COVID-19 pandemic.

Distance Education Process Experiences and Perceived Stress Levels of Health School Students at the End of the First Year of the COVID-19 Pandemic

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	ABSTRACT
Corresponding Author Şeyma KALKUZ DOİ https://10.48121/jihsam.1126653 Received 06.06.2022 Accepted 25.07.2022 Published Online 27.10.2022	It was aimed to investigate the distance education process experiences of health school students at the end of the first year of the Covid-19 pandemic and the relationship of these experiences with their perceived stress levels (PSLs). This descriptive study was conducted as an e-survey in March 2021 in Kırklareli (N=929). Those who had difficulty in concentrating on courses forgot the subjects taught quickly, and had difficulty in learning the programs used in the distance education system, those who had communication problems with the instructors, could not express their opinions freely, and did not find the distance education system as effective as face-to-face education, those who said that the uncertainty of the distance education process negatively affected their professional skills had higher perceived stress levels (p <0.001). Those who said that the COVID-19 pandemic affected the teaching processes, thought that distance education did not offer alternative options in the learning processes, did not find this system adequate in the teaching processes, and said that the teaching processes were affected negatively because of technical problems had higher perceived stress levels (p <0.001). At the end of the first year of the COVID-19 pandemic, the PSL of the students was found to be moderate.
Key Words Distance education, Perceived stress, Self-efficacy, Health school	

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INTRODUCTION

The worldwide spread of the Coronavirus Disease (COVID-19) has caused important changes in human life. The workload of health care professionals increased. Due to the uncertainty concerning how long the pandemic will last and how affect our lives, the stress levels of people elevated. Furthermore, new psychiatric symptoms occurred in people (Montemurro, 2020). The pandemic has significantly affected students, educational institutions, educators, and education systems in general all around the world. Educational institutions were closed and the transition to the distance education system was realized because of the pandemic in many countries (Adnan & Anwar, 2020).

Distance education is a modern system providing education for students wherever there is the internet, regardless of time and place (Çiçeklioğlu & Akmaz, 2020), and provides students with the opportunity to review and learn subjects at any time. It is also considered to have positive effects on cognitive learning (Voutilainen, Saaranen, & Sormunen, 2017). However, technological support is required in the learning process, and technological problems might appear in this respect. The lack of functional disorders of the equipment such as personal computers, webcams, and fixed internet interrupt the learning process in distance education (Wong, 2007). According to Sari et al., problems with internet access and lack of infrastructure are among the most important difficulties faced in distance education (Sari & Nayır, 2020). It was reported in previous studies that the opportunities of students such as not having a computer and internet access affect their opinions on distance education negatively (İnce, Kabul, & Diler, 2020). Al-Balaset al. reported that the satisfaction rate with distance education was 26.8% in a study conducted with medical faculty students (Al-Balas et problems al., 2020). Educational such as communication problems with the instructors, lack of socialization, sharing ideas or information are also experienced in the distance education process (Adnan & Anwar, 2020). Another concern of students regarding distance education is the hardships in learning clinical practices, the disruption of vocational education, and failures (Peloso et al., 2020). However, there are also studies, which report that the perceptions of students regarding distance education are positive in the COVID-19 pandemic (Schlenz, Schmidt, Wöstmann, Krämer, & Schulz-Weidner, 2020) (Sujarwo, Sukmawati, Akhiruddin, Ridwan, & Siradjuddin, 2020).

It is considered that the mental health of students was negatively affected after the transition to distance education. It is speculated that distance education affects the learning process negatively by causing depression and anxiety in students (Abdulghani, Sattar, Ahmad, & Akram, 2020). Mental health might affect the motivation, concentration, and social aspects of students. These are of great importance for students in being successful in educational life (Son, Hegde, Smith, Wang, & Sasangohar, 2020). In a previous study, it was shown that depression, stress, and anxiety are common among students during the COVID-19 pandemic (Islam, Barna, Raihan, Khan, & Hossain, 2020). It is argued that learning through online platforms causes depression and anxiety disorders among university students. It was reported that there is a significant relationship between student satisfaction and depression, anxiety, and stress prevalence (Fawaz & Samaha, 2020). Prolonged use of smart devices, screens, and tablets with distance education increases stress and anxiety levels (Mheidly, Fares, & Fares, 2020). In a study that examined the stress levels associated with distance education, it was reported that the general stress levels were higher in students who used smartphones instead of other electronic devices for distance education, and who did not have special places to study (Masha'al, Rababa, & Shahrour, 2020). Moreover, it was shown that cyberbullying attitudes and cyberbullying perpetration significantly increased during the pandemic (Barlett, Simmers, Roth, & Gentile, 2021). When combined with the stress brought by distance education, the stress caused by the pandemic process can affect the person in a way that causes fatigue and burnout (Mheidly et al., 2020). For this reason, it is considered that determining the opinions and stress levels of students on the distance education process will contribute to improving the distance education process. In this study, it was aimed to investigate the distance education process experiences of health school students at the end of the first year of the COVID-19 pandemic and the relationship of these experiences with their stress levels.

MATERIALS AND METHODS

2.1. Study Design

This descriptive study was conducted in March 2021 in Kırklareli, northwest Turkey. The study population consisted of 2.541 students who were studying at Kırklareli University School of Health Nursing (n=533), Midwifery (n=272), Nutrition and Dietetics (n=403), Child Development (n=698), and Health Management (n=635) departments. The minimum sample size of the study was calculated as 334 (N = 2541, p = 0.50, $\alpha = 0.05$) in the Epi Info 7.2 program.. A total of 929 students aged 18 and over who

volunteered to participate in the study were contacted for the study.

2.2. Data Collection

A Questionnaire Form was used as the data collection tool in the study. Due to the pandemic and the transition to distance education, students were not in the face-to-face education. Therefore, the survey was applied online. The data were collected by sharing the form over WhatsApp, and Microsoft teams programs with Google Forms. The participants were first informed about the study in Google Forms, and after their voluntary consent was obtained to participate in the study, they were allowed to answer the questions. The questionnaire form consisted of three parts, which were the Descriptive Form, Experiences Form about Distance Education Process, and the Perceived Stress Scale.

2.2.1. Descriptive Form

In the form that was prepared by the researchers based on the literature data, the sociodemographic characteristics of the students, their age, gender, and other descriptive characteristics, such as their department, grades, technological tools they had, internet access status, and the status of being diagnosed with COVID-19 in themselves and in their families were questioned (Al-Balas et al., 2020; Alsoufi et al., 2020; Masha'al et al., 2020).

2.2.2. Experiences Form about Distance Education Process

In the form, which was prepared by the researchers based on the literature data, the distance education processes of the students were questioned (Al-Balas et al., 2020; Alsoufi et al., 2020; Keskin & Derya, 2020; Masha'al et al., 2020). Expert opinion was received while preparing the parts related to the distance education process in the survey. Distance education processes consist of the propositions on cognitive learning, affective learning, behavioral learning of students (Kay & Kibble, 2016), and student opinions. The answers were recorded as "yes" and "no". These propositions were classified during the mixed analysis step during the application.

2.2.3. Perceived Stress Scale

Perceived Stress Scale (PSS), which measures how stressful some situations in the life of a person are perceived, was developed by Cohen et al. in 1983 (Cohen, Kamarck, & Mermelstein, 1983). The scale, which was adapted into Turkish by Eskin et al. (2013), has three different forms consisting of 14, 10, and 4 items (Eskin, Harlak, Demirkıran, & Dereboy, 2013). The 10-item form that has the 5-point Likert-type scale was used in the present study. The scale has two sub-dimensions, which are Perception of Stress/Discomfort and Perception of Insufficient Selfefficacy. The discomfort perception reflects the feelings and opinions on the individual's feelings that s/he cannot control important things in life, feeling nervous and stressed, feeling uncomfortable because of something unexpected, becoming angry because of events developing out of control, feeling that everything is not going well, and feeling that problems accumulate so much that they cannot be overcome. Insufficient self-efficacy perception means the feelings and opinions such as feeling unable to cope with everything, feeling insecure about the ability in handling personal issues, feeling unable to control the hardships faced in life, realizing that one cannot cope with the things that must be done. The total score, which may be received from the scale varies between 0-40, and a high score shows the high-level stress perception of the individual. Eskin et al. reported that the Cronbach's alpha coefficient of the scale was 0.82, and was reported as 0.80 and 0.69 for stress/discomfort and insufficient self-efficacy subdimensions, respectively. The Cronbach's alpha coefficient was calculated as 0.83 for the total PSS, 0.85 and 0.61 for the sub-dimensions, respectively, in this study (Eskin et al., 2013).

2.3. Study Analysis

In the present study, descriptive statistics such as number (n), percentage (%), mean, standard deviation (\pm SD), minimum (Min.) and maximum (Max.) values were used. The normality of the distribution was checked with the Kolmogorov-Smirnov test. Reliability Analysis was used to determine the Cronbach's alpha coefficient of the scale. The Mann-Whitney U test was used in this study to compare the mean values between two groups for scales with nonparametric distribution, and the Kruskal-Wallis test was used to compare the mean values of three or more groups. Statistical Package for the Social Sciences 22.0 was used in the analysis of the study data, and it was considered significant when the pvalue was below 0.05.

2.4. Ethic Approval

Approval for the study was obtained from the Ethics Committee of the Institute of Health Sciences of ********** University (PR*****-15/02/2021). Permission of the relevant institution and the use of the scale were obtained from the author.

RESULTS

A total of 86.7% of the participants, whose mean age was 21.84 ± 3.35 (min:18, max:45), were female, 30.8% were at health management department, 29.9% were 4th-grade students, and 51.8% were living in the city center, and 60.0% of the students had mobile phones and computers/tablets, and 63.6% had unlimited internet in the place where they lived. A total of 12.3% of the students and 26.7% of their families were diagnosed with COVID-19. When the stress levels of the participants were examined according to their descriptive characteristics, total mean PSS (p=0.001) score and discomfort perception

sub-dimension score of those aged 22 years and younger (p<0.001), and the mean discomfort perception score of the female students (p=0.026) were high at statistically significant levels. It was found that having limited internet access in the place where the individual lived affected the mean scores of PSS total (p=0.008), sub-dimensions of discomfort perception (p=0.033), and perception of insufficient self-efficacy (p=0.012) at significant levels. No significant differences were detected between self or family diagnosis of COVID-19 and PSS scores and sub-dimension scores (p<0.05) (Table 1).

Table 1.	The distribution of th	e descriptive cha	racteristics	of the pa	articipants	and the d	istribution	of their s	tress
		levels according	to these ch	aracteris	stics (n=929)).			

		PSS		Discomfort Perception		Perception of Insufficient Self- Efficacy	
Variables	n (%)	Mean±SD	p-value	Mean±SD	p-value	Mean±SD	p- value
Sex							
Female	805 (86.7)	22.04±6.57	0.053	14.14 ± 4.82	0.026	7.91±2.73	0.429
Male	124 (13.3)	21.28±6.92		13.14±5.34		8.15±2.96	
Age							
\leq 22	696 (74.9)	22.37±6.56	0.001	14.33 ± 4.84	0.000	8.03 ± 2.71	0.110
> 22	233 (25.1)	20.68±6.66		13.02 ± 4.98		7.66 ± 2.90	
Department							
Nutrition and Dietetics	189 (20.3)	22.87±6.97	0.170	14.57±5.13	0.108	8.30 ± 2.90	0.247
Midwifery	89 (9.6)	20.89±6.62		13.30±4.76		7.58 ± 2.65	
Nursing	151 (16.3)	21.13±6.73		13.28±5.17		7.84 ± 2.82	
Health Management	286 (30.8)	22.08±6.18		14.22 ± 4.72		7.86 ± 2.62	
Child Development	214 (23.0)	21.95±6.72		14.01 ± 4.75		7.94±2.83	
Grade							
1	243 (26.2)	21.69±6.81	0.828	13.79±5.17	0.723	7.90 ± 2.92	0.142
2	260 (28.0)	22.15±6.54		13.95±4.87		8.20 ± 2.63	
3	148 (15.9)	22.09±6.49		14.30 ± 5.04		7.80 ± 2.66	
4	278 (29.9)	21.89±6.62		14.09±4.63		7.81 ± 2.80	
Living place							
City center	481 (51.8)	21.84±6.92	0.390	13.79±5.24	0.292	8.05 ± 2.81	0.055
County town	317 (34.1)	21.71±6.35		14.03 ± 4.60		7.68±2.63	
Town, village, abroad	131 (14.1)	22.88±6.08		14.72±4.24		8.16 ± 2.88	
Owned technology tools	<u> </u>						
Mobile phones	341 (36.7)	22.47±6.53	0.409	14.26±4.96	0.589	8.21±2.74	0.126
Computers/Tablets	31 (3.3)	20.45±7.24		13.00 ± 5.23		7.45±3.25	
Mobile phones & Computers/Tablets	557 (60.0)	21.70±6.63		13.90±4.85		7.80 ± 2.74	
Internet access							
Using the nearby internet network	83 (8.9)	22.69±6.90	0.008	14.42 ± 5.14	0.033	8.27±2.96	0.012
Unlimited internet in the place where	591 (63.6)	21.35±6.69		13.65±4.94		7.69 ± 2.75	
they lived							
Limited internet in the place where they	255 (27.4)	23.09±6.20		14.68±4.66		8.40 ± 2.68	
lived							
Self diagnosis of COVID-19							
Yes	114 (12.3)	23.10±6.08	0.106	14.74 ± 4.48	0.113	8.36±2.56	0.121
No	815 (87.7)	21.78±6.68		13.90±4.95		7.88 ± 2.79	
Family diagnosis of COVID-19							
Yes	248 (26.7)	22.49±6.96	0.298	14.45 ± 5.07	0.094	8.04±2.93	0.725
No	681 (73.3)	21.74 ± 6.48		$13.84{\pm}4.83$		7.90 ± 2.70	

PSS: Perceived Stress Scale; SD: Standart Deviation

The mean PSS score of the students was found as 21.94 ± 6.62 (min:1, max:40). When the subdimensions of the scale were examined, the mean score of the perception of discomfort sub-dimension was found to be 14.00 ± 4.90 , and the mean perception of insufficient self-efficacy score was 7.94 ± 2.77 (Table 2).

					Cronbach's alpha
Scale	Ν	Mean \pm SD	MinMax.	MinMax. for PSS	coefficient
PSS	929	21.94 ± 6.62	1-40	0-40	0.83
Discomfort Perception	929	14.00 ± 4.90	0-24	0-24	0.85
Perception of Insufficient Self-Efficacy	929	7.94 ± 2.77	0-16	0-16	0.61

Table 2. Distribution of participants' Perceived Stress Scale (PSS) total and sub-dimensions mean scores

PSS: Perceived Stress Scale; SD: Standart Deviation

In the present study, the mean PSS total, stress/discomfort perception, and insufficient self-efficacy perception scores of those, who had difficulty in concentrating on courses, forgot courses quickly, and students who had difficulty in learning the programs used in the distance education system were found to be higher at statistically significant levels (p<0.001).

Among the propositions on affective learning, the mean scores in PSS total, stress/discomfort perception, and insufficient self-efficacy perception of those who had communication problems with instructors, who were not able to express their opinions freely, and who did not find the distance education system as effective as face-to-face education, were high at statistically significant levels (p<0.001); and no differences were detected between PSS total and sub-dimension scores and the increase in anxiety levels of practicing in healthcare institutions during the pandemic period (p>0.05).

The mean PSS total, stress/discomfort perception, and insufficient self-efficacy perception scores of the students, who said that the uncertainty of the distance education process, which is one of the propositions on behavioral learning, affected their professional skills negatively, were found to be higher at statistically significant levels (p<0.001).

The mean PSS total, stress/discomfort perception, and insufficient self-efficacy perceptions of students, who said that the COVID-19 pandemic affected the teaching processes, who thought that distance education did not provide alternative options in the learning processes, who did not find this system sufficient in teaching processes, and who said that the teaching processes were affected negatively because of technical problems, were high at statistically significant levels (p<0.001); and the mean score of students who thought that distance education is not inevitable in the future were found to be significantly high in insufficient self-efficacy sub-dimension (p=0.040) (Table 3).

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Table 3. Participants' views on internet access and distance education and their comparison with Perceived Stress Scale (PSS) mean scores (n=929).

		PSS		Discomfort Perception		Perception of Insufficient Self- Efficacy		
Items	n (%)	Mean±SD	р-	Mean±SD	p-	Mean±SD	p-	
			value		value		value	
Cognitive Learning								
I have difficulty in concentrat	ing on courses d	istance education	system.	15.00.151	0.000		0.000	
Yes	692 (74.5)	23.37±6.19	0.000	15.03±4.54	0.000	8.33±2.63	0.000	
No	237 (25.5)	17.78±6.06		10.99±4.6/		6.79±2.84		
I forget courses quickly in dist	tance education	system. 22.51 ± 0.11	0.000	15 12 4 51	0.000	0 20 12 (4	0.000	
i es	040(08.9)	23.31 ± 0.11	0.000	13.13 ± 4.31	0.000	8.38±2.04	0.000	
 Distance education system die	289 (51.1)	18.4/±0.59		11.31±4.62		$0.9/\pm 2.78$		
Ves	629 (67 7)	23 57+6 21	0.000	15 19+4 52	0.000	8 39+2 62	0.000	
No	300 (32 3)	18 53+6 13	0.000	115.17 ± 4.52 1152+474	0.000	7.00+2.83	0.000	
I have difficulty in learning th	e programs used	d in the distance of	ducation s	vstem.		7.00-2.05		
Yes	415 (44.7)	23.71±6.28	0.000	15.27±4.59	0.000	8.44 ± 2.80	0.000	
No	514 (55.3)	20.52±6.55		12.98 ± 4.91		7.54±2.67		
Affective Learning								
I can easily communicate with	the instructors	in distance educa	ation.					
Yes	551 (59.3)	20.33±6.29	0.000	12.92 ± 4.74	0.000	$7.40{\pm}2.69$	0.000	
No	378 (40.7)	24.30±6.39		15.58 ± 4.71		8.72 ± 2.69		
I am able to express my opinio	on freely in the d	listance education	n system.					
Yes	433 (46.6)	19.71±6.39	0.000	12.42 ± 4.74	0.000	7.29 ± 2.80	0.000	
No	496 (53.4)	23.89±6.19		15.38±4.62		8.51±2.60		
I find the distance education s	ystem as effectiv	ve as face-to-face	education.	10.00 4.04	0.000	6 70 10 04	0.000	
Yes	1/6 (18.9)	$1/.0/\pm 0.30$	0.000	10.88 ± 4.94	0.000	6.79±2.94	0.000	
	735 (81.1)	ZZ.94±0.27	huring the r	14./5±4.00		8.21±2.03		
Ves	539 (58 0)	21 86+6 55	0 565	13 98+4 94	. 0.816	7 88+2 76	0.512	
No	390 (42 0)	21.00±0.55 22.06±6.72	0.505	14 04+4 86	0.010	8 02+2 77	0.512	
Rehavioral Learning	570 (42.0)	22.00±0.72		11.01±1.00		0.02±2.17		
Uncertainty of the distance ed	ucation process	affect my profess	sional skills	negatively.				
Yes	654 (70.4)	23.60±6.09	0.000	15.23±4.46	0.000	8.38±2.61	0.000	
No	275 (29.6)	18.00±6.15		11.09 ± 4.68		6.90 ± 2.85		
Opinions of Students	2 /							
COVID-19 pandemic affected	the teaching pro	ocesses.						
Yes	779 (83.9)	22.80 ± 6.28	0.000	14.65 ± 4.60	0.000	8.16 ± 2.67	0.000	
No	150 (16.1)	17.47±6.56		10.67 ± 5.08		6.80 ± 2.95		
Distance education provides a	lternative option	ns in the learning	processes.					
Yes	408 (43.9)	19.71±5.97	0.000	12.53 ± 4.62	0.000	7.19±2.63	0.000	
No	521 (56.1)	23.69±6.58		15.16 ± 4.81		8.53±2.73		
Distance education system is s	ufficient in teac	hing processes.	0.000	11 40 4 00	0.000	6.01 10.00	0.000	
Yes	253 (27.2)	18.40 ± 6.42	0.000	11.49 ± 4.98 14.04 + 4.52	0.000	6.91 ± 2.88	0.000	
No $0.10 (1/2.8) (2.3.2/\pm0.19) (14.94\pm4.33) (8.35\pm2.02)$								
Ves	742 (79 9)	22 98+6 31	0 000	14 79+4 62	0 000	8 19+2 69	0.000	
No	187 (20.1)	17.84 ± 6.22	0.000	10.88 ± 4.74	0.000	6.96 ± 2.86	0.000	
Distance education is inevitable	le in the future	17.01-0.22		10.00-1.74		0.70-2.00		
Yes	601 (64.7)	21.73±6.26	0.143	13.91±4.71	0.327	7.82±2.72	0.040	
No	328 (35.3)	22.33±7.22		14.17 ± 5.24		8.16±2.84		

PSS: Perceived Stress Scale; SD: Standart Deviation

DISCUSSION

In this study, the mean PSS scores of the students were determined at medium level. Our study finding was lower than students who were studying in social, health and natural sciences at different universities in Turkey reported by Aslan et al (Aslan, Ochnik, & Çınar, 2020). However, the study finding was similar to the results reported in the study of Sheroun et al., and was higher than those reported by Rogowska et al. and by Lai et al. (Lai et al., 2020; Rogowska, Kuśnierz, & Bokszczanin, 2020; Sheroun, Wankhar, Devrani, Lissamma, & Chatterjee, 2020). The differences in these studies, in which the same scale was used, might be related to difficulties in internet access. As a matter of fact, it was found in the study that more than a quarter of the participants had limited internet access, which had significant effects on their stress levels.

Among the propositions regarding cognitive learning, the mean PSS total, stress/discomfort perception, and insufficient self-efficacy perception score of the students who had difficulty in learning the programs employed in the distance education system (44.7%) was high. Similarly, Lai et al. (2020) conducted a

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study with students who were studying in England and the USA and reported that the changes in the education-training format during the pandemic process had negative effects on mental health (Lai et al., 2020). In a study that was conducted on medical school students, 59.3% of the students said that they agreed with the statement "Online learning content is difficult to understand". However, although the stress levels of the students who found it difficult to learn in distance education were found to be low, this was not at a significant level (Abdulghani et al., 2020). Also, in our study, 68.9% of the students said that they forgot the subjects they learned during the distance education process quickly. The mean score of those students was found to be significantly higher than those who did not forget the subjects, in PSS and in all other sub-dimensions. Parallel to the findings of our study, Abbasi et al. (2020) reported in their study, which they conducted with medical and dental faculty students, that 34% of the students said that they were not confident enough to pass the exams after distance education (Abbasi et al., 2020).

In the present study, it was found that 74.5% of the students had difficulty in concentrating on courses during the distance education process, and those who had difficulties also had significantly higher stress perceptions. In the study conducted by Abdulghani et al., 25.9% of the students said that they had difficulty concentrating on online courses, and the stress levels of those who had difficulties were significantly higher (Abdulghani et al., 2020). In another study, the statement "The use of new digital teaching methods (e.g. online teaching) motivates me to learn" was scored 3.78/ 5.00 points by students (Schlenz et al., 2020). The differences in the percentage of those who had difficulty in concentrating on lessons might be because of regional and educational changes. Among the propositions on affective learning, the mean PSS total, stress/discomfort perception, and insufficient self-efficacy perception scores of those who did not find the distance education system as effective as faceto face education were significantly higher. Similarly, in another study, 83% of the students said that they had concern that the education they received through distance education would be insufficient (Yolcu, 2020). It was reported in the study of Qanash et al. that the students who were in favor of distance education were within normal limits as a result of the psychological evaluations (Qanash et al., 2020). However, according to the study of Schlenz et al., almost all students thought that distance education is a good option during the COVID-19 pandemic period (Schlenz et al., 2020). These differences might have occurred because of the changes in the distance education system according to the regions where the studies were conducted.

In the present study, no relations were detected between practicing in healthcare institutions and stress levels during the pandemic period. In the study that was conducted by Senturk & Dogan with nursing students before the pandemic, a very strong and positive relationship was shown between academic and practical stress and the stress in nursing education (Senturk & Dogan, 2018). This difference that was detected in the study was associated with the fact that students were educated through practical lessons, homework, online seminars, etc. during the pandemic period, and that students did not have to go to healthcare institutions such as hospitals. However, 70.4% of the students thought that the uncertainty of the distance education process might affect their professional skills, which will, in turn, affect their stress levels significantly. According to Abbasi et al. (2020), who conducted a study with students of health sciences including medicine and dentistry from different countries, it was reported that 74.7% of students thought that clinical and practical skills could be learned best in laboratories and clinics (Abbasi et al., 2020). When this is considered, great efforts should be made for the practical processes of the students who participated in the study after the pandemic.

The mean PSS total, stress/discomfort perception, and insufficient self-efficacy perception score (79.9%) of the students, who said that the teaching processes were affected negatively because of technical problems in the propositions in the opinions of students, was significantly high. Abbasi et al. (2020) reported that 41% of the learning processes of students were interrupted by internet problems, and Abdulghani et al. (2020) reported that 54.3% of the students agreed to the statement "There is mental pressure before online learning session because of internet connection". It was found that 31.8% of the students, who agreed to this statement, experienced mild stress, 5.3% moderate stress, and 11.4% severe stress. The student profile may have caused these differences as the students were connected to the system by their own means due to distance education.

CONCLUSION AND RECOMMENDATIONS

In this study, at the end of the first year of the COVID-19 pandemic, the mean PSS, perception of discomfort, and insufficient self-efficacy score of the students were at a moderate level. The perceived stress levels of students, who had difficulty in learning the programs employed in the distance education system,

who thought that the teaching processes were affected negatively because of technical problems, who did not find the distance education system adequate in the teaching processes, who have communication problems in distance education, who forgot the subjects taught with distance education quickly, and who had difficulty in concentrating on courses, perception and insufficient self-efficacy levels were high. It was also found that the uncertainty of the distance education process of the students affected their professional skills, which affected their stress levels at significant levels.

During the pandemic, the distance education process has been challenging for students due to the fact that students continue their education life outside of their accustomed school environment and the anxiety caused by the uncertainty regarding COVID-19. As suggestions, the participation and motivation of students can be increased in distance education by using interactive methods, providing studentinstructor interaction, and receiving feedback from students, and learning processes can be supported with interactive methods. Online psychological counseling services can be provided to decrease the stress levels of students. It is possible to be prepared for unexpected situations in the future by determining the

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experiences of educational institutions on distance education and the opinions of students during the COVID-19 pandemic with the studies conducted in this field.

Conflict of Interest:

The authors declare no conflict of interest.

Ethical Approval (Must be answered):

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