

## The Relationship Between Stress and Professional Attitude of Nursing Students During the COVID-19 Pandemic

COVID-19 Pandemisinde Hemşirelik Öğrencilerinin Stres ve Mesleki Tutumları Arasındaki İlişki

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### ABSTRACT

It is a descriptive and cross-sectional study that aims to determine the relationship between the stress levels perceived by nursing students during the pandemic and their attitudes towards the nursing profession with the differences between demographic variables. The sample of the study consisted of 494 undergraduate nursing students in different provinces of Turkey. The research data were collected through a web-based survey prepared by the researchers between May and June 2020 using the Information Form, Perceived Stress Scale, and Attitude Scale for Nursing Profession. Perceived Stress Scale mean score was  $15.60 \pm 4.89$ , Attitude Scale for Nursing Profession mean score was  $170 \pm 20.79$ . There was no significant relationship between perceived stress and professional attitudes of nursing students ( $p > 0.05$ ). There was a significant difference in the Perceived Stress Scale score in terms of grade and the presence of healthcare professionals in the nuclear family, and in the Attitude Scale for Nursing Profession score in terms of the geographical region of the university ( $p < 0.05$ ). This study revealed that during the pandemic, nursing students perceive moderate stress, exhibit a positive attitude towards the profession, and there is no relationship between their perceived stress and professional attitudes. Also, the grade, presence of healthcare professionals in the nuclear family, and the geographical region of the university affect this situation.

**Keywords:** COVID-19, Professional attitude, Perceived stress, Nursing students

### ÖZ

Hemşirelik öğrencilerinin pandemi sürecinde algıladıkları stres düzeyleri ile hemşirelik mesleğine yönelik tutumları arasındaki ilişkiyi demografik değişkenler arasındaki farklılıklar ile belirlemeyi amaçlayan tanımlayıcı ve kesitsel bir çalışmadır. Araştırmanın örneklemini Türkiye'nin farklı illerinde bulunan 494 hemşirelik lisans öğrencisi oluşturmaktadır. Araştırma verileri, araştırmacılar tarafından Mayıs-Haziran 2020 tarihleri arasında Bilgi Formu, Algılanan Stres Ölçeği ve Hemşirelik Mesleği Tutum Ölçeği kullanılarak hazırlanan web tabanlı anket aracılığıyla toplanmıştır. Algılanan Stres Ölçeği puan ortalaması  $15.60 \pm 4.89$ , Hemşirelik Mesleği Tutum Ölçeği puan ortalaması  $170 \pm 20.79$ 'dur. Hemşirelik öğrencilerinin algıladıkları stres ile mesleki tutumları arasında anlamlı bir ilişki bulunmamıştır ( $p > 0.05$ ). Algılanan Stres Ölçeği puanında sınıf düzeyi ve çekirdek ailede sağlık çalışanı olup olmaması, Hemşirelik Mesleği Tutum Ölçeği puanında ise üniversitenin bulunduğu coğrafi bölgeye göre anlamlı farklılık vardı ( $p < 0.05$ ). Bu çalışma, hemşirelik öğrencilerinin pandemi döneminde orta düzeyde stres algıladıklarını, mesleğe yönelik olumlu bir tutum sergilediklerini ve algıladıkları stres ile mesleki tutumları arasında bir ilişki olmadığını ortaya koymuştur. Ayrıca sınıf, çekirdek ailede sağlık personelinin bulunması ve üniversitenin bulunduğu coğrafi bölge de bu durumu etkilemektedir.

**Anahtar Kelimeler:** COVID-19, Mesleki tutum, Algılanan stres, Hemşirelik öğrencileri

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## INTRODUCTION

The COVID-19 pandemic has led to serious measures in the education field to prevent the spread of the infection. The decision of governments to close educational institutions caused sudden changes in the educational process. In universities, web-based software was implemented for remote working, e-learning, online collaboration, etc.<sup>1,2</sup> The fact, that nursing education mostly requires hands-on training and environment provided by hospitals and university laboratories in this regard, has lost its functionality due to the restrictions brought by the pandemic. Thus, clinical training could not be performed at a sufficient level.<sup>3</sup> On the other hand, nursing students witnessed the difficulties experienced by nurses, who make up the majority of healthcare professionals and who are at the forefront of patient care during the pandemic process, and the admiration they receive from society.<sup>3-6</sup> All of these stressed nursing students.<sup>7</sup> In the ongoing pandemic process, knowing the perceived stress levels and professional attitudes of nursing students contributes to their education planning.<sup>8</sup>

### Background

Many governments around the world have decided to close educational institutions as part of combating the pandemic.<sup>2,8</sup> The most important reason for this decision was that traditional learning with many students gathered in a classroom is still in practice all over the world and preparing the ground for the spread of infection. This decision helped control the pandemic by maintaining social distance and preventing physical contact.<sup>7</sup> This has led to an increase in the perception of infection risk and changes in daily routines.<sup>9</sup>

Firstly, many governments evacuated universities in March 2020, and how to continue education has become a major issue for every country.<sup>10</sup> On March 16, 2020, the Council of Higher Education (CoHE) in Turkey has announced that education and training were suspended for three weeks at first and then in the spring semester. Thus,

distance education was initiated in Turkey.<sup>1</sup> The universities promptly switched to distance education in line with their infrastructure.<sup>2,9</sup> However, the fact that students do not have equal access to computers and internet facilities caused them not to be able to fairly and equally benefit from education.<sup>7,8</sup> Also, there have been changes in exam procedures and grading practices during the transition to online education.<sup>11</sup> On the other hand, nursing students could not continue the practical training included in the curriculum and given in hospitals and the simulation laboratories. Students faced the risk of being lack of professional skills and not being able to graduate unless completed.<sup>3,8,12</sup> As a result of these changes, delays in academic activities have stressed students and negatively affected their mental health.<sup>7,10,13</sup>

Secondly, after the decision of closing the universities, the students had to travel between cities and return to their homes. Given that teens are more asymptomatic carriers<sup>14</sup>, students felt anxiety and fear of transmitting the COVID-19 infection to their families when they returned home. Students had to manage the issue of canceling the paid accommodation, dormitory, house, etc. and carrying their belongings and cope with the financial consequences of this situation.<sup>10</sup> On the other hand, the distance between people has gradually increased due to quarantine.<sup>13</sup> Students were deprived of on-campus social relations, rehabilitation, counseling services, and job opportunities.<sup>10</sup> Also, travel restrictions and curfews, which changed the daily routine of students and caused immobility, created stress.<sup>9,13</sup>

Thirdly, the fact that the nurses were forefront fighters in the COVID-19 pandemic, the role of the nursing profession in protecting public health in difficult conditions became clear to the public.<sup>5</sup> So that, in many countries, people applauded on balconies to thank healthcare professionals.<sup>15,16</sup> Nursing students, like every individual, witnessed the experiences of nurses.<sup>3</sup> Some of the difficulties faced by

nurses in this process are childcare problems, increased workload, long working hours<sup>17</sup>, the fear of being infected, and infecting others<sup>18</sup>, insufficient resources despite the rapid increase in the number of cases<sup>4</sup>, lack of protective equipment (gowns, masks, disinfectants)<sup>19</sup>, high levels of uncertainty, reluctance, anxiety, stress and depression.<sup>4,17,20</sup> Nursing students who witnessed these difficulties faced by nurses felt themselves under professional pressure.. Although nursing students want to support their colleagues and patients in the field, they were concerned about the enormous risks posed by the infection. Staying home without doing anything made them feel helpless as well. Before the pandemic, one in every five college students experienced one or more diagnosable mental disorders worldwide<sup>21</sup>, and it was foreseen that the psychological effects of COVID-19 could increase this number and lead to a range of psychological consequences such as stress on students.<sup>10,22</sup>

Finally, the changes during the pandemic made it an urgent issue for university students to analyze the situation and

determine solution strategies.<sup>10</sup> Studies were conducted on the psychological effects of the pandemic on patients, healthcare professionals, children, and the elderly.<sup>17,23-25</sup> However, it was seen that there are a limited number of studies on the perceived stress<sup>1</sup> and professional attitude<sup>3,26</sup> of nursing students. No detailed study, that reveals the relationship between undergraduate nursing students' perceived stress during the pandemic and their professional attitudes, has been found.

This study aims to determine the relationship between the stress levels perceived by nursing students during the pandemic and their attitudes towards the nursing profession with the differences between demographic variables. In this regard, of students during the pandemic process a) What is the level of stress and professional attitudes? b) Are there any differences in stress and professional attitudes' levels according to demographic variables? c) Is there a relationship between stress and professional attitudes?

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### Design

This study used a cross-sectional survey design.

### The Sample of the Study

The sample consisted of 494 undergraduate nursing students. The data for this study were collected through an online questionnaire using easy snowball sampling techniques to increase student participation. The survey link, which was created through the Google form, was first sent to the students who are studying in the nursing departments of the universities in Istanbul and Osmaniye, where the researchers are in contact, via Whatsapp and e-mail groups. Students who were sent the link were asked to participate in the survey and forward the link to other potential participants. Nursing students who agreed to participate in the study were included in the study.

### Instruments

The data were collected using the "Information Form", "Perceived Stress Scale (PSS)" and "Attitude Scale for Nursing Profession (ASNP)" prepared by the researchers.

Information Form: It consists of nine questions regarding the socio-demographic characteristics of nursing students including age, gender, marital status, family residence, grade, geographical region of the university, the reason for choosing the nursing department, presence of a healthcare professional in the nuclear family and the average time spent following the daily news on COVID-19 (news channels, official social media accounts, etc.).

Perceived Stress Scale (PSS): It was developed by Cohen, Kamarck & Mermelstein (1983) and Cronbach's Alpha value was found as 0.86.<sup>27</sup> In this study, the

scale adapted to Turkish by Bilge, Oğce, Genç and Oran (2007) was used and Cronbach's Alpha value was found as 0.81. There are 8 items in the scale used to evaluate the stress experienced in the last month. It is a 5-point Likert type scale (0: never; 1: rarely; 2: sometimes; 3: often; 4: very often). There are two sub-dimensions as perceived stress (items 1, 2, 3, 7, 8) and perceived coping (items 4, 5, 6). The scale is evaluated based on the total score. A high total score shows a high level of perceived stress.<sup>28</sup> In this study, Cronbach's Alpha value for the overall scale is 0.75.

Attitude Scale for Nursing Profession (ASNP): It was developed by Coban and Kasıkcı (2011) and Cronbach's Alpha value was found to be 0.91. There are a total of 40 items. On the 5-point Likert type scale (1: strongly agree; 2: agree; 3: moderately agree; 4: slightly agree; 5: disagree). It consists of three sub-dimensions. The first 18 items constitute the characteristics of the nursing profession sub-dimension, the 19th to 31st items constitute the preference of the nursing profession sub-dimension, and the 32nd to 40th items constitute the attitude towards the general position of the nursing profession sub-dimension.<sup>29</sup> In this study, Cronbach's Alpha value for the overall scale is 0.94.

### Data Collection and Analysis

The survey was designed by researchers in the Google Drive online survey system. The nursing students were informed about the study, and their informed consent was included. The online survey link was delivered to nursing students between May 15 and June 15, 2020 via WhatsApp

application due to the pandemic. WhatsApp application was preferred because it is a legal and commonly used application in Turkey. The data were analyzed using the Statistical Package for the Social Sciences 22.0 program. Skewness and Kurtosis values of the data were examined. Independent sample t-test, one-way analysis of variance (ANOVA), Mann-Whitney U, and Kruskal-Wallis H analyzes were used. Correlation analysis was performed to determine the relationship between PSS and ASNP. Percentage and mean calculations were preferred for descriptive analysis. The significance level for the data was accepted as  $p < 0.01$  and  $p < 0.05$ .

### Ethical Consideration

This study was approved by the Turkish Ministry of Health (2020-05-26T16\_58\_39). Ethical approval was obtained from the research ethics committee of a university in Turkey (date: 13/05/2020, issue no: E.13009). Permission was obtained from the authors via e-mail to use PSS and ASNP.

### Limitations

Although the sample of the study represented all classes and 7 geographical regions in Turkey, it was limited to the voluntary participation of nursing students due to pandemic conditions. Therefore, the results cannot be generalized. In addition, positive or negative experiences that students may experience in the following days may lead to different findings.

### Acknowledgments

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## FINDINGS AND DISCUSSION

Of the students, 76.7% are female, 56.5% are aged 21 and over, 98.8% are single, 53.2% live in the city center, 49.8% study in a university in the Mediterranean Region, 32.4% are 2nd-grade students. The rate of students who willingly chose the nursing profession is 78.1%. In the study, 18.6% of the students have a healthcare professional in their nuclear family, and 57.5% spend an

average of 0-2 hours per day to follow COVID-19-related news (Supplemental Table 1).

The overall PSS mean score was  $15.60 \pm 4.89$ , perceived stress and perceived coping sub-dimension mean scores were  $5.82 \pm 2.22$  and  $9.78 \pm 3.82$ , respectively. The overall ASNP mean score was  $170 \pm 20.79$ . The characteristics of the nursing profession,

the preference of the nursing profession, and the attitude towards the general position of the nursing profession sub-dimension mean scores were  $80.36 \pm 10.61$ ,  $50.79 \pm 9.08$  and  $38.91 \pm 5.90$ , respectively (Table 1).

**Table 1. Statistics of Perceived Stress and Attitude Scale for Nursing Profession**

	Minimum	Maximum	Mean	SD
<b>Perceived Stress Scale (Overall)</b>	0	32	15.60	4.89
<b>Perceived Stress</b>	0	20	9.78	3.82
<b>Perceived Coping</b>	0	15	5.82	2.22
<b>Characteristics of Nursing Profession</b>	18	90	80.36	10.61
<b>Preference of Nursing Profession</b>	13	65	50.79	9.08
<b>Attitude Towards General Position of Nursing Profession</b>	9	45	38.91	5.90
<b>Attitude Towards Nursing Profession (Overall)</b>	40	200	170	20.79

A significant difference was found between the overall PSS and sub-dimension mean scores and grade and the presence of healthcare professionals in the nuclear family. Also, a significant difference was found between the nursing students' perceived coping sub-dimension mean score and age groups ( $p < 0.05$ , Table 2).

A significant difference was found between the mean scores for overall ASNPs, the characteristics of the nursing profession and the attitude towards the general position of the nursing profession sub-dimensions and the geographical region of the universities. A significant difference was determined between the mean scores of the characteristics of the nursing profession and the attitude towards the general position of the nursing profession sub-dimensions and age groups. A significant difference was found between the characteristics of the

nursing profession sub-dimension mean score and grade ( $p < 0.05$ , Table 3). There was no statistically significant difference between the preference of the nursing profession sub-dimension mean score and demographic variables

The attitude towards the nursing profession (general) was significantly and positively related to the characteristics of the nursing profession and all sub-dimensions. A statistically significant and positive relationship was found between perceived stress (general) and all sub-dimensions ( $p < 0.01$ ,  $p < 0.05$ , Table 4).

**Table 2. Analysis of the Perceived Stress Scale by Socio-Demographic Variables**

Demographic Variable			Perceived Stress	Perceived Coping	Perceived Stress (General)
		N	Mean	Mean	Mean
<b>Gender**</b>	Female	379	9.82±3.73	5.81±2.19	15.63±4.80
	Male	115	9.66±4.09	5.85±2.33	15.51±5.18
<b>Test value</b>			t:0.392 p:0.695	t:-0.167 p:0.868	t: 0.231 p:0.818
<b>Marital Status**</b>	Single	488	9.76±3.81	5.82±2.22	15.59±4.91
	Married	6	11.16±4.35	5.50±2.66	16.66±3.07
<b>Test value</b>			t:-0.892 p:0.373	t:0.356 p:0.722	t:-0.534 p:0.593
<b>Age**</b>	18-20	215	9.66±3.75	5.58±2.22	15.24±4.85
	21 and over	279	9.87±3.87	6.00±2.21	15.88±4.90
<b>Test value</b>			t:-0.604 p:0.546	t:-1.115 <b>p:0.035*</b>	t:-1.432 p:0.153
<b>In what grade do you study in the nursing department?***</b>	Grade 1	97	9.55±3.58	5.71±2.19	15.26±4.61
	Grade 2	160	9.36±3.82	5.50±2.30	14.86±4.99
	Grade 3	100	9.98±3.47	5.84±2.03	15.82±4.11
	Grade 4	137	10.28±4.16	6.26±2.23	16.54±5.34
<b>Test value</b>			f:1.623 p:0.183	f:3.026 <b>p:0.029*</b>	f:3.161 <b>p:0.024*</b>
<b>Which geographical region the university you are studying at is located?***</b>	Mediterranean Region	246	9.48±3.81	5.86±2.25	15.35±4.81
	Aegean Region	114	10.22±3.77	6.22±2.03	16.45±4.62
	Eastern Anatolia Region	4	11.75±5.50	5.75±0.50	17.50±5.68
	Southeastern Anatolia Region	9	8.44±1.01	5.44±1.33	13.88±2.02
	Central Anatolia Region	21	10.14±3.69	5.47±2.01	15.61±4.94
	Black Sea Region	64	10.31±4.23	5.54±2.63	15.85±5.81
	Marmara Region	36	9.36±3.44	5.02±2.00	14.38±4.64
<b>Test value</b>			f:1.175 p:0.318	f:1.719 p:0.115	f:1.374 p:0.223
<b>Are there any healthcare professionals in your nuclear family?***</b>	Yes	92	10.28±3.94	6.26±2.26	16.54±4.86
	No	402	9.66±3.78	5.72±2.20	15.39±4.87
<b>Test value</b>			t:1.391 p:0.165	t:2.104 <b>p:0.036*</b>	t:2.046 <b>p:0.041*</b>
<b>Where does your family live?***</b>	City center	263	9.62±3.70	5.82±2.17	15.45±4.58
	District center	140	9.59±3.97	5.85±2.38	15.45±5.36
	Village/Town	91	10.52±3.86	5.75±2.13	16.28±4.97
<b>Test value</b>			f:2.129 p:0.120	f:0.055 p:0.947	f:1.079 p:0.341
<b>Preference of the nursing department**</b>	Willingly	386	9.74±3.75	5.74±2.18	15.49±4.73
	Unwillingly	108	9.91±4.07	6.08±2.34	16.00±5.41
<b>Test value</b>			t:-0.410 p:0.682	t:-1.382 p:0.167	t:-0.948 p:0.343
<b>Average time (hours) spent following COVID-19-related news***</b>	0-2 hours	284	9.89±3.77	5.70±2.21	15.59±4.80
	3-4 hours	118	9.77±3.85	6.10±2.22	15.87±4.97
	5 hours and over	92	9.45±3.94	5.83±2.25	15.29±5.08
<b>Test value</b>			f:0.456 p:0.634	f:1.357 p:0.258	f:0.363 p:0.696

\* $p < 0.05$ , \*\*independent sample t-test, \*\*\*one-way analysis of variance (ANOVA)

**Table 3. Analysis of Attitude Scale for Nursing Profession by Socio-Demographic Variables**

Demographic Variable		Characteristics of Nursing Profession		Preference of Nursing Profession
		N	Mean Rank	Mean
<b>Gender**</b>	Female	379	252,20	50,90±8,86
	Male	115	232,03	50,41±9,81
<b>Test value</b>			z:-1,329 p:0,184	t:0,506 p:0,613
<b>Marital Status**</b>	Single	488	247,37	50,80±9,12
	Married	6	258,33	50,00±6,19
<b>Test value</b>			z:-0,187 p:0,851	t:0,215 p:0,830
<b>Age**</b>	Aged 18-20	215	232,15	51,06±8,91
	Aged 21 and over	279	259,33	50,58±9,22
<b>Test value</b>			z:-2,102 <b>p:0,036*</b>	t:0,583 p:0,560
<b>In what grade do you study in the nursing department?***</b>	Grade 1	97	258,36	51,19±8,07
	Grade 2	160	230,50	50,95±9,30
	Grade 3	100	231,73	51,10±8,99
	Grade 4	137	271,18	50,10±9,61
<b>Test value</b>			$\chi^2$ :7,849 <b>p:0,049*</b>	f:0,380 p:0,767
<b>Which geographical region the university you are studying at is located?***</b>	Mediterranean Region	246	227,63	9,38±0,59
	Aegean Region	114	275,76	50,71±8,95
	Eastern Anatolia Region	4	80,38	47,25±17,15
	Southeastern Anatolia Region	9	291,83	52,22±7,74
	Central Anatolia Region	21	231,60	52,90±8,47
	Black Sea Region	64	277,39	52,40±8,47
	Marmara Region	36	257,42	52,41±7,84
<b>Test value</b>			$\chi^2$ :18,891 <b>p:0,004*</b>	f:1,174 p:0,319
<b>Are there any healthcare professionals in your nuclear family?***</b>	Yes	92	238,99	51,92±7,79
	No	402	249,45	50,53±9,34
<b>Test value</b>			z:-0,635 p:0,526	t:1,324 p:0,186
<b>Where does your family live?***</b>	City center	263	246,50	50,49±8,61
	District center	140	240,35	50,76±9,30
	Village/ Town	91	261,40	51,71±10,06
<b>Test value</b>			$\chi^2$ :1,230 p:0,541	f:0,613 p:0,542
<b>Preference of the nursing profession**</b>	Willingly	386	249,76	50,92±9,09
	Unwillingly	108	239,42	50,33±9,07
<b>Test value</b>			z:-0,667 p:0,505	t:0,595 p:0,552
<b>Average time (hours) spent following COVID-19-related news***</b>	0-2 hours	284	243,87	50,60±9,37
	3-4 hours	118	253,47	51,03±8,83
	5 hours and over	92	251,05	51,06±8,56
<b>Test value</b>			$\chi^2$ :0,449 p:0,799	f:0,143 p:0,867

\* $p < 0,05$  \*\*independent sample t-test, \*\*\*one-way analysis of variance (ANOVA)

Table 3. (Continued)

Demographic Variable			Attitude Towards General Position of Nursing Profession	Attitude Towards Nursing Profession (General)
		N	Mean Rank	Mean Rank
<b>Gender**</b>	Female	379	246,35	249,25
	Male	115	251,28	241,73
<b>Test value</b>			z: -0,326 p:0,745	z:-0,495 p:0,621
<b>Marital Status**</b>	Single	488	247,10	247,50
	Married	6	280,42	247,58
<b>Test value</b>			z:-0,570 p:0,568	z:-0,001 p:0,999
<b>Age**</b>	Aged 18-20	215	228,57	236,80
	Aged 21 and over	279	262,09	255,74
<b>Test value</b>			z:-2,597 <b>p:0,009*</b>	z:-1,462 p:0,144
<b>In what grade do you study in the nursing department?***</b>	Grade 1	97	223,23	246,90
	Grade 2	160	239,20	235,50
	Grade 3	100	257,23	249,63
	Grade 4	137	267,27	260,39
<b>Test value</b>			$\chi^2$ :6,484 p:0,090	$\chi^2$ : 2,273 p:0,518
<b>Which geographical region the university you are studying at is located?***</b>	Mediterranean Region	246	232,39	228,60
	Aegean Region	114	272,86	266,44
	Eastern Anatolia Region	4	124,25	126,25
	Southeastern Anatolia Region	9	340,94	300,61
	Central Anatolia Region	21	259,40	260,07
	Black Sea Region	64	239,22	274,16
	Marmara Region	36	268,57	262,15
<b>Test value</b>			$\chi^2$ :14,441 <b>p:0,025*</b>	$\chi^2$ :13,236 <b>p:0,039*</b>
<b>Are there any healthcare professionals in your nuclear family?***</b>	Yes	92	233,92	251,86
	No	402	250,61	246,50
<b>Test value</b>			z:-1,015 p:0,310	z:-0,325 p:0,745
<b>Where does your family live?***</b>	City center	263	243,17	242,91
	District center	140	251,64	244,36
	Village/ Town	91	253,63	265,59
<b>Test value</b>			$\chi^2$ :0,531 p:0,767	$\chi^2$ :1,803 p:0,406
<b>Preference of the nursing profession**</b>	Willingly	386	249,62	250,87
	Unwillingly	108	239,93	235,47
<b>Test value</b>			z:-0,626 p:0,531	z:-0,991 p:0,322
<b>Average time (hours) spent following COVID-19-related news***</b>	0-2 hours	284	240,58	245,61
	3-4 hours	118	258,47	250,34
	5 hours and over	92	254,79	249,70
<b>Test value</b>			$\chi^2$ :1,615 p:0,446	$\chi^2$ :0,119 p:0,942

\*p<0,05, \*\*independent sample t-test, \*\*\*one-way analysis of variance (ANOVA)



**Table 4. Correlation Analysis between Perceived Stress and Attitude for Nursing Profession**

		Perceived Stress (General)	Perceived Stress	Perceived Coping
<b>Attitude Towards Nursing Profession (General)</b>	r	.003	.068	-.105*
	p	.951	.134	.020
<b>Characteristics of Nursing Profession</b>	r	.055	.123**	-.088
	p	.220	.006	.051
<b>Preference of Nursing Profession</b>	r	-.091*	-.044	-.118**
	p	.042	.334	.008
<b>General Position of Nursing Profession</b>	r	.143**	.177**	.004
	p	.001	.000	.931

\*\* $p < 0.01$  \* $p < 0.05$

In this study, it was determined that nursing students perceived moderate stress. In a study conducted with nursing students using a different version of the PSS (PSS-14), they perceived moderate stress during the pandemic<sup>1</sup> and the mean score was found to be higher compared to another study conducted before the pandemic using the same scale.<sup>30</sup> Accordingly, it was reported that the pandemic may have increased the stress level of students.<sup>1</sup> In this study, overall PSS and sub-dimension mean scores of the 4th-grade students with a healthcare professional in their nuclear family were found to be significantly higher ( $p < 0.05$ ). With the pandemic, reasons such as the transition to distance education, the inadequacy of students' computer and internet access facilities, incomplete hospital and internship training, the pressure of starting working are among the stressors that can cause psychological effects associated with COVID-19.<sup>12,13,17</sup> Students with healthcare professionals in their nuclear family have closely witnessed the difficulties experienced by healthcare professionals in the field and how they were affected.<sup>3,4,17,19,20</sup> Academic delays and the uncertainty about the process related to the burden of healthcare professionals due to the pandemic is thought to be a factor that reduces perceived coping and increases the stress level of the final grade students and family healthcare professionals.<sup>7,8</sup> In this study, the perceived coping sub-dimension mean score of nursing students aged 21 and over was found to be significantly higher ( $p < 0.05$ ). Considering that students in the age group 21 and over are 3rd and 4th grades, it is thought

that there may be an increase in stress levels due to academic delays as well as anxiety about graduation and starting the profession.<sup>3,12</sup>

In this study, it was found that students showed a positive attitude towards the nursing profession ( $170 \pm 20.79$ ). Similar results were obtained in a limited number of studies conducted on the professional attitude of nursing students during the pandemic.<sup>26</sup> Studies conducted before the pandemic also found results showing a positive attitude.<sup>31,32</sup> This situation may be related to the important role of nurses in protecting public health and the appreciation they receive from the society, although nursing students witness the experiences of their colleagues in the field.<sup>26,33</sup> In this study, the mean scores for overall ASNP, the characteristics of the nursing profession, and the attitude towards the general position of the nursing profession sub-dimensions were found to be significantly higher in the nursing students studying in the Southeastern Anatolia Region ( $p < 0.05$ ). This result may be related to the fact that the Southeastern Anatolia Region is an underdeveloped region in terms of employment, health and socio-cultural opportunities and that the employment needs of students are higher than other students.<sup>34</sup>

The sub-dimension of the characteristics of the nursing profession and the attitude towards the general position of the nursing profession was found to be significantly higher in students aged 21 and over ( $p < 0.05$ ). Also, 4th-grade students' characteristics of the nursing profession sub-dimension were found to be significantly higher ( $p < 0.05$ ).

This situation can be associated with the higher professional consciousness and awareness of the students depending on the vocational education they receive. Also, there was no significant relationship between the two scales in the study ( $p < 0.01$ ,  $p < 0.05$ ). This result can be interpreted as the fact that

the perceived stress of the students had not no correlation with their attitude towards the nursing profession.

## CONCLUSION AND RECOMMENDATIONS

In many countries, the closure of universities to reduce the effects of the pandemic affected millions of students, and their daily routines were greatly disrupted. This situation has become an urgent issue to be examined. It was determined in the study that nursing students perceived moderate stress and show a positive attitude towards the nursing profession. It was determined that there was no relationship between perceived

stress and professional attitude. During the ongoing pandemic process, the content of educational curricula in nursing schools should be revised, with a particular focus on the development of stress management skills. Also, the government and universities should work to provide qualified, accessible psychological and academic counseling to university students.

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