

Identifying the Levels of COVID-19 Fear, Perceived Stress, and Psychological Resilience of the University Students Enrolled at the Health Programs

Fatma Tok Yıldız¹  , İlknur Yıldız² 

¹Vocational School of Health Care Services, Sivas Cumhuriyet University, Sivas, Turkey

²Nursing Department, Faculty of Health Sciences, Sivas Cumhuriyet University, Sivas, Turkey

Fatma TOK YILDIZ
İlknur YILDIZ

Correspondence: Fatma Tok Yıldız
Vocational School of Health Care Services, Sivas Cumhuriyet University, Sivas, Turkey
Phone: +903464871983
E-mail: fatmatok@yahoo.com

Received: 18 July 2022
Accepted: 22 February 2023

ABSTRACT

Purpose: All people especially students are affected psychosocially due to reasons such as distance education, uncertainty, loneliness during the COVID-19 pandemic. This study was performed to identify the levels of COVID-19 fear, perceived stress, and psychological resilience of the university students studying at health programs.

Methods: A total of 518 students participated in this descriptive study. The research data were collected using the Descriptive Characteristics Form, the Fear of COVID-19 Scale, the Perceived Stress Scale-10, and the Brief Resilience Scale.

Results: The participant students had medium-level COVID-19 fear, perceived stress, and psychological resilience. It was found that the gender, having a family member who had COVID-19, and not having a family member who died of COVID-19 affected the participant students' levels of COVID-19 fear, perceived stress, and psychological resilience.

Conclusions: The COVID-19 pandemic affected the health professional candidates' fear, stress, and psychological resilience. The initiatives can be planned to reduce the negative effects of the pandemic and enhancing coping skills of university students studying in health programs.

Keywords: COVID-19, fear, stress, psychological resilience, student

Sağlık Programlarında Okuyan Üniversite Öğrencilerinin Covid-19 Korkusu, Algılanan Stres ve Psikolojik Sağlamlık Düzeylerinin Belirlenmesi

ÖZET

Amaç: COVID-19 pandemisi sürecinde uzaktan eğitim, belirsizlik, yalnızlık gibi nedenlerle öğrenciler başta olmak üzere tüm insanlar psikososyal olarak etkilenmektedir. Bu çalışma, sağlık programlarında okuyan üniversite öğrencilerinin Covid-19 korkusu, algılanan stres ve psikolojik sağlamlık düzeylerini belirlemek amacıyla yapılmıştır.

Yöntem: Tanımlayıcı tipteki çalışmaya 518 öğrenci katılmıştır. Araştırma verileri Tanıtıcı Özellikler Formu, Covid-19 Korkusu Ölçeği, Algılanan Stres Ölçeği-10 (ASÖ-10) ve Kısa Psikolojik Sağlamlık Ölçeği (KPSÖ) kullanılarak toplanmıştır.

Bulgular: Öğrencilerin Covid-19 korkusu, algıladıkları stres ve psikolojik sağlamlıkları orta düzeydedir. Cinsiyet, ailesinde Covid-19 hastası olması ve Covid-19 nedeni ile ölüm olmamasının, Covid-19 korkusu, algıladıkları stres ve psikolojik sağlamlık düzeylerini etkilediği belirlenmiştir.

Sonuçlar: Covid-19 pandemisi, sağlık profesyoneli adaylarının korku, stres ve psikolojik sağlamlıklarını etkilemiştir. Sağlık programlarında okuyan öğrencilerde pandeminin negatif etkilerini azaltmaya ve baş etme becerilerini artırmaya yönelik girişimler planlanabilir.

Anahtar kelimeler: Covid-19, korku, stres, psikolojik sağlamlık, öğrenci

The COVID-19 disease that emerged in China in December 2019 took hold of the entire world in a short period of time, and, on 11 March 2020, it was declared that the disease turned to be a pandemic (1). Along with the identification of COVID-19 cases in Turkey, to prevent the pandemic from spreading, certain restrictions that affected daily life were implemented by taking several measures across the country. It was stated that the sudden change in life due to the pandemic and the measures taken alongside the pandemic caused the individuals and societies to have psychological problems such as fear, worry, and stress (2, 3). The feeling of fear experienced due to the pandemic had moderate and severe psychological effects on people (4- 7). The feeling of fear that emerges as a response to a real or perceived threat is one of the most prevalent consequences of the COVID-19 pandemic (8). It is considered that psychological resilience played a significant role in coping with this stressful process caused by the pandemic (3, 9). To control the spread of the pandemic, the distance education model was implemented instead of face-to-face instruction in Turkey as of 23 March 2020 (10). In this process, university students are faced with certain restrictions related to the change in their daily lives, distance education, academic delays, and social life (4, 11). In the relevant literature, it was identified that the university students felt fear, intolerance for uncertainty (12, 13), stress (14) anxiety (11), and loneliness (15) in association with the COVID-19 pandemic.

In Turkey, the vocational school of health services affiliated with the universities offers two-year associate programs in the field of health (16). To continue both forms of education during the process of the pandemic, theoretical courses and occupational practices were presented online in the spring and fall semesters of 2020. It is considered that the university students who were simultaneously faced with online education and pandemic for the first time could feel fear, stress, and anxiety and, in association with this situation, their psychological resilience would be undermined. It is predicted that the university students enrolled at the health programs can have these feelings more intensely as they are prospective health workers and their clinical practices are affected by the pandemic. Therefore, this study was performed for identifying the levels of COVID-19 fear, perceived stress, and psychological resilience of the university students enrolled at the health programs.

METHODS

Design

This research was designed as a descriptive study for identifying the levels of COVID-19 fear, perceived stress, and psychological resilience of the students enrolled at the Vocational School of Health Services of a University in Turkey.

Sampling and Participants

The population of this research was comprised of all students (n=3436) enrolled at the Vocational School of Health Services of a University in the fall semester of the academic year of 2019-2020. The research sample was made up of 518 students who attended the school via online education between 5 January 2021- 20 January 2021 and volunteered to take part in the research. The research sample was selected through the simple random sampling method that was a non-probability sampling technique. As a result of post-hoc analysis with G*Power (3.1.9.7 version), the power of the study was found to be 99% at 95% confidence interval. In this method, the researchers can easily perform the sample selection and the selected sample group is assumed to be ready for the application (17). This is the most preferred method in cases when the participation in the research is on a voluntary basis (18).

Measurements

The research data were collected by using the Descriptive Characteristics Form, the Fear of COVID-19 Scale, the Perceived Stress Scale-10, and the Brief Resilience Scale.

Descriptive Characteristics Form: In the form, there are questions about the participant students' descriptive characteristics (eight questions) and COVID-19 (three questions).

Fear of COVID-19 Scale (FCV-19S): The scale was developed by Ahorsu, et al (2020), and Satıcı, et al (19) adapted the scale to Turkish and performed the validity and reliability test for it. The scale items are scored through a 5-point Likert scale from one to five points (1- I absolutely disagree, 5- I absolutely agree). The scale has no reverse-scored item. The minimum and maximum scores to be obtained from the scale are respectively 7 and 35 points. A high score to be obtained from the scale indicates that the level of COVID-19 pandemic fear is 'high'. In the validity and reliability test performed for the scale in Turkish, the Cronbach alpha coefficient was found as 0.82. In this study, the Cronbach alpha coefficient was calculated as 0.80 for the scale.

Perceived Stress Scale-10 (PSS-10): The scale that was developed by Cohen, et al (20) and originally called 'Perceived Stress Scale' was adapted to Turkish by Eskin, et al (21) The scale has three different versions composed of 14, 10, and 4 items. In this study, the version composed of 10 items (PSS-10) was used, and the Cronbach alpha coefficient calculated for this version was 0.82. The scale was developed for measuring how unpredictable, uncontrollable, or overburdened the person perceived his/her life. It is a 5-point Likert-type scale (1- never, 2- almost never, 3-sometimes, 4- frequently, 5- very frequently), and its four items are reverse-scored (items 4, 5, 7, and 8) while its six items are straight-scored (items 1, 2, 3, 6, 9, and 10). The minimum and maximum scores to be obtained from the scale are successively 0 and 40 points. A high overall score to be obtained from the scale demonstrates that the respondent has high-level perceived stress (21). The Cronbach alpha coefficient was calculated as 0.77 for the scale under this study.

Brief Resilience Scale (BRS): The scale was developed by Smith, et al (22) for measuring the individuals' potential to pull themselves together and their psychological resilience levels. The validity and reliability test for the scale was performed in Turkish by Doğan (23). It is a self-report tool designed as a 5-point Likert-type scale composed of six items that are scored from one to five points (1- absolutely inappropriate, 5- absolutely appropriate). Items 2, 4, and 6 are reverse-scored under the scale. A high score to be obtained from the scale indicates that the respondent has high-level psychological resilience. In the study by Doğan (23), the Cronbach alpha coefficient was calculated as 0.83 for the scale. In the current study, Cronbach's α coefficient of the scale was calculated as 0.83, too.

Statistical Analysis

The data obtained from the research were evaluated through SPSS 22.0. In the statistical evaluation of the research data, numbers, percentages, and means were utilized. Whether the research data had normal distribution was analyzed through the Kolmogorov-Smirnov test. As the research data did not meet the parametric conditions, the Mann-Whitney U test was used for the two independent groups whilst the Kruskal-Wallis test was utilized for more than two independent groups. Spearman's correlation coefficient was used in the identification of the associations between the variables. Statistical significance was identified if the P-value was lower than 0.05 ($p < 0.05$)

Ethical Approval

Before the research, the ethical endorsement was obtained from Research Ethics Committee of a University (Sivas Cumhuriyet University; Decision No:2020-12/04; Date:16.12.2020), and also the permission to conduct the research was received from the relevant institution. Subsequently, the online survey form and the survey link to be shared were created by the researchers through Google. This link was shared with the students by e-mail. The students expressed their consent to participate in the research via the online form. Information about the survey was also given in the introductory explanation in the online survey form.

RESULTS

The mean age of the participant students is 20.40 ± 2.42 years (Min=18, Max=40), and 77.2% of them are female and 51% of them are first-year students. 62.0% of the participants live in the city. The participants' fathers of 58.9% and mothers of 71.0% are primary-secondary school graduates. Of all participant students, 79.7% have an internet connection at home, and 95.2% have a smartphone, computer, or tablet at home (Table 1). It was found that 'internet' was ranked by 79.5% of the participant students at the top among the sources of information about COVID-19 (Figure 1). It was ascertained that 24.9% of the participant students enrolled at the university-level health programs had a family member who had COVID-19 (Figure 2), and 6% of these individuals who had COVID-19 died (Figure 3).

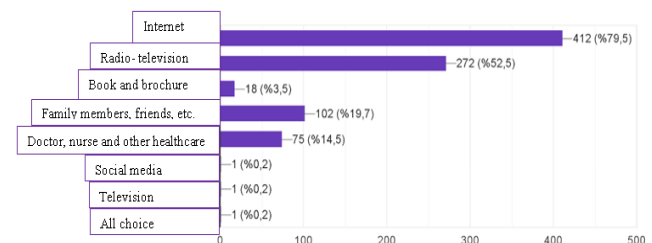


Figure 1. Distribution of students according to sources of information on Covid-19

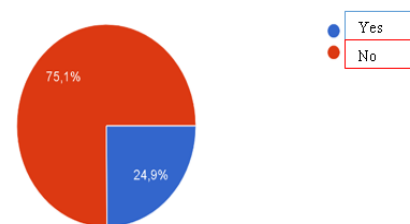


Figure 2. Distribution of students by family having Covid-19

Table 1. The descriptive characteristics of students' (n=518)

Age \bar{X} : 20.40±2.42 (Min=18, Max=40)		n (%)
Gender		
Female		400 (77.2)
Male		118(22.8)
Grade		
First-year students		254 (49.0)
Second-year students		264(51.0)
Where she/he lives		
City		321(62.0)
Town		123(23.7)
Village		74(14.3)
Father's educational status		
Illiterate		7 (1.4)
Literate with no formal degree		7 (1.4)
Primary-secondary school		305(58.9)
High school		138(26.6)
University		61 (11.8)
Mother's educational status		
Illiterate		46(8.9)
Literate with no formal degree		26(5.0)
Primary-secondary school		368(71.0)
High school		67(12.9)
University		11(2.1)
Having internet at home		
Yes		413(79.7)
No		105(20.3)
Having a smartphone, computer or tablet at home		
Yes		493(95.2)
No		25(4.8)

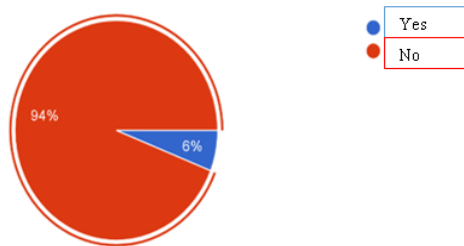


Figure 3. Distribution of students by death due to Covid-19 in the family

It was discerned that the participant students enrolled at the university-level health programs obtained medium-level mean scores from the FCV-19S, PSS-10, and the BRS (Table 2). It was identified that there were statistically significant differences in the means of participant students' FCV-19S, PSS-10, and BRS scores as per some of their descriptive characteristics. It was found that the female students had higher means of FCV-19S, PSS-10, and BRS scores than the male students and these differences were statistically significant ($p < 0.05$). It was discerned that the participant students having a family member who had COVID-19 had a lower mean of FCV-19S scores than those having no family member who had COVID-19 and this difference was statistically significant ($p < 0.05$). Moreover, it was identified that the participant students having no family member who died of COVID-19 had a higher mean of PSS-10 scores than those having a family member who died of COVID-19 and this difference was statistically significant ($p < 0.05$) (Table 3).

Table 2. Mean Scores of Fear of COVID-19 Scale, Perceived Stress Scale-10 and Brief Resilience Scale

Scales		X±SD	Min	Max
	FCV-19S	17.12±4.98	8	29
	PSS-10	23.48±6.31	0	40
	BRS	17.98±5.32	6	30

Abbreviations: FCV-19S, Fear of COVID-19; PSS-10, Perceived Stress Scale-10; BRS, Brief Resilience Scale

It was found that there was a highly statistically significant weak positive association between the means of the participant students' FCV-19S and PSS-10 scores ($p < 0.001$). Also, there was a highly statistically significant weak negative association between the means of the participant students' FCV-19S and BRS scores ($p < 0.001$). Moreover, there was a highly statistically significant medium-level negative association between the means of the participant students' PSS-10 and BRS scores ($p < 0.001$) (Table 4).

Table 3. Comparison of Students' Introductory Features and Fear of COVID-19 Scale, Perceived Stress Scale-10, Brief Resilience Scale Average Scores (n=518)

Scales	FCV-19S		PSS-10		BRS	
	Mean Rank	Test	Mean Rank	Test	Mean Rank	Test
Gender						
Woman	276.17	Z=16932.500 p=0.001	268.78	Z=19888.000 p=0.009	249.12	U=19449.000 p=0.004
Man	203.00		228.04		294.68	
Covid-19 status in the family						
Yes	218.60	Z=19814.500 p=0.001	273.28	Z=23313.500 p=0.227	283.27	Z=22024.000 p=0.37
No	273.06		254.93		251.62	
Death due to Covid-19 in the family						
Yes	212.16	Z=6081.000 p=0.069	314.60	Z=5840.500 p=0.034	262.58	Z=7453.000 p=0.906
No	262.51		255.99		259.30	

Abbreviations: Z, Mann Whitney-U; FCV-19S, Fear of COVID-19 Scale; PSS-10, Perceived Stress Scale-10; BRS, Brief Resilience Scale

Table 4. Fear of COVID-19 Scale, Perceived Stress Scale-10, Brief Resilience Scale Spearman Correlations Analysis Results

	FCV-19S	PSS-10	BRS
FCV-19S			
r	1000		
p	-		
PSS-10			
r	,264*	1000	
p	0.000	-	
BRS			
r	-,267*	-,459*	1000
p	0.000	0.000	-

Abbreviations: FCV-19S, Fear of COVID-19 Scale; PSS-10, Perceived Stress Scale-10; BRS, Brief Resilience Scale; r, Spearman's correlation analysis;
*p<0.001

DISCUSSION

This study was performed for identifying the levels of COVID-19 fear, perceived stress, and psychological resilience of the university students enrolled at the health programs. The findings obtained under this study were discussed in light of the relevant literature. In this study, it was ascertained that 79.5% of the participant students acquired information about COVID-19 from the internet. In another study performed on the university students, it was found that 34.1% of the students referred to social media, TV, family, and acquaintances as the main source to get information about COVID-19 (13). Also, in the study conducted by Artan, et al (24) on the individuals aged

15-72 years, it is discerned that almost all participants obtained information about COVID-19 via the internet. To prevent the spread of COVID-19 across the world and in Turkey, restrictions are imposed in all areas. As well as the duration of their stay at home, these restrictions increase the use of the internet by almost all age groups. In this regard, it is an expected outcome that the students that took part in this current study obtained information about COVID-19 from the internet.

One of the psychological effects of the COVID-19 pandemic is fear. The psychological problems (2-3, 7) and the fear experienced alongside COVID-19 can be more harmful than its fast spread from human to human (8, 25). In this current study, the participant students had medium-level fear of COVID-19. In the study performed by Duman (12) on the university students, it was identified that the students had medium-level fear of COVID-19. Likewise, as per a study carried out in Turkey on the individuals aged 18-65 years, the participants had medium-level fear of COVID-19 (26). On the other hand, in a study performed on the nursing students, it was ascertained that the students were afraid of being infected with COVID-19 and dying of it (13).

The students taking part in this current research had medium-level perceived stress that stemmed from COVID-19. Likewise, in the studies conducted on the nursing students and individuals, it was found that they had medium-level perceived stress associated with COVID-19 (14, 27-28). These results indicate that COVID-19 is a situation that creates stress in society (29).

The concept of psychological resilience was derived from the Latin verb 'resilire'. Resilient means to be flexible and elastic (30). In this current research, the participant students had medium-level psychological resilience. In different studies that analyzed the psychological resilience of individuals in Turkey during the COVID-19 pandemic, it was ascertained that the participants' psychological resilience was affected by the pandemic at different levels (24, 26, 31- 33). In this context, it can be asserted that the students included in this current study have the potential to pull themselves together during the COVID-19 pandemic.

In this current study, the female students had higher levels of COVID-19 fear than the male students did ($p < 0.001$). In a study that was performed on the students, it was found that the women had higher levels of COVID-19 fear than the men did (34). Also, in the study by Memiş Doğan and Düzel (35), the men had higher levels of COVID-19 fear than the women did. In light of these results, it can be put forward that the female students taking part in this current study feared COVID-19 more than the male participant students.

It was identified that the female students had higher perceived stress levels than the male students did ($p < 0.05$) in this study. As per the studies performed on the nursing students during the COVID-19 pandemic, the female students had higher perceived stress levels than the male students did (14, 27). All these results demonstrate that COVID-19 gave rise to stress in society at varying degrees.

In this current study, it is discerned that the male students had higher levels of psychological resilience than the female participants did ($p < 0.05$). Likewise, in the studies by Artan, et al (24), Kimter (2), Kul, et al (36), Yazıcı Çelebi (37) those were identified that the men had higher psychological resilience levels than the women did and this difference was statistically significant. It can be stated that this situation is associated with the fact that the women address the issues not with a result-oriented but a process-oriented approach and are also more emotional. In light of the research results asserting that the men are more optimistic, optimism is also acknowledged as a component of psychological resilience

Due to COVID-19 and the process of the pandemic, psychological issues such as worry, fear, anxiety, and stress were observed in people at different levels (38). According to the study by Cao, et al (11), the students who had a kinsperson who was infected with COVID-19 had statistically

significant higher anxiety levels. Unlike the relevant literature, in this current study, it was identified that having a family member who had COVID-19 reduced the participant students' levels of COVID-19 fear. This result can be associated with the likelihood that the students having a family member who had COVID-19 would get over the disease process more easily.

It is discerned that having no family member who died of COVID-19 reduced the stress levels of the students enrolled at the university-level health programs. COVID-19 gives rise to different psychological effects on individuals. The presence of death is also a crucial factor that amplifies these effects (39). In this current study, it is perceived as an expected result that having no family member who died of COVID-19 lowers the participant students' stress levels.

FCV-19S, PSS-10, and BRS were used in several studies in the process of the pandemic, however, no study in which all these three measurement tools were used simultaneously was found in the relevant literature. According to this current study, there was a weak positive association between the participant students' fear of COVID-19 and perceived stress. It was also identified that there was a weak negative association between the participant students' fear of COVID-19 and psychological resilience. Likewise, in the study by Tural and Efe (26), it was stated that there was a weak negative association between psychological resilience and the fear of COVID-19. Moreover, in this current study, it is discerned that there was a medium-level negative association between the participant students' perceived stress and psychological resilience. Similarly, in a study that analyzed the effect of the process of the pandemic on psychological resilience, it was ascertained that there was a medium-level negative association between psychological resilience and stress (9). In light of these results, it is considered that exploring the associations between the three measurement tools used in this current study will contribute to the relevant literature.

CONCLUSION AND RECOMMENDATIONS

The participant students have medium-level COVID-19 fear, perceived stress, and psychological resilience. As per this study, the female participant students have higher levels of COVID-19 fear and perceived stress than the male participant students do. Besides, it is discerned that the male participant students had higher levels of psychological resilience than the female participant students did. It was ascertained that the participant students having a family member who had COVID-19 had lower levels of

COVID-19 fear. Moreover, the students having no family member who died of COVID-19 had lower stress levels. In light of these results, under current circumstances, online panels about the effects of the pandemic and coping with the pandemic can be organized for the students enrolled at the health programs. In the long-run, policies with a lasting impact can be created by developing curricula aimed at the effects of the pandemic.

DECLARATIONS

Funding

Authors did not receive grant from any funding agency for the study.

Conflict of Interest

The authors declare that there is no conflict of interests.

Ethical Approval

The approval and permission (Sivas Cumhuriyet University; Decision No: 2020-12/04; Date: 16.12.2020) of the subjects, who participated in the study, were obtained prior to the initiation of our studies, as indicated in the manuscript itself. Our study does not violate the policies and/or procedures established by journal.

Author Contributions

Author Contributions: Concept – F.T.Y., I.Y.; Design – F.T.Y., I.Y.; Supervision –F.T.Y., I.Y.; Resources –F.T.Y.; Analysis and/or Interpretation –F.T.Y., I.Y.; Literature Search –F.T.Y.; Writing Manuscript – F.T.Y.; Review and editing- F.T.Y.; Critical Review – F.T.Y., I.Y

REFERENCES

1. WHO. Coronavirus disease (COVID-19) pandemic. (2021). (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>). Access date 29 January 2021.
2. Kimter N. Examining the Psychological Resilience Levels of Individuals in the Days of Covid-19 in Terms of Some Variables. *IBAD Journal of Social Sciences (Special Issue)*. 2020; 574-605. (Doi: 10.21733/ibad.805481).
3. Kluge HP. Statement-physical and mental health key to resilience during COVID-19 pandemic. World Health Organization. 2020. (<https://www.euro.who.int/en/media-centre/sections/statements/2020/statement-physical-and-mental-health-key-to-resilience-during-covid-19-pandemic>). Access date 29 January 2021.
4. Bekaroğlu E, Yılmaz T. COVID-19 and psychological effects: A review in clinical psychology perspective. *Nesne*. 2020; 8(18): 573-584. (Doi: 10.7816/nesne-08-18-14).
5. Li S, Wang Y, Xue J, et al. The impact of COVID-19 epidemic declaration on psychological consequences: A study on active Weibo users. *International Journal of Environmental Research and Public Health*. 2020; 17(6):2032. (Doi: 10.3390/ijerph17062032).
6. Shigemura J, Ursano RJ, Morganstein JC, et al. Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. *Psychiatry and Clinical Neurosciences*. 2020; 74(4): 281-282. (Doi:10.1111/pcn.12988).
7. Wang C, Pan R, Wan X, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*. 2020; 17(5): 1729. (Doi: 10.3390/ijerph17051729).
8. Pakpour AH, Griffiths MD. The fear of COVID-19 and its role in preventive behaviors. *Journal of Concurrent Disorders*. 2020; 2(1): 58-63.
9. Bozdağ F. Psychological Resilience during Pandemic. *Turkish Studies*. 2020; 15(6): 247-257. (Doi: 10.7827/TurkishStudies.44890).
10. YÖK.COVID-19 Information. 2021. (<https://covid19.yok.gov.tr/AnaSayfa>) Access date 29 January 2021.
11. Cao W, Fang Z, Hou G, et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*. 2020; 287: 112934. (Doi: 10.1016/j.psychres.2020.112934).
12. Duman N. Covid-19 fear and intolerance to uncertainty in university students. *The Journal of Social Science*. 2020; 4(8): 426-437. (Doi: 10.30520/tjsosci.748404).
13. Elsharkawy NB, Abdelaziz EM. Levels of fear and uncertainty regarding the spread of coronavirus disease (COVID-19) among university students. *Perspectives in Psychiatric Care*. 2020; 1-9. (Doi: 10.1111/ppc.12698).
14. Aslan H, Pekince H. Nursing students' views on the COVID-19 pandemic and their perceived stress levels. *Perspectives in Psychiatric Care*. 2020; 1-7. (Doi: 10.1111/ppc.12597).
15. Labrague LJ, De los Santos JAA, Falguera CC. Social and emotional loneliness among college students during the COVID-19 pandemic: The predictive role of coping behaviors, social support, and personal resilience. *Perspectives in Psychiatric Care*. 2021; 1-7. (Doi: 10.1111/ppc.12721).
16. Terzi D, Akalın R, Erdal B. The Effect of Covid-19 outbreak on education of health science students: Example of Tekirdağ Namık Kemal University Health Services Vocational. *Namık Kemal Tıp Dergisi*. 2020; 8(3): 279-287. (Doi:10.37696/nkmj.751961).
17. Karasar N. *Bilimsel Araştırma Yöntemi Kavramlar İlkeler Teknikler*. Ankara, Nobel; 2018.
18. Kish L. *Survey Sampling*. London, John Wiley & Sons, Inc.; 1995.
19. Satıcı B, Gocet-Tekin E, Deniz ME, et al. Adaptation of the Fear of COVID-19 Scale: Its association with psychological distress and life satisfaction in Turkey. *International Journal of Mental Health and Addiction*. 2020; 1-9. (Doi: 10.1007/s11469-020-00294-0).
20. Cohen S, Kamarck T, Mermelstein RA. Global measure of perceived stress. *Journal of Health and Social Behavior*. 1983; 24(4): 385-396. (Doi: 10.2307/2136404).
21. Eskin M, Harlak H, Demirkıran F, et al. The adaptation of the perceived stress scale Into Turkish: a reliability and validity analysis. *New/Yeni Symposium Journal*. 2013; 51(3): 132-140.
22. Smith B, Dalen J, Wiggins K, et al. The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*. 2008; 15(3): 194-200. (Doi: 10.1080/10705500802222972).
23. Doğan T. Adaptation of the Brief Resilience Scale into Turkish: A validity and reliability study. *The Journal of Happiness & Well-Being*. 2015; 3(1): 93-102.
24. Artan T, Atak I, Karaman M, et al. Relationship between sociodemographic characteristics, psychological resilience and anxiety levels in the Coronavirus (COVID-19) outbreak. *Turkish Studies*. 2020; 15(6): 79-94. (Doi:10.7827/TurkishStudies.43882).

25. Özdin S, Bayrak-Özdin Ş. Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: the importance of gender. *International Journal of Social Psychiatry*. 2020; 66(5): 504-511. (Doi: 10.1177/0020764020927051).
26. Tural V, Efe M. Examining individuals psychological resilience and Covid-19 fears according to various variables. *The Journal of International Social Research*. 2020; 13(74): 318-325.
27. Ersin F, Kartal M. The determination of the perceived stress levels and health-protective behaviors of nursing students during the COVID-19 pandemic. *Perspectives in Psychiatric Care*. 2020; 1-7. (Doi: 10.1111/ppc.12636).
28. Göksu Ö, Kumcağız H. Perceived stress level and anxiety levels in individuals in Covid-19 outbreak. *Turkish Studies*. 2020; 15(4): 463-479.
29. Buheji M, Jahrami H, Dhahi AS. Minimising stress exposure during pandemics similar to COVID-19. *International Journal of Psychology and Behavioral Sciences*. 2020; 10(1): 9-16. (Doi:10.5923/j.ijpbs.20201001.02).
30. Masten AS, Gewirtz AH, Sapienza JK. Resilience in Development: The Importance of Early Childhood. In: Tremblay RE, Boivin M, Peters RDeV, eds. Masten AS, topic ed. *Encyclopedia on Early Childhood Development*. 2013. (<http://www.child-encyclopedia.com/resilience/according-experts/resilience-development-importance-early-childhood>). Access date 27 2021.
31. Bilge Y, Bilge Y. Investigation of the effects of corona virus pandemic and social isolation on psychological symptoms in terms of psychological resilience and coping styles (tur). *The Journal of Clinical Psychiatry*. 2020; 23(1): 38-51. (Doi: 10.5505/kpd.2020.66934).
32. Kasapoğlu F. Examination of the relationship between anxiety with spirituality, resilience and intolerance of uncertainty in the COVID-19 outbreak process. *Turkish Studies*. 2020; 15(4): 599-614.
33. Kılınç T, Sis Çelik A. Relationship between the Social Support and Psychological Resilience Levels Perceived by Nurses during the COVID-19 Pandemic: A Study from Turkey. *Perspectives in Psychiatric Care*. 2020; 1-9. (Doi: 10.1111/ppc.12648).
34. Tekin Atay Ü, Dinçer NN, Uçan Yarkaç F, et al. Evaluation of Fear and Anxiety Levels of Postgraduate Students in Dentistry During Covid-19 Pandemic. *Necmettin Erbakan University Dental Journal*. 2020; 2(3): 86-93. (Doi: 10.51122/neudentj.2020.1.).
35. Memiş Doğan M, Düzal B. Fear-Anxiety Levels in Covid-19. *Turkish Studies*. 2020; 15(4): 739-752.
36. Kul A, Demir R, Katmer AN. Meaning of life and anxiety as predictors of psychological resilience during the Covid-19 epidemic. *Turkish Studies*. 2020; 15(6): 695-719.
37. Yazıcı Çelebi G. Investigation of reactions to the Covid-19 outbreak in terms of psychological resilience. *IBAD Journal of Social Sciences*. 2020; 8: 471-483. (Doi:10.21733/ibad.737406).
38. Ahorsu DK, Lin CY, Imani V, et al. The Fear of COVID-19 Scale: Development and Initial Validation. *International Journal of Mental Health and Addiction*. 2020; 27: 1-9. (Doi: 10.1007/s11469-020-00270-8).
39. Yıldırım M, Güler A. Positivity explains how COVID-19 perceived risk increases death distress and reduces happiness. *Personality and Individual Differences*. 2021; 168: 110347. (Doi:10.1016/j.paid.2020.110347).