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Determination of Life Satisfaction and Good Death Perceptions According to Some Variables for Students Affected and Not Affected by Earthquakes: A Descriptive Research

Depremden Etkilenen ve Etkilenmeyen Üniversite Öğrencilerinin Yaşam Memnuniyeti ve İyi Ölüm Algılarının Bazı Değişkenlere Göre Belirlenmesi: Tanımlayıcı Araştırma

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This study was presented as an oral presentation at 6th International ACHARAKA Congress on Medicine, Nursing, Midwifery, and Health Sciences, March 15, 2024, İzmir, Türkiye.

ABSTRACT Objective: This research was conducted to examine the differences between life satisfaction and good death perceptions according to some variables among university students who experienced and did not experience the earthquake that occurred in Türkiye on February 6, 2023. **Material and Methods:** This research was cross-sectional and relation-seeking in nature and was conducted at a state university from October 2023 to January 2024. A total of 2,039 students, 301 earthquake survivors and 1,738 non-earthquake survivors, participated in the study. The data for the study were collected using a questionnaire, the Concept of Good Death Instrument, and the Contentment with Life Assessment Scale. SPSS 27 package program was used in the evaluation of the data, number, percentage, mean, standard deviation, independent samples t-test and the structural equation model were used in the analysis. **Results:** Of students participating in the research, 14.8% were earthquake victims. The mean age was 20.90±2.92 years. According to the total scores of the Good Death and Life Satisfaction Scale, statistically significant differences were found based on sociodemographic features and factors related to good death among students affected and not affected by the earthquakes ($p<0.05$). The structural equation model revealed a significant negative relationship between good death and life satisfaction among earthquake-affected students ($p<0.05$), whereas a positive and significant relationship was found for students not affected by the earthquake ($p<0.05$). **Conclusion:** The research shows that earthquake impacts significantly affect students' perceptions of good death and life satisfaction. Tailored support programs by nursing institutions and health professionals can enhance resilience and well-being.

Keywords: Disaster; earthquake; death

ÖZET Amaç: Bu araştırma, 6 Şubat 2023 tarihinde Türkiye'de meydana gelen depremi yaşayan ve yaşamayan üniversite öğrencilerinin yaşam memnuniyeti ve iyi ölüm algıları arasındaki farklılıkları bazı değişkenlere göre incelemek amacıyla gerçekleştirilmiştir. **Gereç ve Yöntemler:** Araştırma, Ekim 2023-Ocak 2024 tarihleri arasında bir devlet üniversitesinde yürütülen kesitsel ve ilişkisel bir çalışmadır. Çalışmaya, 301 depremzede ve 1.738 depremzede olmayan olmak üzere toplam 2.039 öğrenci katılmıştır. Veriler, araştırmacılar tarafından hazırlanan anket formu, İyi Ölüm Ölçeği ve Yaşam Memnuniyeti Ölçeği kullanılarak toplanmıştır. Verilerin değerlendirilmesinde SPSS 27 paket programı kullanılmış; analizlerde sayı, yüzde, ortalama, standart sapma, bağımsız örneklem t-testi ve yapısal eşitlik modeli uygulanmıştır. **Bulgular:** Araştırmaya katılan öğrencilerin %14,8'i depremzede olduğunu belirtmiştir. Öğrencilerin yaş ortalaması 20,90±2,92'dir. Depremden etkilenen ve etkilenmeyen öğrencilerin sosyodemografik özellikleri ve iyi ölüme ilişkin faktörlere göre, İyi Ölüm ve Yaşam Memnuniyeti Ölçeklerinin toplam puanları arasında istatistiksel olarak anlamlı farklılıklar bulunmuştur ($p<0,05$). Yapısal eşitlik modeli analizine göre, depremden etkilenen öğrencilerde iyi ölüm algısı ile yaşam memnuniyeti arasında anlamlı ve negatif yönde bir ilişki bulunurken ($p<0,05$), depremden etkilenmeyen öğrencilerde bu ilişki anlamlı ve pozitif yöndedir ($p<0,05$). **Sonuç:** Araştırma, depremin üniversite öğrencilerinin iyi ölüm algısı ve yaşam memnuniyeti üzerinde önemli etkiler yarattığını göstermektedir. Hemşirelik kurumları ve sağlık profesyonelleri tarafından sunulacak ihtiyaçlara özel destek programları, öğrencilerin dayanıklılığını ve psikososyal iyilik hâlini güçlendirebilir.

Anahtar Kelimeler: Afet; deprem; ölüm

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Earthquakes are the leading cause of natural disasters in Türkiye, with nearly 1-5th of earthquakes occurring in the country's tectonic belt.[1] Two large earthquakes on February 6, 2023, centered in Kahramanmaraş, caused significant destruction in 17 provinces, affecting millions of people and causing tens of thousands of deaths.[2] These disasters lead to both material and spiritual damage, causing the most loss of life and property in the country.[3] The aftershocks and collapsed buildings increased fear and anxiety among people, affecting their psychological security and causing situations like anxiety, financial problems, loss, trauma, and fear of death.[4]

After earthquakes, individuals often face fear and death, with studies showing traces and perceptions left by the disaster.[4-6] Over time, the concept of "good death" has emerged, but there is no clear definition. Scientific literature uses terms like "dying well", "dying in peace", "suitable death", "desired death", or "honorable death", sometimes with synonymous or different meanings. This highlights the ongoing evolution of perceptions of death.[7,8]

A good death is a complex concept influenced by various factors, including pain control, individual perception, physical care, family presence, spiritual needs, and cultural preparation.[9] It varies across cultures, individuals, and over time. Though common beliefs exist, opinions about a good death are often unique. Factors such as death anxiety, successive losses due to earthquakes, and the painful aftermath of earthquakes can impact an individual's perception of a good death and their life satisfaction levels.[10] The concept of a good death is influenced by various disciplines, including sociology, medicine, philosophy, theology, and history.[9]

Life satisfaction refers to an individual's satisfaction with their living conditions and finding joy in life.[11] Natural disasters like earthquakes can negatively impact individuals' life dynamics, leading to decreased life satisfaction levels.[12] University students are in the transition period from adolescence to adulthood, a period of development in which they shape their values, identities, and coping skills. Traumatic events such as natural disasters experienced during this period may affect their expectations about life, death, and the future. In this context, it is important to examine the concepts of good death perception and life satisfaction in this group to understand how they cope with existential problems and how they maintain their psychological well-being. While there are studies on good death perceptions and life satisfaction among university students, no study has examined the good death perceptions and life satisfaction of university students affected by earthquakes after the earthquakes.[7,8,13-15] This research aimed to investigate the differences in life satisfaction and good death perceptions among university students affected and unaffected by the February 6, 2023 earthquakes. The results will help develop strategies to increase coping skills for life after earthquakes. The findings could contribute to developing strategies to improve coping skills among students. The research questions were as follows:

1. Are there differences in good death perceptions and life satisfaction between university students who were and were not affected by the earthquakes according to sociodemographic and earthquake-related features?

2. Is there a difference between the effect of good death perceptions on life satisfaction of university students who experienced and did not experience the earthquake?

MATERIAL AND METHODS

RESEARCH AIM AND DESIGN

The research was cross-sectional and relation-seeking with the aim of investigating the correlations between life satisfaction and good death perceptions of university students who were and were not affected by the earthquakes.

RESEARCH POPULATION

The population for the research comprised 15,691 students attending 9 different faculties in Ankara Yıldırım Beyazıt University.

RESEARCH SAMPLE

The study by Bayraktar et al. used the formula $N(t1-\alpha)2\ X2\ /\ S^2(N-1)+(t1-\alpha)2\ X2$ to calculate the sample size for a study with nursing students.[17] According to

the formula, the target was to reach at least 239 earthquake victims, with all voluntary students included in the sample. The study reached 301 earthquake victims and 1,738 students not affected by the earthquakes.[14]

DATA COLLECTION METHODS

For collection of data, the survey form, Concept of Good Death Instrument (CGDI) and Contentment with Life Assessment Scale (CLAS) were used.

Survey Form

Researchers developed a form based on relevant literature, containing 23 questions.[7,8,14] The form included 11 questions about sociodemographic data, 12 questions about earthquakes, and 12 questions about life satisfaction levels before and after the earthquakes. It also included questions about previous experiences of death and feelings about death, including the death of relatives in earthquakes. The form aimed to understand the experiences of earthquake survivors.

Concept of Good Death Instrument

The scale was developed by Schwartz et al. with Turkish validity and reliability studies completed by Fadıloğlu and Aksu).[15,16,18,19] The scale consists of 17 questions and 3 sub-dimensions: psychosocial-spiritual, personal control, clinical. Each statement on the scale has 4-point Likert rating, with points from never (1), a little (2), moderately (3) and a lot (4). The lowest points that can be obtained from the scale are 17, with highest points of 68. Increases in total points received from the scale are evaluated as positive increases in perceptions about good death. In the Turkish validity and reliability study for the scale, the Cronbach's alpha internal consistency coefficient was 0.92.[16] In this study, the Cronbach's alpha internal consistency coefficient was calculated as 0.86.

Contentment with Life Assessment ScalE

This scale was developed by Lavallee et al. with the Turkish validity and reliability study performed by Akın and Yalnız.[11,17,20] The scale has a single dimension and comprises 5 questions. Two items on the scale have inverse scoring. The scale has 7-point Likert rating (1 definitely disagree-7 definitely agree). The minimum points that can be obtained from the scale are 5, with maximum points of 35. High points obtained from the scale show the individual has high life satisfaction levels. In the Turkish validity and reliability study for the scale, the Cronbach's alpha internal consistency coefficient was 0.73.[11] In this study, the Cronbach's alpha internal consistency coefficient was calculated as 0.66. The Cronbach's alpha (α) coefficient values are assessed as not reliable from 0.00-0.40, low reliability from 0.40-0.60, very reliable from 0.60-0.80 and high degree of reliability for 0.80-1.00.[21,22] While this value is somewhat lower, it is still within an acceptable range for ensuring the scale's reliability.

DATA COLLECTION

The research was completed in the Faculty of Health Sciences, Faculty of Political Science, Faculty of Islamic Science, Faculty of Humanities and Social Science, Faculty of Architecture, Faculty of Business Administration, Faculty of Medicine, Faculty of Law and Faculty of Engineering in Ankara Yıldırım Beyazıt University from October 2023 to January 2024. Data were collected by researchers face-to-face in classrooms. Surveys were physically distributed to students and students volunteering to participate in the research were included. The collection of data lasted approximately 15-20 minutes.

ANALYSIS OF DATA

The study used IBM SPSS 27 for data analysis, determining normal distribution of variables using Skewness and Kurtosis values.[18] Parametric tests were conducted according to normal distribution, and the Levene test was used to test homogeneity of variance. Descriptive data analysis involved number, percentage, mean, and standard deviation values. The independent samples t-test was used to compare parameters between earthquake victims and non-earthquake victims. Structural Equation Modeling (SEM) was conducted using the R software environment (version x64 4.2.2). SEM was applied to examine the relationship between Good Death and Life Satisfaction across groups. To evaluate the model fit, multiple goodness-of-fit indices recommended in the SEM literature were calculated. These included the chi-square to degrees of freedom ratio (χ^2/df), the Root

Mean Square Error of Approximation (RMSEA), the Goodness of Fit Index (GFI), the Adjusted Goodness of Fit Index (AGFI), the Tucker-Lewis Index (TLI), the Normed Fit Index (NFI), the Non-normed Fit Index (NNFI), the Comparative Fit Index (CFI), and the Incremental Fit Index (IFI). A significance level of $p<0.05$ was used for all analyses.

ETHICAL ASPECT OF THE RESEARCH

Ethics committee permission was obtained from the Health Sciences Ethics Committee Chair of the Ankara Yıldırım Beyazıt University (research code: 2023-308, date: June 14, 2023; no: 06-308). The research was completed in accordance with the principles of the Helsinki Declaration. Participation was ensured based on volunteerism and desire, and participants were given information about the research topic and then provided written and verbal consent.

RESULTS

Of the students, 14.8% were earthquake victims. The sociodemographic data of students and data related to good death are given in Table 1. The mean age of students was 20.90±2.92 years, 69.9% were women, 98.0% were single, and 53.1% had income equal to expenditure. The majority of students (29.9%) were attending the Faculty of Health Sciences. In terms of previously witnessing death, 61.5% of the students affected by the earthquakes had, while 46.2% of the students not affected by earthquakes had witnessed death. The majority of students, both affected and not affected by the earthquakes, stated they felt negative emotions when they witnessed death (despair, sadness, fear and panic) (47.5%; 49.2%, respectively). Similarly, the majority of students affected and not affected by the earthquakes stated they found the significance of good death to be "very important" (73.1%; 73.4%, respectively). Good death was defined as "an individual ending life with minimum pain" by 55.5% of students who were earthquake victims and 49.0% of students who were not affected by the earthquakes (Table 1).

When the CGDI total scores of students are examined, the total score for students who were earthquake victims was 53.12±7.20, while the total score for students not affected by the earthquakes was 53.22±7.79. The CLAS total scores were 20.35±5.03 for students who were earthquake victims and 21.13±5.17 for students not affected by the earthquakes. Additionally, when the life satisfaction levels of students who were earthquake victims were compared before and after the earthquakes, most students (59.5%) evaluated their life satisfaction before the earthquake as "good", while 48.8% stated their life satisfaction after the earthquakes was "poor".

The differences in CGDI and CLAS scale scores along with sociodemographic features and data related to good death of students affected and not affected by the earthquakes are given in Table 2. Among students who did or did not experience the earthquakes, those aged 26 years and older, living at home, stating the significance of good death was "somewhat important" and defining good death as "an individual living their final period comfortably and peacefully" and those who lost 1st-degree relatives in the earthquake were found to have statistically significant differences in terms of total CGDI scores ($p<0.05$) (Table 2).

Among students affected and not affected by the earthquakes, those aged 17-25 years, staying in dormitories, living alone, attending the faculty of health sciences and faculty of Islamic sciences, previously witnessing death, unable to define what they felt when they witnessed death, seeing the degree of significance of a good death as very important and defining a good death was "individuals ending life with minimum pain", and not losing a relative or 1st-degree relative in the earthquakes had statistically significant differences in terms of total CLAS scores ($p<0.05$) (Table 2).

The model fit indices are detailed in Table 3. The overall goodness of fit was evaluated using several indices: the GFI (which should ideally be above 0.90); the adjusted AGFI (which should exceed 0.85); the NFI (which should be above 0.90); the TLI (which should surpass 0.95); the CFI (which should be greater than 0.95); the IFI (which should also be above 0.95); and the RMSEA (where values between 0.05-0.10 indicate an "acceptable" fit) (Table 3).[19]

According to the structural equation model presented in Table 4, the relationship between good

TABLE 1: Students' sociodemographic characteristics and data on good death

	All students		Earthquake victim students		Students who are not earthquake victims	
	n=2,039	%	n=301	%	n=173	%
Gender						
Female	1,425	69.9	209	69.4	1216	70.0
Male	614	30.1	92	30.6	522	30.0
Age group						
17-25	1,988	97.5	299	99.3	1,689	97.2
26 and over	51	2.5	2	0.7	49	2.8
Marital status						
Married	40	2.0	1	0.3	39	2.2
Single	1,999	98.0	300	99.7	1,699	97.8
Economic situation						
Income is less than expense	560	27.5	99	32.9	461	26.5
Income equals expense	1,082	53.1	151	50.2	931	53.6
Income is more than expense	397	19.5	51	16.9	346	19.9
Location						
Home	1,033	50.7	65	21.6	968	55.7
Dormitory	1,006	49.3	236	78.4	770	44.3
People living together						
Living alone	317	15.5	70	23.3	247	14.2
Living with parents/family	944	46.3	58	19.3	886	51.0
Living with a friend	778	38.2	173	57.5	605	34.8
Faculty						
Health sciences faculty	609	29.9	107	35.5	502	28.9
Faculty of political sciences	148	7.3	11	3.7	137	7.9
Faculty of Islamic studies	179	8.8	9	3.0	170	9.8
Faculty of humanities and social sciences	280	13.7	24	8.0	256	14.7
Business administration faculty	131	6.4	10	3.3	121	7.0
Law faculty	203	10.0	54	17.9	149	8.6
Faculty of medicine	210	10.3	45	15.0	165	9.5
Faculty of engineering and natural sciences	207	10.2	37	12.3	170	9.8
Previously witnessing death						
Yes	988	48.5	185	61.50	803	46.20
No	1,051	51.5	116	38.50	935	53.80
Emotions felt when witnessing death						
Negative emotions (helplessness, sadness, fear, and panic)	998	49.0	143	47.50	855	49.20
I can't identify it	692	33.9	113	37.50	579	33.30
I greet it with a cool head	349	17.1	45	15.00	304	17.50
The degree of significance given to good death						
Very important	1,495	73.3	220	73.10	1,275	73.40
Somewhat important	420	20.6	62	20.60	358	20.60
Not important	124	6.1	19	6.30	105	6.00
Defining good death						
Individuals ending life with minimum pain	1,018	49.9	167	55.50	851	49.00
Individuals living comfortably and peacefully in their final period	571	28.0	72	23.90	499	28.70
Living the last days of the individual with the people he loves	280	13.7	44	14.60	236	13.60
Receiving the best care in the last days of the individual's life	33	1.6	9	3.00	24	1.40
No idea	137	6.7	9	3.00	128	7.40
First degree loss of relatives in earthquake						
Yes	30	1.5	18	6.0	12	0.70
No	2,009	98.5	283	94.0	1,726	99.30
Loss of relatives in the earthquake						
Yes	135	6.6	120	39.90	15	0.90
No	1904	93.4	181	60.10	1723	99.10

TABLE 2: Investigation of the differences between demographic characteristics and information on good death according to scale scores

	Scale	Earthquake Victim Students X̄±SD	Students who are not earthquake victims X̄±SD	t value	p value	EB
Age group						
17-25	CGDI	53.05±7.17	53.22±7.81	-0.355	0.723	-0.022
	CLAS	20.34±4.98	21.07±5.17	-2.279	0.023	-0.143
26 and over	CGDI	63.50±2.12	53.12±7.10	2.043	0.046	1.474
	CLAS	22.00±14.14	22.95±4.86	-0.255	0.939	-0.184
Gender						
Female	CGDI	53.72±6.65	54.15±7.39	-0.775	0.439	-0.058
	CLAS	20.61±4.72	21.30±4.99	-1.844	0.065	-0.138
Male	CGDI	51.75±8.20	51.06±8.25	0.739	0.460	0.084
	CLAS	19.75±5.65	20.73±5.56	-1.556	0.120	-0.176
Economic situation						
Income is less than expense	CGDI	53.74±6.77	53.11±7.81	0.743	0.458	0.082
	CLAS	18.54±5.10	19.54±5.42	-1.680	0.094	-0.186
Income equals expense	CGDI	52.93±7.34	53.31±7.82	-0.558	0.557	-0.049
	CLAS	21.23±4.48	21.34±4.91	-0.255	0.799	-0.022
Income is more than expense	CGDI	52.47±7.62	53.11±7.68	-0.557	0.578	-0.084
	CLAS	21.23±5.55	22.65±4.98	-1.876	0.061	-0.281
Location						
Home	CGDI	51.14±7.29	53.31±7.89	-2.159	0.031	-0.277
	CLAS	20.98±5.30	21.21±5.23	-0.343	0.732	-0.044
Dormitory	CGDI	53.67±7.09	53.10±7.66	1.003	0.316	0.075
	CLAS	20.17±4.95	21.02±5.09	-2.245	0.025	-0.167
People living together						
Living alone	CGDI	52.47±8.58	53.35±7.80	-0.811	0.418	-0.110
	CLAS	19.54±5.26	21.51±5.48	-2.682	0.008	-0.363
Living with parents/family	CGDI	53.59±7.33	53.53±7.83	0.055	0.956	0.007
	CLAS	20.77±4.65	21.12±5.12	-0.507	0.612	-0.069
Living with a friend	CGDI	53.23±6.54	52.71±7.70	0.869	0.385	0.069
	CLAS	20.53±5.04	20.97±5.12	-0.998	0.319	-0.086
Faculty						
Health sciences faculty	CGDI	53.76±6.95	54.37±7.64	-0.765	0.445	-0.081
	CLAS	19.52±4.37	20.98±4.95	-2.831	0.005	-0.301
Faculty of political sciences	CGDI	51.82±6.06	53.34±7.66	-0.643	0.521	-0.201
	CLAS	20.54±4.43	20.45±4.81	0.062	0.951	0.019
Faculty of Islamic sciences	CGDI	54.78±7.32	54.84±7.56	-0022	0.982	-0.008
	CLAS	17.55±4.92	22.23±4.53	-3.006	0.003	-1.028
Faculty of humanities and social sciences	CGDI	53.58±6.63	52.43±7.63	0.718	0.473	0.153
	CLAS	19.41±3.99	20.34±4.89	-0.899	0.370	-0.192
Business administration faculty	CGDI	54.60±3.56	53.06±8.40	0.574	0.272	0.189
	CLAS	20.20±4.10	19.99±6.14	0.105	0.917	0.035
Law faculty	CGDI	53.46±7.36	52.09±7.15	1.201	-1.507	0.191
	CLAS	21.98±5.55	23.27±4.96	-1.587	0.114	-0.252
Faculty of medicine	CGDI	51.60±7.78	52.18±7.46	-0.459	0.646	-0.077
	CLAS	20.88±5.59	22.38±5.34	-1.643	0.102	-0.276
Faculty of engineering and natural sciences	CGDI	51.73±8.22	51.87±8.59	-0.091	0.928	-0.017
	CLAS	20.59±5.76	19.69±5.35	0.914	0.362	0.166
Architecture faculty	CGDI	54.75±8.92	52.07±7.61	0.678	0.500	0.349
	CLAS	24.00±4.96	21.61±5.24	0.886	0.379	0.456

TABLE 2: Investigation of the differences between demographic characteristics and information on good death according to scale scores *(contunied)*

	Scale	Earthquake Victim Students X̄±SD	Students who are not earthquake victims X̄±SD	t value	p value	EB
Previously witnessing death						
Yes	CGDI	53.50±9.19	46.75±7.21	2.137	0.718	0.797
	CLAS	19.38±4.91	20.16±5.09	-0.419	0.042	-0.156
No	CGDI	53.10±7.07	53.26±7.77	-0.343	0.732	-0.022
	CLAS	20.41±5.04	21.13±5.17	-2.186	0.279	-0.140
Emotions felt when witnessing death						
Negative emotions	CGDI	53.72±6.80	54.14±7.46	-0.596	0.552	-0.058
(helplessness, sadness, fear, and panic)	CLAS	20.43±4.94	21.02±5.03	-1.210	0.227	-0.118
I can't identify it	CGDI	52.88±6.93	53.15±7.70	-0.345	0.730	-0.035
	CLAS	19.90±5.07	21.25±5.08	-2.580	0.010	-0.265
I greet it with a cool head	CGDI	51.47±8.43	50.64±8.64	0.597	0.551	0.095
	CLAS	21.44±4.91	21.43±5.63	0.012	0.991	0.002
The degree of significance given to good death						
Very important	CGDI	53.99±6.74	54.72±7.23	-1.410	0.159	-0.103
	CLAS	20.40±4.95	21.21±5.19	-2.154	0.031	-0.157
Somewhat important	CGDI	51.98±7.23	49.20±7.35	2.764	0.006	0.380
	CLAS	19.90±5.24	21.03±4.92	-1.648	0.100	-0.227
Not important	CGDI	46.79±8.87	48.67±9.09	-0.831	0.408	-0.207
	CLAS	21.26±5.34	20.48±5.79	0.544	0.587	0.136
Defining good death						
Individuals ending life with minimum pain	CGDI	53.82±6.58	53.20±8.044	0.936	0.286	0.079
	CLAS	19.82±4.90	21.01±5.25	-2.72	0.007	-0.230
Individuals living comfortably and	CGDI	50.65±7.16	53.45±7.05	-3.141	0.002	-0.396
peacefully in their final period	CLAS	20.59±4.85	21.18±5.03	-0.930	0.353	-0.117
Living the last days of the	CGDI	53.77±7.79	53.58±7.53	0.154	0.877	0.025
individual with the people he loves	CLAS	21.84±5.03	21.81±4.74	0.029	0.977	0.005
Receiving the best care in the	CGDI	55.11±9.54	53.92±8.91	0.337	0.739	0.132
last days of the individual's life	CLAS	19.66±7.95	22.37±5.21	-1.147	0.364	-0.448
No idea	CGDI	54.67±10.01	51.64±8.91	0.976	0.331	0.337
	CLAS	21.66±4.60	20.15±5.77	0.767	0.445	0.264
First degree loss of relatives in earthquake						
Yes	CGDI	53.50±9.19	46.75±7.21	2.137	0.041	0.797
	CLAS	19.38±4.91	20.16±5.09	-0.419	0.679	-0.156
No	CGDI	53.10±7.07	53.26±7.77	-0.343	0.732	-0.22
	CLAS	20.41±5.04	21.13±5.17	-2.186	0.029	-0.140
Loss of relatives in the earthquake						
Yes	CGDI	52.60±6.99	52.53±8.99	0.034	0.973	0.009
	CLAS	20.41±4.74	20.86±3.48	-0.355	0.723	-0.097
No	CGDI	53.46±7.33	53.23±7.78	0.395	0.693	0.031
	CLAS	20.30±5.22	21.13±5.18	-2.028	0.043	-0.158

SD: Standard deviation; EB: CGDI: Concept of good death instrument; CLAS: Contentment with Life Assessment Scale

death and life satisfaction among earthquake-affected students is negative and significant ($p<0.05$). In contrast, for students who were not affected by the earthquake, the relationship between good death and life satisfaction is positive and significant ($p<0.05$) (Table 4).

TABLE 3: Fitting indicators of the models									
	χ^2/df	RMSEA	GFI	AGFI	TLI	NFI	NNFI	CFI	IFI
Earthquake victim students	4.003	0.100	0.948	0.920	0.918	0.905	0.918	0.927	O.927
Students who are not earthquake victims	4.805	0.047	0.990	0.984	0.981	0.980	0.981	0.984	0.984

RMSEA: Root Mean Square Error of Approximation; GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index; TLI: Trucker-Levis Index; NFI: Normed Fit Index; NNFI: Non-normed Fit Index; CFI: Comparative Fit Index; IFI: Incremental Fit Index;

TABLE 4: Investigation of Life satisfaction level and perceptions of good death with structural equation modeling				
		Unstandardized estimate	Standardized estimate	p value
Earthquake victim students	GD->LS	-0.140	-0.072	**<0.001**
Students who are not earthquake victims	GD->LS	0.156	0.093	**<0.001**

GD: Good death; LS: Life satisfaction

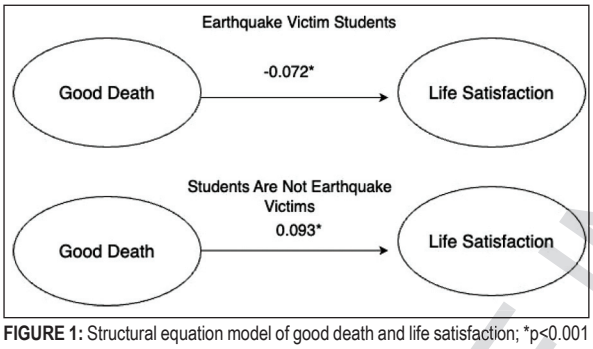

FIGURE 1: Structural equation model of good death and life satisfaction; *p<0.001

DISCUSSION

The study found that students had moderate levels of good death perceptions, regardless of whether they experienced earthquakes or not. This finding aligns with previous studies on students' perceptions of good death.[7,14] The psychological damage caused by earthquakes affected students, as destroyed buildings and dramatic images from the aftermath were widely published. This negatively affected individuals not experiencing the earthquakes in psychological terms, as it deeply affected those who were victims.[20] These situations may be associated with similar perceptions about good death after earthquakes, regardless of whether students experienced the earthquakes or not. The findings suggest that the psychological impact of earthquakes on students may be similar.

On February 6, 2023, 2 massive earthquakes occurred, causing the collapse of thousands of buildings, tens of thousands of deaths, and the loss of relatives.[21] This destruction was traumatic for individuals, leading to loss and grieving processes. Those who experienced the earthquakes witnessed these processes personally, while those not directly affected by the earthquakes dominated the media.[4] A study found that students who did not experience the earthquakes and defined a good death as living their final period in comfort and peace had higher good death perceptions. This suggests that those who did not experience the earthquakes were affected by the death of those who lost their lives in the earthquakes when defining good death.

The research reveals that students experienced negative emotions such as sadness, despair, fear, and pain when they witnessed death. The traumatic effects of the February 6, 2023 earthquakes were deeply felt by all people, even those who did not directly experience the event.[4] People who lived through the earthquakes experienced increased fear and panic due to aftershocks and the perception of an earthquake occurring at any moment.[12] This was also observed in students who did not personally experience the earthquakes. The social dimensions of the earthquakes and media played a significant role in affecting the emotional experiences of individuals, suggesting that media and social perceptions played a crucial role in the psychological impacts of earthquakes.[10,20]

Good death is defined in various ways, including a comfortable, pain-free, and peaceful death, where

the individual is with loved ones in their last moments, says goodbye, and dies where they want.[7,8] In a study by students, the majority defined a good death as individuals ending life with minimum pain.[14] This common perspective on comfort and peace in the final moments of life, independent of personal experience or trauma, suggests that it is a common priority for humanity.

In this study, students who did and did not experience the earthquakes were found to have total CLAS scores that were very close. The study by Çağatay found that life satisfaction levels were affected by the February 6, earthquakes, regardless of whether individuals personally experienced or witnessed them.[12] The impacts of earthquakes extend beyond physical damage, affecting social relationships, feelings of security, and living conditions. This situation may cause similar psychological effects in individuals who experienced or witnessed the earthquakes.[12] Therefore, the social and psychological environment created by the earthquakes may contribute to the similarities in life satisfaction levels, just as much as the direct effects of the earthquakes.

The study found that students living at home without experiencing earthquakes had higher good death perceptions. This finding is consistent with a study by Kırman that found that those who didn't experience the earthquakes, such as those away from the news, met their needs, and lived in warm homes, felt guilt.[4] The debris-filled scenes and people without houses on the news caused these individuals to feel pain and guilt, suggesting that the high good death perceptions of those living at home may be associated with this situation.

In this study, individuals who previously witnessed death and experienced the earthquakes were found to have lower life satisfaction levels. Research by Yukay Yüksel et al. investigating the death anxiety of adults, determined that individuals witnessing the death of a relative experienced more intense death anxiety.[22,27] These findings lead to consideration that death anxiety increases and hence life satisfaction levels reduce due to individuals experiencing destructive disasters like earthquakes coming face-to-face with death.

In this study, students attending the faculty of Islamic sciences and not experiencing the earthquakes had higher levels of life satisfaction. A study by Köse and Küçükcan after the Marmara earthquake stated that religious beliefs and worship were effective in making sense of the earthquake and coping with anxiety.[28] Individuals with high religious beliefs are able to give meaning to loss and disasters and it appears the acceptance of loss is accelerated by belief in Allah and the afterlife. For this reason, religion may be said to provide positive emotions in terms of mental health like optimism and hope among individuals experiencing disasters.[23] For this reason, it is thought that the high life satisfaction among students of Islamic sciences may be due to high coping skills for the negative impacts of disasters like earthquakes.

When the findings are investigated, students of both the faculty of health sciences and faculty of Islamic sciences appeared to have higher good death perceptions. This finding is thought to be due to students attending both these faculties being interested in "people", having high levels of empathy and mercy, and the meaning they give to death.[24,25] When previous studies with health science faculty students are examined, students appeared to have high good death perceptions and find good death important.[7,26] These findings are in parallel with this study. Additionally, students who did and did not experience the earthquakes and attended the faculty of Islamic sciences had very close good death total scores and high good death perceptions. Religious beliefs provide spiritual support and consolation to individuals in making sense of death and reduce anxiety and fear about death.[27] This support may contribute to the psychological and emotional healing process of individuals after traumatic events like earthquakes. For this reason, students who were victims of the earthquakes may preserve their death perceptions due to religious beliefs.

Research indicates that depressive feelings can reduce life satisfaction, and psychiatric disorders like mixed grief, major depressive disorder, and post-traumatic stress disorder often occur after natural disasters like earthquakes.[7,28] In a study, individuals affected by earthquakes and losing a relative experienced lower life satisfaction levels. Factors such as

closeness to the deceased, previous expectations, and cause of death also impact the intensity of the grieving process.[29] However, students who lost a 1st-degree relative had higher perceptions about good death, which suggests they developed a deeper understanding of the end of life and the meaning of death after traumatic losses. This higher perception of good death suggests that students developed more positive attitudes towards death and accepted it as an unavoidable part of life, which may help them manage loss and grief processes and find more satisfaction and meaning in life.

The study reveals that life satisfaction decreases as perceptions of good death increase in students who experienced an earthquake, while it increases in students who did not. This difference is crucial in understanding the impact of traumatic events on individuals' perceptions of good death and life satisfaction. Traumatic experiences like earthquakes can influence individuals' perceptions of good death in various ways. The effect of good death perception on life satisfaction may be related to the nature of the trauma experienced and reactions to this trauma. Sudden and unexpected events like earthquakes can make it difficult for individuals to make sense of meaning-making processes, leading to a decrease in life satisfaction.[30] The magnitude of losses experienced and the definition of these losses as bad death may negatively affect life satisfaction. The negative impact of increased perceptions of good death on life satisfaction in students who experienced an earthquake can be attributed to the intensifying effect of earthquake-related trauma on thoughts about death.

On the other hand, it was determined that life satisfaction increased with the increase in perceptions of good death in students who did not experience the earthquake. There are findings in the literature that a more positive perspective on death can improve the quality of life of individuals and make them feel more peaceful.[31] These findings suggest that individuals who have not experienced a traumatic experience such as an earthquake may increase their life satisfaction as their perception of good death increases, thus positive thoughts about death may contribute to their life satisfaction.

CONCLUSION

In conclusion, the findings of this study reveal the different effects of traumatic experiences on individuals' perceptions of good death and life satisfaction. These findings emphasize the importance of psychosocial support and interventions for individuals after trauma and show the effects of good death perception on life satisfaction.

This research revealed the effects of the February 6, 2023 Kahramanmaraş earthquakes on life satisfaction and good death perceptions of university students from the disaster area and living in Ankara. The results of this research show that impacts of the earthquakes shaped the good death perceptions of all students and impacted their life satisfaction levels. In light of this study, it is important that universities and relevant institutions increase psychosocial support and guidance services for students after natural disasters like earthquakes. In this context, nursing education institutions and relevant health professionals may significantly contribute to increasing social resilience to disasters and individual welfare by developing specialized support programs targeting increased coping with good death perceptions and life satisfaction for students after natural disasters like earthquakes. Additionally, it is recommended to perform more research about this topic in the nursing discipline and to perform studies investigating the effects of different disaster types and sociodemographic factors in relation to disasters. This study reveals that the relationship between good mortality and life satisfaction differs between students affected by the earthquake and those who are not. These differences provide important clues about how traumatic experiences shape individuals' perceptions of life satisfaction and death. In this context, it is important to consider these findings in order to better understand the relationship between good mortality and life satisfaction and to contribute to future studies in this area.

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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.

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