

Levels of hopelessness and self-esteem in health sciences students who experienced an earthquake: Results of the acute period

Sağlık bilimleri fakültesinde okuyan depremi deneyimlemiş öğrencilerde umutsuzluk ve benlik saygısı düzeyleri: Akut dönem sonuçları

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ABSTRACT

This study aimed to determine the levels of hopelessness and self-esteem among students studying in the Faculty of Health Sciences who experienced an earthquake. This descriptive study was conducted with students from a university in Türkiye who experienced an earthquake between April and May 2023. The study included 184 voluntary students who met the study criteria. Data were collected using a questionnaire that assessed the students' socio-demographic characteristics, the Rosenberg Self-Esteem Scale (RSES), and the Beck Hopelessness Scale (BHS). Frequency, percentage, mean, t-test, and ANOVA were used for data analysis, and Pearson correlation analysis was performed to determine the relationship between the scales. A significance level of $p < 0.05$ and a 95% confidence level were considered. It was observed that the self-esteem and hopelessness levels of the students who experienced the earthquake were not influenced by socio-demographic factors or their earthquake experiences ($p > 0.05$). Furthermore, a moderate positive correlation was found between the students' RSES scores and BHS scores ($r = 0.148$, $p = 0.022$). The experience of an earthquake may impact individuals' psychological well-being, emphasizing the need for supportive measures.

Key Words:

Self-Esteem, Earthquake, Student, Hopelessness

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Öz

Bu çalışmada sağlık bilimleri fakültesinde okuyan depremi deneyimlemiş öğrencilerde umutsuzluk ve benlik saygısı düzeylerini belirlemek amaçlanmıştır. Tanımlayıcı türde planlanan bu çalışma, Nisan-Mayıs 2023 tarihleri arasında Türkiye'de bulunan bir üniversitenin depremi deneyimlemiş öğrencileri ile gerçekleştirildi. Çalışma gönüllü ve çalışma kriterlerine uyan 184 öğrenci ile sonlandırıldı. Veriler öğrencilerin sosyo-demografik özelliklerinin sorgulandığı anket formu, Rosenberg Benlik Saygısı Ölçeği (RBSÖ), Beck Umutsuzluk Ölçeği (BUÖ) kullanılarak toplandı. Çalışmada analizler için frekans, yüzde, ortalama, t- testi ve ANOVA testi, ölçekler arası ilişkinin belirlenmesinde Pearson korelasyon testi analizi yapıldı. Anlamlılık düzeyi $p < 0,05$ olarak ve %95 güven düzeyinde kabul edildi. Depremi deneyimleyen öğrencilerin, benlik saygılarının ve umutsuzluk düzeylerinin sosyo-demografik faktörlerden ve depreme yönelik yaşadıkları deneyimlerden etkilenmedikleri görülmüştür ($p > 0,05$). Ayrıca öğrencilerin RBSÖ puanları ile BUÖ puanları arasında orta düzeyde pozitif yönlü ilişki saptandı ($r=0,148$, $p=0,022$). Deprem deneyiminin bireylerin psikolojik sağlığı üzerinde etkisi olabilir ve bu konuda destekleyici önlemlerin alınması gereklidir.

Anahtar Kelimeler:

Benlik Saygısı, Deprem, Öğrenci, Umutsuzluk

INTRODUCTION

Due to their unpredictability, earthquakes are destructive natural events that cause significant human and economic devastation (Clark, 2018). Scientific research indicates that Türkiye, geographically located in an active seismic zone, is prone to earthquakes (Bahadır and Uçku, 2018). Looking at the data related to natural disasters in our country, it is evident that earthquakes are the most impactful disaster, accounting for a high percentage of 58% (Altun, 2018). The earthquake that occurred in the Pazarcık district of Kahramanmaraş and was felt in surrounding provinces falls into the category of major and destructive earthquakes, even being referred to as the “disaster of the century” (Utkucu et al., 2023). Following the earthquake with a magnitude of 7.7 on February 6, 2023, many lives were lost in Kahramanmaraş and 10 other provinces, accompanied by extensive destruction and material losses (Telli-Yamamoto and Altun, 2023).

The concept of “self” refers to the characteristics that an individual sees in themselves, akin to looking at oneself in a mirror. “Self-esteem” encompasses a person’s emotions and thoughts regarding these characteristics. When evaluating their qualities, whether they are satisfied or dissatisfied with the outcome determines their self-esteem (Tekin and Kul, 2023; Efiltili and Çıkılı, 2017).

“Hopelessness” is a state of feeling that a situation or the future will deteriorate or not improve. When a person experiences hopelessness, they may perceive events or themselves negatively and struggle to find solutions. This condition can be associated with other psychological problems like depression, anxiety, and helplessness. Hopelessness is an emotion experienced by many individuals who have difficulty coping with life’s challenges or who are experiencing a downturn in their mood due to adverse events (Şanlı-Kula and Saraç, 2017).

University students are at a crucial stage in becoming adult individuals. During this process, they are required to cope with various challenges, such as determining life goals, establishing new social relationships, and planning their careers. These challenges can increase young individuals’ stress and anxiety levels and lead to various psychosocial adjustment problems (Auerbach et al., 2016).

MATERIALS and METHODS

The Purpose of The Research

Earthquakes can be a challenging experience for individuals, both physically and psychologically. Students may experience issues related to hopelessness and self-esteem following an earthquake. Therefore, this study was designed to determine the levels of hopelessness and self-esteem among university students who have experienced an earthquake.

Study Design

This research has a descriptive and correlational design. It is descriptive in determining self-esteem and hope among health science students and correlational in examining the relationship between self-esteem and hope levels.

Research Questions

What are the levels of hopelessness among students who have experienced an earthquake?

What are the levels of self-esteem among students who have experienced an earthquake?

Is there a relationship between the levels of hopelessness and self-esteem among students who have experienced an earthquake?

Can the levels of hopelessness among students who have experienced an earthquake be associated with demographic factors such as gender, age, and department?

Participants

The population of the research consists of students who experienced an earthquake in the Health Sciences Faculty of a public university in the Western Black Sea region of Türkiye during the spring semester of the 2022-2023 academic year, specifically in April 2023 (N=200). The research did not employ sampling, and the aim was to include the entire population. The study was conducted with 184 students who agreed to participate.

Data Collection Tools

Data were collected using a socio-demographic form prepared by the researchers, the Rosenberg Self-Esteem Scale (RSES), and the Beck Hopelessness Scale (BHS).

Personal Information Form

The form prepared by the researchers consists of 19 questions regarding the socio-demographic characteristics of the students and their experiences related to the earthquake.

Rosenberg Self-Esteem Scale (RSES)

The validity and reliability of the scale were established by Çuhadaroglu (Çuhadaroglu, 1986). In this study, the short form of the Rosenberg Self-Esteem Scale consisting of 10 items was used. Items 3, 5, 8, 9, and 10 are reverse-scored. The scale is a 4-point Likert scale, and scores range from a minimum of 10 to a maximum of 40 (strongly agree=4, strongly disagree=1). Scores between 10-20 indicate low self-esteem, scores between 20-30 indicate moderate self-esteem, and scores between 30-40 indicate high self-esteem. In the present study, the Cronbach's alpha value for the sample was 0.80.

Beck Hopelessness Scale (BHS)

The Turkish validity and reliability study of the scale was conducted by Seber et al., and the Cronbach's alpha coefficient was found to be 0.86 (Seber et al., 1993). The scale consists of 20 true-false statements. For items 2, 4, 7, 9, 11, 12, 14, 16, 17, 18, and 20, a response of "Yes" is scored as 1 point, and for items 1, 3, 5, 6, 8, 10, 13, 15, and 19, a response of "No" is scored as 1 point. A score of "0" is given for other responses. The obtained scores are categorized as: 0-3 Minimal, 4-8 Mild, 9-14

Moderate, and >15 Severe levels of hopelessness¹¹. In this sample, the Kuder- Richardson coefficient was found to be 0.86.

Ethics Committee Approval

Before the study, approval was obtained from the Non-Interventional Clinical Research Ethics Committee of a university (date: 29.03.2023, decision no: 2023/1283). Permissions to use the measurement tools in the study were also obtained. Participants were provided with information about the purpose of the study in accordance with the Helsinki Declaration and were invited to participate voluntarily, obtaining written consent from them.

Statistical Analysis

Data analysis was performed using SPSS 22.0 statistical software package. The normality of the data distribution was evaluated using the Skewness-Kurtosis test, with a range of -1 to +1 considered as normal distribution. Frequency, percentage, mean, t-test, and ANOVA test were used for data analysis in the study. Pearson correlation test was conducted to determine the relationship between scales. The significance level was set at $p < 0.05$, and a confidence level of 95% was accepted.

RESULTS

According to the results of the research, 72.3 % (n=133) of the participants are female students. The average age of the participating students was 20.78 ± 2.56 , and 35.9% (n=66) nursing students. It was determined that 49.5% (n=91) of the students had a balanced economic status between income and expenses, and 55.4% (n=102) of them lived with their families. Among the participants, 59.2% (n=109) had previously experienced a disaster, and 75% (n=138) did not lose any close relatives in the recent earthquake. Additionally, 56.5% (n=104) had not received any disaster training, 86.4% (n=159) did not feel prepared for a potential earthquake, 79.9% (n=147) had not prepared an emergency kit for earthquakes, 88% (n=162) believed that the people around them were not prepared for any disasters, and 80% (n=148) reported that no building site investigation was conducted before the earthquake (Table 1).

Table 1. Demographic characteristics and other information of students (n=184).

Demographic characteristics Other information		Mean-SD (Min- Max)
Age		20.78±2.56 (17-37)
		n (%)
Sex		
Man		51 (27.7)
Women		133 (72.3)
Department		
Midwifery		31 (16.8)
Nursing		66 (35.9)

Physical therapy	60 (32.6)
Child development	27 (14.7)
Disaster Experience	
Yes	109 (59.2)
No	75 (40.8)
Loss of Relatives in Recent Earthquake	
Yes	46 (25.0)
No	138 (75.0)
Received Disaster Training	
Yes	80 (43.5)
No	104 (56.5)
Feeling Prepared for Earthquake	
Yes	25 (13.6)
No	159 (86.4)
Prepared Emergency Kit for Earthquake	
Yes	37 (20.9)
No	147 (79.9)
Was a Building Site Investigation Conducted?	
Yes	36 (20.0)
No	148 (80.0)
Perception of Preparedness of People Around?	
Yes	22 (12.0)
No	162 (88.0)

Statistically significant differences were not found ($p > 0.05$) in terms of students' self-esteem and levels of hopelessness based on department characteristics, disaster experiences, receiving disaster education, and having lost a loved one (Table 2).

Table 2. Results of students' scale scores based on department, disaster experience, and disaster education variables (n=184).

Variable	n	RSES			BHS		
		$\bar{X}\pm SD$	Statistic	p	$\bar{X}\pm SD$	Statistic	p
Department							
Midwifery	31	21.83±5.59	1.015 ^a	0.387	7.25±4.73	0.373 ^a	0.773
Nursing	66	21.53±5.74			7.96±4.96		
Physical therapy	60	20.88±5.56			7.06±4.72		
Child development	27	19.55±5.47			7.59±5.85		
Total	184	21.08±5.62			7.50±4.96		
Disaster Experience							
Yes	110	21.03±5.89	-0.132 ^b	0.895	7.58 ±4.95	0.272 ^b	0.786
No	74	21.14±5.22			7.37±5.01		
Received Disaster Training							
Yes	80	20.72±5.93	-0.753 ^b	0.452	7.28±4.77	-0.558 ^b	0.612
No	104	21.35±5.38			7.66±5.12		
Loss of Relatives in Recent Earthquake							
Yes	47	21.97±6.05	1.270	0.206 ^b	7.31±4.79	-0.289 ^b	0.773
No	137	20.77±5.45			7.56±5.03		

RSES: Rosenberg Self-Esteem Scale; BHS: Beck Hopelessness Scale; a: F One- Way ANOVA; b: Independent t test;

$\bar{X}\pm SD$: Mean±Standard Deviation

In the study, a moderate positive correlation was found between the Rosenberg Self-Esteem Scale scores and Beck Hopelessness Scale scores of healthcare science students ($r = 0.148$, $p = 0.022$) (Table 3).

Table 3. Relationship between self-esteem and hopelessness levels among healthcare science students (n=184)

Rosenberg Self-Esteem Scale		
Beck Hopelessness Scale	r	p
	0.148	0.022

DISCUSSION and CONCLUSION

In this study, the relationship between hopelessness and self-esteem levels among health science students who experienced an earthquake was examined, along with the acute period outcomes of demographic factors such as disaster experience, age, and department. The results showed that the self-esteem and hopelessness levels of students were not influenced by socio-demographic factors or their experiences related to earthquakes. Furthermore, a moderate positive correlation was found between the RSES scores and BHS scores of the students.

Natural disasters are events that have been occurring throughout human history and will continue to happen in the future. Just like they have occurred in the past, these types of disasters will continue to occur in the future (Abay and Abay-Çelik, 2023). Earthquakes are important in understanding the impact of natural disasters on individuals. However, it is often difficult to distinguish whether earthquakes are natural or caused by human activities. Earthquakes can undermine people's sense of safety and control and lead to traumatic experiences. Especially in the aftermath of earthquakes, higher and more prolonged symptoms of post-traumatic stress and anxiety have been observed compared to other disasters (Kuman-Tunçel, 2023).

In this study, it was found that students had a mild level of hopelessness (Table 2). Looking at previous studies, one study included 583 individuals who had experienced a severe earthquake, and the findings indicated that participants experienced hopelessness (Özdemir et al., 2015). Similarly, another study examined the levels of hopelessness among university students who experienced the Van earthquake, and it was observed that students had a mild level of hopelessness (Kardaş and Tanhan, 2018). Thus, encountering traumatic events tends to increase the level of hopelessness in individuals. These findings suggest that experiencing hopelessness after an earthquake may be a common response and highlight the significant psychological effects of earthquakes.

In this study, it was observed that students had a moderate level of self-esteem (Table 2). Various studies on the subject have shown both similar and different results. Tang et al., found in their study with Chinese adolescents who experienced an earthquake (n = 5195) that the decrease in self-esteem had an impact on post-traumatic stress disorder and post-traumatic growth (Tang et al., 2020). Conversely, Wu et al., stated in their study conducted with youth three months after an earthquake that participants generally had a positive self-concept (Wu et al., 2014). These contradictory findings indicate that the effects of an earthquake on individuals are complex, and the effects on self-esteem are multifaceted. This may be because the self-esteem of individuals who have experienced an earthquake can vary

depending on the effects of the earthquake and individual characteristics. For example, factors such as having a supportive social environment and receiving psychological support after an earthquake can positively influence self-esteem. At the same time, the intensity and persistence of traumatic experiences can lead to a decrease in self-esteem.

Another result that was obtained in this study is the moderate positive relationship between students' levels of hopelessness and self-esteem. In contrast to this study, Karabacak Celik's research after the earthquake in Türkiye on February 6, 2023, found a significant negative relationship between trauma symptoms and psychological well-being and levels of hope among adults (Yalçın, 2023). Another study found that increased self-esteem and hope played a role in reducing post-earthquake stress disorder (Zhou et al, 2018).

RESULT

The study results demonstrate a moderate positive significant relationship between self-esteem and levels of hopelessness among students who have experienced an earthquake, which differs from the literature. Additionally, socio-demographic factors and experiences related to the earthquake were found to have no impact on this relationship. The long-term effects of earthquakes may contribute to an increase in individuals' self-esteem and a decrease in their levels of hopelessness. In this context, it is recommended to develop supportive and empowering programs following earthquakes, aiming to enhance students' self-esteem and reduce their levels of hopelessness. Research on the long-term outcomes of earthquakes, conducting studies in different geographical areas, and implementing psychosocial support programs for students are suggested. These programs should aim to improve coping skills for dealing with the psychological effects following an earthquake, strengthen self-esteem, and reduce hopelessness. Additionally, raising awareness and educating about earthquakes can help alleviate students' anxieties and foster hope for the future. By implementing these measures, the psychological well-being of students who have experienced earthquakes can be preserved.

REFERENCES

- Abay, A.R., Abay-Çelik, Z.E. (2023). Problems arising after the earthquake and role of social support networks. *Sociological Context*, 4(1),91-100. doi:10.52108/2757-5942.4.1.7.
- 13.
- Altun, F. (2018). Economic and social impacts of disasters: An evaluation based on the example of Türkiye. *Journal of Social Work*, 2(1),1-15.
- Auerbach, R.P., Alonso, J., Axinn, W.G., Cuijpers, P., Ebert, D.D., and Green, J.G. (2016). Mental disorders among college students in the world health organization world mental health surveys. *Psychological Medicine*, 46(14),2955–2970. doi:10.1017/S0033291716001665.
- Bahadır, H., Uçku, R. (2018). Disasters in the history of the republic of Türkiye according to the international emergency database. *Journal of Natural Disasters and Environment*, 4(1),28-33.
- Clark, K.R. (2018). Imaging earthquake-related injuries. *Radiol Technol*, 89(4),351-367.
- Çuhadaroğlu, F. (1986). Self-esteem in adolescents. [Unpublished Specialty Thesis] Hacettepe University School of Medicine, Department of Psychiatry.
- Efiliti, E., Çikili, Y. (2017). Investigation of self-esteem and occupational self-esteem of special education department. *Journal of Faculty of Education, Abant İzzet Baysal University*, 17(1),99-114.
- Kardaş, F., Tanhan, F. (2018). Examination of posttraumatic stress, posttraumatic growth, and levels of hopelessness in university students who experienced the Van earthquake. *YYU Journal of Education Faculty*, 15(1),1-36. doi:10.23891/efdyyu.2018.60.

- Kuman-Tunçel, Ö. (2023). Earthquake, mass trauma, and aftermath. *Archives of Neuropsychiatry*, 60(2):97-98. doi: 10.29399/npa.28494.
- Özdemir, O., Boysan, M., Özdemir, P.G., and Yılmaz, E. (2015). Relationships between posttraumatic stress disorder (PTSD), dissociation, quality of life, hopelessness, and suicidal ideation among earthquake survivors. *Psychiatry Res*, 228(3),598-605. doi: 10.1016/j.psychres.2015.05.045.
- Seber, G., Dilbaz, N., Kaptanoğlu, C., and Tekin, D. (1993). Hopelessness scale: Validity and reliability. *Crisis Journal*, 1(3),139-142.
- Şanlı-Kula, K., Saraç, T. (2017). Examination of university students' levels of hopelessness: A case of Ahi Evran university. *Eskişehir Osmangazi University Journal of Social Sciences*, 18(1),1-16.
- Tang, W., Wang, Y., Xu, J. (2020). Post-traumatic growth among 5195 adolescents at 8.5 years after exposure to the Wenchuan earthquake: Roles of post-traumatic stress disorder and self-esteem. *Journal of Health Psychology*, 26(13),2450-2459. doi:10.1177/1359105320913947.
- Tekin, I., Kul, D. (2023). The mediating role of self-compassion in the relationship between self-esteem and self-sabotage among university students. *Ege Education Journal*, 24(1),75-89.
- Telli-Yamamoto, G., Altun, D. (2023). The indispensability of online learning after earthquake in Türkiye. *Journal of University Research*, 6(2),125-136.
- Utkucu, M., Durmuş, H., Uzunca, F., and Nalbant, S. (2023). An assessment on the Gaziantep (Mw=7.7) and Elbistan (Mw=7.5) earthquakes on February 6. Sakarya: Sakarya University. 2023. <https://dergipark.org.tr/tr/download/article-file/2954302>. Accessed: May 18, 2023.
- Wu, D., Jiang, X., Ho, K.W., Duan, L., and Zhang., W. (2014). Factors associated with self-concept in adolescent survivors of an 8.0-magnitude earthquake in China. *Nurs Res*, 63(4),278-88. doi: 10.1097/NNR.0000000000000045.
- Yalçın, R.Ü. (2023). Examining the relationship between post-earthquake trauma symptoms, hope, and well-being. *TRT Academy*, 8(18):574-591. DOI: 10.37679/trta.1278289
- Zhou, X., Wu, X., Zhen, R. (2018). Self-esteem and hope mediate the relations between social support and post-traumatic stress disorder and growth in adolescents following the Ya'an earthquake. *Anxiety, stress, and coping*, 31(1),32-45. doi:10.1080/10615806.2017.1374376.