



## DID THE COVID-19 PANDEMIC AFFECT ON NURSING STUDENTS' PROFESSIONAL ATTITUDES? A DESCRIPTIVE STUDY

### COVID-19 PANDEMİSİ HEMŞİRELİK ÖĞRENCİLERİNİN MESLEKİ TUTUMLARINI ETKİLEDİ Mİ? TANIMLAYICI ÇALIŞMA

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#### ABSTRACT

**Objective:** To investigate the impact of the COVID-19 on professional attitudes of nursing students.

**Methods:** The research was conducted as descriptive and time-dependent cross-sectional type of nursing students at a university in eastern Turkey. Students of the related department constituted the research population. No sampling was performed (N=242) Data were analyzed using descriptive statistics, Mann-Whitney U, Kruskal Wallis and Correlation tests.

**Results:** The general professional attitude in nursing students during the COVID-19 Pandemic period was found positively high-level, except the subscale attitude of choosing the profession with the subscale attitudes of professional characteristics and general status of the profession. While the general professional attitude, professional characteristics attitude and the attitude towards the general status of the profession in female and final year students was significantly the highest-level ( $p<.05$ ), the attitude of choosing the profession was found negative in all students. A positive correlation was established between the levels of age and nursing education of the students and their attitudes of general nursing profession and choosing the profession ( $p<.05$ ).

**Conclusion:** During the pandemic process, there may be other factors affecting the professional attitude of nursing students, future studies may investigate the factors that may be influential extensively. In pandemic and similar crisis situations, students can be empowered more easily by considering their age and education level.

**Keywords:** COVID-19, nursing student, professional, attitude.

#### ÖZET

**Amaç:** COVID-19'un hemşirelik öğrencilerinin mesleki tutumları üzerindeki etkisini araştırmaktır.

**Yöntem:** Araştırma, Türkiye'nin doğusundaki bir üniversitede öğrenim gören hemşirelik öğrencilerinin tanımlayıcı ve zamana bağlı kesitsel tipte çalışması olarak yapılmıştır. Araştırmanın evrenini ilgili bölümdeki öğrenciler oluşturmuştur. Örneklem yöntemi uygulanmadan evrenin tümüne ulaşılmaya çalışılmıştır. (S=242). Veriler, tanımlayıcı istatistikler, Mann-Whitney U, Kruskal Wallis ve Korelasyon testleri kullanılarak analiz edilmiştir.

**Bulgular:** COVID-19 Pandemisi sürecinde hemşirelik öğrencilerinin genel mesleki ve meslek seçme tutumları ile mesleki özellikler ve mesleğin genel durumu tutumları arasında pozitif yönde yüksek düzeyde anlamlı bir ilişki bulunmuştur. Son sınıf hemşirelik öğrencilerinde genel mesleki tutum, mesleki özellikler tutumu ve mesleğin genel durumuna yönelik tutum anlamlı düzeyde en yüksek iken ( $p<.05$ ), meslek seçme tutumu ise tüm öğrencilerde olumsuz bulunmuştur. Öğrencilerin yaş ve hemşirelik eğitim düzeyleri ile genel ve mesleği seçmelerine yönelik tutumları arasında pozitif yönde ilişki saptanmıştır ( $p<.05$ ). Meslek seçim ve genel hemşirelik meslek tutumu ile hemşirelik öğrencilerinin eğitimi ve yaşları arasındaki ilişki pozitif yönde anlamlı bulunmuştur.

**Sonuç:** Pandemi sürecinde hemşirelik öğrencilerinin mesleki tutumlarını etkileyen başka faktörler de olabilir, bundan sonraki çalışmalarda etkili olabilecek faktörler kapsamlı olarak araştırılabilir. Pandemi ve benzeri kriz durumlarında öğrenciler, yaşları ve eğitim düzeyleri dikkate alınarak daha kolay güçlendirilebilir.

**Anahtar Kelimeler:** COVID-19, hemşirelik öğrencisi, profesyonel, tutum.

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## INTRODUCTION

Coronavirus is a member of a large virus family which can be hosted in both humans and animals (1, 2, 3). The SARS-CoV-2 called COVID-19 and resulting in acute respiratory tract disease is a new betacoronavirus (2, 4).

The currently ongoing epidemic, which caused the World Health Organization (WHO) to declare it an international public health emergency and was called “Severe Acute Respiratory Distress Syndrome-Coronavirus-2” (SARS-CoV-2/2019-nCoV) in the first days of the outbreak, has remained on the global agenda since December 2019 (1, 2, 3).

COVID-19 was defined as a “pandemic” by WHO and put the whole globe on red alert. This is an unprecedented global issue, and humanity is facing coronavirus (3, 5).

COVID-19 pandemic has been leading to problems in many fields. The primary field of these is the healthcare sector. The main battlefield for the fight is hospitals with healthcare personnel (5, 6). Nurses appear before us as the professional group fighting at the forefront regarding this issue (6, 7). The first experiences about COVID-19 constituted the most valuable information resource for pre-eminent healthcare workers (5). The lack of an effective treatment resulted in feelings of anxiety and panic in nurses facing disease and death risk.

In Turkey, the panic atmosphere caused by the occurrence of the first cases has spread to a wide area from education to economy in our society. Many healthcare workers and students have contracted COVID-19, and several nurses have died. During this process, nursing students were removed from all clinics in training hospitals as in some countries (8, 9). The main reason for this was to secure students' lives. In addition, our students are not covered by health insurance as in some countries.

Nursing students have many reasons for choosing the nursing profession, as well as the reasons for leaving the profession (10). Therefore, it was observed that the COVID-19

pandemic paved the way for a negative professional perspective on nursing students. Therefore, this situation can affect the expectations related to their occupations and their decisions in nursing students.

Nursing students have been the focus of a significant amount of research worldwide, as they are the future of the nursing workforce and need to remain in the nursing profession (8, 11, 12). This situation continues with increasing concern during the COVID-19 pandemic process.

In two recent studies about the topic in our country, as towards the nursing profession during the COVID-19 pandemic, it is detected that anxiety levels and attitudes of nursing students and the effect of perceived stress and personality types of nursing college students on attitudes during the COVID-19 pandemic (13,14). In a similar study done in China, it is investigated the professional identity of nursing students and their intention to leave the nursing profession during the COVID-19 Pandemic.

This research aims to investigate the impact of the COVID-19 on the professional attitudes of nursing students who are taking nursing training during the COVID-19 pandemic. With research about the topic, data that will form the basis for strategies to be developed for similar situations that humanity may encounter and for the up-to-dateness of nursing education can be provided, a useful guide can be created in preparing nursing students.

### Research Questions

**Q<sub>1</sub>:** Does the COVID-19 Pandemic affect the nursing students' professional attitudes?

**Q<sub>2</sub>:** During the COVID-19 Pandemic, do nursing students' characteristics affect their professional attitudes?

**Q<sub>3</sub>:** During the COVID-19 Pandemic, is there a relationship between nursing students' characteristics and their professional attitudes?

## METHODS

**Design:** The research was performed in descriptive and time-related cross-sectional type.

**Study Population and Sample:** The research was performed in Van Yüzüncü Yıl University, Health Sciences School students between the dates of May 1 and 30, 2020. Students of the related department (N=450) constituted the research population. The whole population was studied without performing any sampling. The power analysis and sampling size were determined as 162 with 40 impacts, 95% power and .05 margin of error. 320 nursing students were reached out to within the period between the designated dates. 78 students didn't want to participate in the study. The research was completed with 242 students. More number of students than the sufficient sampling size were reached utilizing power analysis (15).

The dependent variable of the research is the attitude of students towards the nursing profession, and the independent variable is the characteristics of students (gender, nursing education level, the manner of choosing to nursing, the impact of the COVID-19 pandemic period on love of nursing, the state of planning to leave nursing, reasons for leaving nursing).

**Data Collection Tools:** The data was acquired with the Questionnaire Form and the Nursing Profession Attitude Scale.

**Questionnaire Form:** The form prepared by the researchers was composed of questions establishing the personal and professional characteristics and the points of view of students regarding the nursing profession during the COVID-19 pandemic.

**Nursing Profession Attitude Scale (NPA-S):** The Scale developed by Çoban (16) is a 5-point Likert type evaluation tool with three subscales - professional characteristics of nursing, the manner of choosing the nursing profession, and the general status of the nursing profession- given points between 1 and 5. On the scale, there are 40 statements in total

including 18 items for the subscale of the characteristics of the nursing profession (between item 1 and 18), 13 items for the subscale of the manner regarding choosing the nursing profession (between item 19 and 31) and 9 items for the attitude subscale of general status of the nursing profession (between item 32 and 40). The internal consistency coefficient of the scale is .91. For positive questions; the "strongly disagree" answer scores "1" point, the "slightly agree" answer scores "2", the "moderately agree" answer scores "3", the "strongly agree" answer scores "4" and the "completely agree" answer scores "5" points. The items to be given points reversely are item 21, 23, 25, 26, 28, 30, 34, and 38 on the scale. The positive attitude regarding the nursing profession was accepted to increase along with the points obtained from the scale, and a score below 3 was determined negative and a score above 3 (inclusive) positive. In this study, the internal consistency coefficient of the scale was established .92.

**Data Collection:** The data collection forms prepared on the program GoogleDocs were sent online to the nursing students of the aforementioned university within the period between the dates of May 1 and 30, 2020 (via e-mail or WhatsApp). 320 nursing students were reached, and 78 of these students didn't want to participate in the research, and the questionnaire was implemented with 242 students (76%).

**Ethical Considerations:** Approval was obtained from the Ethics Committee (2020/39) in order to conduct the research. The students who accepted to participate in the research were provided with the necessary information about the purpose and implementation method of the research on the online questionnaire, and the ones who approved participated in the study. In the research, the principles of confidentiality and respect for autonomy were satisfied. The principles of the Helsinki Declaration of Human Rights were followed

during the course of the study regarding the need for the protection of individual rights.

**Data Analysis:** Data were analyzed using the Statistical Package for the Social Sciences (17). For socio-demographic data, descriptive statistics were used to summarise the characteristics of participants. In the research, firstly, the normality test was conducted to detect the normality assumption, and the Skewness/Shapiro-Wilk coefficient was checked (17). Group differences were compared using univariate analysis of variance with a p-value of less than 0.05 to establish significance. The data was assessed as use: Mann-Whitney U and Kruskal Wallis tests, and variance analysis in the determination of the COVID-19 Pandemic's effect on nursing students' professional attitudes; Mann-Whitney U and Kruskal Wallis tests in the determination of the nursing students' characteristics' effect on their professional attitudes during the COVID-19 Pandemic; and Correlation in the determination of the relationship between nursing students' characteristics and their professional attitudes during the COVID-19 Pandemic.

**Participants:** The participant nursing students were observed to be 72.3% female (Table 2), in the 21-25 age group by 61.2% and with higher income than costs by 59.9% and in the 4<sup>th</sup> year of their education by 33.5 % (Table 2).

## RESULTS

The point averages of students for nursing profession attitude was determined  $3.87 \pm .48$  for general professional attitude with the subscales of nursing profession characteristics established as  $4.43 \pm .56$ , of choosing the nursing profession as  $2.88 \pm .54$  and of general status of the nursing profession as  $4.21 \pm .70$ .

Even though the point average for the professional attitude of choosing the profession in students who chose to nurse willingly was below 3 ( $2.92 \pm .58$ ), it was found significantly higher compared to the ones who chose it

reluctantly ( $p < .05$ ). Even though no significance was determined regarding neither of the manners the students chose nursing willingly or reluctantly, the general professional attitude was established to be about 4 points, attitude subscales of professional characteristics and general status of the profession to be above 4 points and positive ( $p > .05$ ) (Table 1).

Even though no significance was determined regarding whether the nursing love of students was affected by the COVID-19 Pandemic period, the general professional attitude was found above 3 points, attitude subscales of professional characteristics, and general status of the profession to be above 4 points and positive ( $p > .05$ ). In students who love their profession but feel concerns, the attitude of choosing the profession ( $3.15 \pm .90$ ) was determined as significantly the highest and positive ( $p < .05$ ). Other answers from the highest to the lowest were “I loved it, and now I love it more”, “I loved it, and I still love it”, “I didn’t love it, and I still don’t love it”, “I loved it, but I don’t love it anymore” and “I didn’t love it, but now I love it” respectively, however, established negative ( $p > .05$ ) (Table 1).

The attitude of choosing the profession in students not planning to leave nursing during the COVID-19 Pandemic ( $2.99 \pm .62$ ) was determined significantly the highest but negative ( $p < .05$ ). Even though no significance was determined regarding the thought of leaving the profession, the general professional attitude was established to be above 3 points, attitude subscales of professional characteristics, and general status of the profession to be above 4 points and positive ( $p > .05$ ) (Table 1).

In students not planning to leave the profession as they still love the profession during the COVID-19 Pandemic, the professional attitude ( $3.92 \pm .47$ ) ( $p < .05$ ) and the subscale attitude of choosing the profession ( $2.97 \pm .60$ ) ( $p < .01$ ) were found significantly higher but negative in terms of choosing the

**Table 1.** The Impact of COVID-19 Pandemic on Professional Attitudes in Nursing Students (N=242)

Characteristics	N	%	Professional Attitudes			
			Professional Traits	Choosing Profession	the General Status of the Profession	General Average
			X ± SD	X ± SD	X ± SD	X ± SD
<b>The Manner of Choosing Nursing</b>						
Willingly	148	61.1	4.44±.59	2.92±.58	4.18±.75	3.89±.53
Reluctantly	94	38.9	4.41±.50	2.81±.46	4.25±.60	3.86±.38
<b>Test and p*</b>			U=.6495 p=.385	U=.5884 p=.043	U=6860 p=.856	U=.6347 p=.251
<b>The Impact of the COVID-19 Pandemic Period on Love of Nursing**</b>						
I loved it, and I still love it	138	57.0	4.47±.52	2.95±.55	4.16±.74	3.91±.47
I loved it, but I don't love it anymore	26	10.7	4.27±.77	2.73±.68	4.20±.87	3.75±.70
I didn't love it, but I love it now	45	18.6	4.39±.50	2.69±.36	4.25±.54	3.80±.38
I didn't love it, and I still don't love it	22	9.1	4.25±.63	2.84±.43	4.28±.62	3.80±.42
I loved it, and now I love it more	5	2.1	4.63±.32	2.96±.12	4.62±.38	4.09±.21
I love it, but I have concerns	6	2.5	4.81±.21	3.15±.90	4.53±.43	4.21±.41
<b>Test and p*</b>			KW= 9.851 P=.080	KW= 15.146 P=.010	KW=4.311 P=.506	KW=8.576 P=.127
<b>The State of Planning to Leave Nursing</b>						
No	96	39.7	4.47±.57	2.99±.62	4.18±.74	3.93±.52
Sometimes***	62	25.6	4.34±.54	2.83±.54	4.24±.61	3.82±.43
Rarely****	84	34.7	4.45±.55	2.77±.42	4.22±.72	3.85±.46
<b>Test and p</b>			F= 1.191 p=.306	F= 4.019 p=.019	F=.135 p=.874	F=2.609 p=.271
<b>Reasons for No Leaving Nursing*****</b>						
I loved it, and I still love it	136	56.2	4.47±.51	2.97±.60	4.18±.70	3.92±.47
I loved it, but now I am working out of necessity	42	17.4	4.30±.52	2.70±.43	4.26±.57	3.78±.38
<b>Test and p*</b>			U=3.737 p=.053	U=8.301p=.004	U=.240 p=.625	U=4.314p=.038

\*Data did not show a normal distribution (Shapiro-Wilk: p<.000) \*\*Open-ended questions \*\*\*Once a month \*\*\*\*Once a year \*\*\*\*\*During Pandemic

profession. Even though no significance was determined, attitude subscales of professional characteristics and general status of the profession were established to be above 4 points and positive ( $p > .05$ ) (Table 1).

Professional attitude in female students ( $3.93 \pm .43$ ) ( $p < .01$ ) and the attitude subscales of professional characteristics ( $4.48 \pm .50$ ) ( $p < .05$ ) and general status of the profession ( $4.31 \pm .64$ )

( $p < .001$ ) were found significantly higher and positive. While the professional attitude ( $3.99 \pm .45$ ) ( $p < .01$ ) in students in the graduation year and the attitudes of professional characteristics ( $4.53 \pm .50$ ) ( $p < .05$ ), choosing the profession ( $2.99 \pm .59$ ) ( $p < .05$ ) and the general status of the profession ( $4.36 \pm .72$ ) ( $p < .01$ ) were significantly the highest, the attitude of choosing the profession was established negative in all students (Table 2).

**Table 2.** The Professional Attitude Levels of Nursing Students According to Their Gender and Educational Level (N=242)

Characteristics	Professional Attitudes					
			Profession Traits	Choosing the Profession	General Status of the Profession	General Average
	N	%	$X \pm SD$	$X \pm SD$	$X \pm SD$	$X \pm SD$
<b>Gender</b>						
Female	175	72.3	4.48±.50	2.86±.51	4.31±.64	3.93±.43
Male	67	27.7	4.28±.65	2.84±.62	3.95±.79	3.74±.56
<b>Test and p*</b>			U=4719 p=.019	U=5306 p=.252	U=4157 p=.000	KW=4570.500 p=.008
<b>Nursing Education Level</b>						
1 <sup>st</sup> Year	41	16.9	4.42±.49	2.79±.46	4.14±.66	3.83±.42
2 <sup>nd</sup> Year	48	19.8	4.36±.47	2.78±.48	4.12±.57	3.79±.40
3 <sup>rd</sup> Year	72	29.8	4.36±.69	2.86±.54	4.14±.75	3.82±.57
4 <sup>th</sup> Year	81	33.5	4.53±.50	2.99±.59	4.36±.72	3.99±.45
<b>Test and p*</b>			KW= 7.90 p=.048	KW= 10.766 p=.013	KW= 15.381 p=.002	KW= 13.115 p=.004

\*Data did not show a normal distribution (Shapiro-Wilk:  $p < .000$ )

A positive correlation was established between the levels of age and nursing education of the students and their attitudes

toward the general nursing profession and choosing the profession ( $p < .05$ ) (Table 3).

**Table 3.** The Relationship of Professional Attitudes with Age and Nursing Education Level in Nursing Students (N=242)

Scale	Age		Nursing Education Level	
	r	p	r	p
General	-.032	.616	.139*	.030
Professional Traits of Nursing	-.041	.521	.087	.179
Choosing Nursing Profession	-.027	.674	.149*	.021
General Status of Nursing Profession	-.002	.973	.119	.064

Note.\* Correlation is significant at the 0.05 level (2-tailed).

## DISCUSSION

In the research, assessing the impact of the COVID-19 Pandemic on professional attitudes in nursing students and investigating the influential factors, the general attitude for the nursing profession in students was

determined positive and high regarding the attitude subscales of professional characteristics and general status of the profession but negative for the attitude of choosing the nursing profession. As expected,

the negativity in the attitude of choosing the profession was found in all of the variables. Therefore, the COVID-19 Pandemic has affected the nursing students' professional attitudes. In a similar study conducted during the COVID-19 pandemic, resembling results were obtained, and the professional attitudes of nursing students were determined positive and high (13). The positive attitude regarding the nursing profession was accepted to increase along with the professional attitude points, and a score below 3 was accepted negative and a

score above 3 (inclusive) positive.<sup>16</sup> In the research, the establishment of attitude toward choosing the nursing profession as negative may have originated from emotions such as professional disappointment, the desire and fear to protect themselves and others, feeling insignificant and unrewarded (9).

Even though the attitude of choosing the profession in students who chose to nurse willingly was negative in the research, it was found significantly higher compared to the ones who chose it reluctantly ( $p < .05$ ). During the COVID-19 Pandemic period, in a similar study conducted, the attitude of choosing nursing profession in students who chose to nurse willingly was established positive and significantly higher-level (13). In the research, the negativity of the attitude of choosing the profession can be related to the regional differences in case density. In studies conducted previous to the COVID-19 Pandemic, the attitudes towards the occupation in students who chose the profession willingly were established positive likewise (19,20,21).

The conclusion of the study is in accordance with the literature. Choosing the profession was reported considerably important in terms of doing the job willingly, loving the institution of work and colleagues, good work relationships and high professional satisfaction, and thus a better perception of the work environment, and it was expressed that higher-level attitudes towards the profession are expected in students who chose the

profession willingly (10,13). Furthermore, it was reported that professional identity is important for nurses, nursing has a distinctive reward for some and many utilize this as a key driving force in choosing a career (22). In the virtual interviews made with nursing program applicants during the COVID-19 Pandemic period, the sentiment that the value attributed to nurses by the public due to the pandemic promoted positively to their career choices (9). In addition to all these, choosing the profession reluctantly was reported to possibly lead to the situations of inability to handle challenges and perceptions of negative work environments and low job satisfaction (10,23), and it was suggested that the COVID-19 pandemic can affect professional processes negatively (13).

In the research, in terms of the impact of the COVID-19 Pandemic period on love of nursing in students, the attitude of choosing the profession was determined as positive and significantly higher in students who love their profession but have concerns ( $p < .05$ ). Other answers from the highest to the lowest were "I loved it, and now I love it more", "I loved it, and I still love it", "I didn't love it, and I still don't love it", "I loved it, but I don't love it anymore" and "I didn't love it, but now I love it" respectively, however, established negative ( $p > .05$ ) (Table 1). Nurses, too, are human beings and partners, children, mothers, fathers, relatives, and friends to someone. They worry about themselves, and their relatives and circles as well, for getting infected and transmitting the infection to them. It was demonstrated that during epidemics, individuals are more concerned (24-27). The predominant number of female students in the research might have increased the rate of concerned ones. Women are reported to be more concerned than men (28, 29). However, the persistence of the love for the profession during the pandemic might have been caused by that more than half of the students chose the nursing profession willingly.

In the research, the attitude of choosing the profession in students not planning to leave

nursing during the COVID-19 Pandemic was determined significantly the highest but negative ( $p < .05$ ) (Table 1). Students provided two different answers regarding the reason not to leave the profession as the persisting love for the profession and the inevitable necessity to work. The general professional attitude ( $p < .05$ ) and the attitude of choosing the profession ( $p < .01$ ) in students not planning to leave the profession were found significantly higher but negative in terms of choosing the profession (Table 1). A similar study conducted during the COVID-19 Pandemic established the attitudes of choosing the profession and general professional as positive and significantly higher-level in students not planning to leave the nursing profession (13).

Considering that the higher the benefit rate provided by the nursing profession increases, the higher the status of the profession becomes, a stronger professional commitment was expected during the COVID-19 pandemic period. The nursing profession became the center of global attention unexpectedly following the designation of the year 2020 as “the Year of the Nurse and the Midwife” by the World Health Organization, and as the nursing profession came to the spotlight, it finally received the well-deserved appreciation during the COVID-19 pandemic (30). This pandemic has proved all across the world that nursing practices are irreplaceable and nurses have been extolled as heroes (3). Even though this enhanced the professional commitment of students, the pandemic may have caused a negative attitude regarding their choice of profession.

In the research, the general professional attitude ( $p < .01$ ) and the subscale attitudes of professional characteristics ( $p < .05$ ), and the general status of the profession ( $p < .001$ ) during the COVID-19 Pandemic in female students were found positive and significantly higher (Table 2). In a similar study conducted during the COVID-19 Pandemic, the general professional attitude and subscale professional characteristics were found significantly higher

and more positive in female students (13). In the studies conducted before the pandemic, it was concluded that female students have a significantly higher-level professional attitude compared to males and it was expressed that as male students choose the nursing profession for convenient employment opportunities, this can affect their professional attitudes negatively (19, 20). Furthermore, it was suggested that for males, having a weaker immune system; undertaking more responsibilities, and getting under more pressure can cause them to get affected more by the pandemic (10, 13).

While the professional attitude ( $3.99 \pm .45$ ) ( $p < .01$ ) in students in the graduation year and the attitudes of professional characteristics ( $4.53 \pm .50$ ) ( $p < .05$ ), choosing the profession ( $2.99 \pm .59$ ) ( $p < .05$ ) and the general status of the profession ( $4.36 \pm .72$ ) ( $p < .01$ ) were significantly the highest, the attitude of choosing the profession was established negative in all students (Table 2). A study conducted during the COVID-19 Pandemic, on the other hand, established the professional attitude, and the attitudes towards professional characteristics and the general status of the profession in third-year students as significantly high (13). The studies conducted before the pandemic yielded lower scores for fourth-year students compared to students of different years and higher scores of professional attitude for first and second-year nursing students compared to fourth year students, and it was suggested that the professional attitudes can be negatively affected more as the graduation time gets closer, particularly in the graduation year, by reasons such as experiencing employment concerns (19). Maybe, in our research, the expectation for increasing job opportunities due to the pandemic might have been effective reversely contrary to this situation.

In the research, a positive correlation was established between the levels of age and nursing education of students and their attitudes of the general nursing profession and

choosing the profession during the COVID-19 Pandemic ( $p < .05$ ) (Table 3). Accordingly, a similar study conducted during the COVID-19 Pandemic yielded a positive correlation between age and the attitude of nursing profession characteristics, and it was interpreted as a positive increase in professional attitude together with age (13). It was concluded in a study conducted before the pandemic that age has a positive correlation with professional attitude (34). The conclusion of the study is in accordance with the literature.

The research results are valid for the COVID-19 pandemic process and can be generalized to students with similar characteristics as in the research group.

#### CONCLUSION

The result that the COVID-19 Pandemic affected only the attitude of choosing the profession negatively in all nursing students reveals the need for students to get prepared for crisis periods such as pandemics during their whole education and for the nursing curriculum to be revised for compatibility with potential similar situations to be experienced by humanity. The considerably lower and negative level of a professional attitude in male students can require more attention during the whole course of their education. The positive relationship of the age and education level of the students with the nursing professional attitude can suggest that, in situations similar to a pandemic period, the students can be empowered more easily.

During the pandemic process, there may be other factors affecting the professional attitude of nursing students, future studies may investigate the factors that may be influential extensively.

All of students must be prepared during the whole course of their education for crisis periods such as pandemics during their whole education, especially male students can require more attention. The nursing curriculum must be revised for compatibility with potential similar situations to be experienced by

humanity. In pandemic and similar crisis situations, students can be empowered more easily by considering their age and education level.

#### Author Contribution

Study design: FGT; data collection: FGT, MB, VC, MÖ, SB; data analysis: FGT, MB, VC, MÖ, SB; manuscript preparation: FGT, MB, VC, MÖ, SB.

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#### REFERENCES

1. Ak Ö. From the Common Cold to the Deadly Epidemic! Global Nightmare. *Journal of Continuing Medical Education*; 2020:13-27.
2. Aktoz M, Altay H, Aslanger E, Atalar E, Atar İ, Aytekin V, Oytun Baykan A et al. Turkish Cardiology Association Consensus Report: COVID-19 pandemic and cardiovascular diseases (May 13, 2020). *Turkish Society of Cardiology Archive*. 2020; 48(1): 1-87.
3. World Health Organizations. WHO announces COVID-19 outbreak a pandemic 2020a. Erişim adresi: 21 Nisan 2021. <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemic%20access>.
4. Corman VM, Muth D, Niemeyer D, Drosten C. Hosts and sources of endemic human coronaviruses. *Advances in Virus Research*. 2018; 100: 163-188.
5. Liang TJ. Handbook of COVID-19 prevention and treatment. The First Affiliated Hospital, Zhejiang University

- School of Medicine Compiled According to Clinical Experience. Erişim tarihi: 05 Aralık 2021. <https://www.iau-aiu.net/Zhejiang-University-Handbook-of-COVID-19-Prevention-and-Treatment>.
6. International Council of Nurses. Nursing the World to Health - ICN announces theme for International Nurses Day 2020. Erişim tarihi: 05 Aralık 2021. <https://www.icn.ch/news/nursing-world-health-icn-announces-theme-international-nurses-day-2020>.
  7. Çevirme A, Aylin K. COVID-19 Pandemia and its reflections to nursing profession. Eurasian Journal of Researches in Social and Economics. 2020; 7(5): 46-52.
  8. Shengxiao NIE, Chao SUN, Lei WANG, Xia WANG. The Professional Identity of Nursing Students and Their Intention to Leave the Nursing Profession During the Coronavirus Disease (COVID-19) Pandemic. Journal of Nursing Research. 2021; 29(2): 139.
  9. Swift A, Banks L, Baleswaran A, Cooke N, Little C, McGrath L, Meechan-Rogers R, Neve A, Rees H, Tomlinson A, Williams G. COVID-19 and student nurses: A view from England. Journal of Clinical Nursing. 2020; 29(15): 1-5.
  10. Özdelikara A, Ağaçdiken S, Aydın E. Career Choices of Nursing Students and Influencing Factors. Acıbadem University Journal of Health Sciences. 2016; 2: 83-88.
  11. Glew PJ, Ramjan LM, Salas M, Raper K, Creed H, Salamonson Y. Relationships between academic literacy support, student retention and academic performance. Nurse Education Practice. 2019; 39: 61–65.
  12. Powers K, Herron EK, Sheeler C, Sain A. The lived experience of being a male nursing student: Implications for student retention and success. Journal of Professional Nursing. 2018; 34(6): 475–482.
  13. Bahçecioglu TG, Özer Z, Çiftçi B. Analysis of anxiety levels and attitudes of nursing students toward the nursing profession during the COVID-19 pandemic. Perspectives in Psychiatric Care. 2021;57:1913-1921.
  14. Karabulut N, Yaman Aktaş Y, Gürçayır D, Bulut G, Kara A, Yıldız B. The effect of perceived stress and personality types of nursing college students on attitudes towards nursing profession during COVID-19 pandemic. Vulnerable Children and Youth Studies. 2021; 16(4): 1-13.
  15. Çapık C. Statistical power analysis and its use in nursing studies: Basic information. Anadolu J Nurs Health Sci. 2014; 17(4), 268-274.
  16. Ipek Coban G, Kasikci M. Development of the attitude scale for nursing profession. International Journal of Nursing Practice. 2011; 17(5): 518-524.
  17. SPSS I. IBM\* SPSS Statistics Version 22 Corporation North Castle Drive Armonk (software). NY USA; 2021.
  18. Hair JF, Black WC, Babin BJ, Anderson RE, Tatham RL. Multivariate Data Analysis. England; Essex. 2013.
  19. Ak B, Cerit B, Dikmen Y, Erol F. Professional attitudes of the nursing students and associated factors. J Cont Med Educ. 2018; 27(4): 232-42.
  20. Gol I. Nursing students' attitudes towards the nursing profession in relation to their altruism levels. International Journal of Caring Sciences. 2018; 11(2) 663-670.
  21. Zencir G. Nursing Students' Attitudes Towards The Nursing Profession, Nursing Preferred With The Relationship Between: Example of Turkey. E-Journal of Dokuz Eylul University Nursing Faculty. 2016; 9(2): 30-37.
  22. Eley D, Eley R, Bertello M, Rogers-Clark C. Why did I become a nurse? Personality traits and reasons for

- entering nursing. *Journal of Advanced Nursing*. 2012; 68(7): 1546-1555.
23. Keskin Y. Attitude and Concern Levels of Geography Teacher Candidates Towards The Profession of Teaching (Erzurum Example). *e-EAD*. 2017; 4(2):43-57.
24. Smith GD, Ng F, Li WHC. COVID-19: Emerging compassion, courage and resilience in the face of misinformation and adversity. *Journal of Clinical Nursing*. 2020; 29(9-10): 1425.
25. Salari N, Hosseinian-Far A, Jalali R, Vaisi-Raygani A, Rasoulpoor S, Mohammadi M, Rasoulpoor S, et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. *Global Health*. 2020; 16(1): 1-11.
26. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, Ho RC. 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 Public Health*. 2020; 17(5): 1729.
27. Zhang WR, Wang K, Yin L, Zhao WF, Xue Q, Peng M, Minimum B, et al. Mental health and psychosocial problems of medical health workers during the COVID-19 epidemic in China. *Psychother Psychosom*. 2020; 89(4): 242-250.
28. Hou F, Bi F, Jiao R, Luo D, Song K. Gender differences of depression and anxiety among social media users during the COVID-19 outbreak in China: a cross-sectional study. *BMC Public Health*. 2020; 20(1), 1-11.
29. Sevinç S, Özdemir S. Relationship between Nursing Students' Anxiety and Hopelessness: Kilis Example. *J Nurs Res Dev*. 2017; 19(2):14-24.
30. Korkmaz F. The views of nurses on the nursing profession. Unpublished science expert dissertation, Hacettepe University Institute of Health Sciences, Ankara. 2020.
31. Bang KS, Kang JH, Jun MH, Kim H S, Son HM, Yu SJ, Kwon MK, Kim JS. Professional values in Korean undergraduate nursing students. *Nurse Education Today*. 2011; 31(1): 72-75.
32. Koç Z, Honey C, Sağlam Z. Determination of male student nurses' perception of the nursing profession. *Maltepe University Journal of Nursing Science and Art, Symposium Special Issue*. 2010; 318-323.
33. Chiu CH, Lu HY, Arrigo LG, Wei CJ, Tsai D. A professionalism survey of medical students in Taiwan. *Journal of Experimental & Clinical Medicine*. 2010; 2(1): 35-42.
34. Kathreena M, Jaslyn J, Jasmine M, Sonia K. A study to assess the attitude towards nursing profession among the nursing students in the selected college at Mangalore. *International Journal of Health Sciences Research*. 2015; 5(10): 217-220.