ORIGINAL RESEARCH ORİJİNAL ARAŞTIRMA

DOI: 10.5336/healthsci.2025-111167

Evaluation of University Students Disaster Risk Perception and Disaster Preparedness After the February 6 Earthquake: Cross-Sectional Study

6 Şubat Depremi Sonrası Üniversite Öğrencilerinin Afet Risk Algısı ve Afet Hazırlık Durumunun Değerlendirilmesi: Kesitsel Araştırma

Seda İLGÜN[a], Sema AYTAÇ[b], Özlem OVAYOLU[b], Sibel SERÇE[b]

[a]Gaziantep University Institute of Health Sciences, Department of Nursing, Internal Medicine Nursing Doctoral Program, Gaziantep, Türkiye
[b]Gaziantep University Faculty of Health Sciences, Department of Nursing, Department of Internal Medicine Nursing, Gaziantep, Türkiye

This study was presented as a poster at the 25th National Internal Medicine Congress, November 8-12, 2023, Antalya, Türkiye.

ABSTRACT Objective: This cross-sectional study was conducted to assess the disaster preparedness levels and risk perceptions of disasters among associate degree students enrolled at the vocational school of health services of a university located in an earthquake-prone region. **Material and Methods:** Before the study began, necessary approvals were obtained from the institution, ethics committee, and students. Data were collected using a questionnaire, the Disaster Risk Perception Scale, and the Disaster Preparedness Scale. Both scales are scored between 1-5, with higher scores indicating higher levels of perception and preparedness. **Results:** Of the students, 81.1% were female, 50.2% were enrolled in the First and Emergency Aid program, and the average age was 20.76±2.20 years. The mean score for disaster risk perception was 3.92±0.40, and for disaster preparedness it was 3.12±0.71. Students who were aware of the disaster risk in their region and who had prepared a disaster-emergency kit at home scored significantly higher in both areas. While female students had a higher average score in disaster risk perception, their preparedness score was lower. **Conclusion:** A significant and positive relationship was found between disaster risk perception and disaster preparedness levels. The results of the study are expected to contribute to the development of strategies that will help students be more prepared and aware in the event of a possible earthquake.

Keywords: Disaster; risk perception; disaster preparedness; student

ÖZET Amaç: Bu çalışma, ön lisans programı öğrencilerinin afetlere hazırlık düzeyleri ile afet risk algılarını değerlendirmek amacıyla deprem bölgesinde bulunan bir üniversitenin sağlık hizmetleri meslek yüksek okulunda eğitim alan öğrencilerle kesitsel olarak gerçekleştirilmiştir. **Gereç ve Yöntemler:** Araştırma öncesinde kurum, etik kurul ve öğrencilerden gerekli onay alınmıştır. Veriler; anket formu, Afet Risk Algısı Ölçeği ve Afet Hazırlık Ölçeği kullanılarak toplanmıştır. Her iki ölçek 1-5 arasında puanlanmakta olup, yüksek puanlar daha yüksek düzeyde risk algısı ve hazırlığı göstermektedir. **Bulgular:** Katılımcıların %81,1'i kadın, %50,2'si İlk ve Acil Yardım programında öğrenim görmekte olup, yaş ortalamaları 20,76±2,20'dir. Afet risk algısı puan ortalaması 3,92±0,40; afet hazırlık puan ortalaması ise 3,12±0,71 olarak saptanmıştır. Bulunduğu bölgenin afet risk durumu hakkında bilgi sahibi olan ve evinde afet-acil durum çantası bulunduran öğrencilerin her iki alanda da anlamlı şekilde daha yüksek puan aldığı belirlenmiştir. Kadın öğrencilerin afet risk algısı puanı daha yüksekken, afet hazırlık puanı daha düşük bulunmuştur. **Sonuç:** Öğrencilerin afet risk algısı ile afetlere hazırlık düzeyleri arasında anlamlı ve pozitif bir ilişki saptanmıştır. Elde edilen bulguların, öğrencilerin olası bir deprem durumunda hazırlıklı olmalarını destekleyecek stratejilerin geliştirilmesine katkı sağlaması beklenmektedir.

Anahtar Kelimeler: Afet; risk algısı; afet hazırlığı; öğrenci

Correspondence: Sema AYTAÇ
Gaziantep University Faculty of Health Sciences, Department of Nursing, Department of Internal Medicine Nursing, Gaziantep, Türkiye
E-mail: aytac.sema27@gmail.com

Peer review under responsibility of Turkiye Klinikleri Journal of Health Sciences.

Received: 09 Apr 2025 ***Received in revised form:*** 01 Jul 2025 ***Accepted:*** 02 Sep 2025 ***Available online:*** 19 Sep 2025

Disasters are classified into 3 categories: natural, technological, and human-induced events. These events cause physical, economic, and social losses to society, disrupting normal life and human activities.[1-3] For centuries, people have faced disaster-related risks, leading to significant loss of life and property.[4-6] Due to its geographical location, our country is frequently exposed to various natural disasters.[1,5,6] Furthermore, diverse climatic conditions across regions contribute to disasters such as earthquakes, floods, droughts, and landslides.[7] Since disasters are often unforeseeable, individuals ability to cope and prepare depends on their knowledge and awareness.[7-9] Effective response from the outset is only possible through proper training and planning.[10] Thus, disaster management requires preparation, planning, training, drills, early warning systems, material stock, and public awareness for timely and effective intervention.[8,9] Additionally, it is crucial for individuals to be prepared before a disaster to intervene effectively.[4,11] Awareness of disaster risks plays a key role in mitigating potential hazards.[12] Educational institutions are vital in reducing disaster risk by enhancing public education and awareness.[13] Therefore, incorporating studies to increase knowledge and awareness among higher education students is essential, as they are more likely to engage in disaster relief efforts.[14]

The extant literature indicates that students who have received disaster education exhibit a significantly higher level of belief in their preparedness for disasters compared to those who have not undergone such training.[15] Conversely, other study underscore the necessity of implementing disaster preparedness and awareness training within university curricula.[14] İnal et al. reported that students demonstrated low levels of disaster preparedness and awareness, while Boran and Ulutaşdemir. found that students attitudes toward disasters were above average in cognitive, affective, and overall dimensions, yet fell below average in the behavioral dimension.[16,17] Given this context, evaluating disaster preparedness and risk perception among university students enrolled in health-related programs is of critical importance. Accordingly, the present study aimed to assess the levels of disaster preparedness and disaster risk perception among associate degree students following the earthquake that occurred on February 6, 2023.

MATERIAL AND METHODS

RESEARCH TYPE

This cross-sectional study aimed to evaluate the disaster risk perception and preparedness levels of students enrolled in the First Aid and Emergency, Operating Room Services, Elderly Care, and Therapy and Rehabilitation programs at the Health Services Vocational School of a public university.

Population and Sample

The study encompassed 400 students from the health services vocational school. To ensure a representative sample, a 5% margin of error and a 95% confidence interval were applied, resulting in a sample size of 197 participants. Ultimately, 201 students participated in the study, which was conducted online from June 10 to 20, 2023. Data were collected through online links sent to eligible students via mobile phone and email. Participants were instructed to respond to the questions in the data collection tools with care and accuracy and submit their responses to the researcher via email.

Inclusion Criteria for the Research

The study included students enrolled in the health services vocational school in the First Aid and Emergency, Operating Room Services, Elderly Care, and Therapy and Rehabilitation programs, who volunteered to participate and had access to an internet-enabled device. Participants who did not meet the inclusion criteria were excluded from the study.

COLLECTION OF THE DATA

The data of the study were collected using the questionnaire, Disaster Risk Perception Scale and Disaster Preparedness Scale.

Questionnaire

This instrument, developed by the researchers in accordance with the relevant literature, includes questions that examine the sociodemographic characteristics of the students, as well as their experiences related to disasters.[6,11,17]

Disaster Risk Perception and Disaster Preparedness Scale

This scale, developed by Özdemir in 2018, consists of 39 items utilizing a 5-point Likert scale. The first 22 items assess participants' perception of disaster risk, while the remaining 17 items evaluate their level of disaster preparedness. The total score ranges from 1 to 5, with higher scores reflecting greater levels of both disaster risk perception and preparedness.[18] The Cronbach's alpha coefficient was calculated as 0.883.

EVALUATION OF THE DATA

The research data were analyzed using the relevant statistics program (SPSS 25.0). Descriptive normal distribution conformity statistical analyses, Mann-Whitney U and Kruskal-Wallis tests were used in the evaluation of the data. $p<0.05$ was considered statistically significant.

ETHICAL CONCERNS

This study was conducted in accordance with the "Declaration of Helsinki". In addition, the necessary permissions were obtained from the Gaziantep University Clinical Research Ethics Committee (date: May 10, 2023; no: 2023/156), the institution where the study was conducted, and the students.

RESULTS

EXAMINATION OF STUDENTS SOCIODEMOGRAPHIC CHARACTERISTICS, DISASTER RISK PERCEPTION, AND DISASTER PREPAREDNESS

It was found that 81.1% of the participants were female, 50.2% were enrolled in the First Aid and Emergency Program, and 59.7% were 1st-year students. The mean age of the students was 20.76±2.20 years. Although female students had higher disaster risk perception scores than male students, the difference was not statistically significant ($p>0.05$). In contrast, male students scored significantly higher in disaster preparedness ($p<0.05$). The mean score for disaster risk perception was 3.92±0.40, while the mean score for disaster preparedness was 3.12±0.71 (Table 1).

TABLE 1: Comparison of students' sociodemographic characteristics with average disaster risk perception and disaster preparedness scores

	Number (%)	Disaster risk perception	p value	Disaster preparedness	p value
Age ($\bar{X}$±SD) (years)	20.76±2.20				
Gender					
Female	163 (81.1)	3.95±0.38	0.22*	3.04±0.70	0.000*
Male	38 (18.9)	3.83±0.46		3.45±0.65	
Marital status					
Married	5 (2.5)	4.18±0.22	0.09*	2.84±0.82	0.24*
Single	196 (97.5)	3.92±0.40		3.13±0.71	
Programs trained					
Operating room services	50 (24.9)	3.87±0.33	0.31**	3.00±0.66	0.71**
First and emergency aid	101 (50.2)	3.93±0.41		3.15±0.74	
Therapy and rehabilitation	33 (16.4)	3.93±0.46		3.22±0.72	
Elderly care	17 (8.5)	3.99±0.38		3.10±0.64	
Class					
1	120 (59.7)	3.89±0.39	0.12*	3.10±0.69	0.80*
2	81 (40.3)	3.98±0.40		3.15±0.74	
Monthly income					
Income less than expenses	81 (40.3)	3.90±0.43	0.84**	3.05±0.83	0.48**
Income more than expenses	9 (4.5)	3.93±0.45		3.17±0.58	
Income equal to expenses	111 (55.2)	3.94±0.37		3.17±0.62	
Place of residence					
Homestay	103 (51.2)	3.90±0.43	0.72**	3.12±0.66	0.67**
At home with friends	12 (6.0)	3.87±0.35		3.12±0.66	
In dormitory	86 (42.8)	3.96±0.36		3.10±0.74	
Total	201 (%100)	3.92±0.40		3.12±0.71	

*Mann-Whitney U test; **Kruskal-Wallis test

EXAMINATION OF STUDENTS DISASTER-RELATED CHARACTERISTICS AND DISASTER RISK PERCEPTION AND DISASTER PREPAREDNESS SCORES AVERAGES

It was found that 74.6% of the students had previously experienced a disaster, 87.3% had encountered an earthquake as a type of disaster, and 31.8% had lost a loved one due to a disaster. Additionally, the average disaster risk perception score was significantly higher among students who reported knowing what actions to take during a disaster, while the average disaster preparedness score was significantly higher among those who were informed about the disaster risk level in their region ($p<0.05$) (Table 2).

EXAMINING STUDENTS DISASTER PREPAREDNESS STATUS WITH DISASTER RISK PERCEPTION AND DISASTER PREPAREDNESS SCORES AVERAGES

It was found that 72.1% of the students did not have an emergency kit at home, 67.2% did not store water

TABLE 2: Comparison of students' disaster-related characteristics with average disaster risk perception and disaster preparedness scores

Features	Number (%)	Disaster risk perception	p value	Disaster preparedness	p value
Have you experienced a disaster before?					
Yes	150 (74.6)	3.92±0.40	0.62*	3.12±0.70	0.76*
No	51 (25.4)	3.93±0.39		3.11±0.74	
Type of disaster experienced (n=150)					
Earthquake	131 (87.3)	3.93±0.40	0.35**	3.13±0.72	0.32**
Earthquake-flood	9 (6.0)	3.74±0.45		2.84±0.70	
Earthquake-forest fires	10 (6.7)	3.95±0.34		3.32±0.35	
Have you lost a loved one in a disaster?					
Yes	64 (31.8)	3.91±0.42	0.45*	3.18±0.79	0.75*
No	137 (68.2)	3.93±0.38		3.10±0.67	
Please indicate the closeness (n=64)					
1st degree	4 (6.3)	3.60±0.23	0.05*	3.26±0.85	0.64*
2nd degree	60 (93.8)	3.93±0.43		3.17±0.79	
Do you know what to do during a disaster?					
Yes	183 (91)	3.94±0.40	**0.02***	3.12±0.68	0.74*
No	18 (9)	3.74±0.33		3.14±0.97	
Do your family members know what to do during a disaster?					
Yes	113 (56.2)	3.94±0.40	0.234*	3.25±0.67	**0.002***
No	88 (43.8)	3.90±0.38		2.96±0.73	
Do you have information about the disaster risk status of the area you live in?					
Yes	171 (85.1)	3.93±0.40	0.40*	3.15±0.69	**0.03***
No	30 (14.9)	3.87±0.35		2.94±0.77	
Have you received any training in your department regarding disasters?					
Yes	30 (14.9)	3.84±0.44	0.33*	3.30±0.67	0.06*
No	171 (85.1)	3.94±0.39		3.09±0.71	
Have you received any training on disasters outside of your department?					
Yes	125 (62.2)	3.96±0.40	0.16*	3.14±0.70	0.81*
No	76 (37.8)	3.87±0.39		3.09±0.73	
If your answer is yes, please specify where you got it? (n=125)					
Television	28 (22.4)	3.84±0.45	0.42**	2.92±0.74	0.26**
Internet	52 (41.6)	4.01±0.34		3.19±0.64	
School	45 (36)	3.96±0.42		3.23±0.72	
Do you think you need training on disasters?					
Yes	128 (63.7)	3.92±0.36	0.82*	3.008±0.69	**0.003***
No	73 (36.3)	3.94±0.45		3.33±0.69	
Have you participated in any disaster drills?					
Yes	128 (63.7)	3.96±0.40	0.08*	3.12±0.73	0.86*
No	73 (36.3)	3.86±0.37		3.12±0.67	
Have you received first aid training?					
Yes	142 (70.6)	3.95±0.40	0.13*	3.18±0.73	0.06*
No	59 (29.4)	3.86±0.39		2.97±0.62	
Total	201 (%100)				

*Mann-Whitney U test; **Kruskal-Wallis test

or food for use in the event of a disaster, and 66.7% of their homes were not insured against natural disasters. Furthermore, students who had a disaster-emergency kit at home, were aware of the items that should be included in the kit, and knew the safe areas in their homes or schools exhibited higher mean scores for both disaster risk perception and disaster preparedness ($p<0.05$) (Table 3).

STUDENTS THOUGHTS ON DISASTER AND DISASTER RISK PERCEPTION AND DISASTER PREPAREDNESS SCORES AVERAGES

It was determined that 65.7% of the students were aware of the disaster risks in their region, 95% identified earthquakes as the most significant type of disaster in the country, 85.6% had not participated in any disaster or emergency response activity, and 90.5%

TABLE 3: Comparison of students' disaster preparedness status with average disaster risk perception and disaster preparedness scores

Features	Number (%)	Disaster risk perception	p value	Disaster preparedness	p value
Do you have a disaster-emergency kit at home?					
Yes	56 (27.9)	4.03±0.41	**0.03***	3.55±0.66	**0.00***
No	145 (72.1)	3.88±0.38		2.96±0.66	
Do you know what should be in your disaster-emergency bag?					
Yes	174 (86.6)	3.96±0.38	**0.00***	3.17±0.67	**0.03***
No	27 (13.4)	3.71±0.44		2.82±0.89	
Do you have water and food products stocked for use in case of a disaster?					
Yes	66 (32.8)	3.96±0.40	0.22*	3.39±0.63	**0.00***
No	135 (67.2)	3.90±0.39		2.99±0.71	
Do you know the locations of the electrical switch, water valve, and natural gas valve in your home for disaster safety?					
Yes	177 (88.1)	3.94±0.38	0.18*	3.14±0.69	0.43*
No	24 (11.9)	3.78±0.45		3.01±0.86	
Do you know that in case of a disaster, the electrical switch, water valve etc. in your home should be turned off to ensure safety?					
Yes	189 (94)	3.95±0.38	**0.00***	3.12±0.71	0.93*
No	12 (6)	3.57±0.48		3.09±0.78	
Do you have a fire extinguisher in your home?					
Yes	21 (10.4)	4.01±0.41	0.38*	3.48±0.69	**0.01***
No	180 (89.6)	3.91±0.39		3.08±0.70	
Do you think your home could be damaged in a possible disaster?					
Yes	135 (67.2)	3.91±0.39	0.85*	3.06±0.70	0.08*
No	66 (32.8)	3.94±0.40		3.25±0.71	
Have you insured your home against natural disasters?					
Yes	67 (33.3)	3.97±0.37	0.18*	3.33±0.63	**0.00***
No	134 (66.7)	3.90±0.41		3.02±0.72	
Do you know what to consider when renting or buying a house?					
Yes	140 (69.7)	3.95±0.41	0.12*	3.27±0.68	**0.00***
No	61 (30.3)	3.86±0.37		2.79±0.66	
Do you know the safe areas in your home or school?					
Yes	144 (71.6)	3.97±0.38	**0.00***	3.29±0.69	**0.00***
No	57 (28.4)	3.79±0.40		2.71±0.57	
Do you know where the campus where you are studying is located in case of an emergency/disaster?					
Yes	85 (42.3)	3.97±0.40	0.07*	3.28±0.77	**0.00***
No	116 (57.7)	3.89±0.39		3.00±0.64	
Are you aware of your department's emergency/disaster preparedness plan?					
Yes	34 (16.9)	3.89±0.56	0.65*	3.57±0.83	**0.00***
No	167 (83.1)	3.93±0.36		3.03±0.65	
Total	201 (%100)				

*Mann-Whitney U test; **Kruskal-Wallis test

TABLE 4: Comparison of students' perceptions of disaster with average disaster risk perception and disaster preparedness scores

Features	Number (%)	Disaster risk perception	p value	Disaster preparedness	p value
Do you know the disaster risks of the region where you study?					
Yes	132 (65.7)	3.96±0.38	0.11*	3.21±0.71	**0.01***
No	69 (34.3)	3.85±0.41		2.95±0.69	
Do you think your environment is prepared for disasters?					
Yes	39 (19.4)	3.79±0.40	**0.00***	3.50±0.61	**0.00***
No	162 (80.6)	3.95±0.39		3.03±0.70	
What do you think could be the most important disaster type specific to Türkiye?					
Earthquake	191 (95)	3.92±0.40	0.46**	3.12±0.71	0.22**
Forest fire	6 (3)	4.00±0.43		3.44±0.73	
Mining accidents	3 (1.5)	3.96±0.22		2.68±0.56	
Flood	1 (0.5)	4.09±0.0		3.41±0.0	
Have you ever been involved in any disaster or emergency situations?					
Yes	29 (14.4)	3.96±0.49	0.39*	3.37±0.71	**0.01***
No	172 (85.6)	3.92±0.38		3.08±0.70	
Please specify the disaster/extraordinary situation/situations you were assigned to					
Earthquake	29 (100)	3.95±0.46		3.35±0.66	
Do you think our country is adequately prepared for disasters?					
Yes	19 (9.5)	3.77±0.25	**0.01***	3.29±0.50	0.23*
No	182 (90.5)	3.94±0.41		3.10±0.73	
Do you think society is aware of disasters?					
Yes	10 (5)	3.76±0.16	**0.02***	3.36±0.52	0.21*
No	191 (95)	3.93±0.40		3.11±0.72	
Are copies of you and your family's important records kept in a disaster-proof location?					
Yes	47 (23.4)	3.90±0.44	0.48*	3.53±0.64	**0.00***
No	154 (76.6)	3.93±0.38		2.99±0.68	
Total	201 (%100)				

*Mann-Whitney U test; **Kruskal-Wallis test

believed that the country was inadequately prepared for disasters. Furthermore, students who perceived their environment and country as unprepared for disasters, and who believed that society lacked disaster awareness, had significantly higher disaster risk perception scores. Similarly, students who were aware of regional disaster risks, had participated in a disaster or emergency activity, and stored important family documents in disaster-resistant locations exhibited significantly higher disaster preparedness scores ($p<0.05$) (Table 4).

CORRELATION BETWEEN STUDENTS MEAN SCORES ON DISASTER RISK PERCEPTION AND DISASTER PREPAREDNESS

The analysis revealed a positive and statistically significant correlation between participants mean disaster risk perception scores and disaster preparedness scores, suggesting that individuals with higher levels of disaster risk perception also tend to demonstrate higher levels of disaster preparedness (Table 5).

TABLE 5: Correlation between students' average disaster risk perception scores and average disaster preparedness scores

	Disaster preparedness	
	r value	p value
Disaster risk perception	0.177	**0.012**[a]

[a]Spearman correlation Coefficient

DISCUSSION

Disasters involve extraordinary situations requiring multidisciplinary teamwork, where healthcare professionals play a key role. Therefore, it is crucial to evaluate their disaster awareness levels starting from graduation.[19] According to literature, with health sci-

ences students found a significant relationship between disaster risk perception and preparedness belief.[8] Okan et al.'s research indicated that emergency health services personnel had a moderate level of disaster preparedness perception.[1] Similarly, Erkin et al. found that nurses had moderate disaster preparedness perception.[20] Another study with emergency aid and disaster management students revealed that disaster attitudes had cognitive, affective, and general sub-dimension scores above the moderate level.[17] This study found a positive, statistically significant relationship between disaster risk perception and preparedness levels among vocational school of health services students ($p<0.05$). The average disaster risk perception score was 3.92±0.40, while the average disaster preparedness score was 3.12±0.71, indicating good levels of both. Female students had higher disaster risk perception scores than male students ($p>0.05$), while male students had higher disaster preparedness scores ($p<0.05$). Ayvazoğlu et al.'s study showed that female students had higher disaster risk perception than male students.[21] Similarly, Aras et al. found higher disaster awareness in female students of the faculty of health sciences. Although this aligns with prior research, the higher disaster risk perception in female students suggests that sociodemographic factors influence disaster risk perception and preparedness.[19] Research indicates that age also impacts disaster risk perception. However, Güldü's study found that disaster awareness differed significantly with sociodemographic factors such as gender, age, and education.[9] Despite these trends, no statistically significant relationship was found between age and disaster risk perception or preparedness in this study, possibly due to the narrow age range of the participants.

Pre-disaster preparedness is essential for minimizing loss of life and property in the event of disasters, and disaster awareness training constitutes a fundamental component of this preparedness. Although disasters cannot be entirely prevented, it is possible to prepare for both natural and human-induced events.[19] The study by Ertuğrul et al. found no statistically significant relationship between students' field of study and their general belief in disaster preparedness at a foundation university.[15] In contrast, Yükseler's study on earthquake awareness identified a significant difference in awareness levels across different academic departments.[22] In the present study, no statistically significant differences were found between students' departments and their disaster risk perception or disaster preparedness scores. However, students in the Elderly Care Program demonstrated higher disaster risk perception scores, while students in the Therapy and Rehabilitation Program exhibited higher disaster preparedness scores. These findings may be attributed to the fact that the majority of participants were 1st-year students who had not yet received formal training in disaster awareness.

Tercan's study demonstrated that disaster education exerts a positive effect on disaster preparedness.[11] Similarly, Ertuğrul's research involving health services vocational school students revealed that individuals who received disaster training exhibited significantly higher basic disaster awareness compared to those without such training.[15] Patel et al.'s report further corroborated that disaster-related training enhances disaster awareness.[3] Although no significant association was identified between disaster training and either disaster risk perception or preparedness scores, a statistically significant difference was observed between the expressed need for disaster training and preparedness scores ($p<0.05$). Moreover, 14.9% of students reported having received disaster training within their academic departments, 62.2% outside their departments, and 63.7% indicated a desire for additional training. Consequently, disaster education plays a critical role in improving disaster risk perception and preparedness, underscoring the necessity of systematically assessing and addressing training needs across all educational levels.

Prior exposure to disasters is recognized as a critical determinant influencing both disaster risk perception and preparedness. Studies by Cui and Han and Tercan have demonstrated that individuals with previous disaster experiences, particularly earthquakes, exhibit heightened risk perception.[23,24] Contrarily, the present study did not identify a significant correlation between students' prior disaster experiences and their levels of disaster risk perception or preparedness, potentially attributable to the participants' limited exposure to disasters before the Febru-

ary 6 earthquake. Avcı's study involving nursing students revealed that although participants possessed knowledge about disasters, both they and their immediate environment lacked preparedness, including the absence of essential resources such as emergency kits.[6] Similarly, Boran and Ulutaşdemir reported that students who underwent disaster and first aid training, maintained emergency kits, and had disaster plans attained higher preparedness scores.[17] Gümüş Şekerci et al. further found that students with personal disaster preparedness measures, such as having an emergency plan and kit, were better informed about local disaster risks and appropriate response strategies.[14] Said and Chiang observed moderate levels of disaster preparedness among nurses, noting insufficient emphasis on psychological readiness.[25] Davis et al. highlighted a lack of motivation among university students to engage in disaster preparedness activities.[26] Turan et al., examining students across 16 departments, concluded that overall disaster planning and risk mitigation preparedness were inadequate.[27] A comprehensive meta-analysis has further established that disaster training, regular review of disaster plans, and participation in drills significantly enhance preparedness levels. Collectively, these findings underscore the imperative to strengthen disaster education and promote individual preparedness planning. Given the high disaster risk profile of our country, enhancing both personal and community-level disaster preparedness is vital to elevate disaster awareness and resilience.

LIMITATIONS

As this study is descriptive in nature, the findings are limited to the university students who participated in the research and cannot be generalized to the broader student population.

CONCLUSION

This study identified an association between university students' disaster risk perception and their levels of disaster preparedness. Male students demonstrated a higher tendency toward disaster preparedness, whereas female students exhibited greater disaster risk perception. Students with prior disaster experience, knowledge of appropriate response actions, awareness of regional disaster risks, possession of an emergency kit, and identification of safe areas within their homes or schools reported higher levels of both risk perception and preparedness. Moreover, students who perceived their environment and country as insufficiently prepared for disasters, and who believed that societal awareness of disasters was lacking, also tended to report heightened risk perception. These findings underscore the critical importance of enhancing disaster education and awareness among young populations as a means of improving preparedness and reducing the potential impacts of future disasters.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Seda İlgün, Özlem Ovayolu, Sema Aytaç;* ***Design:*** *Sibel Serçe, Özlem Ovayolu, Sema Aytaç;* ***Control/Supervision:*** ***Data Collection and/or Processing:*** *Seda İlgün, Özlem Ovayolu, Sema Aytaç;* ***Analysis and/or Interpretation:*** *Sibel Serçe, Seda İlgün;* ***Literature Review:*** *Sema Aytaç, Özlem Ovayolu;* ***Writing the Article:*** *Seda İlgün, Sema Aytaç, Sibel Serçe;* ***Critical Review:*** *Seda İlgün, Sema Aytaç, Özlem Ovayolu;* ***References and Fundings:*** *Özlem Ovayolu, Sibel Serçe;* ***Materials:*** *Seda İlgün, Sema Aytaç.*

REFERENCES

1. Okan F, Kavici Porsuk S, Yıldırım M, Dursun B, Toğuşlu İ, Yanık F. 112 acil sağlık hizmetleri çalışanlarının afetlere hazırlık algısı [Perception of disaster preparedness of 112 emergency health service workers]. Afet ve Risk Derg. 2023;6(2):562-74. DOI: 10.35341/afet.1251028
2. Izquierdo-Condoy JS, Montiel-Alfonso MA, Nati-Castillo HA, Saucedo R, Jaramillo-Aguilar DS, Nanjari-Barrientos C, et al. Knowledge, perceptions, and practices on risks and disasters among medical students. a multicenter cross-sectional study in 9 latin american and caribbean countries. Adv Med Educ Pract. 2023;14:225-35. PMID: 36941904; PMCID: PMC10024465.
3. Patel RK, Pamidimukkala A, Kermanshachi S, Etminani-Ghasrodashti R. Disaster preparedness and awareness among university students: a structural equation analysis. Int J Environ Res Public Health. 2023;20(5):4447. PMID: 36901454; PMCID: PMC10001636.
4. Öztürk G. Türkiye'de risk yönetimi bağlamında afete hazırlıkla ilgili yazılan lisansüstü tezlerin incelemesi [Review of postgraduate theses on disaster preparedness in the context of risk management in Turkey]. J Int Sci Res. 2023;8(3):490-8. doi:10.23834/isrjournal.1350818.
5. Akyüz D, Başaran İ. Afetlerde yerel yönetimlerin rolü. Ases Uluslararası Afet Kongresi; 14-16 Nisan, 2023; Kayseri, Türkiye. p.180-91. https://www.researchgate.net/publication/370471544_AFETLERDE_YEREL_YONETIMLERIN_ROLU
6. Avcı S, Kaplan B, Ortabağ T. Hemşirelik bölümündeki öğrencilerin afet konusundaki bilgi ve bilinç düzeyleri [The level of knowledge and awareness of nursing students about disasters]. Resilience. 2020;4(1):89-101. doi:10.32569/resilience.619897.
7. Dikmenli Y, Yakar H. Öğretmen adaylarının afet bilinci algı düzeylerinin incelenmesi [Examining of preservice teachers' disaster awareness levels]. Van Yüzüncü Yıl Univ J Educ Fac. 2019;16(1):386-416. doi:10.23891/efdyyu.2019.130.
8. Doğru S, Coşkun Z. Sağlık Bilimleri Fakültesi öğrencilerinin afet risk algısı ve afete hazırlıklı olma inanç durumları arasındaki ilişkinin incelenmesi [Investigation of the relationship between disaster risk perception and disaster preparedness belief of faculty of health sciences students]. Afet ve Risk Derg. Dec 2023;6(4):1299-311. doi:10.35341/afet.1321854.
9. Güldü Ö. Afet bilinci ve stresli durumlarla başa çıkma arasındaki ilişkinin belirlenmesi [Determining the relationship between disaster awareness and coping with stressful situations]. Afet ve Risk Derg. Sept 2023;6(3):638-58. doi:10.35341/afet.1286918.
10. Erkal T, Değerliyurt M. Türkiye'de afet yönetimi [Dısaster management of Turkey]. Doğu Coğrafya Derg. 2009;14(22):147-64. https://dergipark.org.tr/tr/download/article-file/26918
11. Tercan B. Afete dirençlilikte bireylerin afetlere hazırlığının incelenmesi: Erzincan ili örneği [Investigation of individuals' preparedness for disasters in disaster resilience: Erzincan province example]. Afet ve Risk Derg. 2022;5(1):261-9. doi:10.35341/afet.1063790.
12. Mızrak S. Afet yönetimi sürecinde risk algısı çalışmalarının katkısı [Contribution of risk perception studies in disaster management process]. Afet ve Risk Derg. Nov 2021;4(2):291-9. doi:10.35341/afet.992959.
13. Ali M, Shah AA, Gong Z. Looking through the lens of schools: children perception, knowledge, and preparedness of flood disaster risk management in Pakistan. International Journal of Disaster Risk Reduction. 2020;50(3). doi:10.1016/j.ijdrr.2020.101907.
14. Gümüş Şekerci Y, Ayvazoğlu G, Çekiç M. Üniversite öğrencilerinin temel afet bilinci ve farkındalık düzeylerinin saptanması [Determination of basic disaster awareness and awareness levels of university students]. Gümüşhane Sağlık Bilim Derg. Mar 2023;12(1):74-81. doi:10.37989/gumussagbil.1136227.
15. Ertuğrul B, Ünal SD. Bir vakıf üniversitesi sağlık hizmetleri meslek yüksekokulunda öğrenim gören öğrencilerin genel afete hazırlıklı olma inanç durumlarının belirlenmesi [Determination of general disaster preparedness beliefs of students studying at a foundation university health services vocational school]. Afet ve Risk Derg. 2020;3(1):31-45. doi:10.35341/afet.653911.
16. İnal E, Kocagöz S, Turan M. Temel afet bilinç ve hazırlık düzeyinin saptanmasına yönelik bir araştırma [Basic disaster consciousness and preparation levels]. Tr J Emerg Med. 2012;12(1):15-9. doi:10.5505/1304.7361.2012.05658.
17. Boran N, Ulutaşdemir N. Acil yardım ve afet yönetimi öğrencilerinin afet farkındalığı ve afetlere yönelik tutumlarının değerlendirilmesi: Gümüşhane ili örneği [Evaluation of emergency aid and disaster management students disaster awareness and attitudes towards disasters: Gumushane province example]. Gümüşhane Sağlık Bilim Derg. 2023;12(1):82-9. doi:10.37989/gumussagbil.1182379.
18. Özdemir A. Toplumun afet risk algısı ve afete hazırlıklı olma durumu Kocaeli İli örneği [Yüksek lisans tezi]. Gümüşhane: Gümüşhane Üniversitesi; 2018. https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=MzP7PYssFqdb3WIjlroAkVJxpZTJJSEOph4u0_ffHWUZDhfL8oUkgAWdWX5wKX-Y
19. Aras M, Mumcu A, Karabey T. Sağlık bilimleri fakültesi öğrencilerinin afet bilinç düzeylerinin belirlenmesi [Determination of disaster awareness levels of faculty of health sciences students]. TOGÜ J Health Sci. 2021;1(2):40-9. https://dergipark.org.tr/tr/download/article-file/2101270
20. Erkin Ö, Aslan G, Öztürk M, et al. Nurses' general disaster preparedness status and affecting factors. Forbes J Med. 2023;4(3):305-14. doi:10.4274/forbes.galenos.2023.32659.
21. Ayvazoğlu G, Çekiç M, Yücel H. Hatay Mustafa Kemal Üniversitesi öğrencilerinin afet risk algısı ve afete hazırlık durumlarının değerlendirilmesi [Evaluation of disaster risk perception and disaster preparedness of Hatay Mustafa Kemal University students]. Sos Bilimler Elektronik Derg. 2020;4(7):85-97. doi:10.29228/sbe.48454.
22. Yükseler M. Çanakkale Onsekiz Mart Üniversitesi sağlık yüksekokulu 1. sınıf öğrencilerinin deprem bilinci bilgi düzeyleri. Unpublished MSc thesis. Çanakkale Onsekiz Mart Univ, Inst Educ Sci; 2019.
23. Cui K, Han Z. Association between disaster experience and quality of life: the mediating role of disaster risk perception. Qual Life Res. 2019;28(2):509-13. PMID: 30251129.
24. Tercan B. Bireylerin afet risk algısının çeşitli değişkenler açısından değerlendirilmesi [Evaluation of individuals' perception of disaster risk in terms of various variables]. Gümüşhane Sağlık Bilim Derg. Sept 2023;12(3):1279-87. doi:10.37989/gumussagbil.1180447.
25. Said NB, Chiang VCL. The knowledge, skill competencies, and psychological preparedness of nurses for disasters: a systematic review. Int Emerg Nurs. 2020;48:100806. PMID: 31685363.
26. Davis CN, Weber MC, Schulenberg SE, Green JJ. University students' disaster preparedness: A focus group study. Best Pract Ment Health. 2019;15(2):29-47. https://www.researchgate.net/publication/335924391_University_Students'_Disaster_Preparedness_A_Focus_Group_Study
27. Turan M, Odabaş L, Çınar Ö, et al. Afet yönetim sürecinde rol alacak paydaşların risk algıları [Risk perceptions of stakeholders which will be a role in the disaster management process]. The Journal of International Scientific Researches. 2021;6(2):152-67. doi:10.23834/isrjournal.909009.