficient knowledge, awareness, and disaster preparedness. Establishing a culture of disaster awareness can empower individuals and communities to take the necessary precautions and make proper decisions, ultimately reducing the loss of life, injuries, and property damage.

Universities play a crucial role in shaping this awareness. As institutions that educate and prepare the younger generation, in other words, the future leaders, professionals, and decision-makers of society, universities are important in fostering disaster preparedness. However, most studies in the literature focus on specific university departments, such as medicine, nursing, or engineering, based on the idea that these fields have a more immediate or direct role in disaster response (Patel et al., 2017). While healthcare workers and engineers play crucial roles during and after disasters, limiting disaster education to these fields ignores the reality that disasters affect everyone, regardless of their profession or academic background. Effective disaster preparedness requires the participation and awareness of society as a whole.

This study is significant because it does not restrict the sample to a specific university department. By including undergraduate students from various disciplines, this research emphasizes that disaster education is relevant to all undergraduate

students and, by extension, to all sectors of society. This inclusive approach helps bridge the gap in the literature, where studies have predominantly focused on specialized fields. Expanding disaster education to encompass all disciplines can cultivate a more disaster-resilient society where individuals are equipped to protect themselves and contribute to community preparedness.

Furthermore, the study focuses on the relationship between disaster awareness and psychological preparedness, a crucial but often underestimated aspect of disaster preparedness. Psychological preparedness encompasses managing emotional responses, understanding situational environments, and maintaining social support networks during disasters. Students may believe they understand disaster preparedness due to media exposure, personal experiences, or family influence. However, research indicates that theoretical knowledge does not always refer to taking practical actions during disasters. Another key significance of this study is its consideration of socioeconomic inequalities in disaster education. Access to disaster education and resources often varies based on socioeconomic status, leading to unequal levels of awareness and preparedness. Students from lower-income backgrounds or marginalized communities may not receive the same level of disaster education or have access to the same resources as others. This inequality creates vulnerabilities that increase the impact of disasters on these populations. By including a diverse group of students, this research can identify these gaps and offer recommendations for more equitable disaster education policies. Addressing these inequalities is essential for fostering societal preparedness against disasters.

In addition, this study emphasizes that disaster awareness and preparedness are not limited to the post-disaster phase. Effective disaster education should address all stages of a disaster — pre-disaster, during, and post-disaster. The pre-disaster phase is particularly critical, as preventive measures and preparations can significantly reduce the impacts of disasters. Raising awareness and building psychological preparedness among students during this phase can lead to proactive behaviors, such as creating emergency kits, developing family disaster plans, and understanding evacuation procedures. By highlighting these relationships and addressing gaps in the literature, this study offers valuable implications for policymakers, educators, and

curriculum developers. It underscores the need to integrate disaster education into university curricula across all disciplines, ensuring that every student, regardless of their field of study, is prepared for potential disasters.

In conclusion, this study significantly contributes by exploring the relationship between disaster awareness and psychological preparedness among undergraduate students. It addresses the gaps in existing literature and provides practical insights for improving disaster education and reducing the risks associated with disasters. By promoting comprehensive and inclusive disaster education, this research supports the development of a safer, more informed, and more resilient society.

1.5. Definition of Terms

Awareness: The quality or state of awareness; knowledge and understanding that something is happening or exists (Merriam-Webster, n.d.).

Disaster Awareness: Natural disaster awareness is the process by which individuals and communities become informed about natural disasters, understand the possible effects, and take the necessary precautions to minimize these effects (AFAD, n.d.).

Disaster Education: It is an educational process that aims to teach individuals the correct behaviors to be taken before, during, and after disasters (AFAD, n.d.).

Disaster Management: It is an all-out struggle process that must be carried out by society in order to prevent disasters and reduce their damage, respond to disaster-causing events in a timely, rapid, and effective manner, and create a safer and more developed new living environment for communities affected by disasters (AFAD, n.d.).

Disaster Preparedness: The completion of planning, resource identification, warning systems, education, simulations, and other preventive measures to enhance the security and efficiency of community response to disasters (Gillespie & Streeter, 1987).

Natural Disasters: The general name given to the results of natural events that cannot be prevented, such as earthquakes, floods, landslides, avalanches, droughts, storms, hail, tornadoes, droughts, and meteorites, resulting from geological, meteorological, hydrological, climatological, biological and other-worldly hazards (AFAD, n.d.)

CHAPTER 2

LITERATURE REVIEW

In this part of the study, the existing literature on disasters, disaster awareness, psychological preparedness for disaster threats, and the role of education was examined.

2.1. Understanding Disasters: Definition and Types

Disaster refers to a significant disruption of a community's ability to function at any size brought on by hazardous events interacting with exposure, vulnerability, and capacity conditions, resulting in one or more of the following: impacts and losses to people, property, the economy, and the environment (UNDRR, n.d.). According to Chaudhary & Piracha (2021), the natural disasters that are described as threats to the people are categorized in the table below:

Table 1. Classification of Natural Disasters

Categories	Natural Disasters
Geophysical	Earthquakes, volcanic activity, and dry mass movement.
Hydrological	Floods, landslides, scour, and wave action
Meteorological	Tornadoes, extratropical storms, tropical storms, fog.
Climatological	Droughts, wildfires, glacial movement, glacial lake outburst
Biological	Plague, malaria, dengue, COVID-19
Extraterrestrial	Hazards are becoming outside the Earth’s atmosphere.

2.2. The Impacts of Natural Disasters

Natural disaster fatalities can vary significantly from year to year; some years have very few fatalities before a significant disaster event takes a considerable number of

lives. (Ritchie & Rosado, 2022). According to the data provided by The International Disaster Database (EM-DAT), which provides statistics related to mass disasters and their effects from 1900 to the present, 11,076 natural disasters were reported between the years 2000-2024 (Centre for Research on the Epidemiology Disasters, 2024). The number of deaths, the affected population, the declaration of an emergency, and the need for international assistance comprise the basis for the records. Disasters that have been reported include animal incidents, droughts, earthquakes, epidemics, high temperatures, floods, outbursts of glacial lakes, impacts, infestations, mass movements (both wet and dry), storms, volcanic activity, and wildfires. Based on the available data, the following table is the distribution of natural disasters records between 2000-2024 throughout the regions:

Table 2. Number of Natural Disasters within the Regions over the World between 2000-2024

Regions	Number of the Incident	Percentage
Africa	2,134	21,2%
America	2,322	23,0%
Asia	3,937	39,1%
Europe	2,302	22,8%
Oceania	381	3,8%

Note. Data from the Centre for Research on the Epidemiology of Disasters (CRED, 2024).

These figures demonstrate that Oceania had the lowest number of natural disasters, whereas Asia had the highest number experiencing natural disasters. Given that Türkiye is a nation with territory in Asia, it is evident that Türkiye is very vulnerable to natural disasters according to this record for the Asian region.

The table showing the number of incidents recorded in natural disasters globally by type is shown below:

Table 3. The Distribution of Natural Disasters over the Regions between 2000-2024

Incidents	Number of the Incident	Percentage
Animal Incident	1	0.01%
Drought	410	4.16%
Earthquake	665	6.74%

Table 3. (continued)

Epidemic	894	9.06%
Extreme Temperature	494	5.00%
Flood	4082	41.36%
Glacial Lake Outburst	4	0.04%
Impact	1	0.01%
Infestation	29	0.29%
Mass Movement (dry)	13	0.13%
Mass Movement (wet)	463	4.69%
Storm	2584	26.19%
Volcanic Activity	128	1.30%
Wildfire	208	2.11%

Note. Data from the Centre for Research on the Epidemiology of Disasters (CRED, 2024).

Considering the data below accounting for Türkiye specifically, these figures show that 95 natural disasters were reported in Türkiye between 2000-2024 (Centre for Research on the Epidemiology Disasters, 2024). The following is the breakdown of these mass disasters by their types:

Table 4. The Distribution of Natural Disasters Türkiye between 2000-2024

Incidents	Number of the Incident	Percentage
Flood	36	37.9%
Earthquake	31	32.6%
Landslide	10	10.5%
Avalanche	8	8.4%
Wildfire	5	5.3%
Extreme temperatures	4	4.2%
Epidemics	1	1.1%

Note. Data from the Centre for Research on the Epidemiology of Disasters (CRED, 2024).

The most frequent natural disasters in Türkiye are earthquakes and floods, accounting for almost 70.5% of all natural catastrophes in the region. It is indicated that the riskiest natural disasters are floods and earthquakes (see **Table 4**). The most recent two destructive ones occurred on February 6, 2023, with Mw7.7, Mw7.6 magnitudes. These earthquakes caused great destruction in 11 provinces in total. According to the report published by the Turkish Presidency of Strategy and Budget (2023), as a result of the earthquakes, more than 48.000 people lost their lives. Many residential, critical, and commercial buildings, communication, and energy infrastructure were damaged, and significant financial losses were incurred.

The following sections will present recent studies on disasters' economic, social, and psychological impacts. Comprehending these impacts is crucial for providing efficient mitigation plans and disaster readiness.

2.2.1. Economic Impacts of Natural Disasters

This section covers economic losses resulting directly and indirectly from natural disasters. It presents the literature on how natural disasters cause economic losses by indirectly promoting socioeconomic inequalities.

Natural disasters cause economic damage and losses at both individual and state levels. Earthquakes struck eleven provinces in Türkiye with magnitudes of 7.8 and 7.6, which caused many losses in 2023. Despite the limited data, the earthquake's economic effects are estimated at 104 billion dollars, or around 9% of the nation's income in 2023 (Büyükoğlu et al., 2024). When the economic burdens for the state created by this earthquake alone are further examined by the Presidency of the Republic of Turkey (2023), it is reported that emergency expenditures are 6.786 million USD while public sector damage costs 12,736 million USD. The most noticeable component of the cost imposed by the earthquake on the Turkish economy is the damage in dwelling units by 54.9% (1,073.9 billion TRY; 56.9 billion USD). The destruction of public buildings and infrastructure (worth 242.5 billion TRY, or 12.9 billion USD) is the second highest damage. Except for houses, the private sector's damage is estimated at around 222.4 billion TRY (11.8 billion USD). This group comprises the manufacturing industry, energy, communications, tourism, healthcare, education sectors, and damage to small tradespersons and institutions of worship.

In addition to its impact on the country and state level, natural disasters also seriously damage individuals' economic levels, affecting their lives. People who have experienced natural disasters individually may experience economic difficulties. In a study conducted in Australia by Johar et al. (2022), the financial challenges faced by individuals whose homes were destroyed or severely damaged by natural disasters were examined. This study shows that people who lose or damage their homes after

natural disasters are particularly likely to experience economic difficulties. Unpaid rent, debts, and reliance on community support are some of these financial difficulties. The most important conclusion that can be drawn from this study is that natural disaster victims who have low incomes and/or are living on rent are significantly negatively affected. In addition, in this study, it is reported that people who were victims of natural disasters were more hesitant and did not want to take risks when it was required to make an economic decision.

The consequences of these devastating effects caused by natural disasters widen the gap between rich and poor and worsen the disadvantages faced by those who are already economically disadvantaged. A study on how long people evacuated during a disaster found that poor and minority communities are more vulnerable to disasters during evacuation, which is the most crucial disaster response, based on data gathered from anonymous GPS records in Texas. This discrepancy demonstrates that decisions for early evacuation are influenced by income level. The socioeconomic impact of natural disasters further divides people because low-income individuals already struggle with scarce resources (Deng et al., 2021). In addition to natural disasters causing economic inequalities among economically disadvantaged groups, lower-income groups face more challenges in rebuilding and recovering from disasters. Natural disasters can damage vital infrastructure services like transportation, water, and electricity. This was observed in a study that examined the effects of major disasters like Hurricane Harvey, Hurricane Flood, and Hurricane Michael in various parts of the United States. It was clear that these make the recovery process more challenging and lower the economic output of those impacted by natural disasters, particularly those who live in low-income areas (Coleman et al., 2020).

2.2.2. Social Impacts of Disasters

Social inequality, one of the most important social factors created by the economic effects mentioned in the previous chapter, becomes a prominent issue after a natural disaster, disrupting the homogeneity of society. As a result of the 2023 Kahramanmaras earthquake, the biggest and most devastating natural disaster of

recent years in Türkiye, the destruction or damage of social services such as children's houses sites, children support centers, women's shelters, violence prevention and monitoring centers, nursing homes, nursing and rehabilitation centers for the elderly negatively affected life, especially for the disadvantaged people who live in these services (Presidency of the Republic of Turkey, 2023).

According to a study conducted in Florida, economic inequality significantly impacts evacuation behavior. Disaster victims with higher incomes are more willing to leave the impacted areas and arrive in safer or less damaged areas (Yabe & Ukkusuri, 2020). This indicates that disasters increase social injustice and individual separation within society. In order to handle this, community support has also been of great importance in cases such as this economic-based social injustice caused by natural disasters, which affects the well-being of individuals after the disaster. In a study conducted with the participation of natural disaster victims who received disaster aid throughout South Korea, the participants were asked questions about their disaster experiences, social relations, and disaster aid. According to the results of this research, it was seen that the community resilience factor had a significant impact on the post-disaster well-being of people exposed to natural disasters (Gim & Shin, 2022).

2.2.3. Psychological Impacts of Disasters

Natural disasters unquestionably endanger human lives and physical health. They pose a serious threat to psychological health in several ways, causing temporary and permanent psychological suffering (Sönmez & Hocaoğlu, 2023). There are many studies examining the psychological effects of natural disasters. These studies examine individuals directly affected by natural disasters, those who are not directly victims but are exposed to this issue, and the disaster response group. These psychological effects include pre-, during, and after-disaster phases. A study concluded that people who experience disasters may experience problems such as trauma and mental health (Rosenberg et al., 2022). In terms of these effects, the trauma and increasing addiction resulting from the 2023 Kahramanmaraş Earthquake, Türkiye’s most devastating recent disaster, reveal the complex

challenges such disasters create on psychology. These challenges require a response that is as multifaceted and resilient as the communities affected (Çınaroğlu, 2024). Another study conducted on residents in the New Jersey region, which is one of the most affected regions by Hurricane Sandy in 2012, indicates that direct and indirect exposure to disasters at the individual level influence potential PTSD and psychological distress, respectively (Merdjanoff et al., 2022). They can cause psychological problems that are both short-term and long-term, which adds significantly to the burden of mental health issues on both the affected individuals and the community (Saeed & Gargano, 2022). In addition to all these psychological reactions, disasters also bring about loss and mourning. In cases of loss, people exhibit certain attitudes and behaviors. These emotional, behavioral, and intellectual reactions are grief reactions. According to Kukuoğlu (2018), the reactions given during this process are categorized into four:

- Emotional reactions: Depression, hopelessness, anxiety, guilt, anger, loneliness.
- Behavioral responses: Crying, withdrawal, and exhaustion.
- Cognitive reactions: Constant thinking about the deceased, low self-esteem, helplessness thoughts, concentration difficulties, and denial.
- Physiological reactions: Substance use, loss of appetite, fatigue, and somatic complaints.

Those who are not directly the disaster victims also have mental issues caused by natural disasters, which even affect their behavior, preferences, and choices. In a study that examined people's reactions to social media posts after the 7.0 magnitude Jiuzhaigou earthquake in China, it was found that individuals who are not directly exposed to natural disasters experience psychological effects such as the perception of loss and the feeling of loss through the social media posts shared after the disaster, which significantly affects their desire to visit this destination (Ai et al., 2023). Apart from individuals directly and indirectly exposed to the earthquake, this process also psychologically affects disaster response groups. As a result of a study conducted with a group consisting of (SAR) workers, volunteers, professional firefighters, and rescue teams, it has been found that high rates of post-traumatic stress disorder can

occur among disaster response teams following large-scale disasters like earthquakes. 35.3% of people have post-disaster PTSD, which suggests that disaster relief teams may experience significant psychological impacts (İseri & Baltaci , 2024).

There are some studies in the literature on how these psychological effects of the disaster will enable post-disaster recovery. First of all, disaster recovery may not be an issue to deal with promptly and efficiently as people affected by disasters may suffer from trauma and mental health issues that make it difficult for them to participate in long-term recovery plans. To support long-term recovery plans, a trauma-informed method to recognize and address disaster trauma in community rehabilitation and regeneration has been suggested. Based on this approach, some recommendations are given. Some of the recommendations include understanding the historical context of the traumatic events, ensuring access for all groups, reviewing the physical site, being aware of the trauma and providing space for sharing, actively listening, supporting community partners, having peer-to-peer interactions, promoting local resources, valuing community experience (Rosenberg et al., 2022)

2.3. Disaster Awareness

Disaster awareness is the process by which individuals and communities become informed about natural disasters, understand the possible effects of the disasters, and take the necessary precautions to minimize these effects (AFAD, n.d.). Based on this definition, this section presents studies on people's awareness before and after natural disasters, false disaster awareness of people, and disaster education awareness in the literature.

2.3.1. Preparedness and Awareness Before Disasters

Disasters pose a serious risk for societies, and developing natural disaster preparedness policies and strategies against these disasters is very important to reduce the risks and impacts of these natural disasters. Initial awareness before

natural disasters occur will impact individuals' behavior during and after natural disasters. According to a study examining the factors affecting individuals' disaster risk reduction intentions, individuals' disaster risk reduction activities appear to have an important role in sustainable disaster mitigation plans. The influence mechanisms of the social environment and personal cognition on individuals' behavioral intentions to mitigate disaster risks have been highlighted within the literature. Therefore, it will eventually support people's behavioral goals to lower the probability of disaster in regions vulnerable to geological hazards. Additionally, a person's social surroundings may boost their sense of self-efficacy. Therefore, it is recommended that policymakers create nationwide comprehensive disaster risk reduction activities in villages, communities, and counties. This would encourage people to engage in those activities actively (Cai et al., 2023). Participating in those activities not only mitigates the risk of disasters but also has a positive impact on people's general well-being. In a study conducted with people living in areas with high earthquake risk, it was seen that being prepared for natural disasters positively affects the life satisfaction and general mental health of those living there (Qing et al., 2021). Based on what Qing et al. (2021) found, willingness to be prepared for disasters makes people more aware of disasters and gets them better prepared. A study conducted with people in the Rio Grande Valley demonstrates that thinking about disaster threats and how to handle them affects how much people are willing to get ready. Getting more aware before disasters helps people feel better and stay strong during disasters (Kyne, 2023). In addition, the physical structure of the geography in which individuals live is also important in developing pre-disaster awareness. According to a study in China conducted with participants living in two areas with different landforms to examine individual natural disaster preparedness in rural areas, people's level of disaster readiness differs based on the geographical features in which they reside (Guo et al., 2021).

Many studies emphasize the significance of risk and adequate planning in disaster preparedness. Titko and Ristvej (2020) highlight the importance of public knowledge of disasters and preventive measures in disaster preparedness. On the other hand, Christoplos et al. (2002) highlight the importance of risk management and the rising concern about preparedness and mitigation of disasters. In disaster response, Dara &

Farmer (2009) emphasize the importance of planning and risk assessment, especially in critical care.

The primary focus of Türkiye's disaster management system was not the pre-disaster phase but the post-disaster phase, and neither incentives nor laws were in place to promote risk analysis or risk mitigation preparations before the two significant earthquakes in 1999. Following these significant occurrences, The Disaster Management System's key ideas are now different. Numerous new planning-related laws, rules, and other tools and applications in every stage of a calamity (mitigation, readiness, reaction, recuperation, and therapy) were agreed to. However, Türkiye's disaster risk reduction system remains centralized chiefly. The institutions involved in disaster management and preparation are disorganized, with some having roles and responsibilities leading to misunderstandings (Baris, 2009).

According to a study by Şahin (2024), some important factors that need to be taken into consideration regarding pre-disaster preparation in the context of places such as Türkiye, which has a greater risk of natural disasters are listed below:

- Conducting necessary training and activities on this subject before disasters occur.
- Establish volunteer-based disaster preparedness groups in all cities and provide them with training.
- Raising pre-disaster awareness to individuals and all segments of society through theoretical and practical training.
- Opening departments on natural disaster awareness in universities so that students will be trained specifically for this.

2.3.2. Misconceptions about Disasters

This section includes studies examining the misconceptions about disasters that individuals have and how they affect their behaviors.

Individuals and societies may develop misperceptions, most probably due to the lack of information before, during, or after a disaster. A study discovered that after an

earthquake, students tried different ways to connect their beliefs with scientific ideas about the event. Some accepted science entirely and let go of their traditional beliefs. Others kept both views, mixing science with cultural beliefs and myths. A few held onto their original beliefs and ignored scientific reasons. Blending students' backgrounds with science principles could help them grasp natural disasters better (Tsai C. C., 2010). Then, the research by Nogami & Yoshida (2014) using the disaster myths research scale by Wenger et al. (1975) revealed the existence of misbeliefs about disasters in Japan and the effect of public resources on these beliefs. Panic, psychological shock, looting, increased crime rate, and excessive material donation are among the disaster myths that people have. Results from the study revealed that many people in Japan, like those in Western countries, believe in stories about disasters that are probably untrue. These tales are frequent in society. Information from places like TV and internet news affects how much people believe these stories, while information from family, friends, and social media does not matter much for these beliefs (Nogami & Yoshida, 2014). Another similar study conducted with social studies teachers in Türkiye on this subject found that in many of the items on the research scale, teacher candidates do not hold mythological ideas about disasters. On a few points, though, they differed significantly. Candidates for social studies teaching positions demonstrate certain shortcomings and misconceptions about disaster expertise in this regard (Öcal et al., 2016).

2.3.3. Building Awareness in the Aftermath of Disasters

This section includes studies examining the importance of building or contributing awareness after disasters and how it affects individuals and societies.

After any serious disaster, individuals and their relationships with society begin to change, and disaster awareness impacts this. A study conducted in China suggested that individuals' trust in the outgroup increased after a disaster, strengthening their social ties in society (Lee, 2021). This changing perception of trust in societies and individuals after the disaster also changes the dynamics in the social order. According to a study on increased solidarity following a disaster, helping and donating to those affected by the disaster rises in the nearby communities that are not

directly impacted by it, but helping and solidarity decline in the local communities directly affected by the disaster. The article argues that people who live in areas directly affected by natural disasters and where resources are in danger tend to be less helpful, whereas those who do not face such dangers tend to be more empathetic (Berrebi et al., 2020). This cooperation also contributes to increasing public awareness of natural disasters. Thanks to this awareness, people can become more sensitive and aware of global issues. According to a study conducted in Switzerland, it was revealed that people became more conscious of the need for climate change policies following natural disasters, and their support for such policies grew as well. In a similar study conducted in the USA, the impact of natural disasters on policy support and ideas about climate change is influenced by their size, which is determined by the number of lives lost and property damage sustained (Sloggy et al., 2021). This awareness developed after a natural disaster has an impact not only on the environment and society but also on the mental health of individuals.

A study conducted with the participation of people most affected by Hurricane Sandy in the New Jersey region examines the impact of being caught in natural disasters with significant devastating effects on the mental health of people exposed to these disasters. According to the results of this research, it is stated that it is important to understand the complex effects of mental health relationships after disasters. Moreover, it is emphasized that these effects should be examined separately according to specific disaster types, such as earthquakes, hurricanes, tornadoes, and forest fires (Merdjanoff et al., 2022). The degree to which someone's mental health gets worse following a disaster is directly related to their preparedness for it. Having correct knowledge is a key step for being prepared for disasters. A study on COVID-19 in Australia emphasizes the importance of accurate information distribution by relevant community leaders to develop correct awareness after the disaster (Seale et al., 2022). Apart from disseminating them, community leaders must prioritize supporting people's physical well-being. In that case, people with chronic disasters might need to be prioritized. A study on the experiences of Hurricane Maria in Puerto Rico draws attention to the issue of prioritizing individuals with chronic diseases in accessing vital equipment after the disaster (L. Andrade et al., 2022). Regarding their influence on the future, the younger generation, in particular, must

keep their preparedness and awareness and even influence society after disasters. A study on disasters from an environmental perspective highlights the need to involve college students globally in disaster research so that universities, colleges, and trade schools can work with legislators to increase the ability of this particular and disproportionately affected population to prevent, respond to, and recover from environmental disasters in a changing climate (Breen et al., 2024).

2.3.4. Disaster Education Awareness

The effects of disasters on individuals and societies are apparent. Considering these consequences of natural disasters, conducting and disseminating awareness education is of great importance. This section examines some studies in the literature regarding disaster education awareness.

First of all, education directly and indirectly impacts a person's ability to foresee, manage, withstand, and recover from natural disasters. Through education and learning, people gain the knowledge, skills, and perspectives necessary to effectively prepare for and deal with the effects of disaster shocks. Education indirectly reduces a household's susceptibility to disasters by providing material, informational, and social resources (Hoffmann & Blecha, 2020). One of the most important factors in developing natural disaster education awareness is responding to the region's needs to promote disaster education awareness within a society. A study investigating the effect of physical location on natural disasters suggests that the community-based disaster risk reduction (DRR) program be customized to the local environment. The demographic variety will help create sustainable disaster education awareness (Guo et al., 2021). In addition to these community-based approaches, utilizing psychological approaches can also be effective in increasing disaster education awareness. According to the results of a study on individual willingness in disaster preparedness, it was discovered that coping appraisal, particularly the self-efficacy component, was significantly and favorably correlated with preparedness willingness, which is consistent with the majority of previous research on natural disaster preparedness. Furthermore, the study results indicate that people's attitudes toward risk significantly influenced their willingness to adopt protective behaviors.

Individuals more inclined to take risks tend to make less upbeat preparation selections. Therefore, disaster information must be conveyed and distributed more effectively to encourage multilevel engagement in disaster mitigation efforts and increase the resilience of people and communities. Thus, there needs to be a strong push to raise public knowledge of disaster and the value of disaster-adaptive behavior (Hu et al., 2022). In order to sustain such approaches, the support of community leaders and their policies must be established accordingly. In a study examining the role of community leaders during the Covid 19 pandemic, the participants believed that early in the pandemic, federal government agencies had failed to acknowledge the importance of the key stakeholders and to give enough resources and support. However, worries were also expressed that community information intermediaries can misinterpret or translate public health messages. Community leaders and other information intermediaries are crucial in anticipating and responding to pandemics and other disasters (Seale et al., 2022). They also have an important place in disseminating accurate information to local communities and thus improving disaster education awareness. It is essential to include young people in this process. The findings of a study conducting a literature review on college students and environmental disasters show that college students around the world need to be involved in disaster research to work with policymakers to increase the ability of this particular and disproportionately affected population to prepare for, respond to, and recover from disasters (Breen et al., 2024).

2.4. Psychological Preparedness for Disaster Threat

Enhancing people's and communities' psychological preparedness for disasters is just as vital as increasing public knowledge of the dangers posed by natural disasters. In this section, some relevant studies from the literature are presented to understand how individuals manage and react to external environmental factors, the social environment, and their psychological and emotional responses to natural disasters.

2.4.1. Understanding and Managing External Environmental Factors

Some studies have been conducted on understanding and managing external factors in disaster preparation. Accordingly, resources are one of the most important things

to manage depending on the external factors in disaster preparedness and mitigation efforts. A study investigating optimizing humanitarian supply chain function aids with lean and agile management principles. In contrast, the lean method prevents waste and protects resources for managing environmental factors before and after disasters; quick action is essential in the agile approach. In this regard, it has been observed that lean and agile methods have a complementary effect on each other in effectively using external factors in the disaster preparation and mitigation stages. In addition, when lean and agile approaches are complementary, resources are managed more effectively and efficiently, and better coordination is achieved (Upadhyay et al., 2022). Also, a more effective disaster preparedness strategy is developed when individuals know and manage their environmental situations. Therefore, action on resourcing should be taken by considering all scenarios before the disaster to improve the post-disaster process for both individuals and society. According to a study in which the nutritional status of individuals was determined after the 2023 Türkiye Kahramanmaraş earthquake, safe and timely delivery of post-disaster nutrition aid depends on how environmental factors are managed. External factors, such as regular maintenance of roads and logistic planning, must be managed (Aldemir, 2023). In addition to resourcing, knowing and understanding the geographical features of the environment one lives in also prepares individuals psychologically for natural disasters. For example, a study conducted in China with the participation of people from regions with different landforms shows that disaster preparedness can vary depending on the geographical environment, as these different landforms are an important external factor in understanding the risks individuals may face. Therefore, for individuals and societies to be prepared for disasters, knowing the characteristics of their geography makes them feel more prepared (Guo et al., 2021). In a study examining the preparedness beliefs of Filipinos after the Taal volcano eruption, external and environmental factors such as perceived risk proximity, media, and hazard information were found to impact individuals' preparedness perceptions (Kurata et al., 2022).

2.4.2. Managing One’s Social Environment

Effective social management is one of the key components in psychologically preparing people for the possibility of disasters. An individual's ability to manage his

or her social environment is important before and after a disaster. A study conducted in areas affected by disasters such as Hurricane Harvey, Hurricane Irma, Hurricane Maria, Hurricane Nate, and California Fires declared in 2017 that social engagement is important in disaster preparedness. Therefore, managing one's social engagement significantly affects individuals' disaster preparedness (Cong et al., 2023). This social engagement also occupies an important place after the disaster. According to a study investigating the multi-level effects of natural disasters related to trust in Chinese society, Chinese people with disaster experience have lower levels of political trust but higher levels of out-group trust. Similar effects were seen at the provincial level, where the damage caused by disasters during the previous three years (2009–11) improved citizens' out-group trust while adversely hurting their political trust (Lee, 2021). The social environment also has an impact on reducing individuals' disaster risks. In a study examining the effect of social environment on behavioral intentions to reduce disaster risk in a region at risk of natural disaster, it was discussed that social environment factors, such as social trust and subjective norms, positively impacted personal cognition (self-efficacy). These factors also significantly and positively impacted individuals' intentions to engage in disaster risk reduction behaviors. Also, individuals' intentions to engage in disaster risk reduction behaviors significantly positively impacted their actual disaster risk reduction behaviors (Cai et al., 2023).

2.4.3. Managing Psychological and Emotional Resilience

Even if disasters have a lot of terrible consequences, they also give people a chance to learn how to deal with challenges and become better versions of themselves. This is backed by a study on personal development that looks into positive psychology's role in the recovery of communities after a tragedy. It is advised that psychological research should focus on creating practical strategies for enabling communities to prevent psychological and social harm caused by circumstances beyond their control. Secondly, it will lessen the adverse effects of the unknown in various communities and social contexts by giving them a sense of purpose and collective resilience. Finally, psychological research can foster resilient, hopeful, and generally well-

adjusted individuals and communities who can grow positively despite being exposed to disasters (Morgado, 2020).

Enhancing people's resilience during a tragedy could help lower the likelihood that they would have psychological issues like PTSD. In a study that looked at how people who have experienced disasters interpret their locus of control about PTSD, it is explained that people who have an external locus of control believe that other forces, like fate, coincidence, or other influential individuals, control the results of their actions. In contrast, those with an internal locus of control feel that they are in control of their actions and can control the consequences of those actions. Accordingly, it was determined that among people who have experienced a disaster, perceived locus of control is associated with PTSD. Further findings suggested that individuals with a higher perceived external locus of control than those with a higher perceived internal locus of control had more severe post-disaster PTSD. It appears that understanding the cause-and-effect link between PTSD and perceived locus of control is essential for disaster preparedness and response, especially in situations involving psychosocial hazards (Güzel et al., 2024).

Improving emotional control mechanisms related to disasters may reduce the risks of PTSD. According to a study conducted with the disaster response team in Türkiye, the importance of actual exposure to the traumatic event is underscored by the fact that team members who witnessed the earthquake had a much higher risk of acquiring PTSD. This implies that relief workers may also be vulnerable to personal losses and the destruction they may witness as residents, in addition to the traumas associated with responding to disasters. It was concluded that a sizable percentage were experts with previous education and experience (Iseri & Baltaci, 2024). In short, this study shows that education, one of the mechanisms for controlling emotions, increases people's psychological preparedness and resilience. The mental impacts of directly and indirectly experiencing natural disasters are discussed. In a study examining these mental impacts, exposure to disasters has a profound impact on the mental health of individuals who survived them. The study presents its findings to investigate if particular catastrophe exposure types are more likely to affect particular mental health outcomes like psychological distress or post-traumatic

stress disorder (PTSD), as well as how disaster exposure should be defined and quantified. Accordingly, these results underline how crucial it is to be specific when assessing the impact of exposure on mental health. This includes distinguishing between exposures that happen at the individual and community levels and between direct and indirect exposures that happen after a meteorological or geophysical event has passed (Merdjanoff et al., 2022). In addition to disaster types and exposure levels, one study states that exposure to multiple natural disasters can affect mental health and resilience (First & Houston, 2022).

2.5. Disaster Education

This section discusses disaster education, its significance, the historical development of disaster education, disaster education programs, disaster education content, disaster education in higher education, the difficulties and limitations of disaster education, and relevant studies in the literature about its future.

2.5.1. Definition and Importance of Disaster Education

Disaster education, a multidisciplinary field, can be defined as preparing the public for disasters and involves various pedagogical approaches, including school-based programs, public information campaigns, family and community learning, adult education, and popular culture. These ways of learning are not independent. During and after disasters, many media, governmental discourse, and popular culture interact and influence one another. Disaster education has evolved beyond traditional didactic connections between the state and citizens, requiring reflective and complex pedagogical approaches (Preston, 2012).

Education is of great importance in people's awareness of disasters as it has the potential to impact individuals and society as a whole significantly. It is crucial in developing disaster resilience and assisting individuals throughout the disaster management cycle (preparedness, response, recovery, and mitigation). To build resilience before, during, and after disasters, disaster education should be implemented at all levels of education. This ensures that individuals are well-

informed about how they can contribute to resilience (Pal et al., 2021). Additionally, practical training can help prevent or mitigate disasters. Trained individuals can better defend themselves and others. It can also lessen human and financial losses during disasters, a crucial concern for vulnerable populations (Torani et al., 2019). More specifically, younger generations require more disaster education training than older generations, making it appropriate to prioritize disaster education for them. In a study conducted in Japan on the impact of earthquake experience and disaster education on the awareness level of individuals, it was interestingly observed that the experience was not a reason for the increase in awareness. In contrast, the effect of education on disaster awareness was more significant (Shaw et al., 2004). This demonstrates the importance of disaster education, regardless of its experience. However, according to another study conducted in Thailand and the Philippines, the situation is different. In that study, it is concluded that education only improves disaster readiness in homes that have not previously been touched by a disaster (Hoffmann & Muttarak, 2017). Therefore, it can be concluded that the situation might change based on the individuals and the disaster context. In addition to protective measures, disaster education is important in helping people overcome their anxiety. According to the results of a study conducted in a region in India that is at high risk of floods and affected by heat waves, it was concluded that disaster education partially mediates the relationship between anxiety and floods and fully mediates the relationship between anxiety and floods for heat waves (Mishra & Suar, 2011). This study showed that disaster education affects the anxiety level of individuals, and this effect may vary depending on the type of disaster. Therefore, evaluating disaster education according to factors such as disaster types and which disaster the region is exposed to increases its importance even more. Additionally, when it is considered the primary target audience for disaster education, younger generations seem more adaptable to technology and information development, making learning and using their knowledge easier (Subarno & Dewi, 2022). However, it should not be restricted to the younger generations, though it will be wise to prioritize them. When disaster preparation and studies are conducted, active community engagement is more informative and valuable. A well-informed society is crucial for efficient disaster response, as it involves the entire community. People's understanding of disasters can impact disaster response before and during the

response phase. Individuals in society who do not obtain disaster training endanger their own lives and the people around them. It is also evident that individuals with minimal disaster education are more susceptible to disasters and risks as they cannot prepare adequately and will be influenced by the shortcomings and mistakes they commit during, before, and after a disaster (Mızrak, 2018).

Having a formal education in advance can be a prior to disaster education, which is why younger generations with formal education can benefit the most from disaster education. According to a study conducted in Thailand, a region that is often exposed to earthquakes and tsunamis, disaster education is more effective for individuals with high educational attainment. Formal education may improve cognitive ability, information processing, and learning skills, allowing those with excellent education to adapt more effectively in difficult situations, such as when a crisis strikes. Indeed, in the absence of prior disaster experience, it is discovered that households with highly educated individuals are better prepared for disasters. It demonstrates how disaster-related education can improve personal preparation to mitigate disaster risks when exposed (Muttarak & Pothisiri, 2013).

2.5.2. Historical Development of Disaster Education

Disaster education for Türkiye has evolved with the frequency and magnitude of disaster exposure. In disaster management, the Ottoman government and local administrations prioritized earthquake victims' nutrition and shelter needs and the construction of permanent houses. Aid campaigns have also been organized to cover some of the costs of these projects, which need significant investment (İrkin, 2022). Therefore, no precise management precautions regarding education are taken during that time. These disaster preparations became part of civil defense in the republic's first years. There is a special law that emphasizes disaster education. It allows the Ministry of Internal Affairs to open civil defense courses and organize training activities with representatives from public institutions and organizations (Aybay, 2023). Disaster and Emergency Training Centre was established on 17 November 1960, under the name of "Civil Defence College," under the General Directorate of Civil Defence of the Ministry of Internal Affairs, in order to provide the education

and training required by civil defense services, by Articles 23 and 32 of the Civil defense Law No. 7126 (AFAD, 2022). Then, The Marmara earthquake demonstrated that Türkiye had not been adequately prepared for earthquakes before August 1999. Following the earthquake, the state established new earthquake-related legislation and regulations (Varol, 2019). The need to redefine the authorities and responsibilities of the institutions that must be coordinated regarding disasters has made it necessary to centralize the authority and coordination in disasters and emergencies. In this regard, The Disaster and Emergency Management Presidency was established, and the authorities and responsibilities were gathered under a single roof in 2009 (AFAD, n.d.). AFAD established "the Disaster Ready Türkiye Project in 2013 to provide disaster preparedness culture to all segments of society, starting from the individual, so that they can be prepared for the first 72 hours of disasters, to raise awareness in individuals, to share with individuals the basic precautions they can take in the places where they live, to ensure that individuals learn and apply the correct behavior in disasters, by providing information for the preparation of disaster and emergency plans. It is aimed to share the basic precautions that can be taken, to expand the places where individuals can receive disaster training and to establish easily accessible infrastructures, to standardize the disaster training provided through various channels throughout the country, to benefit from the studies carried out by international organizations and to create accredited training paths with sufficient knowledge and experience (AFAD, n.d.)

With rising disaster risks and climate change, initiatives to raise disaster awareness and education have increased in recent years. In addition to AFAD, municipalities, institutions, and non-governmental organizations highly value disaster training.

2.5.3. Types of Disaster Education Programs

Education plays an important role in the preparedness level of individuals and societies to fight natural disasters (Hoffman & Muttarak, 2021). Disaster education in schools is typically formal, but disaster education in homes and communities is informal (Shiwaku & Fernandez, 2011). Schools are crucial in promoting community resilience by teaching about the environment, disasters, and risk mitigation. Disaster

education programs are increasingly important in schools, especially those in disaster-prone locations (Yusuf et al., 2022). School-based courses are the easiest programs for quick execution and implementation on a big scale. (Petal, 2009). Although school-based courses are easy to apply, some prerequisites exist for successfully implementing informal education. Stakeholder involvement, for example, is crucial to achieving community-based disaster management. In addition, local settings should be considered while teaching disaster knowledge to provide awareness to the community, including students. Several other elements can be considered, including expected hazards, availability of people and physical resources, the size of the threatened or affected area, culture, history, and other variables (Shiwaku & Fernandez, 2011). When it comes to the informal type of education in disaster preparedness, in a study conducted in a region with high hurricane risk in South Florida, it was found that traditional formal education methods in disaster preparedness generally do not take into account the socio-economic status, cultural background, and education level of individuals. Informal Learning Pedagogy is recommended as an education type in hurricane preparedness since this approach encourages individuals to learn from each other by reaching more individuals by providing a comfortable learning environment (Pradhananga et al., 2022).

In addition to dividing disaster education types into formal and informal, a distinction can be made between education of and for disasters and education in emergencies. Education *for* or *of* disasters is encouraged in disaster-prone countries and regions to mitigate, avoid, and prepare for disasters during regular times. In contrast, emergency education aims to re-establish education for children, youths, and communities throughout the disaster response, recovery, and reconstruction phases (Kitagawa, 2021).

Regardless of the formal or informal education type, it may be important to deliver disaster education program types with an interdisciplinary approach. In a study evaluating the impact of interdisciplinary disaster education approaches for teachers, it was observed that the project meets teachers' expectations, and project activities impact teachers' general disaster preparedness (Konur et al., 2024). Integrating an

interdisciplinary approach alone may not be sufficient. However, integrating this with technology can provide an extra benefit. Artificial Intelligence Technology can be used to increase disaster literacy, which can create alternative information designs for disasters. With the correct use of technological developments, the savings and excess energy spent on labor for disaster literacy can be reduced (Kahraman & Gulacti, 2023).

2.5.4. Content of Disaster Education

Within AFADEM, in addition to the training programs held regularly every year, trainings are organized on various subjects in line with the requests from different institutions and organizations. Table 5 presents the trainings' names, purposes, target audience, duration, prerequisite, and certification information (AFAD, n.d.).

Table 5. Content of the Disaster Education within AFADEM

Name	Purpose	Target Audience	Duration	Prerequisites	Certification
Basic Disaster Awareness Trainer Training	Correct behaviors during and after disasters	AFAD, NGOs, Public personnel	3 days (24 hrs)	Associate degree	Basic Disaster Awareness-1
Basic CBRN Training	Detect/respond to CRBN materials.	AFAD, Police, Fire Brigade	10 days (75 hrs)	None	Certificate provided
Civil Defence Specialist	Civil defense knowledge skills	Public/ private sector personnel	10 days (80 hrs)	Assignment approval	Certificate provided
Basic Firefighting	Fire knowledge emergency response	Fire Brigade personnel	10 days (80 hrs)	Active Fire Brigade Service	Certificate provided
Basic Search and Rescue	Search rescue principles and teamwork.	SAR unit personnel	10 days (80 hrs)	None	Certificate provided
First Aid	First aid skills for emergencies	Selected groups	16-40 hrs	None	First Aid Certificate

Table 5. (continued)

Fire Knowledge	Basic fire response emergencies	Requesting institutions	4-6 hrs	None	Participation certificate
CBRN Awareness	CBRN awareness	Requesting institutions	4-6 hrs	None	Participation certificate
Basic Disaster Awareness Seminar	Disaster response behaviors	Requesting institutions	2-4 hrs	None	None
Refresher Training	Update advanced disaster skills.	Basic Training Completers	5-10 days	Basic Training	Certificate provided
Trainer Trainings	Knowledge and skills for training	Basic Training Completers	5-10 days	Basic Training	Trainer Certificate

In a study investigating the departments and contents of universities that offer academic degrees related to disaster management in Turkey, the number of programs, types of universities, levels of education, multidisciplinary programs, focus areas, core disciplines, curriculum design, program duration, language of instruction, ECTS Credit System, admission requirements, tuition fees information are summarized in the table below (Kozyel et al., 2018).

Table 6. Disaster-Related Academic Programs in Turkish Universities: Overview and Key Statistics

Category	**Details**
Number of Programs	33 disaster-related programs in Turkish universities
Types of Universities	23 state universities (69.7%), ten foundation universities (30.3%)
Levels of Education	Ten operational level programs (30.3%), eight tactical level programs (24.2%), 15 strategic level programs (45.5%)
Multidisciplinary Programs	15 programs (45.5%) are multidisciplinary
Focus Areas	- Health: 22 programs (66.7%) - Education: 9 programs (27.3%) - Engineering: 13 programs (39.4%)
Core Disciplines	- Hazard and risk reduction: 13 programs (39.4%) - Research methods: 11 programs (33.3%) - Logistics and transportation: 7 programs (21.2%) - Law and ethics: 14 programs (42.4%) - Civil defense and urban search/rescue: 7 programs (21.2%)

Table 6. (continued)

Curriculum Design	23 programs (70.3%) based on competency; 10 programs (29.7%) based on goals
Program Duration	- 22 programs (66.6%) last at least two years - 11 programs (33.3%) last at least four years
Language of Instruction	Primarily Turkish - One program (Gümüşhane University) includes a mandatory English preparation year with 30% of classes taught in English
ECTS Credit System	All programs use the European Credit Transfer System (ECTS)
Admission Requirements	- 18 programs (54.5%) require success in a national exam - 15 programs (45.5%) require success in both a national exam and a foreign language (English) exam
Tuition Fees	Ten programs (30.3%) charge tuition, with some offering scholarships

Note. Data adapted from Kozyel et al. (2018).

2.5.5. Disaster Education in Higher Institutions

The literature generally emphasizes that some professional groups should receive disaster training and/or integrate it into the existing curriculum. One of these is nursing students. A study conducted in Dhaka observed that the nurses in Dhaka city lack disaster management skills. The study's findings suggest providing timely planning and initiatives such as regular exercises, drills, and hands-on practice in education to improve their ability to respond to disaster scenarios (Hasan et al., 2021). A similar study in Türkiye emphasized the importance of effective natural disaster education for the nursing department and found that natural disaster training had a favorable impact on nursing students' natural disaster literacy attitudes and behaviors. In this regard, it is stated that disaster education should be included in the nursing curriculum, as it will play an important role in preparing nurse candidates for disaster management with practical drills, seminars, and conferences (Şekerci et al., 2023). Another study has a similar conclusion, which is that nursing departments in universities should prioritize adding disaster education into their existing curriculum by supporting the learning process with different teaching methods (Toraman & Korkmaz, 2023). A different study conducted with nursing students in Türkiye revealed similar results. This study found that providing nursing students with both theoretical and practical education during their undergraduate years improves their knowledge of first aid and disaster management (Aslan et al., 2024). In addition to

studies showing the importance of educating nursing students on natural disasters and the deficiencies in this regard within their departments, another study evaluated the effectiveness of AFAD's training in the nursing department. This experimental study demonstrated that AFAD's disaster training has positively influenced nursing students' perceptions of management (Erkin et al., 2024). As it is understood, nurses play a crucial role in disaster mitigation, preparedness, response, and recovery, promoting public health and providing essential life support to enhance community safety and capability. In a study investigating how this training should be given and which methods should be used, it was suggested that simulation could enhance disaster nurse training by allowing for repeated practice in a safe and instructional setting, as well as facilitating various learning methodologies (Şekerci et al., 2024). In a study conducted with medical faculty students from a different medical department, it is important to select a curriculum that fosters initial anticipation and awareness, as well as a belief in the importance of disaster preparedness training in continuing medical education to teach current medical students about disaster preparedness (Schilly et al., 2024).

Although studies in the literature in Türkiye and different regions generally measure the participation and effectiveness of health departments in this disaster preparedness education, disaster education should be integrated into university curricula through disaster management training, drills, and simulations. The importance of having a comprehensive disaster plan at universities and its policy consequences (Hasan et al., 2022).

2.5.6. Effectiveness of Disaster Education

In the previous chapter, the existence of professional groups and departments in disaster education was mentioned. Therefore, the literature on the effectiveness of disaster education has generally been based on the university education of doctors and nurses, the professional groups that have the most important role during disaster response activities. In an experimental study conducted on nursing students in Türkiye, nursing students' knowledge of first aid and disaster management improved significantly after receiving theoretical and practical training during their

undergraduate studies (Aslan et al., 2024). A different study with the same professional group found that nursing students who received disaster training demonstrated improved natural disaster literate attitudes and behaviors. Additionally, nursing students have either participated in or are interested in disaster-related training and activities when they receive a disaster education (Şekerci et al., 2023). In a study conducted with medical students, a complete disaster preparedness program was reviewed. Overall, the findings indicate the effectiveness of the curriculum in enhancing perceptions of required preparatory education, preparedness, and confidence. Those who have received training and believe it is essential for licensing may urge additional topics to be covered in medical students' mandated or elective curricula (Schilly et al., 2024). As a result of another study conducted at the Vocational School of Health in Turkey, through delivering the AFAD's educational materials on disaster education, the students' post-training "During Disaster" subscale score average was significantly higher than before training (Bor, 2023). When the result of another study conducted with nursing students evaluated the effectiveness of AFAD training, it was observed that this training positively improved nursing students' perception of disaster management (Erkin et al., 2024). Some studies using a more general sample that was not specifically from medical departments were also examined, although their numbers were lower than those of medical departments. One of these, According to the results of a study conducted with university students affected by forest fires, a significant correlation between students' knowledge and preparation for forest fires is found. This research indicates that students' learning levels correlate with their readiness and vice versa. Regular disaster lectures, simulations, and training can improve students' understanding and preparedness for dealing with forest fire disasters, allowing them to make informed judgments (Wulandari et al., 2023).

2.5.7. Challenges and Limitations in Disaster Education

Türkiye's natural disaster preparedness is a source of concern, considering its vulnerability to earthquakes, landslides, flooding, and terrorist strikes. Since the Disaster and Emergency Management Presidency (AFAD) was established in 2009, the nation has made significant progress in mitigating the risk of disaster (Ülker &

Erdoğan , 2019). However, challenges remain in disaster education. The current educational program lacks specific essential components of an effective curriculum on natural disasters.

There are significant opportunities to improve disaster education in Türkiye. First of all, the content, including natural disaster education, should be reorganized in a way that enhances students' understanding, perspective, and behavior about natural disasters (Sözcü & Aydınözü, 2019). Incorporating engaging activities like drills, simulations, and project-based learning improves students' knowledge and abilities. Teacher motivation is crucial and needs special attention to succeed in natural disaster education. Supporting teachers with plenty of resources and ideas for lesson plans is essential for their activities both within and outside the classroom (Gokmenoglu & Sonmez, 2020).

Educational programs about natural disaster awareness are essential to reducing the impact of disasters on societies. A wide range of topics are covered in natural disaster awareness education, achieving objectives such as understanding evacuation procedures, knowing how to assemble a disaster preparedness kit, or identifying early warning signs (Ji-chun, 2010). King (2002) highlights the susceptibility of societies to anticipated natural disasters and emphasizes how necessary it is for educational curriculums to have disaster awareness educational programs.)= In order to examine students' knowledge of disaster risk reduction, Tuladhar et al. (2014) carried out a study in Nepal, where a high number of human deaths and loss of public and private properties due to natural disasters such as landslides, floods and many other forms of disasters occur, highlighting the significance of knowledge of disasters, readiness, and awareness by students. On the other hand, Özkazanç & Yüksel (2015) evaluated the degree of disaster awareness among students; based on the result, they emphasized the need for disaster awareness education that should be available to all members of society. In addition, Tasci & Unver (2017) carried out research that includes wide-ranging participation to investigate the nature and extent of natural disasters to improve disaster education's subject matter and efficiency in the school context. Following disease outbreaks in Indonesia, Pascapurnama et al. (2018) examined the importance of comprehensive health education in disaster risk

reduction and emphasized the role of knowledge distribution in building resilient communities. Furthermore, to effectively connect and integrate all actors involved in managing natural disaster risk, Righi et al. (2021) emphasized the necessity for interdisciplinary education and training to reduce disaster risks. All things considered, these studies highlight how important it is to raise community resilience and lessen the effects of natural disasters by educating mainly students from an early age as possible, which eventually will enhance the public's and students' knowledge, preparedness, and awareness about natural disasters and have a better disaster management plan. However, there are challenges to overcome in order to implement natural disaster education effectively. A lack of teacher preparation programs and inadequate funding are among the main problems. Furthermore, it can be challenging to teach disaster education, particularly in places where traditions are conservative, and teachers have little to no experience with environmental risks. Improved teacher preparation, more funding for the courses and projects, and the implementation of standardized, nationally recognized disaster education guidelines can all help overcome the obstacles to incorporating disaster education into the existing curriculum (Nurdin et al., 2017). Even when all these external conditions are met, there are some practical problems regarding effective natural disaster training. Theoretical knowledge is usually the main focus of educational courses on this subject. In this regard, more comprehensive training and use of disaster knowledge are required (Özkazanç & Yüksel , 2015).

2.6. Summary of the Literature Review

The literature highlights the significant impacts of natural disasters on individuals, communities, and nations, emphasizing the importance of preparedness, awareness, and education in minimizing these effects. Disasters are multifaceted events with economic, social, and psychological consequences, as seen in studies documenting the widespread damage caused by events such as the 2023 Kahramanmaraş Earthquake in Türkiye. Economic losses include damage to infrastructure, housing, and public services, while social impacts often increase inequalities and disrupt community cohesion. Psychological effects, including trauma, PTSD, and grief,

underline the importance of addressing mental health in disaster preparedness and recovery efforts.

Disaster awareness emerges as a key factor influencing individual and community responses to disasters. Studies reveal the critical role of pre-disaster awareness in shaping preparedness behaviors and mitigating risks. Misconceptions about disasters, often fuelled by misinformation, hinder effective responses and highlight the need for targeted education. Additionally, post-disaster awareness can strengthen community resilience, fostering a shared understanding of disaster risks and necessary actions.

Disaster education plays a central role in equipping individuals and communities with the knowledge and skills needed to prepare for and respond to disasters. Formal education, especially when integrated into school and university curricula, enhances disaster literacy and fosters long-term resilience. Informal education, including community-based and experiential learning, further strengthens preparedness efforts. However, challenges such as insufficient funding, lack of teacher training, and theoretical-heavy content limit the effectiveness of disaster education programs.

The literature underscores the need for interdisciplinary approaches and practical training methods, such as simulations and drills, to enhance the impact of disaster education. Studies also highlight the importance of involving younger generations and addressing specific vulnerabilities within communities. Overall, disaster awareness and education are essential components of disaster risk reduction strategies, contributing to a safer, more resilient society.

CHAPTER 3

METHODOLOGY

This chapter first covers the study's research design, followed by information regarding the participants and a description of the variables. It then explains data collection tools, procedures, and analysis and covers the study's limitations.

3.1. Research Design

In research, two types of data are collected: quantitative and qualitative. Both research techniques are worthwhile but have different focuses (Swanson & Holton III, 2005). Qualitative research presents a comprehensive understanding of social phenomena in a natural environment through a naturalistic inquiry process. On the other hand, utilizing the techniques of the natural sciences, quantitative research generates facts and numerical data by using mathematical, computational, and statistical techniques to demonstrate a cause-and-effect link between two variables (Ahmad et al., 2019). By doing this, quantitative research methods aim to maximize objectivity, replicability, and generalizability of findings and are typically interested in prediction; therefore, in studies that use quantitative research design, the researcher will put aside their experiences, perceptions, and biases to ensure objectivity in the conduct of the study and the conclusions drawn (Conrad & Serlin, 2006). It excels at researching and extending conclusions from the sample to larger populations (Swanson & Holton III, 2005).

Since this study is based on examining the relationship between two variables, disaster awareness, and psychological preparedness, the quantitative research design is an appropriate method because it shows a relationship with numerical data to promote objectivity, replicability, and generalizability of the findings.

In this study, correlational research design employed as correlational studies examine potential relationships between two variables. Fraenkel et al. (2011) noted that the primary purpose of the studies with correlational design is to explain human behavior or forecast consequences. In order to do this, the relationships between variables are examined utilizing descriptive and predictive correlational design as this study investigated the degree and direction of the relationships between variables and demonstrated how disaster awareness could predict psychological preparedness for disaster threats among the chosen sample.

3.2. Participants

The choice of sample is an important aspect of research design that can influence whether or not research questions are addressed before the study starts (Shorten & Moorley, 2014). Main sampling techniques are described as probability and non-probability. Four categories are further separated within probability sampling: cluster sampling, multi-stage sampling, stratified random sampling, essential random sampling, and systematic random sampling. Non-probability sampling includes convenience, snowball, quota, and judgment (Rahi, 2017).

In this study, convenience sampling was used to collect responses. This method was chosen for ease and feasibility, as undergraduate students from many departments within the institution are available and accessible; hence, data collection was viable and could be completed on time. This method is highly effective in investigating general trends in disaster awareness and psychological preparedness since it allows for collecting a diverse sample with few resources and time restrictions. However, the main problem with this sampling technique is that it may not fully represent the characteristics of all Turkish undergraduate students because it only included the participants who were easily accessible to the researcher, leaving out others who were more challenging to reach. This can demonstrate that certain groups or regions are either underrepresented or overrepresented. Therefore, it is hard to generalize the findings to a larger population. Several approaches attempted to address these issues and increase the sample's diversity. To better reflect the true diversity among undergraduates, students from different departments and academic years are

attempted to be included in the study. It is highlighted that the findings apply to only this sample and not all undergraduates. For improved accuracy of the findings, future research might use additional random sampling techniques to increase the generalizability of the results.

This study involved 412 voluntary undergraduate students in Türkiye from several departments, including social sciences, engineering, health sciences, natural sciences, and humanities. Participants were also recruited from various academic levels, from freshman to senior. This study explored the relationship between disaster awareness and psychological preparedness for disaster threats across academic backgrounds. Hence, it included students from several university departments. Students volunteered to participate in the current study and were told about its goal and methodology before the study. The study was announced through social media platforms to reach a broader audience of undergraduate students. Interested students were invited to participate voluntarily. Each participant provided informed consent, and the research guaranteed that their responses would not be disclosed to anybody by the criteria established by Middle East Technical University Human Subjects Ethics.

3.3. Description of Variables

The dependent variable of this study is psychological preparedness, which was measured using the Psychological Preparedness for Disaster Threat scale adapted to Turkish by Türkdoğan Görgün et al. (2023). On the other hand, the independent variable is disaster awareness, measured using the Disaster Awareness Scale developed by Dikmenli et al. (2018).

3.4. Data Collection Instruments

Data was collected online using Google Forms. The web-based survey has three segments in total. Information regarding the participants' departments, universities, and grades was gathered in the first section. Following the demographic section were two standardized scales: the Disaster Awareness Scale developed by Dikmenli et al.

(2018) and the Psychological Preparedness for Disaster Threat Scale validated for the Turkish context by Türkdoğan Görgün et al. (2023). The two aforementioned scales assessed the participants' disaster awareness and psychological readiness levels. Thus, quantitative data on these two variables were gathered.

3.4.1. Demographic Information Form

In order to gather information about the participants' backgrounds, the first section asked them about their institutions, departments, and grades.

3.4.2. Disaster Awareness Scale

The Disaster Awareness Scale with a 5-point Likert type by Dikmenli et al. (2018) is conducted in this study in order to measure undergraduate students' disaster awareness levels. The scale was first developed to measure levels of disaster awareness, especially among teacher candidates. The development of this scale first involved an extensive literature review and field expert contributions so that competencies concerning disaster awareness would be specified. 50 items were initially prepared in line with the dimensions of disaster awareness, such as preparation before and after a disaster, common misconceptions, etc. This scale, after revisions by experts and explorative factor analysis, was thus finalized into the composition of 36 items across four factors, namely:

- Disaster Education Awareness
- Pre-Disaster Awareness
- False Disaster Awareness
- Post Disaster Awareness

In the significant study carried out with the students of Artvin Vocational School, disaster awareness and preparedness levels were examined. In this study, the Disaster Awareness Scale by Dikmenli et al. (2018) investigated how disaster awareness affects levels of preparedness for disasters (Çelik, 2023). On the other hand, the awareness levels of nursing students given the disaster nursing course were measured using the scale by Dikmenli et al. (2018), both before and after the training (Erkin et

al., 2023). Additionally, this scale by Dikmenli et al. (2018) was used to determine the perception levels of disaster awareness among the students who participated in 60+ Refreshment University (Ay et al., 2023). In another study performed to identify the disaster awareness perception levels of students of the Department of Emergency Aid and Disaster Management, the scale by Dikmenli et al. (2018) was used in the analysis of how the disaster awareness level of students changed about grades, participation in disaster-related activities, and having personal or family preparedness plans (Bulut et al., 2024). In the following sub-section, the validity and reliability of the scale are examined.

3.4.2.1. Validity and Reliability of the Scale

The data collection tools and data analysis methods used in this scale conducted by the authors were examined from many aspects to provide valid and reliable results.

The Disaster Awareness Scale demonstrated strong validity and reliability. The construct validity analysis yielded a Kaiser-Meyer-Olkin (KMO) value of 0.904, with Bartlett's test result of $\chi^2 = 7178.15$ ($p < 0.001$), indicating that the data is suitable for factor analysis. The scale explained 37.888% of the total variance, confirming its validity. The Cronbach's Alpha reliability coefficient for the entire scale was calculated as 0.722, reflecting a high level of internal consistency. These findings suggest that the scale is valid and reliable for effectively measuring disaster awareness levels. Content validity is achieved with three experts: one field expert, one assessment specialist, and one curriculum and teaching professional. They reviewed the item pool to examine overlapping items and topic validity. Then, the group of individuals improved the scale's items by examining how well these items are aligned with the theory of disaster awareness. The scale developers and experts ensure face validity, and it was stated that the questions were clear, understandable, and aligned with the purpose of the scale (Dikmenli et al., 2018). "Disaster Awareness Scale" is known in the literature as a reliable measurement tool. The test-retest and interrater reliability of the scale was not measured. However, internal consistency coefficients and construct validity show that this scale is suitable for its purpose, so it is stated that it is a reliable data collection tool for measuring disaster awareness (Dikmenli et al., 2018).

3.4.3. Psychological Preparedness for Disaster Threat Scale

The Psychological Preparedness for Disaster Threat Scale was first developed by Zulch et al. (2012) to assess the psychological preparedness of individuals in the case of any disaster threat. It was focused on the cognitive and affective dimensions of preparedness. The original scale was targeted at Northern Australian communities, and their interventions have been related to natural disasters, including cyclones and wildfires. Then, the scale expanded into PPDTS-26 (Zulch H. , 2019) to make it more comprehensive. The PPDTS has been adapted over the years into various forms that could be utilized across diverse cultural landscapes. For instance, Malkina-Pykh & Pykh (2013) adapted an 18-item Russian version, using the content to be relevant within Russian communities. Further, McLennan et al. (2020) administered the original 18-item version into a study investigating psychological readiness for catastrophic events in English-speaking environments. This scale is then adapted into the Turkish language (PPDTS-T21) and is focused on the threat of natural disasters in Turkish communities. The PPDTS-T21 scale contains 21 items in total. These items included three key areas of psychological preparedness for disaster threats. The first aspect, "Knowledge and Management of the External Situational Environment," contains nine items. This section included the questions investigating managing external factors related to disaster threats. The second aspect, “Managing One's Emotional and Psychological Response,” focuses on controlling emotions and psychological responses during a disaster. This section also contains nine items. The last aspect, "Management of One’s Social Environment," examines individuals' interaction with the social environment with three items and observes their social environment management abilities. The spread of these items into different areas provides an in-depth assessment of people's psychological preparedness for disasters. This adaptation allows for targeted application within the disaster-prone context of Türkiye to underline the importance of psychological preparedness (Türkdoğan Görgün et al., 2023).

Various applications involving this instrument have pointed out that it helps assess mental preparedness against different kinds of disasters and cultural settings, underlining the relevance of research and practical applications in disaster

preparedness efforts. That is why the scale is used in this study to measure the psychological preparedness level of undergraduate students. In the following sub-section, the validity and reliability of the scale are examined.

3.4.3.1. Validity and Reliability of the Scale

The Psychological Preparedness for Disaster Threat Scale (PPDTS-T21) demonstrated strong validity and reliability through a comprehensive scale development process. Construct validity was confirmed using both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The Kaiser-Meyer-Olkin (KMO) value of 0.937 and Bartlett's test result of $\chi^2 = 4886.669$ ($p \leq 0.001$) indicated that the dataset was suitable for factor analysis. The EFA revealed a three-factor structure that explained 66% of the total variance, while the CFA confirmed the structure with acceptable fit indices (CFI = 0.908, RMSEA = 0.074).

Content validity was established by experts who carefully reviewed each item to ensure cultural and contextual relevance for Turkey. One item was eliminated due to incompatibility with the Turkish cultural context. Face validity was ensured through a pilot study, confirming that the items were clear, understandable, and aligned with the scale's objectives. Although criteria-related validity was not explicitly tested, the researchers recommended future studies to compare the scale with external measures such as mental resilience or general disaster preparedness.

Reliability was assessed through internal consistency, with Cronbach's Alpha values of 0.95 for the entire scale and subscale values of 0.91, 0.93, and 0.83, indicating a high level of agreement among the items. This consistency demonstrated that the scale produces reliable results across different groups. While test-retest reliability was not measured, the scale's high-reliability values in the literature support its stability over time.

In conclusion, the PPDTS-T21 is a valid and reliable tool for measuring psychological preparedness for disaster threats in Turkish communities and can be confidently used in research and policy-making contexts (Türkdoğan Görgün et al., 2023).

3.5. Data Collection Procedures

Data was collected online using Google Forms to make the process easier for responders. The questionnaire is distributed in various ways, including officially recognized lists of students' emails and social media. This multichannel distribution increases the likelihood of maximum involvement by students from various departments and academic years, resulting in a diversified sample of undergraduate students. The link to the survey first displayed the informed consent form, which included information on the study's aim, confidentiality assurances, and participant rights, such as the opportunity to withdraw at any time. Further access to the survey questions was only allowed after consent to ensure ethical standards and inform the participants.

The demographic section introduced the survey, followed by disaster awareness and psychological preparedness. In Google Forms, the responses were auto-filled, and this cleaned the data efficiently with fewer errors from data entry. After the data collection period had elapsed, all responses were checked for completeness, and those containing large amounts of missing data and extreme values were excluded to ensure that data quality could be maintained.

3.6. Data Analysis

This study examines the relationship between disaster awareness and psychological preparedness. To investigate it, descriptive statistics are conducted first to summarize the key characteristics of each variable with their sample size, minimum and maximum values, standard deviation, and mean scores. Pearson correlation analysis is then conducted to examine the strength and direction of the relationships between the abovementioned variables.

All of these analyses are done using the SPSS 26.0 statistical program. Within the scope of the research, data from 412 participants were analyzed. As a result of the detection of extreme values in the data obtained from the participants, 11 extreme values were removed.

3.7. Distribution Characteristics and Reliability of the Scales

Statistical values related to Disaster Awareness and Psychological Preparedness for Disaster Threat Scales are calculated, specifically examining skewness, kurtosis, and reliability coefficients (Cronbach's Alpha) across various dimensions. The reliability coefficients range from 0.715 to 0.951, indicating acceptable internal consistency within the scales. The skewness and kurtosis values suggest that most subscales exhibit a moderately skewed distribution, with some slight deviations from normality, particularly in "Disaster Education Awareness" and "False Disaster Awareness." The overall Disaster Awareness Scale and Psychological Preparedness for Disaster Threat Scale display strong reliability (Cronbach's Alpha values of 0.84 and 0.946, respectively), affirming the scales' strength in assessing disaster-related awareness and psychological preparedness. The findings are presented below.

Table 7. Skewness, Kurtosis, and Reliability Coefficient (Cronbach's Alpha) values of the Scale

Variables and Sub-factors	*n*	Skewness	Kurtosis	Cronbach's Alpha
Disaster Education Awareness	412	-0.810	1.849	0.717
Pre-disaster Awareness	412	-0.550	0.973	0.791
False Disaster Awareness	412	-1.030	1.735	0.715
Post-disaster Awareness	412	-0.088	-0.189	0.745
Disaster Awareness Scale	412	-0.329	1.175	0.84
Knowledge and Management of the External Situational Environment	412	-0.118	0.759	0.917
Management of One's Emotional and Psychological Response	412	-0.381	-0.406	0.951
Management of One's Social Environment.	412	-0.413	0.428	0.817
Psychological Preparedness for Disaster Threat Scale	412	-0.262	0.641	0.946

3.8. Limitations of the Study

First of all, convenience sampling is utilized in the study, which may limit the generalizability of the findings. The participants were not chosen randomly;

therefore, the sample may not accurately represent the population or not be generalizable to other cultures or contexts. This introduces selection bias by involving those more willing or accessible to participate in an online survey. That is why the findings only represent the sample that participated in the study. Also, the online survey method has also some limitations. It will presumably appeal to individuals who are more comfortable with technology. This could result in reaction bias. No approach ensures the accuracy of the responses or that they understand the questions. At the same time, the study relied on self-report measurements. It may also cause biases. Participants may have provided socially desirable replies and misreported their thoughts and behaviors due to recall errors, which might affect the validity of the collected data. Besides, the study used a correlational research design, which collected data simultaneously. This design hinders the knowledge of causal relationships between variables. The correlational design indicates correlations between variables. They do not demonstrate cause-and-effect relationships.

Finally, the study comprised 412 individuals; however, the variety may still be inadequate. Demographics like age, major, and academic level may be limited. This constraint impacts how findings apply to a larger student population, particularly among underrepresented groups.

CHAPTER 4

FINDINGS

This section presents the findings obtained from the collected data. It begins by analyzing the participants' demographic information; descriptive statistics and correlation analyses follow.

4.1. Demographic Analysis

The demographic information collected within the study is related to the participant's field of study and class standing.

This study's participants are undergraduate students from different departments and years. Their divisions and distributions are shown in Tables 8 and 9.

Table 8. Participant Distribution by Departments

Department	*f*	*%*
Science and Engineering	99	24.03
Health Sciences	43	10.44
Social Sciences and Humanities	205	49.76
Arts and Design	18	4.37
Language & Literature	47	11.40
Total	412	100

Table 9. Year of Study Distribution Table

Year of Study	*f*	*%*
Freshman	99	24.03
Sophomore	43	10.44
Junior	205	49.76
Senior	18	4.37
Total	412	100

4.2. Descriptive Statistics

Descriptive statistics of various sub-dimensions related to participants' disaster awareness and psychological preparedness are presented in this section.

4.2.1. Disaster Awareness

Descriptive statistics of various sub-dimensions related to participants' disaster awareness were examined. The findings are presented below.

Table 10. Descriptive Statistics of Sub-dimensions of Disaster Awareness

Sub-dimensions of DA	*n*	*M*	*SD*
Disaster Education Awareness	412	56,50	4,41
Pre-Disaster Awareness	412	34,34	3,48
False Disaster Awareness	412	33,89	4,16
Post-Disaster Awareness	412	22,65	4,87
Disaster Awareness Scale	412	147,37	12,11

Note. *DA=Disaster Awareness*

According to the results, the average score for disaster education awareness was 56.50 (*SD* = 4.41). In the pre-disaster awareness sub-dimension, the average score was 34.34 (*SD* = 3.48). For false disaster awareness, the average score was found to be 33.89 (*SD* = 4.16). Finally, for the post-disaster awareness level, the average score was calculated as 22.65 (*SD* = 4.87). Overall, in the disaster awareness scale, the average was found to be 147.37 (*SD* = 12.11).

4.2.2. Psychological Preparedness

Descriptive statistics of various sub-dimensions related to participants' psychological preparedness for disaster threats were examined. The findings are presented below.

Table 11. Descriptive Statistics of Sub-dimension Related to Psychological Preparedness

Sub-dimensions of PP*	*n*	*M*	*SD*
Knowledge and Management of the External Situational Environment	412	26,19	4,89

Table 11. (continued)

Management of One's Emotional and Psychological Response	412	25,51	6,74
Management of One's Social Environment.	412	8,80	1,88
Psychological Preparedness for Disaster Threat Scale	412	60,50	11,36

Note. *PP=Psychological Preparedness*

According to the results of the psychological preparedness for disaster threat scale, the average score in the external situational environment knowledge and management sub-dimension was 26.19 (*SD* = 4.89). Regarding managing the person's emotional and psychological reactions, the average score was 25.51 (*SD* = 6.74). In managing the person's social environment sub-dimension, the average was 8.80 (*SD* = 1.88). Overall, on the psychological preparedness scale for disaster threats, the average score was determined to be 60.50 (*SD* = 11.36).

4.3. Testing Hypotheses

Multiple hypotheses are tested within Pearson correlation analysis to examine the relationships between variables. Each hypothesis pair is numbered sequentially.

- H_0 represents the null hypothesis (no relationship).
- H_1 represents the alternative hypothesis (a proposed relationship).

The numbering system (e.g., $H_{0\ 1}$, $H_{1\ 1}$) helps to differentiate between the hypotheses related to different variables.

Hypothesis 1: Disaster Education Awareness and Psychological Preparedness

H_{01}: There is no significant correlation between disaster education awareness and psychological preparedness for disaster threats.

H_{11}: There is a significant positive correlation between disaster education awareness.

Hypothesis 2: Pre-Disaster Awareness and Psychological Preparedness

H_{02}: There is no significant correlation between pre-disaster awareness and psychological preparedness for disaster threats.

H_{12}: There is a significant positive correlation between pre-disaster awareness and psychological preparedness for disaster threats.

Hypothesis 3: False-Disaster Awareness and Psychological Preparedness

H_{03}: There is no significant correlation between false-disaster awareness and psychological preparedness for disaster threats.

H_{13}: There is a significant negative correlation between false disaster awareness and psychological preparedness for disaster threats.

Hypothesis 4: After Disaster-Awareness and Psychological Preparedness

H_{04}: There is no significant correlation between after-disaster awareness and psychological preparedness for disaster threats.

H_{14}: There is a significant positive correlation between after disaster awareness and psychological preparedness for disaster threat.

Hypothesis 5: Disaster Awareness and Psychological Preparedness

H_{05}: There is no significant correlation between general disaster awareness and psychological preparedness for disaster threats.

H_{15}: There is a significant positive correlation between general disaster awareness and psychological preparedness for disaster threats.

4.4. The Relationship between Disaster Awareness and Psychological Preparedness

Pearson correlation analysis examines the correlations between each specified sub-factor of the disaster awareness variable and psychological preparedness for disaster threat variable and tests the proposed hypotheses.

4.4.1. Disaster Education Awareness and Psychological Preparedness

Pearson correlation analysis was used to measure whether a significant relationship exists between participants' disaster education awareness and sub-dimensions of their psychological preparedness levels against disaster threats. The findings of the analysis demonstrated a significant and positive correlation between the participants' disaster education awareness and psychological preparedness (r = 0.257, p = 0.000), with a small effect size. According to these results, H_{11} is supported with a small size effect. The fact that the variables have a positive relationship indicates that they change together. In other words, participants' disaster education awareness level slightly increases or decreases with their psychological preparation level. The findings also indicate that each of the sub-dimensions of the participants' psychological preparedness level is significantly associated with the individuals' disaster education awareness levels:

There was a positive correlation with a small size effect between participants' knowledge and management of the external situational environment and their disaster education awareness (r = 0.269, p = 0.000). Similarly, a positive correlation with a small size effect was found with the management of participants' emotional and psychological responses (r =0.179, p = 0.000). There is also a positive correlation with small size effect between the management of one's social environment and disaster education awareness (r = 0.214, p = 0.000).

Table 12. Disaster Education Awareness and Psychological Preparedness

Disaster Education Awareness	*r*	*p*
Knowledge and Management of the External Situational Environment	.269**	0.000
Management of One's Emotional and Psychological Response	.179**	0.000
Management of One's Social Environment	.214**	0.000
Psychological Preparedness for Disaster Threat	.257**	0.000

***p<.01, 0<r<0.3 weak, 0.3<r<0.5 medium, 0.5<r<1 strong.*

4.4.2. Pre-Disaster Awareness and Psychological Preparedness

Pearson correlation analysis was used to measure whether a significant relationship exists between participants' pre-disaster awareness and sub-dimensions of their

psychological preparedness levels against disaster threats. The findings of the analysis demonstrated a significant and positive correlation between the participants' pre-disaster awareness and psychological preparedness (r = 0.257, p = 0.000), with a small effect size. According to these results, H_{12} is supported by a weak size effect. The fact that the variables have a positive relationship indicates that they change together. In other words, participants' pre-disaster awareness level slightly increases or decreases with their psychological preparation level. The findings also indicate that each of the sub-dimensions of the participants' psychological preparedness level is significantly associated with the individuals' pre-disaster awareness levels:

A positive correlation with medium effect size was found between participants' knowledge and management of the external situational environment and their pre-disaster awareness (r = 0.310, p = 0.000). The correlation between the management of participants' emotional and psychological reaction and their pre-disaster awareness is positive with a small size effect (r = 0.145, p = 0.003). A positive correlation with small size effect was also found between managing participants' social environment and their pre-disaster awareness (r = 0.228, p = 0.000).

Table 13. Pre-Disaster Awareness and Psychological Preparedness

Pre-Disaster Awareness	*r*	*p*
Knowledge and Management of the External Situational Environment	.310**	0.000
Management of One's Emotional and Psychological Response	.145**	0.000
Management of One's Social Environment	.228**	0.000
Psychological Preparedness for Disaster Threat	.257**	0.000

***p<.01, 0<r<0.3 weak, 0.3<r<0.5 medium, 0.5<r<1 strong.*

4.4.3. False-Disaster Awareness and Psychological Preparedness

Pearson correlation analysis was used to measure whether a significant relationship exists between participants' false-disaster awareness and sub-dimensions of their psychological preparedness levels against disaster threats. The findings of the analysis demonstrated a significant and positive correlation between the participants'

false-disaster awareness and psychological preparedness (r = 0.221, p = 0.000), with a small effect size. According to these results, both H_{03} and H_{13} are rejected, as the direction of the relationship was assumed to be negative. The fact that the variables have a positive relationship indicates that they change together. In other words, participants' false-disaster awareness level slightly increases or decreases with their psychological preparation level. The findings also indicate that each of the sub-dimensions of the participants' psychological preparedness level is significantly associated with the individuals' false-disaster awareness levels:

A positive correlation with a small size effect is found between participants' knowledge and management of the external situational environment and their false-disaster awareness (r = 0.204, p = 0.000). The relationship between the management of participants' emotional and psychological reactions and false disaster awareness is also positive with a small size effect (r = 0.171, p = 0.000). Another positive correlation with a small size effect was found between managing participants' social environment and their false disaster awareness (r = 0.189, p = 0.000).

Table 14. False Disaster Awareness and Psychological Preparedness

False-Disaster Awareness	*r*	*p*
Knowledge and Management of the External Situational Environment	.204**	0.000
Management of One's Emotional and Psychological Response	.171**	0.000
Management of One's Social Environment	.189**	0.000
Psychological Preparedness for Disaster Threat	.221**	0.000

***p<.01, 0<r<0.3 weak, 0.3<r<0.5 medium, 0.5<r<1 strong.*

4.4.4. After Disaster Awareness and Psychological Preparedness

Pearson correlation analysis was used to measure whether a significant relationship exists between participants' after-disaster awareness and sub-dimensions of their psychological preparedness levels against disaster threats. The findings of the analysis demonstrated a significant and positive correlation between the participants' after-disaster awareness and psychological preparedness (r = 550, p = 0.000), with a

large effect size. According to these results, H_{14} is supported with a large effect size. The fact that the variables have a positive relationship indicates that they change together. In other words, participants' after-disaster awareness level strongly increases or decreases with their psychological preparation level. The findings also indicate that each of the sub-dimensions of the participants' psychological preparedness level is significantly associated with the individuals' after-disaster awareness levels:

There is a positive correlation with a large effect size between participants' after-disaster awareness and their knowledge and management of the external situational environment (r = 0.655, p = 0.000). A positive correlation with medium size effect is found between the management of participants' emotional and psychological response and their after-disaster awareness (r = 0.349, p = 0.000). A positive correlation with medium effect size is also observed between the management of participants' social environment and their after-disaster awareness (r = 0.371, p = 0.000).

Table 15. After Disaster Awareness and Psychological Preparedness

After-Disaster Awareness	*r*	*p*
Knowledge and Management of the External Situational Environment	.655**	0.000
Management of One's Emotional and Psychological Response	.349**	0.000
Management of One's Social Environment	.371**	0.000
Psychological Preparedness for Disaster Threat	.550**	0.000

***p<.01, 0<r<0.3 weak, 0.3<r<0.5 medium, 0.5<r<1 strong.*

4.4.5. Disaster Awareness and Psychological Preparedness

Pearson correlation analysis was used to measure whether a significant relationship exists between participants' disaster awareness and sub-dimensions of their psychological preparedness levels against disaster threats. The findings of the analysis demonstrated a significant and positive correlation between the participants' disaster awareness and their psychological preparedness (r = 464, p = 0.000), with a

medium effect size. According to these results, H_{15} is supported with a medium effect size. The fact that the variables have a positive relationship indicates that they change together. In other words, participants' disaster awareness level strongly increases or decreases with their psychological preparation level. The findings also indicate that each of the sub-dimensions of the participants' psychological preparedness level is significantly associated with the individuals' disaster awareness levels:

There is a positive correlation with a large effect size between participants' disaster awareness and their knowledge and management of the external situational environment (r = 0.520, p = 0.000). A positive correlation with medium effect size is found between disaster awareness and the management of participants' emotional and psychological responses (r = 0.306, p = 0.000). There is a positive correlation with medium effect size between the management of participants' social environment and disaster awareness (r = 0.358, p = 0.000).

Table 16. Disaster Awareness and Psychological Preparedness for Disaster Threat

Disaster Awareness	*r*	*p*
Knowledge and Management of the External Situational Environment	.520**	0.000
Management of One's Emotional and Psychological Response	.306**	0.000
Management of One's Social Environment	.358**	0.000
Psychological Preparedness for Disaster Threat	.464**	0.000

***p<.01, 0<r<0.3 weak, 0.3<r<0.5 medium, 0.5<r<1 strong.*

4.5. Summary of the Results

The findings from the current study reveal some key insights into disaster awareness and psychological preparedness among undergraduate students. Regarding demographics, most participants came from the Social Sciences and Humanities department, and most were in their junior year. This distribution indicates a diverse sample in terms of both field of study and year of study. When examining disaster awareness, the highest average score was in Disaster Education Awareness,

suggesting that participants are well-informed about disaster education. Pre-Disaster Awareness and False-Disaster Awareness had similar average scores, while Post-Disaster Awareness had the lowest score. Overall, the Disaster Awareness Scale showed moderate awareness levels among participants.

For psychological preparedness, participants scored highest in managing the External Situational Environment, indicating they feel more capable of handling the immediate physical environment during a disaster. Emotional and Psychological Response Management followed while managing one's Social Environment had the lowest score. The overall Psychological Preparedness score reflects a moderate level of readiness.

The correlation analysis revealed significant relationships between disaster awareness and psychological preparedness. Notably, Disaster Education Awareness and Pre-Disaster Awareness showed positive correlations with psychological preparedness, meaning that as students' awareness increased, their readiness to handle disaster threats increased, too. Interestingly, False-Disaster Awareness also had a positive correlation with preparedness, contradicting the expectation that false beliefs would negatively impact preparedness.

The most substantial relationship between After-Disaster Awareness and psychological preparedness was found, suggesting that understanding post-disaster responses greatly enhances psychological readiness. The results indicate that increasing disaster awareness in different stages — before, during, and after a disaster — helps improve students' overall psychological preparedness.

CHAPTER 5

DISCUSSION

The study's findings will be examined in detail in the discussion chapter. These findings will also be contrasted with previous studies and connected to the existing literature. This comparison will facilitate a better understanding of disaster awareness in terms of its relationship to psychological preparedness.

5.1. Discussion of Findings

This study investigates the connections between aspects of disaster awareness, such as disaster education awareness, pre-disaster awareness, false disaster awareness, and after-disaster awareness, and aspects of psychological preparedness for disaster threat, such as knowledge and management of the external situational environment, management of one's emotional and psychological response, and management of one's social environment. People can become psychologically prepared for disasters by controlling and understanding their external surroundings, regulating their social environment, and controlling their emotions. That is why all these are considered and discussed in this chapter when evaluating the relationship. The discussion will conclude by demonstrating the connection between these concepts and offering insights into how and to what degree this relationship may support disaster education. These implications aim to contribute to the broader discussion on enhancing effective disaster education.

5.1.1. Relationship Between Disaster Education Awareness and Psychological Preparedness for Disaster Threat

This section will explore the relationship between disaster education awareness and psychological preparedness for disaster threats. The discussion covers all relevant

sub-factors of psychological preparedness, including managing the external situational environment, emotional and psychological responses, and the social environment.

Firstly, the significant relationship between disaster education awareness and knowledge and management of the external situational environment suggests that individuals with disaster education awareness are better equipped to cope with external factors during a disaster. It is also supported by a study indicating that individuals with greater disaster education awareness tend to be better prepared for emergencies (Hoffmann & Blecha, 2020). The current findings also highlight that increased awareness gained through education leads to better and more effective resource management. In addition to providing information, disaster education awareness provides individuals with practical skills to manage their environment better. According to Aldemir (2023), providing food aid after a disaster requires effective environmental management, a skill that can be developed through disaster education awareness. The relationship revealed in the current study suggests that disaster education programs might provide practical skills that people need to manage their surroundings.

Secondly, the significant relationship between disaster education awareness and managing one's emotional and psychological response suggests that individuals with disaster education awareness can better manage their emotions and psychological responses to disasters. Merdjanoff et al. (2022) stated that individuals who frequently experience disasters exhibit indications of psychological stress and trauma. Based on its significant relationship found with disaster education awareness, individuals' emotional resilience likely rises with disaster education, and they might be better prepared for stress. The study's finding is also consistent with that of Iseri & Baltaci (2024), who discovered that experience and training strengthen disaster recovery teams' emotional resilience. Disaster-trained individuals are better able to cope with tragedy and are less likely to get PTSD. Although the impact of education is not explicitly addressed in Morgado's (2022) study, resilience remains a critical factor, and communities need to be more psychologically resilient. Individuals who better understand about disasters are likely to remain composed and resilient in the face of

them. This demonstrates how improved emotional resilience is facilitated by having a solid understanding of disasters.

Thirdly, the relationship between disaster education awareness and management of the social environment implies that those with disaster education awareness are better equipped to organize and use their social networks to reduce disaster threats. Effective disaster preparedness is greatly influenced by an individual's ability to manage their social environment. According to Cong et al. (2023), active social participation contributes to disaster preparedness. Strong social relationships and networks with others support individuals in times of crisis. In this context, with increased disaster education, awareness can be more resilient in times of crisis, and it might help link networks of social assistance from other individuals. Furthermore, a study by Cai et al. (2023) reveals that social norms and trust motivate individuals to behave carefully during emergencies. Strong social links can be created when people engage closely with their communities in an educational setting. Disaster education awareness can be a factor in creating and preserving these social ties because of its strong relationship with managing the social environment. These social ties may speed up the healing process after a disaster. On the other hand, community unity is crucial for recovery after a disaster, according to South Koreans who receive aid following disasters, according to a study by Gim & Shin (2022). Disaster education helps people better use their social surroundings, strengthening community unity and fostering closer connections. Education programs can also strengthen social ties and likely increase community resilience. Another important finding that can be drawn from this relationship is that the awareness of community leaders about disaster education can positively affect psychological preparation for disasters. Community leaders are critical in providing clear and accurate information about disaster preparedness. This, in turn, contributes to a more effective response in times of crisis by increasing the level of preparedness of communities (Seale et al., 2022). Based on the observed relationship between these concepts, it can be concluded that community-led education initiatives can also contribute to making communities more prepared and resilient against disasters. While doing this, it should also be emphasized that the inclusion of young people in disaster education plays an important role in increasing community resilience, which is also supported by Breen

et al. (2024), stating that providing more education to youth can likely boost their desire to contribute to community safety.

5.1.2. Relationship Between Pre-Disaster Awareness and Psychological Preparedness for Disaster Threat

This section explores the relationship between pre-disaster awareness and psychological preparedness for disaster threats. The discussion will encompass all relevant sub-factors of psychological preparedness, such as the management of the external situational environment, emotional and psychological responses, and the social environment.

Firstly, the results of the current study indicate a direct correlation between managing external circumstances and being aware prior to disasters. Before a disaster occurs, people with pre-disaster awareness, or in other words, prepared for disasters, probably manage outside resources more effectively. Studies indicate that the 2023 Turkish earthquakes enormously impacted the country's economy. The $104 billion in overall economic losses significantly affected the country's economy (Büyükoğlu et al., 2024). Damage to residences comprised most of these losses, highlighting the importance of preparing to minimize such significant economic effects. However, there are methods for preventing these consequences of disasters before they happen. For instance, Upadhyay et al. (2022) underlined the significance of successfully utilizing lean and agile methodologies to manage external factors that have been or will be produced by disasters, which can only be accomplished before the crisis phase. These techniques probably improve people's capacity to react to emergencies before they occur. Even while there is a direct correlation between being psychologically prepared for disasters and being aware of and in control of external circumstances, awareness alone does not always refer to reduced financial loss and better damage management. Johar et al. (2022) demonstrate that even when people know the risks of disasters, those in economically less fortunate circumstances continue to experience significant financial difficulties, and those with fewer resources face significant challenges. It supports the idea that risk awareness is beneficial but requires support and action. Disaster resilience assistance is essential,

particularly for those in poverty. In addition to this, as Baris (2009) points out, Türkiye employs a centralized disaster management strategy. Decentralized plans could enhance resource management, whereas centralization might lessen local readiness. Local strategies, however, most likely require greater attention.

Secondly, a clear link exists between being aware of disasters in advance and having practical, emotional management skills. According to the significant association that was discovered, pre-disaster awareness may help people maintain their mental strengths. According to Morgado (2020), managing emotions is essential to reducing the negative psychological effects of disasters. However, the actual impact of the Kahramanmaraş earthquake in Türkiye is evident; despite awareness campaigns, many people experienced severe stress (Çınaroğlu, 2024). Even trained disaster response teams, who are aware of the risks, had significant rates of PTSD, according to İseri & Baltaci (2024). Emotions cannot be protected by awareness alone. Support networks are necessary for people to manage their emotions. According to Merdjanoff et al. (2022), dealing with disasters directly or indirectly may result in long-term psychological distress. Therefore, being aware in advance must be used in conjunction with mental health services.

Thirdly, the results indicate a positive relationship between managing one's social environment and being aware of disasters in advance. According to a study conducted by Gim & Shin (2022), communities with strong social links are better able to recover from disasters. People who are more aware may interact with friends and family more and get prepared better for disaster threats as a result. On the other hand, social gaps among individuals also impact how successfully people use their social connections during difficult times. According to a study by Yabe & Ukkusuri (2020), wealthier people can leave disaster-affected areas easily and quickly. These uneven behaviors are caused by disparities in wealth. Furthermore, local participation may be hindered by Türkiye's centralized approach (Baris, 2009) to disaster management. According to this method, community involvement is crucial, and local, community-based tactics are essential for fostering social cohesion.

Finally, according to the current study, being psychologically prepared for disasters and having pre-disaster awareness are positively correlated. This is also supported by

Kyne (2023) and Qing et al. (2021), indicating that people who are more knowledgeable about disasters tend to be more mentally prepared, which may help them feel less anxious about disasters. Psychological preparedness may also be associated with something other than pre-disaster awareness. According to Merdjanoff et al. (2022), individuals are affected differently by various types of experiences, whether they are direct or indirect. Furthermore, Güzel et al. (2024) found that individual characteristics, such as a sense of control, have a significant impact on how people cope with trauma following disasters. Although awareness is quite beneficial, it is more likely a component of a more extensive approach against disasters. For actual preparation, psychological support and support networks are needed.

Although this study demonstrates significant positive relationships between being aware prior to disasters and psychological preparedness, it is crucial to approach these findings carefully when interpreting them. Awareness is crucial for disaster preparedness. However, studies indicate that attention must also be paid to other factors, such as mental resilience, social gaps, and financial support. In addition to raising awareness, multifaceted systems that support communities with limited resources and funds should also be developed in order to improve disaster preparedness.

5.1.3. Relationship Between False Disaster Awareness and Psychological Preparedness for Disaster Threat

The unexpected positive correlation between false disaster awareness and psychological preparedness demonstrates that individuals with false disaster awareness may tend to feel more psychologically prepared.

Firstly, the study conducted by Nogami & Yoshida (2014) contradicts the current study's findings by stating that false disaster approaches spread through factors such as media and distort people's risk perceptions and perspectives. Although it is assumed at the beginning of the study that as false disaster awareness increases, individuals' knowledge and management of the external environment will decrease.

However, the relationship is found to be positive, suggesting that people with false-disaster information and awareness tend to be better at managing and knowing about their external environment. The relationship is found to be negative because it may give people a false impression of what they learn from media and actually make them feel more psychologically prepared. Also, when they are affected and intimidated by the false impressions of disaster risks demonstrated by media, they might be overly cautious, and their risk perceptions might increase, which causes individuals to take precautionary measures and might increase their psychological preparedness. However, it is important to highlight that as these measures are based on inaccurate information, they may not be effective in real-life disaster scenarios.

Secondly, the current study indicates that people's capacity to control their emotional and psychological responses rises in parallel with the spread of false information about disasters. This could appear odd at first. People with false disaster awareness can be extremely well-prepared for events. Inaccurate disaster information may exaggerate risk perception, raising people's level of caution and thoughtfulness. This is somewhat supported by a study that found that when students integrate scientific knowledge with their cultural origins and beliefs, they have a deeper understanding of them (Tsai C. C., 2010). Such situations may have affected psychological preparedness in the same pattern.

Overall, it is of great importance to raise awareness of psychological preparedness and ensure that this awareness is based on accurate information. While inaccurate disaster awareness may help individuals feel safe in the short term, accurate, scientifically informed education programs and strategies are required to develop sustainable resilience against disasters.

5.1.4. Relationship Between Post-Disaster Awareness and Psychological Preparedness for Disaster Threat

The positive relationship between post-disaster awareness and psychological preparedness demonstrates that individuals with post-disaster awareness may tend to feel more psychologically prepared.

Firstly, the significant relationship between post-disaster awareness and knowledge and management of the external situational environment demonstrated that when individuals have post-disaster awareness, they better analyze the situations in the external environment. They can be more effective in developing strategies. This result is consistent with the study of Seale et al. (2022), stating that leaders' support and the distribution of correct information are essential after disasters. This highlights that distributing correct information after a disaster can help people better manage their environment. Significant disasters also boost other critical issues that communities face. According to a study conducted in the USA by Sloggy et al. (2021), significant disasters increase public support for climate change policies. Similar conclusions are drawn from the current study's findings, which show that increased post-disaster awareness can improve one's capacity to comprehend and control the outside world.

Secondly, it was discovered that post-disaster awareness and managing one's emotional and mental reactions were related. Disasters, however, have complicated consequences on people's mental health, according to Merdjanoff et al. (2022). The type of occurrence might determine the effects. The current research indicates a connection between mindfulness and psychological readiness, although this relationship might not adequately account for the situation at hand. The literature emphasizes that disasters like earthquakes and hurricanes can have more profound psychological consequences.

Thirdly, post-disaster awareness and social environment management were found to be positively correlated. According to a study by Berrebi et al. (2020), people become more dependent on outside groups following a tragedy, but intra-community collaboration declines. This association between awareness and social environment management suggests that shifts in societal trust can have an impact on awareness. The findings of the current study, however, do not entirely align with the body of research suggesting that communities that are directly impacted are less receptive to social support. The association between social environment management and these effects raises the possibility that they are multifaceted and context-specific.

Overall, it was discovered that post-disaster awareness and psychological preparedness for disaster threats were strongly correlated. This result aligns with research by Merdjanoff et al. (2022) that demonstrated the relationship between readiness and mental health. Post-disaster adaption is greatly aided by having proper information and being mentally prepared. Furthermore, the study of Breen et al. (2024) highlights that increasing university students' awareness can improve society's readiness for disasters. This demonstrates how resilience and social awareness can be enhanced by psychological readiness.

5.2. Implications for Disaster Education

This study first examined the relationship between disaster awareness and psychological preparedness. Then, how these results contribute to disaster education is presented since education is the best method to increase awareness of disasters. Disaster education not only helps people know what to do in an emergency but also mentally prepares them to remain calm under pressure. Since education can significantly aid in disaster awareness, the findings offer suggestions for educating undergraduate students about disasters. The results of the study aim to provide important information for creating disaster education programs at the university level. Raising awareness likely improves emotional and mental resilience and better prepares people for emergencies. The implications of disaster education based on the findings are detailed in the following chapters.

5.2.1. Enriching Disaster Education Programs with Applied and Practical Information

Raising students' levels of knowledge might not necessarily result in increased awareness. According to Pal et al. (2021), people become more resilient when they are more aware of disasters. At each phase of the disaster management cycle, this awareness is crucial. However, academic knowledge alone is insufficient; practical skills are also necessary.

The study by Hasan et al. (2021) highlights that nursing students' training on disasters should not be restricted to theoretical classroom education only. Field

studies, simulations, and exercises should all be used. To raise nursing students' understanding of natural disasters, Şekerci et al. (2023) advise including hands-on training in the curriculum.

Undergraduate disaster education should be enriched with hands-on activities. This teaches students how to apply what they have learned in practical settings in addition to providing theoretical information. Since the first 72 hours following a disaster are determined to be highly crucial (AFAD, n.d.), it is important that students learn how to intervene quickly and accurately. For this reason, field research, simulations, and drills are required in colleges.

5.2.2. Developing Psychological Preparedness and Emotional Resilience through Disaster Education

The positive relationship found between disaster awareness and psychology in this study indicates that psychological preparation should also be strengthened, and knowledge should be added through education. Disaster education should be targeted to reduce anxiety and provide psychological preparation. Some findings in the literature also support this idea. For example, in a study conducted by Mishra & Suar (2011), disaster education plays an important role in increasing the psychological resilience of individuals. Therefore, in disaster education programs, the relationship between awareness and psychological preparation should be considered, and components that can prepare students psychologically should also be added. Therefore, developing a disaster program integrated with psychological science is highly recommended.

When all departments at the university are examined, medical departments such as medicine and nursing, which are of great importance during a disaster, should have a high awareness of this issue because they are in direct contact with disaster victims and are expected to serve this need (Erkin et al., 2024). Even though psychological preparation and awareness are more important for these departments than for others, it is also mandatory for the general public to raise awareness in the event of a disaster, mainly when the country's population is severely impacted and there are

fewer opportunities for aid, as was the case with last year's devastating earthquake in Kahramanmaraş. It is necessary. These courses should be mandatory in all departments, not just nursing and medicine schools. In research by Muttarak and Pothisiri (2013), another explanation is given for why university students are the intended audience. This study suggests that those with greater levels of education are better equipped to handle emergencies.

In summary, disaster education should be provided regardless of the department since it affects not only healthcare personnel but the entire population. Issues about enhancing psychological preparedness should be included in light of this connection. For example, Wulandari et al. (2023) presented a positive relationship between students' awareness levels and their preparedness abilities during wildfires. This relationship highlights the value of hands-on training, like simulation, which enables students to control their emotions and maintain calm during emergencies.

5.2.3. Interdiscplinary Approach

Disaster education should not be included only in specific professional groups or university departments. An interdisciplinary approach is necessary while conducting and/or planning disaster education initiatives, and all students, especially at the university level, should receive disaster education as mandatory. Research indicates disaster education is crucial for medical and nursing students (Schilly et al., 2024; Toraman & Korkmaz, 2023). However, this training should be given to everyone, not just certain groups. Students who participate in such multidisciplinary programs get knowledge in a variety of subjects in addition to their own. Additionally, in times of disaster, many professional groups should work together, and students can contribute more effectively with the broad viewpoint they have already acquired (Konur et al., 2024).

A multidisciplinary approach to disaster education is necessary because disasters present significant challenges to both individuals and societies. Psychology, sociology, and public health should all be incorporated into the design of this program.

5.2.4. Integration of Technology into Disaster Education

Digital resources for disaster education are now possible thanks to the quick advancement of technology. According to Kahraman and Gülacti (2023), materials prepared based on artificial intelligence will raise digital literacy for disasters. According to Subarno and Dewi (2022), digital tools are effective for young people, as young generations have a strong interest in technology. Even though it is not an explicit finding in this study, educational platforms that include mobile applications, online simulations, and artificial intelligence can be beneficial for effective disaster education. These digital resources may help students in disaster preparedness; they are especially beneficial when used for practice. Distance learning options can also be made available to students through digital education platforms. This approach allows disaster education to reach a larger audience and likely expands access to disaster education.

5.2.5. Community-Inclusive Disaster Education

Everyone should receive disaster education, and this instruction should be designed to prepare society as a whole, not just particular students or professions. Public awareness can be raised via school disaster education, but community and home education is equally crucial. Students may learn with their families and communities, making them more disaster-ready. To make society more resilient, local governments and universities should collaborate (AFAD, n.d.). Various training and disaster exercises might be planned so that these initiatives raise students' and society's awareness to make the community more resilient. As a result, disaster preparedness needs to be completely clarified, and university students should acquire both theoretical and practical skills. In the end, these developments will advance the educational system, and everyone will be safer.

5.2.6. Implications for Content of the Disaster Education

Programs for disaster education should be backed by both theoretical knowledge and hands-on, interactive techniques. Disaster education for nursing students should be

strengthened by real-world applications, according to Şekerci et al. (2023), and the same technique can also be used for teaching students from other departments. Students' crisis management skills improve significantly with these methods, and they learn more effectively because of real-life applications. This study suggests the following content for disaster education for undergraduate students based on the outcome of the research and the literature's findings:

- Drills and simulations: To make students prepared for real-life situations.
- Field studies and project-based learning:: To improve decision-making skills.
- Psychological preparedness: To increase the capacity to face stress and remain calm during a crisis.
- Technology-integrated learning: To promote learning experiences with mobile applications, online simulations, and artificial intelligence platforms.

Overall, environmental education programs are beneficial for preparedness, and psychological approaches to disaster education assist people in coping with the emotional stress of disasters. This strategy may lower the risk of PTSD. Education that fosters community links actually aids psychological preparation by creating a supportive social environment. The current study demonstrates a relationship rather than causation. Being aware helps individuals deal with events better, but other essential aspects may also be at play.

5.3. Recommendations for Furter Research

This study investigates the better practices for disaster education on undergraduate students' awareness and psychological preparedness based on the relationship between disaster awareness and psychological preparedness. Effective disaster education programs can increase personal and community readiness. Although the literature has already highlighted the significance of disaster education for health departments, similar training is required in other departments at the university level.

It should be emphasized that these findings have no clear cause-and-effect relationship. The results suggest that people's ability to manage psychological

readiness may be correlated with their awareness of disasters, but further study is necessary to understand this relationship fully. Effective educational programs for disaster education have the potential to increase people's psychological readiness by enhancing their awareness. Additionally, all findings in this study are suitable for the selected sample. It may not be generalizable to the entire population. Therefore, in the future, experimental and longitudinal studies should be conducted with other groups representing each university department to clarify this relationship.

Some of this study's results are different, even if they are usually in line with what is already known. In communities that are immediately impacted by disasters, for instance, social solidarity decreases, according to a study by Berrebi et al. (2020). The current study's results, on the other hand, indicate a correlation between disaster awareness and social environment management. This difference might be because of the study's sample and data-gathering techniques.

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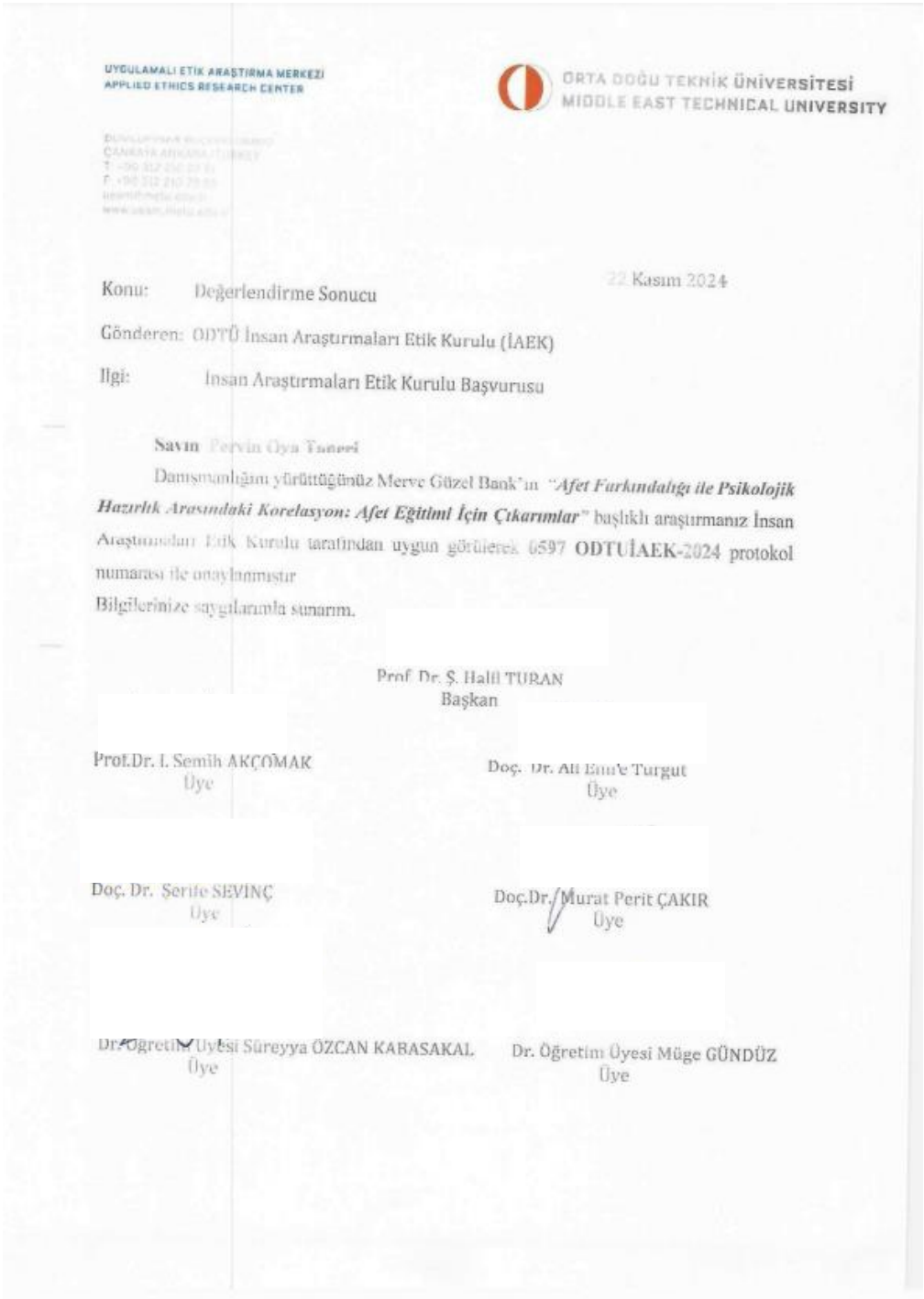
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APPENDICES

A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE



UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

22 Kasım 2024

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Pervin Oya Tuncel

Danışmanlığını yürüttüğünüz Merve Güzel Bank'ın *"Afet Farkındalığı ile Psikolojik Hazırlık Arasındaki Korelasyon: Afet Eğitimi İçin Çıkarımlar"* başlıklı araştırmanız İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek 0597 ODTUİAEK-2024 protokol numarası ile onaylanmıştır.

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Ş. Halil TURAN
Başkan

Prof.Dr. İ. Semih AKÇOMAK
Üye

Doç. Dr. Ali Emre Turgut
Üye

Doç. Dr. Şerife SEVİNÇ
Üye

Doç.Dr. Murat Perit ÇAKIR
Üye

Dr. Öğretim Üyesi Süreyya ÖZCAN KABASAKAL
Üye

Dr. Öğretim Üyesi Müge GÜNDÜZ
Üye

B. QUESTIONNARE AND CONSENT FORM

ARAŞTIRMAYA GÖNÜLLÜ KATILIM FORMU

Bu çalışma ODTÜ Eğitim Fakültesi yüksek lisans öğrencisi Merve Güzel Bank tarafından yürütülmektedir. Bu form sizi araştırma koşulları hakkında bilgilendirmek için hazırlanmıştır.

Çalışmanın Amacı Nedir?

Bu çalışmanın amacı üniversite öğrencilerinin afet farkındalığı ve psikolojik hazırlık düzeyleri arasındaki ilişkiyi incelemektir. Araştırma, bu iki kavramın birbirini nasıl etkilediğini anlamak ve afet eğitimi programlarının geliştirilmesine dolaylı olarak katkıda bulunmak için gerçekleştirilmektedir.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Size verilecek olan bu ankette yer alan durumları okuyup kendinize en uygun olduğunu düşündüğünüz seçeneği işaretlemenizi isteyeceğiz.

Katılımınızla ilgili bilmeniz gerekenler:

Bu çalışmaya katılmak tamamen gönüllülük esasına dayalıdır. Herhangi bir yaptırıma maruz kalmadan çalışmaya katılmayı reddedebilir veya çalışmayı bırakabilirsiniz. Araştırma esnasında cevap vermek istemediğiniz sorular olursa boş bırakabilirsiniz.

Araştırmaya katılanlardan toplanan veriler tamamen gizli tutulacak, veriler ve kimlik bilgileri herhangi bir şekilde eşleştirilmeyecektir. Ayrıca toplanan verilere sadece araştırmacılar ulaşabilecektir. Bu araştırmanın sonuçları bilimsel ve profesyonel yayınlarda veya eğitim amaçlı kullanılabilir, fakat katılımcıların kimliği gizli tutulacaktır.

Riskler:

Eğer doğal afetler konusunda bir hassasiyet veya rahatsızlık duyarsanız her zaman araştırmadan çekilme hakkınız vardır.

Araştırmayla ilgili daha fazla bilgi almak isterseniz:

Çalışmayla ilgili soru ve yorumlarınızı araştırmacıya mervveguzel@gmail.com e-mail adresinden iletebilirsiniz.

Yukarıdaki bilgileri okudum ve bu çalışmaya tamamen gönüllü olarak katılıyorum.

(Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

İsim Soyad Tarih İmza

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C. TURKISH SUMMARY / TÜRKÇE ÖZET

GİRİŞ

Bu bölüm okuyuculara çalışmanın genel bir özetini sunmaktadır. Çalışmanın arka planı ve araştırma sorularıyla başlar. Daha sonra çalışmanın önemini sunup son olarak bu bölümde çalışmanın belirli sınırlılıkları belirlenmektedir.

Çalışmanın Arka Planı

Doğal afetlerin bireyler üzerinde çevresel, psikolojik ve sosyal faktörler de dahil olmak üzere çok çeşitli olumsuz sonuçları vardır. Deprem ve sel gibi doğal afetler Türkiye'de ciddi zararlar verir (Büyükkaracığan, 2017).

Doğal afetlerin etkileri arasında hem bireyler hem de devlet düzeyinde ekonomik zarar ve kayıplara neden olmalarıdır (Büyükoğlu vd., 2024). Ekonomik etkilerinin yanı sıra, insanlar arasında eşitsizliğe yol açan veya afetlerin yarattığı ekonomik eşitsizlik nedeniyle mevcut eşitsizlik açığının daha da büyümesine neden olan bazı sosyal etkileri de bulunmaktadır (Yabe ve Ukkusuri, 2020). Aynı zamanda çok sayıda psikolojik etkisi de vardır. Afetlerden etkilenen kişilerde travma ve ruh sağlığı sorunları yaşanabilir (Rosenberg vd., 2022).

Afet farkındalığın artırılması açısından eğitim, maddi, bilgilendirici ve sosyal kaynaklar sağlayarak hane halkının afetlere duyarlılığını dolaylı olarak azalttığı için önemli bir rol oynamaktadır (Hoffmann & Blecha, 2020). Afet yönetimini bireysel ve toplumsal ölçekte inşa etmenin de önemli yollarından biri bireylerin psikolojik hazırlığıdır. Psikolojik hazırlığı afet yönetimi tekniklerine dahil etmek genel etkinliği artırabilir (Zulch H., 2019). İnsanların ve toplumların afetlere karşı psikolojik hazırlıklarının arttırılması, doğal afetlerin yarattığı tehlikeler konusunda kamuoyunun bilgilendirilmesi kadar hayati önem taşımaktadır.

Araştırmanın Amacı ve Araştırma Soruları

Bu çalışmanın amacı lisans öğrencilerinin afet farkındalığı ile afet tehdidine yönelik psikolojik hazırlıkları arasındaki ilişkiyi araştırmaktır. Afetlerin şiddeti ve verdikleri zararlar göz önüne alındığında, afet bilincinin arttırılmasının bireylerin psikolojik hazırlıklarını artıracağı düşünülmektedir. Araştırmanın sonuç bölümünde bireylerin afet farkındalığı ile psikolojik hazırlık arasındaki ilişkiye dayanarak afet eğitimine yönelik öneriler sunulması amaçlanmaktadır. Yukarıda belirtilen amaçlar göz önüne alındığında, bu tez aşağıdaki araştırma sorularına ışık tutmaya çalışmaktadır:

1. Afet eğitimi farkındalığı ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir ilişki var mı?
2. Afet öncesi farkındalık ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir ilişki var mı?
3. Yanlış afet farkındalığı ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir ilişki var mı?
4. Afet sonrası farkındalık ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir ilişki var mı?

Araştırmanın Önemi

Türkiye'de doğal afetlerin düzeyi ve sıklığı arttıkça etkilerinin en aza indirilmesi önem kazanmıştır. Bu sorunla ilgili yapılabilecek en önemli şey insanların doğal afetler konusunda bilgi ve bilinç sahibi olmasını sağlamaktır. Ancak bu sağlanırsa ciddi hazırlıklar ve önlemler alınabilir. Etkin bir doğal afet planlaması ve hazırlığı için doğal afet bilincinin yaygınlaştırılması şarttır. Üniversiteler gençlerin yetiştiği ve geleceğin şekillendiği yerler olduğundan bu konuda ciddi bir rol üstleniyorlar. Öncelikle bu araştırmada belirli bir üniversite bölümü bilinçli olarak örneklem olarak seçilmemiştir ve bu araştırmanın odak noktası herhangi bir üniversite bölümü değildir. Çünkü afet eğitimi tüm üniversite öğrencilerini, hatta tüm toplumu ilgilendiren ciddi bir konudur.

Literatürde üniversitelerle benzer konularda yapılan araştırmaların çoğu belirli bölümlere odaklanmıştır. Literatürde üniversite öğrencilerine yönelik “doğal afet eğitimi”, “farkındalık” ve “psikolojik hazırlıklı olma” anahtar kelimelerinin yer

aldığı çalışmalar incelendiğinde, araştırmaların çoğunluğunun tıp ve tıp gibi sağlık bölümleri perspektifinden yürütüldüğü ortaya çıkmıştır. Sağlık departmanlarına bu kadar odaklanılmasının nedeni, sağlık çalışanlarının ilk müdahale ekiplerinin hayati önem taşıdığıdır (Patel vd., 2017). Afet sonrası toparlanmadaki rolleri çok önemli olmakla birlikte, sadece afet sonrası değil, afet öncesi ve sırasındaki aşamaları da kapsayacak şekilde, başta gençler olmak üzere tüm toplumu kapsayacak şekilde etkili bir afet zarar azaltma planlarının düzenlenmesi gerekmektedir. Bu nedenle tüm üniversite öğrencilerini kapsayan, onların afet farkındalıkları ve psikolojik hazırlıklarıyla ilgili çalışmaların az olması nedeniyle bu çalışma alanına katkı sağlamak amaçlanmaktadır. İkincisi, çoğu öğrenci günlük yaşamlarında afetlere doğrudan ve dolaylı maruz kalmaları nedeniyle afetler veya afetlere hazırlık ile ilgili birçok teoriyi az çok bildiklerini düşünse de literatürde pek çok çalışma, insanların afetlerden nasıl korunacakları, hangi önlemleri almaları gerektiği ve doğal afet anında nasıl davranmaları gerektiği konusunda yeterli bilgiye sahip olmadıklarını gösterir. Bu bilgi ve beceri eksikliği sosyal risk oluşturmakta ve doğal afetlerde daha fazla can ve mal kaybına yol açmaktadır. Dolayısıyla bu çalışma, afet farkındalığı ile psikolojik hazırlık arasındaki ilişkiyi göstererek etkili afet eğitimi konusunda fikir verebilir ve bireylerin farkındalık ve hazırlıklılarının geliştirilmesi konusunda literatüre yol gösterebilir.

LİTERATUR TARAMASI

Çalışmanın bu bölümünde afetler, afet farkındalığı, afet tehdidine karşı psikolojik hazırlık ve eğitimin rolü konularında mevcut literatür incelenmiştir.

Afet, maruziyet, hassasiyet ve kapasite koşulları ile etkileşime giren tehlikeli olayların neden olduğu ve insanlara, mülklere, ekonomiye ve çevreye yönelik kayıp ve etkiler, bir topluluğun herhangi bir boyutta faaliyet gösterme yeteneğinin büyük ölçüde bozulması anlamına gelir: insanlara, mülklere, ekonomiye yönelik etkiler ve kayıplar ve çevre (UNDRR, t.y.)

Afetin Etkileri

Türkiye'de en sık görülen doğal afetlerin deprem ve sel olduğu ve bölgede meydana gelen doğal afetlerin neredeyse %70,5'ini oluşturduğu görülmektedir. En son yıkıcı

iki tanesi 6 Şubat 2023'te Mw7,7, Mw7,6 büyüklüğünde meydana geldi. Bu depremler toplamda 11 ilde büyük yıkıma neden oldu. Strateji ve Bütçe Başkanlığı'nın (2023) yayınladığı rapora göre depremler sonucunda 48.000'den fazla insan hayatını kaybetti. Pek çok bina, iletişim ve enerji altyapısı hasar gördü, önemli maddi kayıplar yaşandı.

İlerleyen bölümlerde doğal afetlerin ekonomik, sosyal, psikolojik ve etkilerine ilişkin son dönemde yapılan çalışmalar sunulacaktır. Etkin zarar azaltma planları ve afet hazırlığı sağlamak için bu etkileri anlamak çok önemlidir.

Afetlerin Ekonomik Etkileri

Afetler hem bireylerde hem de devlet düzeyinde ekonomik hasar ve kayıplara neden olur. Türkiye'de 11 ilde yaşanan 7,8 ve 7,6 büyüklüğündeki depremler çok sayıda can kaybına yol açtı. Sınırlı verilere rağmen depremin ekonomik etkilerinin 2023 yılında 104 milyar dolar, yani ülke gelirinin %9'u civarında olacağı tahmin edilmektedir (Büyükoğlu vd., 2024). Sadece bu depremin devlete yarattığı ekonomik yük incelendiğinde acil durum harcamalarının 6.786 milyon dolar, kamu sektörünün zararının ise 12.736 milyon dolar olduğu belirtiliyor. Depremin Türkiye ekonomisine maliyetinin en dikkat çekici bileşeni %54,9 (1.073,9 milyar TL; 56,9 milyar ABD Doları) ile konutlarda oluşan hasardır. Kamu binaları ve altyapının tahrip edilmesi (242,5 milyar TL, yani 12,9 milyar ABD doları) ikinci en büyük zarardır. Konut hariç özel sektörün zararının ise 222,4 milyar TL (11,8 milyar ABD Doları) civarında olduğu tahmin ediliyor.

Afetlerin Sosyal Etkileri

Sosyal eşitsizlik, doğal afet sonrasında öne çıkan bir sorun haline gelmekte ve bu durum toplumun homojenliğini bozmaktadır. Türkiye'de son yılların en büyük ve en yıkıcı doğal afeti olan 2023 Kahramanmaraş depremi sonucunda çocuk evleri, çocuk destek merkezi, kadın sığınma evleri, şiddeti önleme ve izleme merkezleri, huzurevleri gibi sosyal hizmetlerin tahrip olması veya zarar görmesi, yaşlılara yönelik bakım ve rehabilitasyon merkezleri, özellikle bu hizmetlerden yararlanan

dezavantajlı kesimlerin yaşamı olumsuz etkilenmiştir (T.C. Cumhurbaşkanlığı, 2023). Güney Kore genelinde afet yardımı alan doğal afet mağdurlarının katılımıyla yapılan bir çalışmada katılımcılara afet deneyimleri, sosyal ilişkileri ve afet yardımları hakkında sorular sorulmuş ve bu araştırmanın sonuçlarına göre toplumun Dayanıklılık faktörünün doğal afetlere maruz kalan insanların afet sonrası refahı üzerinde önemli bir etkisi olmuştur (Gim & Shin, 2022).

Afetlerin Psikolojik Etkileri

Afetler, çeşitli açılardan psikolojik sağlığa ciddi bir tehdit oluşturmakta, geçici ve kalıcı psikolojik acılara neden olmaktadır (Sönmez & Hocaoğlu, 2023). Doğal afetlerin psikolojik etkilerini inceleyen birçok çalışma bulunmaktadır. Bu çalışmalarda hem doğal afetlerden doğrudan etkilenen bireyler, hem de doğrudan doğal afet mağduru olmayan ancak bu konuya maruz kalan bireyler, aynı zamanda afet müdahale grubu incelenmektedir. Bu psikolojik etkiler afet öncesi, anı ve afet sonrası aşamaları kapsamaktadır. Yapılan bir araştırmada afet yaşayan kişilerin travma ve ruh sağlığı gibi sorunlar yaşayabileceği sonucuna varılmıştır (Rosenberg vd., 2022). 2012 yılında Sandy Kasırgası'ndan en çok etkilenen bölgelerden biri olan New Jersey bölgesinde yaşayanlar üzerinde yapılan bir başka çalışma, bireysel düzeyde felaketlere doğrudan ve dolaylı maruz kalmanın sırasıyla potansiyel TSSB ve psikolojik sıkıntıyı etkilediğini göstermektedir (Merdjanoffi vd., 2022). Doğal afetler hem kısa hem de uzun vadeli psikolojik sorunlara neden olabilirler, bu da hem etkilenen bireyler hem de toplum üzerindeki ruh sağlığı sorunlarının yükünü önemli ölçüde artırır (Saeed & Gargano, 2022)

Afet Farkındalığı

Doğal afet farkındalığı, bireylerin ve toplulukların doğal afetler konusunda bilgilendirilmesi, afetlerin olası etkilerini anlaması ve bu etkileri en aza indirmek için gerekli önlemleri alması sürecidir (Afet ve Acil Durum Yönetimi Başkanlığı [AFAD], t.y.). Bu tanımdan yola çıkarak bu bölümde literatürde doğal afet öncesi ve sonrası farkındalık, halkın yanlış afet farkındalığı ve afet eğitimi farkındalığına yönelik yapılan çalışmalar sunulmaktadır.

Afet Öncesi Hazırlık ve Bilinç

Herhangi bir doğal afet meydana gelmeden önce ilk farkındalığın kazanılması, bireylerin doğal afet sırasında ve sonrasında davranışlarını etkileyecektir. Bireylerin afet riskini azaltma niyetlerini etkileyen faktörleri inceleyen bir araştırmaya göre, bireylerin afet riskini azaltma faaliyetlerinin, sürdürülebilir afet zarar azaltma planlarında önemli bir role sahip olduğu görülmektedir. Afet risklerini azaltmak için sosyal çevrenin ve kişisel bilişin bireylerin davranışsal niyetleri üzerindeki etki mekanizmaları vurgulanmaktadır. Bu nedenle, jeolojik tehlikelere karşı savunmasız bölgelerde felaket olasılığını azaltmak, insanların davranışsal hedeflerini destekleyecektir. Ek olarak, kişinin sosyal çevresi öz-yeterlik duygusunu artırabilir. Bu nedenle politika yapıcılarının köylerde, topluluklarda, ilçelerde ve hatta ülke çapında kapsamlı afet riskini azaltma faaliyetleri oluşturması tavsiye edilmektedir. Bu, insanları bu faaliyetlere aktif olarak katılmaya teşvik edecektir (Cai vd, 2023). Deprem riskinin yüksek olduğu bölgelerde yaşayan insanlarla yapılan bir çalışmada doğal afetlere hazırlıklı olmanın orada yaşayan insanların yaşam memnuniyetini ve genel ruh sağlığını olumlu yönde etkilediği görülmüştür (Qing vd., 2021). Bu bulgulara göre, afetlere hazırlıklı olma isteği, insanları yalnızca afetlerden önce daha bilinçli kılmakla kalmıyor, aynı zamanda onların daha iyi hazırlıklı olmalarını da sağlıyor. Rio Grande Vadisi'ndeki insanlarla yapılan bu çalışma, afet tehditleri ve bunlarla nasıl başa çıkılacağı hakkında düşünmenin, insanların hazırlanmaya ne kadar istekli olduğunu etkilediğini gösteriyor. Afetlerden önce daha fazla bilinçlenmek, insanların kendilerini daha iyi hissetmelerine ve afetler sırasında güçlü kalmalarına yardımcı olur (Kyne, 2023).

Afetlere İlişkin Yanılgılar

Afet öncesinde, sırasında veya sonrasında bireylerde ve toplumlarda büyük olasılıkla bilgi eksikliği nedeniyle bazı yanlış algılar gelişebilmektedir. Bir araştırma, depremden sonra öğrencilerin olayla ilgili kendi inançlarını bilimsel fikirlerle ilişkilendirmek için farklı yollar denediklerini ortaya çıkardı. Bazıları bilimi tamamen kabul etti ve geleneksel inançlarından vazgeçti. Diğerleri bilimi kültürel inançlar ve mitlerle karıştırarak her iki görüşü de korudular. Birkaçı orijinal

inançlarına bağlı kaldı ve bilimsel nedenlere dikkat etmedi. Öğrencilerin geçmişlerini bilim ilkesiyle harmanlamak, doğal afetleri daha iyi kavramalarına yardımcı olabilir (Tsai C.C., 2010). Daha sonra (Nogami & Yoshida, 2014) (Wenger vd., 1975) afet mitleri ölçeği kullanarak yaptıkları araştırma, Japonya'da afetle ilgili yanlış inanışların varlığını ve kamu kaynaklarının bu inançlar üzerindeki etkisini ortaya çıkarmıştır. Panik, psikolojik şok, yağma, artan suç oranı, aşırı maddi bağış insanların sahip olduğu felaket mitleri arasındadır. Araştırmadan elde edilen sonuçlar, Batı ülkelerindekiler gibi Japonya'daki pek çok insanın, muhtemelen doğru olmayan felaketlerle ilgili hikayelere gerçekten inandığını ortaya çıkardı (Nogami & Yoshida, 2014).

Afet Sonrası Farkındalık Gelişimi

Bu bölümde afetler sonrasında farkındalık oluşturmanın veya katkıda bulunmanın önemi, bunun bireyleri ve toplumları nasıl etkilediğini inceleyen çalışmalar yer almaktadır.

Afet sonrasında bireyler ve toplumla ilişkileri değişmeye başlamış olup, bunda afet bilincinin etkisi bulunmaktadır. Çin'de yapılan bir araştırma, bireylerin afet sonrasında dış gruba olan güvenlerinin arttığını ve bu güvenin toplumdaki sosyal bağlarını güçlendirdiğini ileri sürmüştür (Lee, 2021). Afet sonrasında toplumlarda ve bireylerde değişen bu güven algısı toplumsal düzendeki dinamikleri de değiştirmektedir. Afet sonrasında artan dayanışma üzerine yapılan araştırmaya göre, afetten doğrudan etkilenmeyen çevredeki topluluklarda afetten etkilenenlere yardım ve bağış yapma artarken, afetten doğrudan etkilenen yerel topluluklarda yardımlaşma ve dayanışma azalıyor. Makale, doğal afetlerden doğrudan etkilenen ve kaynakların tehlike altında olduğu bölgelerde yaşayan insanların daha az yardımsever olma eğiliminde olduğunu, bu tür tehlikelerle karşılaşmayanların ise daha empatik olma eğiliminde olduğunu savunmaktadır (Berrebi vd., 2020).

Afet Eğitim Farkındalığı

Afetlerin bireyler ve toplumlar üzerindeki etkileri açıktır. Doğal afetlerin bu sonuçları dikkate alınarak farkındalık eğitimlerinin yapılması ve yaygınlaştırılması

büyük önem taşımaktadır. Bu bölümde afet eğitimi farkındalığına ilişkin literatürde yer alan bazı çalışmalar incelenmiştir. Her şeyden önce eğitimin, kişinin doğal afetleri öngörme, yönetme, dayanma ve toparlanma yeteneği üzerinde doğrudan ve dolaylı etkisi vardır. İnsanlar, eğitim ve öğrenme yoluyla afet şoklarının etkilerine etkili bir şekilde hazırlanmak ve bunlarla baş etmek için gerekli bilgi, beceri ve bakış açılarını doğrudan kazanırlar. Eğitim, maddi, bilgilendirici ve sosyal kaynaklar sağlayarak bir hanenin afetlere karşı duyarlılığını dolaylı olarak azaltır (Hoffmann & Blecha, 2020). Doğal afet eğitimi bilincinin geliştirilmesinde en önemli faktörlerden biri bölgenin ihtiyaçlarına cevap vererek toplumda afet eğitimi bilincinin yaygınlaştırılmasıdır. Fiziksel konumun doğal afetler üzerindeki etkisini araştıran bir çalışmada, toplum temelli afet risk azaltma (DRR) programının demografik çeşitlilik dikkate alınarak yerel çevreye göre özelleştirilmesinin sürdürülebilir afet eğitimi farkındalığı oluşturulmasına yardımcı olacağı öne sürülmektedir (Guo vd, 2021). Afet eğitimi farkındalığının arttırılmasında toplum temelli bu yaklaşımların yanı sıra psikolojik yaklaşımlardan da faydalanılması etkili olabilir. Afete hazırlıkta bireysel isteklilik üzerine yapılan bir çalışmanın sonuçlarına göre, başa çıkma değerlendirmesinin, özellikle de öz-yeterlik bileşeninin, hazırlıklı olma istekliliği ile anlamlı ve olumlu bir şekilde ilişkili olduğu keşfedilmiştir; bu, doğal afet hazırlığına ilişkin önceki araştırmaların çoğuyla tutarlıdır. Ayrıca çalışmanın sonuçları, insanların koruyucu davranışları benimseme isteklerinin, riske yönelik tutumlarından önemli ölçüde etkilendiğini göstermektedir. Risk almaya daha yatkın olan kişiler, hazırlık konusunda daha az olumlu seçimler yapma eğilimindedir. Bu nedenle, afet hafifletme çabalarına çok düzeyli katılımı teşvik etmek ve insanların ve toplulukların dayanıklılığını artırmak için afet bilgilerinin daha etkili bir şekilde iletilmesi ve dağıtılması gerekmektedir. Bu nedenle, halkın afet hakkındaki bilgisini ve afete uyum sağlayan davranışın değerini artırmak için güçlü bir teşvik yapılması gerekmektedir (Hu vd., 2022).

Afet Tehdidine Karşı Psikolojik Hazırlık

İnsanların ve toplumların afetlere karşı psikolojik hazırlıklarının arttırılması, doğal afetlerin yarattığı tehlikeler konusunda kamuoyunun bilgilendirilmesi kadar hayati önem taşımaktadır. Bu bölümde bireylerin dış çevresel faktörleri, sosyal çevreyi,

doğal afetlere karşı psikolojik ve duygusal tepkilerini nasıl yönettiklerini ve tepki verdiklerini anlamak için literatürden konuyla ilgili bazı çalışmalar sunulmaktadır.

Dış Çevresel Faktörleri Anlama ve Yönetme

Afet hazırlığında dış faktörlerin anlaşılması ve yönetilmesine yönelik bazı çalışmalar yapılmıştır. Buna göre afetlere hazırlık ve zarar azaltma çalışmalarında dış etkenlere bağlı olarak yönetilmesi gereken en önemli şeylerden biri kaynaklardır. Yalın ve çevik yönetim ilkeleri ile insani tedarik zincirlerinin işlevinin optimize edilmesini araştıran bir çalışmada, yalın yöntem afet öncesi ve sonrası çevresel faktörlerin yönetimi için israfı önler ve kaynakları korurken, çevik yaklaşımda hızlı aksiyon alınması esastır. Bu bağlamda afete hazırlık ve zarar azaltma aşamalarında dış faktörlerin etkin bir şekilde kullanılması için yalın ve çevik yöntemlerin birbirini tamamlayıcı bir etkiye sahip olduğu gözlemlenmiştir. Ayrıca yalın ve çevik yaklaşımlar birbirini tamamlayıcı bir şekilde benimsendiğinde kaynaklar daha etkin ve verimli yönetilir ve daha iyi bir koordinasyon sağlanır (Upadhyay vd., 2022). Ayrıca bireylerin çevresel durumlarını bilmesi ve yönetmesi durumunda daha etkili bir afete hazırlık stratejisi geliştirilir. Bu nedenle kaynak bulma konusunda aksiyonun afet öncesi tüm senaryolar dikkate alınarak yapılması gerekmektedir ki afet sonrası süreç hem bireyler hem de toplum açısından daha sağlıklı olacaktır. 2023 Türkiye Kahramanmaraş depremi sonrasında bireylerin beslenme durumlarının belirlendiği araştırmaya göre, afet sonrası beslenme yardımlarının güvenli ve zamanında ulaştırılması, çevresel faktörlerin nasıl yönetildiğine bağlı. Yolların düzenli bakımı, lojistik planlaması gibi dış faktörlerin yönetilmesi hayati önem taşımaktadır (Aldemir, 2023). Kaynak sağlamanın yanı sıra, yaşanılan çevrenin coğrafi özelliklerinin bilinmesi ve anlaşılması da bireyleri psikolojik olarak doğal afetlere hazırlamaktadır. Örneğin Çin'de farklı yer şekillerine sahip bölgelerden insanların katılımıyla yapılan bir araştırma, afetlere hazırlıklı olmanın coğrafi ortama göre değişebileceğini, çünkü bu farklı yer şekillerinin aslında bireylerin karşılaşabileceği riskleri anlamak için önemli bir dış faktör olduğunu gösteriyor. Dolayısıyla bireylerin ve toplumların afetlere hazırlıklı olabilmesi için yaşadıkları coğrafyanın özelliklerini bilmek kendilerini daha hazırlıklı hissetmelerini sağlayacaktır (Guo vd., 2021).

Sosyal Çevrenin Yönetimi

Etkili sosyal yönetim, insanları afet olasılığına psikolojik olarak hazırlamanın temel bileşenlerinden biridir. Afet öncesinde ve sonrasında bireyin sosyal çevresini yönetebilmesi önemlidir. Harvey Kasırgası, Irma Kasırgası, Maria Kasırgası, Nate Kasırgası ve Kaliforniya Yangınları gibi 2017 yılında ilan edilen felaketlerden etkilenen bölgelerde yapılan araştırmada, sosyal katılımın afetlere hazırlıkta önemli bir yere sahip olduğu gözlemlendi. Bu nedenle kişinin sosyal katılımını yönetmek, bireylerin afete hazırlıklılarını önemli ölçüde etkilemektedir (Cong vd., 2023).

Psikolojik ve Duygusal Dayanıklılığı Yönetme

Felaketler pek çok korkunç sonuca yol açsa da insanlara zorluklarla nasıl başa çıkacaklarını öğrenme ve kendilerinin daha iyi versiyonları olma şansını da verir. Bu, bir trajediden sonra toplulukların toparlanmasında pozitif psikolojinin oynadığı rolü inceleyen kişisel gelişim üzerine bir çalışmayla desteklenmektedir. Psikolojik araştırmalar, felaketlere maruz kalmalarına rağmen zamanla olumlu bir şekilde büyüyebilen, dirençli, umutlu ve genel olarak iyi uyum sağlayan bireyleri ve toplulukları teşvik edebilir (Morgado, 2020).

Afet Eğitimi

Afet eğitimi, devlet ve vatandaşlar arasındaki geleneksel didaktik bağlantıların ötesine geçerek, yansıtıcı ve karmaşık pedagojik yaklaşımlar gerektirmiştir (Preston, 2012). Afetlerden önce, afet sırasında ve sonrasında dayanıklılık oluşturmak için afet eğitimi eğitimin her düzeyinde uygulanmalıdır. Bu, bireylerin dayanıklılığa nasıl katkıda bulunabilecekleri konusunda iyi bilgi sahibi olmalarını sağlar (Pal ve diğerleri, 2021). Ayrıca afet eğitiminin ana hedef kitlesi göz önüne alındığında, genç nesillerin teknolojiye ve bilgi gelişimine daha kolay uyum sağladığı, öğrenmeyi ve bilgilerini kullanmayı kolaylaştırdığı görülmektedir (Subarno & Dewi, 2022).

YÖNTEM

Bu bölüm, araştırmanın tasarımını, örnekleme yöntemini, veri toplama ve analiz süreçlerini açıklar, aynı zamanda çalışmanın sınırlılıklarını ele alır.

Çalışmada, afet farkındalığı ile psikolojik hazırlık arasındaki ilişkiyi incelemek amacıyla nicel bir korelasyonel araştırma tasarımı kullanılmıştır. Veriler, Türkiye'de farklı akademik bölümlerden 412 lisans öğrencisinden kolayda örnekleme yöntemiyle toplanmıştır. Bu yöntem, katılımı çeşitlendirse de genellenebilirliği sınırlamaktadır.

Çalışmada, katılımcıların farkındalık ve hazırlık seviyelerini ölçmek için Afet Farkındalık Ölçeği (Dikmenli vd., 2018) ve Afet Tehdidi için Psikolojik Hazırlık Ölçeği (Türkdoğan Görgün vd., 2023) kullanılmıştır. Bu araçlar, Türk bağlamına uygun olarak doğrulanmış ve uyarlanmıştır. Veriler, çevrimiçi olarak Google Formlar aracılığıyla toplanmış ve katılımcıların gizliliği korunmuştur. Eksik veriler analiz dışı bırakılmıştır.

Veri analizi, SPSS 26.0 programı ile gerçekleştirilmiş, betimsel istatistikler, Pearson korelasyon analizi uygulanmıştır. Bu analizler, değişkenler arasındaki ilişkileri incelemiştir. Aykırı değerler analizden çıkarılmıştır.

Çalışmanın sınırlılıkları arasında kolayda örnekleme yönteminin kullanılması, öz-beyan verilerinin sosyal arzu edilirlik yanlılığına açık olması ve tek bir zaman diliminde veri toplayan korelasyonel tasarımın nedensellik ilişkilerini belirleyememesi yer almaktadır. Çevrimiçi anket yöntemi, teknolojiye daha az aşina olan bireyleri dışlayabilir ve yanıtların doğruluğunu etkileyebilir. Görece küçük ve özel örneklem, bulguların daha geniş kitlelere uygulanabilirliğini sınırlamaktadır.

Sonuç olarak, bu yöntem, çalışmanın bulgularının sağlamlığını sağlar ancak gelecekteki araştırmalar için daha geniş kitleleri içeren ve nedensellik ilişkilerini araştıran tasarımlar önerilmektedir.

BULGULAR

Bu bölümde, çalışmadan elde edilen bulgular sunulmaktadır. Bulgular, demografik analiz, betimsel istatistikler ve korelasyon analizleri temelinde özetlenmiştir.

Katılımcı Analizi

Araştırmada yer alan katılımcılar Türkiye'deki farklı üniversitelerin çeşitli bölümlerinden ve sınıf düzeylerinden oluşmaktadır. Toplamda 412 lisans öğrencisi çalışmaya katılmıştır. Çalışmaya katılan bölümler arasında Matematik Eğitimi, Bilgisayar Mühendisliği, Diş Hekimliği, Felsefe, İngilizce Öğretmenliği gibi çeşitli alanlar yer almıştır. Katılımcıların sınıf düzeyleri ise çoğunlukla birinci sınıf ve ikinci sınıf öğrencilerinden oluşmaktadır.

Ölçeklerin Dağılım ve Güvenilirlik Analizleri

Çalışmada kullanılan Afet Farkındalık Ölçeği ve Afet Tehdidi için Psikolojik Hazırlık Ölçeği için güvenirlik analizleri yapılmıştır. Cronbach's Alpha katsayıları, ölçeklerin iç tutarlılığının kabul edilebilir ve yüksek düzeyde olduğunu göstermiştir (örn. Afet Farkındalık Ölçeği: 0.84; Psikolojik Hazırlık Ölçeği: 0.946). Skewness ve kurtosis değerleri, ölçeklerin alt boyutlarının çoğunlukla normal dağılıma yakın olduğunu göstermektedir.

Hipotez Testleri

Araştırma kapsamında aşağıdaki hipotezler test edilmiştir:

Hipotez 1: Afet Eğitimi Farkındalığı ve Psikolojik Hazırlık

H_{01}: Afet eğitimi farkındalığı ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir korelasyon yoktur.

H_{11}: Afet eğitimi farkındalığı ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı pozitif bir korelasyon vardır.

Hipotez 2: Afet Öncesi Farkındalık ve Psikolojik Hazırlık

H_{02}: Afet öncesi farkındalık ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir korelasyon yoktur.

H_{12}: Afet öncesi farkındalık ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı pozitif bir korelasyon vardır.

Hipotez 3: Yanlış Afet Farkındalığı ve Psikolojik Hazırlık

H_{03}: Yanlış afet farkındalığı ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir korelasyon yoktur.

H_{13}: Yanlış afet farkındalığı ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı negatif bir korelasyon vardır.

Hipotez 4: Afet Sonrası Farkındalık ve Psikolojik Hazırlık

H_{04}: Afet sonrası farkındalık ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir korelasyon yoktur.

H_{14}: Afet sonrası farkındalık ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı pozitif bir korelasyon vardır.

Hipotez 5: Genel Afet Farkındalığı ve Psikolojik Hazırlık

H_{05}: Genel afet farkındalığı ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı bir korelasyon yoktur.

H_{15}: Genel afet farkındalığı ile afet tehdidine yönelik psikolojik hazırlık arasında anlamlı pozitif bir korelasyon vardır.

Korelasyon Analizleri

Korelasyon analizleri, afet farkındalığının alt boyutları ile psikolojik hazırlık değişkenleri arasındaki ilişkileri incelemiştir. Bulgular şunlardır:

- Afet eğitimi farkındalığı: Psikolojik hazırlıkla zayıf pozitif bir ilişki göstermiştir ($r = 0.257$). Etki düşük düzeydedir.

- Afet öncesi farkındalık: Psikolojik hazırlıkla orta düzeyde pozitif bir ilişki göstermiştir (r = 0.257). Etki büyüklüğü orta düzeydedir.
- Yanlış afet farkındalığı: Psikolojik hazırlıkla zayıf pozitif bir ilişki göstermiştir (r = 0.221). Bu hipotez desteklenmemiştir.
- Afet sonrası farkındalık: Psikolojik hazırlıkla güçlü bir pozitif ilişki göstermiştir (r = 0.550). Etki büyüklüğü yüksektir.
- Genel afet farkındalığı: Psikolojik hazırlıkla orta düzeyde pozitif bir ilişki göstermiştir (r = 0.464).

TARTIŞMA

Bu bölümde, araştırma bulguları detaylı olarak tartışılmış, mevcut literatürle karşılaştırılmış ve afet farkındalığı ile psikolojik hazırlık arasındaki ilişkiye dair sonuçlar değerlendirilmiştir. Tartışma, afet farkındalığının (afet eğitimi farkındalığı, afet öncesi farkındalık, yanlış afet farkındalığı ve afet sonrası farkındalık) psikolojik hazırlığın (dış çevre yönetimi, duygusal ve psikolojik yanıtların yönetimi, sosyal çevre yönetimi) alt boyutlarıyla ilişkisini incelemiştir.

Afet Eğitimi Farkındalığı ve Psikolojik Hazırlık Arasındaki İlişki

Afet eğitimi farkındalığının, dış çevrenin yönetimiyle pozitif ilişkisi olduğu görülmüştür. Eğitim yoluyla bireylerin çevresel faktörleri daha iyi yönettiği ve kaynak kullanımında etkin olduğu belirtilmiştir. Ayrıca, bu farkındalığın, bireylerin duygusal dayanıklılığını artırarak afetler karşısında daha az stres yaşamalarına yardımcı olduğu görülmüştür. Sosyal çevrenin yönetimiyle de pozitif bir ilişki bulunmuş, eğitimin sosyal dayanışmayı ve kriz anında destek ağlarının oluşturulmasını güçlendirdiği belirtilmiştir.

Afet Öncesi Farkındalık ve Psikolojik Hazırlık Arasındaki İlişki

Afet öncesi farkındalık, dış çevre yönetimi, duygusal dayanıklılık ve sosyal çevre yönetimiyle pozitif ilişkili bulunmuştur. Bu farkındalık, bireylerin afetlerden önce kaynakları daha etkili kullanmasını sağlar. Ancak, bu farkındalığın tek başına yeterli

olmadığı, destekleyici ağlar ve psikolojik hizmetlerle tamamlanması gerektiği vurgulanmıştır. Afet öncesi farkındalığın bireylerin stres seviyelerini azaltarak psikolojik hazırlığı artırabileceği ifade edilmiştir.

Yanlış Afet Farkındalığı ve Psikolojik Hazırlık Arasındaki İlişki

Yanlış afet farkındalığının, psikolojik hazırlık üzerinde beklenmedik bir şekilde pozitif bir etkisi olduğu görülmüştür. Yanlış bilgiler bireylerin risk algısını artırabilir, bu da onların daha temkinli davranmalarına yol açabilir. Ancak, bu farkındalık kısa vadeli bir güven hissi sağlasa da uzun vadeli sürdürülebilir dayanıklılık için bilimsel bilgiye dayalı eğitimlerin gerekli olduğu belirtilmiştir.

Afet Sonrası Farkındalık ve Psikolojik Hazırlık Arasındaki İlişki

Afet sonrası farkındalık, dış çevrenin yönetimi, duygusal dayanıklılık ve sosyal çevre yönetimiyle güçlü bir pozitif ilişki göstermiştir. Doğru bilginin dağıtılması ve liderlerin desteği, bireylerin çevreyi daha iyi yönetmesine yardımcı olur. Ayrıca, bu farkındalığın, afet sonrası dayanıklılığı artırdığı ve toplumsal bağların güçlenmesini sağladığı ifade edilmiştir.

Afet Eğitimi İçin Çıkarımlar

Araştırmanın bulguları, afet eğitim programlarının teorik bilginin yanı sıra uygulamalı ve pratik bilgilerle zenginleştirilmesi gerektiğini ortaya koymaktadır. Simülasyonlar, saha çalışmaları ve projelere dayalı öğrenme yöntemlerinin dahil edilmesi önerilmektedir. Ayrıca, afet eğitiminin yalnızca belirli meslek gruplarına değil, tüm üniversite öğrencilerine verilmesi gerektiği vurgulanmıştır. Eğitim programlarında teknoloji entegrasyonu, örneğin yapay zekâ tabanlı araçlar ve dijital platformlar, önerilen bir diğer yaklaşımdır.

Sonuç ve Öneriler

Araştırma, afet farkındalığı ile psikolojik hazırlık arasındaki bağlantıyı incelemiş ve afet eğitim programlarının bu bağlantıyı güçlendirme potansiyeline sahip olduğunu

göstermiştir. Gelecekte, daha geniş örneklemlerle deneysel ve uzun vadeli çalışmalar yapılması gerektiği önerilmektedir. Afet eğitimi programları, bireylerin dayanıklılığını artırarak toplumsal hazırlığı destekleyebilir ve kriz anlarında daha etkin bir tepki oluşturabilir.

D. THESIS PERMISSION FORM / TEZ İZİN FORMU

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YAZARIN / AUTHOR

Soyadı / Surname : GÜZEL BANK
Adı / Name : Merve
Bölümü / Department : Eğitim Bilimleri, Eğitim Programları ve Öğretim / Educational Sciences, Curriculum and Instruction

TEZİN ADI / TITLE OF THE THESIS (**İngilizce** / English): AN EXAMINATION OF THE CORRELATION BETWEEN DISASTER AWARENESS AND PSYCHOLOGICAL PREPAREDNESS

TEZİN TÜRÜ / DEGREE: **Yüksek Lisans** / Master ☒ **Doktora** / PhD ☐

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