The relationship between midwifery students' attitudes towards e-learning and their future anxiety after 2023 earthquakes in Türkiye

Türkiye'de 2023 depremi sonrası ebelik öğrencilerinin e-öğrenmeye yönelik tutumları ile gelecek kaygıları arasındaki ilişki

Serap Öztürk Altınayak[1], Zümrüt Yılar Erkek[2]

[1]Ondokuz Mayıs University, Faculty of Health Science, Department of Midwifery, Samsun, Türkiye
[2]Gaziosmanpaşa University, Faculty of Health Science, Department of Midwifery, Tokat, Türkiye

ABSTRACT

Aim: Studies on the harm caused to education by earthquakes are limited. How education continues after earthquakes is important. This study aimed to determine the relationship between midwifery students' attitudes toward e-learning and their future anxiety after 2023 earthquakes in Türkiye.
Methods: This study used a cross-sectional research design and was conducted from the 9 to 22 March 2023 with 1026 students from across Türkiye. Data were collected using the online survey method. The data were collected with the Personal Information Form, the E-Learning Attitude Scale University Students Form and the Future Anxiety in University Students Scale.
Results: The total score on the E-Learning Attitude Scale was 33.53±13.78, and the total score on the Future Anxiety Scale was 62.17±13.95. There was a significant negative relationship between the mean scores for these two scales.
Conclusion: The study showed that positive attitudes toward e-learning were low and future anxiety was high. It was found that as attitudes toward e-learning increased positively, future anxiety decreased.

Keywords*:* anxiety; earthquakes; education; learning; midwifery; Türkiye

ÖZ

Amaç: Depremlerin öğrencilerin öğrenimi üzerindeki zararlı etkisi üzerine yapılan çalışmalar sınırlı seviyededir. Deprem sonrası eğitimin nasıl devam ettiği ise önemli bir konudur. Bu çalışma ile Türkiye'de 2023 depreminden sonra ebelik öğrencilerinin e-öğrenmeye yönelik tutumlarının gelecek kaygıları ile ilişkisini belirlemek amaçlanmıştır.
Yöntem: Bu araştırmada kesitsel araştırma deseni kullanılmıştır. Araştırmaya 09.03.2023- 22.03.2023 tarihleri arasında, Türkiye genelinden dahil edilme kriterlerini karşılayan 1026 öğrenci dahil edilmiştir. Veriler çevrimiçi anket yöntemi kullanılarak toplanmıştır. Veriler Kişisel Bilgi Formu, E-Öğrenme Tutum Ölçeği Üniversite Öğrencileri Formu ve Üniversite Öğrencilerinde Gelecek Kaygısı Ölçeği ile toplanmıştır.
Bulgular: Öğrencilerin E-Öğrenme Tutum Ölçeği'nden aldıkları toplam puan 33.53±13.78, Gelecek Kaygısı Ölçeği'nden aldıkları toplam puan ise 62.17±13.95 olarak bulunmuştur. Öğrencilerin E-Öğrenme Tutum Ölçeği ve Gelecek Kaygısı Ölçeği puan ortalamaları arasında negatif yönde anlamlı bir ilişki olduğu bulunmuştur.
Sonuçlar: Çalışmada öğrencilerin e-öğrenmeye yönelik tutumlarının düşük, gelecek kaygılarının ise yüksek olduğu bulunmuştur. Öğrencilerin e-öğrenmeye yönelik tutumları olumlu yönde artıkça gelecek kaygılarının azaldığı saptanmıştır.

Anahtar kelimeler*:* depremler; ebelik; eğitim; kaygı; öğrenme; Türkiye

Introduction

Natural disasters are a problem of both national and international importance, with the potential to affect the physical and psychological health of individuals and communities, having a negative impact on their ability to cope with activities of daily living (Bonanno, 2004). They can also affect socioeconomic progress, social security, relief and recovery initiatives, and the general well-being of societies (Frankenberg et al., 2013).

Because the earth is composed of tectonic plates, there is a constant risk of earthquakes. In recent history, large-scale and destructive earthquakes have occurred in Australia in 1989, Türkiye in 1999, Iran in 2003, Italy in 2009, and Japan in 2011 (Carr et al., 1997; Di Pietro, 2017; Bulut et al., 2005; Nasrabadi et al., 2007). On 6 February, 2023, two major earthquakes occurred nine hours apart, affecting 17 universities and 310,552 students in 10 provinces of Türkiye (Telli & Altun, 2023). As a result of the destruction of many residential areas in the regions affected by these earthquakes, nearly 50,000 people had unfortunately lost their lives by the end of March 2023. In addition, there remain a number of people who are missing and cannot be found. Many people were also left homeless (Telli & Altun, 2023). The earthquakes had a devastating effect in many areas and affected university students in many ways.

On 11 February 2023, due to the effects of the earthquake in Türkiye, the Council of Higher Education decided to complete the spring semester of the 2022-2023 academic year through distance education. On 17 February, it was announced that the spring semester of the academic year would start on 20 February with distance education, that the hybrid option with face-to-face education would be evaluated as of the beginning of April, that face-to-face education would return in some departments, and that the educational process would continue according to the decisions of the institutional management committees. On 30 March, 2023, a decision was published stating that students would be able to switch to face-to-face education along with distance education and that the hybrid education option could also be used (YÖK, 2023). The devastating impact of the earthquakes negatively affected

students in many ways. However, the change in the form of teaching following such events, and the effect of this change on the lives of individuals while continuing their higher education are not well-researched phenomena. Although the harmful effects of natural disasters on psychological functioning and student learning have been reported, there is an insufficient number of studies on the effects of natural disasters (Gigantesco et al., 2013; Ceyhan & Ceyhan, 2007; Davis et al., 2010). There is also evidence in the literature that natural disasters do not necessarily negatively impact overall academic performance outcomes or student enrollment (Kemp et al., 2011; Trip et al., 2018).

Given the prevalence of natural disasters worldwide and the inevitability of their occurrence, it is crucial to consider how the education of students can be supported during such events. In this process, it is important to examine the factors that are effective in distance education (e-learning), one of the methods used in midwifery education, especially since midwifery education programs are applied and interactive programs that also involve actual patients. These factors include the students' attitudes, which are among the most important elements in learning environments (Bordens & Horowitz, 2002). Determining the positive or negative attitudes towards e-learning also facilitates the stages of planning, designing, and implementing the teaching and learning process and the learning environment suitable for this, which enables institutions to achieve their goals, including high-quality education, successful students and permanent learning (Liaw et al., 2007). The capacity to manage the process of continuing higher education beyond the interruption that occurs during and after a major natural disaster is not a well-researched phenomenon. Midwifery students are prepared for the profession in both theoretical and practical ways, throughout university and have a specific program of study. However, the negative impact on their academic learning due to change in their organization a result of an earthquake, and the transition from face-to-face education to e-learning may cause students to have anxiety about the future or for their anxiety to increase. Another issue that may have had an effect on students across Türkiye is the fact that student dormitories in regions that were not directly affected by the earthquake were hosting earthquake victims. Suddenly having different dormitory set-ups and different roommates may also have a negative impact on students. Similarly, changes to the students' daily routines may also affect their anxiety about the future. In addition, there is evidence in the literature that students' anxiety about the future can also have a negative impact on their motivation and attitudes toward education (Hammad, 2016). It is thought that being aware of the extent to which students' future anxiety is affected may be extremely important in terms of how higher education institutions are prepared for and plan for future natural disasters. In this regard, this study was conducted to determine the relationship between midwifery students' attitudes toward e-learning and their future anxiety after the earthquakes.

Methods
Type of study
The study had a cross-sectional design. Data were collected using the online survey method.
Study population and sample
The population of the study consisted of university students studying in midwifery departments in seven regions of Türkiye. The convenience sampling method was used to represent the

whole country and to provide access to the participants, because the location of all the students in the earthquake zone being unknown as a result of some of them moving to stay with relatives or relocating to safe areas. The study was conducted with 1026 midwifery students, who had access to the internet and social networks, volunteered to participate in the study, and completed the data collection form in full.

Data collection method
The data were collected between 9 and 22 March 2023, which was a period close to both the start and end dates of the distance education implemented after 2023 earthquakes in Türkiye. However, some midwifery departments of some universities continued to provide education through online and hybrid learning methods after this period. The questionnaire forms were delivered to lecturers in midwifery departments in each region via Google Forms as an online questionnaire and they were asked to share them with student groups. In designing the form, all necessary information about the research was provided, a button "I voluntarily agree to participate in the research" was added and all participants were asked to fill the questionnaire out only after their consent was obtained. At the same time, it was aimed for each student to fill out the form once, and accordingly, it was adjusted so that the Google form could respond once for each email address from the settings menu.

Data collection tools
The research data were collected with the "Personal Information Form", the "E-Learning Attitude Scale University Students Form" and the "Future Anxiety Scale for University Students".

Personal information form
This form, which was created by the researchers in line with the literature (Geylani & Çiriş Yıldız, 2022; Yarayan et al., 2022; Dursun & Özkan, 2019; Aydın & Çiftel, 2013), consisted of questions about the demographic information of the university students, including their age, year of study, education level, the city where they currently resided, the region where they lived, and their exposure to earthquakes.

E-Learning Attitude Scale University Students Form (ELASUSF)
The ELASUSF developed by Yarayan et al. (2022) consists of 14 items and one dimension. The scale, which is applied to reveal the attitudes of university students toward distance learning, has a five-point Likert-type structure. As the scores of the university students increase, their positive attitudes toward e-learning increase, and as the scores decrease, their attitudes become more negative. The lowest score that can be obtained from the scale is 14, and the highest score is 70. The Cronbach's alpha value of the scale was found to be 0.92 (Yarayan et al., 2022). For this study, the Cronbach's alpha value was found to be 0.94.

Future Anxiety Scale in University Students (FASUS)
This scale, which was developed by Geylani and Çiriş Yıldız (2022), consists of 19 items in total. The five-point Likert-type scale has two sub-dimensions, namely "Fear of the Future (FF)" and "Hopelessness about the Future (HF)". The lowest score that can be obtained from the scale is 43, and the highest score is 71. Although the scale has no cut-off point, as the score obtained from the scale increases, future anxiety increases, and as the score decreases, future anxiety decreases. The Cronbach's alpha value of the scale was reported to be 0.91 (Geylani & Çiriş Yıldız, 2022). For this study, the Cronbach's alpha value of the scale was found to be 0.92.

Ethical considerations

Before conducting the study, approval from the Tokat Gaziosmanpaşa University Social and Human Sciences Research Ethics Committee (Date: 07.03.2023, Number: 04.29). Consent was obtained from the participants before starting the study.

Data analysis

The SPSS for Windows 25.0 program was used for data analysis. Number, percentage, minimum, maximum, median, mean, and standard deviation were used to analyze the descriptive data. In order to determine the normal distribution of the data, kurtosis and skewness values were examined (+1, -1). Mean and standard deviation values were given for normally distributed data. In the evaluation of normally distributed data, t-tests in independent groups and one-way ANOVA were used as parametric tests. Pearson Correlation analysis was used to examine the relationship between the data. In the statistical tests, a 95% confidence interval and $p < 0.05$ were taken as significance levels.

Results

The average age of the students are found to be 21.43±3.02. Some sociodemographic and earthquake-related findings for the students are shown in Table 1.

Table 2 shows the mean scores of the students in terms of the ELASUSF and the FASUS.

A comparison of the ELASUSF and FASUS average scores according to some sociodemographic characteristics of the students is given in Table 3. A statistically significant relationship was found between age and the mean scores for the ELASUSF in the positive direction, and between the mean scores for the FASUS and its sub-dimensions in the negative direction ($p < 0.05$). When comparing the total mean scores of students for the ELASUSF and some sociodemographic characteristics, a statistically significant difference was found between ELASUSF and year of study, and current education system ($p < 0.05$). When comparison of the total mean scores of students for the FASUS, and some sociodemographic characteristics, a statistically significant difference was found between year of study, education level, current education system, region of residence, income status, and earthquake impact status ($p < 0.05$).

The relationship between the mean scores of the students for the ELASUSF and FASUS is shown in Table 4. A statistically significant and negative correlation was found between the mean scores of the students for the ELASUSF and the mean scores for the FASUS and its sub-dimensions ($p < 0.05$). As the mean scores for FASUS and its sub-dimensions, FF and HF, increased, the mean scores for the ELASUSF decreased. At the same time, a statistically significant and positive correlation was found between the mean scores of the students for the FASUS and its sub-dimensions ($p < 0.05$). As the mean scores of FF increased, the mean scores for HF and the total mean scores for the FASUS increased; as the mean scores for HF increased, the mean scores for FF and the FASUS also increased.

Discussion

The study was conducted to reveal the relationship between undergraduate and graduate midwifery students' attitudes toward e-learning and their future anxiety following the earthquake disaster in Türkiye. In this regard, the findings obtained from the research can be a guide for the design and presentation of teaching methods in higher education after future natural disasters. The findings of the study were discussed with similar research results in the literature. However, since there are limited sources on the subject, the findings were discussed with similar or close research findings.

Table 1. Distribution of demographic characteristics of students (n=1026)

Variables	n	%
Year of study		
1st	256	25.0
2nd	193	18.8
3rd	350	34.1
4th	192	18.7
Other	35	3.4
Education level		
License	990	96.5
Master's degree	31	3.0
PhD	5	0.5
Current education system		
Online	831	81.0
Face-to-face	120	11.7
Hybrid	75	7,3
Mother's educational status		
Literate	121	11.8
Primary education	629	61.3
High school and equivalent	217	21.2
University and above	59	5.7
Father's educational status		
Literate	45	4.4
Primary education	470	45.8
High school and equivalent	352	34.3
University and above	159	15.5
Place of residence		
Village	193	18.8
Province	632	61.6
City	201	19.6
Region of residence		
Black Sea	226	22.1
Marmara	120	11.7
Aegean	103	10.0
Mediterranean	225	21.9
Central Anatolia	119	11.6
Eastern Anatolia	113	11.0
Southeast Anatolia	120	11.7
Income status		
Income less than expenditure	293	28.6
Income equal to expenditure	662	64.5
Income more than expenditure	71	6.9
Earthquake impact status		
Not affected at all	426	41.5
Affected a little	166	16.2
Moderately affected	214	20.9
Very affected	220	21.4

Table 2. Students' mean scores for the ELASUSF and FASUS

Scales	Avrg±SS	Median	Min-Max.
ELASUSF			
Total Score	33.53±13.78	14	70
FASUS			
FF	45.14±11.46	13	65
HF	17.03±5.15	6	30
Total Score	62.17±13.95	20	95

ELASUSF: E-learning attitude scale university students form, FASUS: Future anxiety scale in university students, FF: Fear of the Future, HF: Hopelessness about the Future

Table 3. Comparison of the mean scores of students for the ELASUSF and FASUS according to some sociodemographic characteristics

	ELASUSF Total	FASUS FF	FASUS HF	FASUS Total
Age	r=0.219	r=-0.163	r=-0.048	r=-0.151
	p=0.000	p=0.000	p=0.127	p=0.000
Year of study				
1st	29.87±11.56[a]	45.28±10.82[a]	16.95±4.83[a]	62.24±13.45[a]
2nd	32.49±13.58[bc]	46.26±11.12[a]	17.96±5.33[ab]	64.23±14.23[ab]
3rd	34.26±13.83[b]	45.96±11.49[a]	16.97±5.05[a]	62.93±13.51[a]
4th	37.46±15.47[bd]	43.17±12.43[ab]	16.24±5.39[ac]	59.42±14.83[ac]
Postgraduate	37.17±12.79[b]	40.40±9.84[b]	17.34±5.42[a]	57.74±12.88[a]
F	9.874	3.875	2.776	4.107
p	0.000	0.004	0.026	0.003
Education level				
License	33.35±13.69	45.50±11.29[a]	17.01±5.11	62.51±13.83[a]
Master's degree	38.45±16.07	34.29±11.32[b]	17.58±6.15	51.87±13.79[b]
PhD	39.20±14.27	41.20±13.86[ab]	17.00±6.44	58.20±17.62[ab]
F	2.486	15.076	0.182	9.082
p	0.084	0.000	0.834	0.000
Current education system				
Online	32.59±13.42[a]	45.59±11.29[a]	17.28±5.11[a]	62.87±13.73[a]
Face-to-face	38.21±15.07[b]	42.04±12.39[b]	16.15±5.19[ab]	58.19±14.75[b]
Hybrid	36.44±13.84[ab]	45.08±11.13[ab]	15.65±5.16[b]	60.73±14.12[ab]
F	10.698	5.076	5.465	6.398
p	0.000	0.006	0.004	0.002
Mother's educational status				
Literate	32.67±12.48	45.00±10.36	17.14±5.09	62.15±12.80
Primary education	33.27±13.77	45.57±11.64	17.12±4.89	62.70±14.11
High school and equivalent	33.86±14.18	44.14±10.91	16.14±5.38	60.29±13.38
University and above	36.81±14.89	46.49±13.31	16.94±6.50	63.44±16.19
F	1.383	1.512	2.166	1.784
p	0.247	0.210	0.136	0.148
Father's educational status				
Literate	32.11±12.33	47.15±9.21	18.53±4.34	65.68±10.98
Primary education	33.20±13.01	45.69±11.90	17.30±4.89	63.00±13.94
High school and equivalent	34.08±14.68	44.04±10.58	16.85±5.25	60.90±13.36
University and above	33.69±14.38	45.35±12.41	16.16±5.71	61.52±15.70
F	0.446	1.934	2.359	2.610
p	0.721	0.122	0.101	0.051
Place of residence				
Village	30.98±11.38[a]	46.37±11.09	17.07±4.89	63.45±13.35
Province	33.79±14.07[b]	44.50±11.13	17.10±5.09	61.60±13.37
City	35.16±14.68[b]	45.96±12.67	16.75±5.55	62.71±16.12
F	4.863	2.615	0.355	1.484
p	0.008	0.074	0.701	0.227
Region of residence				
Black Sea	33.49±12.84	43.40±10.97[ab]	16.03±4.92[a]	59.43±12.93[a]
Marmara	34.81±15.64	42.08±12.39[a]	15.60±5.58[a]	57.69±15.76[a]
Aegean	33.20±13.74	45.25±11.45[ab]	17.00±4.72[ab]	62.25±12.54[ab]
Mediterranean	32.89±12.27	46.41±11.18[b]	17.88±4.93[b]	64.29±13.50[b]
Central Anatolia	31.81±14.66	45.89±11.46[ab]	16.79±5.04[ab]	62.69±14.02[ab]
Eastern Anatolia	35.91±14.80	45.48±10.38[ab]	17.55±5.33[ab]	63.04±13.29[ab]
Southeast Anatolia	33.28±14.30	46.96±12.09[b]	18.48±5.17[b]	65.45±14.70[b]
F	1.139	3.664	5.955	6.018
p	0.338	0.001	0.000	0.000
Income status				
Income less than expenditure	33.16±13.37	47.94±11.87[a]	18.30±5.21[a]	66.25±14.34[a]
Income equal to expenditure	33.34±13.76	44.06±11.14[b]	16.66±4.99[b]	60.72±13.41[b]
Income more than expenditure	36.87±15.39	43.56±10.82[b]	15.19±5.35[b]	58.76±13.91[b]
F	2.257	12.625	15.619	18.809
p	0.105	0.000	0.000	0.000
Earthquake impact status				
Not affected at all	33.15±13.86	44.09±11.31[a]	16.38±5.05[a]	60.47±14.10[a]
Affected a little	33.77±13.27	43.52±11.05[a]	16.33±4.84[a]	59.85±12.82[a]
Moderately affected	32.42±14.09	45.18±11.73[a]	17.04±5.32[b]	63.23±13.66[a]
Very affected	34.20±13.79	48.33±11.22[b]	17.82±5.15[b]	66.15±13.91[b]
F	0.304	8.127	7.969	10.283
p	0.822	0.000	0.000	0.000

ELASUSF: E-learning attitude scale university students form, FASUS: Future anxiety scale in university students, FF: Fear of the Future, HF: Hopelessness about the Future F: One-way ANOVA; r: Pearson's correlation coefficient; a-d: There is no statistically significant difference between values with the same letter

Table 4. Relationship between the mean scores for The ELASUSF and FASUS

	ELASUSF Total	FASUS FF	FASUS HF	FASUS Total
ELASUSF				
r	1			
p				
FASUS				
FF				
r	-.122**			
p	0.000			
HF				
r	-.177**	.312**		
p	0.000	0.000		
Total				
r	-.165**	.937**	.626**	
p	0.000	0.000	0.000	

ELASUSF: E-learning attitude scale university students form, FASUS: Future anxiety scale in university students, FF: Fear of the Future, HF: Hopelessness about the Future, r: Pearson's correlation coefficient

Recognizing the biological, psychosocial, and environmental effects of a natural disaster is important in order to understand the difficulties and limitations experienced by higher education students. In this context, when the sociodemographic characteristics of the students and the mean scores for the ELASUSF were evaluated, it was found that age, year of study, current education system, and place of residence affected learning attitudes. However, it was found that as the educational status increased, positive attitudes towards e-learning increased. In the literature, it has been stated that when faced with natural disasters, individuals with higher education levels and reliable employment are more likely to show resilience than their counterparts (Chen et al., 2020). In this study, it was found that students who were in their final year and had a postgraduate education had a more positive attitude toward e-learning. This finding is similar to the literature (Durgun et al., 2021; Haznedar & Baran, 2012). This can be explained by the fact that as the level of education increases, the ability of students to adapt to changes and their cognitive skills increase. In addition, the fact that graduate students are working and that e-learning thus helps them in terms of time-saving may have positively affected their attitudes. It has been reported in the literature that universities can be a source of safety, hope, and connection for students after a natural disaster (Mooney et al., 2020). Recent studies have found that permanent university closures unrelated to natural events have negative effects on academic achievement (Brummet, 2014; Engberg et al., 2012). This study showed that students who received face-to-face education in the current education system had a more positive attitude towards e-learning compared to online or hybrid education. This may show that peer learning and support have an effect on this process as well as the socialization of students that occurs in face-to-face or hybrid education. It was also found that students living in metropolitan areas had more positive attitudes towards e-learning, while those living in villages had less positive attitudes. It can be thought that this situation is due to the better infrastructure conditions of urban areas (such as access to the internet, high speed of access to the internet) and easier access to services and opportunities (such as the necessary technological infrastructure and the appropriate environment for e-learning). Similarly, Arslan and Bayram's (2022) study showed a difference between urban districts and villages. This situation was attributed to the fact that the students living in the village had more limited financial means, different home environments, and suffered from the internet infrastructure being less developed. When the situation of being affected by the earthquakes was compared with the attitudes towards e-learning, the attitudes of those who were not affected by the earthquakes towards e-learning were the least positive, while those who were most affected by the earthquakes had the most positive attitudes towards. It can be assumed that this situation was due to the students' desire to continue their education in any way possible, despite being affected by the earthquake, and their unwillingness to leave their families. It can also be explained by the magnitude of the natural disaster experienced by the students and the negative changes in their lives that meant that the change in the learning process did not affect them as much.

When the students' sociodemographic characteristics and future anxiety are evaluated, it is seen that the future anxiety increased as the years of study and education levels decreased. In the literature, it has been found that those who are better educated have better psychological health and more problem-solving skills. (Frankenberg et al., 2013; Amanak et al., 2019). In light of these findings in the literature, it can be said that a higher level of education improves students' psycho-health and problem-solving skills and indirectly reduces their future anxiety. It was found that the future anxiety of students whose current education system was online was higher than that of those in the face-to-face and hybrid groups. In this case, it seems that the students who receive face-to-face education receive peer support while continuing their social life, and having a daily routine may reduce their future anxiety compared to online education. When the income status of the students was evaluated, it was found that the future anxiety of the students whose income was less than their expenditure was very high, suggesting that the students who were already in a difficult economic situation found that it had become even worse with the destructive effect of the earthquakes, and that these students were seriously concerned about their future. Studies examining the role of socioeconomic status in individuals exposed to disasters have also reported that lower socioeconomic status is consistently associated with more future anxiety (Norris et al., 2008; Chen et al., 2020). The future anxiety of students living in Southeastern Anatolia was found to be the greatest. This region was followed by the Mediterranean Region and the Eastern Anatolia Region. Provinces in these three regions were severely affected by the devastating effects of the earthquake (Presidency of the Republic of Türkiye, Presidency of Strategy and Budget Directorate, 2023). Therefore, this was an expected result of the study. It is also thought that this situation, in which the future anxiety of the students who were severely affected by the earthquakes was the greatest, may also have been due to the loss of their relatives, serious economic losses, or the uncertainty caused by the complete and radical change occurring in their lives.

In the first months after the earthquakes, midwifery students' fears about the future increased as their hopelessness increased, and their positive attitudes toward e-learning decreased. This can be explained by the sudden negative effects of the earthquakes and the high-scale destruction they caused, and the students' increased awareness of these negative experiences. The first of these negative effects may be due to the fact that, having received face-to-face training in the first semester with a specific timetable, in the second semester, the students were suddenly forced to use e-learning and their familiar routines changed drastically. In addition, this may also

be a result of this group of students failing academically, especially in applied courses, which they had to learn through e-learning during the COVID-19 pandemic. Another important factor is the fact that the students experienced housing issues, security concern, and nutritional problems in the earthquake region. Their inability to access the resources that form the basis of e-learning, such as computers, the internet, and electricity may also have negatively affected their attitudes towards e-learning and naturally caused them to experience future anxiety. It has been stated in the literature that students have negative attitudes toward e-learning, especially in departments where applied education is carried out, and that a lack of preclinical and clinical experience causes future anxiety in students (Karaaslan et al., 2020; Karagöz & Yıldırım, 2021).

Limitations

Since the participants in this study studied in midwifery departments at the higher education level (undergraduate midwifery education in our country is a four-year process), the generalizability of the findings is also limited. At the same time, since the data was collected approximately one month after the earthquakes, it may provide more reliable results since it was collected after the initial impact of the earthquakes on the students had passed, which is the strength of the research.

Conclusion

The relevance of the findings of this study to all settings and countries is clear when considering the known or potential risks, as natural disasters will always occur around the world. Proactive interventions are important to ensure that academic and administrative staff as well as students learn, recognize and develop the skills required for e-learning.

In this study, it was determined that the student's had negative attitudes towards e-learning and their future anxiety was high, but that as their positive attitudes towards e-learning increased, their future anxiety decreased. In line with the results of this study, it has been shown that changing attitudes towards e-learning so that they are more positive can be beneficial in reducing students' future anxieties. This clearly reveals the importance of the sustainability of education for the professional midwifery development of students in the aftermath of such disasters.

Conflict of Interest

None.

Ethics Committee Approval

The study was approved by the Ethics Committee of Gaziosmanpaşa University Social Sciences Research in Tokat on 07.03.2023. Ethics committee approv no is 04.29.

Informed Consent

In designing the form, all necessary information about the research was provided, a button "I voluntarily agree to participate in the research" was added and all participants were asked to fill the questionnaire out only after their consent was obtained.

Peer-Review

Externally peer-reviewed.

Author Contributions

S.Ö.A.: Literature Search, Study Conception/Design, Data Collection/Analysis, Drafting of Manuscript, İnterpretation, Editing.

Z.Y.E.: Supervision, Critical Review, Study Conception/ Design, Analysis, Editing.

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