



Research Article

**INVESTIGATION OF THE RELATIONSHIP BETWEEN ANXIETY STATUS OF NURSING STUDENTS AND THEIR COMMITMENT TO THE PROFESSION DURING COVID-19 PANDEMIC**

**Sebahat ATEŞ<sup>1</sup>** **Havva KAÇAN<sup>\*2</sup>** **Fatma AYHAN<sup>3</sup>** **Azzet YÜKSEL<sup>4</sup>**

<sup>1</sup>Uskudar University Health Faculty Department of Nursing, İstanbul, Turkey

<sup>2</sup>Kastamonu University Health Faculty Department of Nursing, Kastamonu, Turkey

<sup>3</sup>Abant İzzet Baysal University Health Faculty Department of Nursing, Bolu, Turkey

<sup>4</sup>Kocaeli Health and Technology University Health Faculty Department of Nursing, İstanbul, Turkey

\*Corresponding author; [hkacan@kastamonu.edu.tr](mailto:hkacan@kastamonu.edu.tr)

**Abstract:** *This study examined the relationship between nursing students' anxiety and professional commitment during the Coronavirus (COVID-19) pandemic process. This research used a descriptive and correlational research design; it was conducted in the fall semester of the 2020-2021 academic year when the pandemic process continued. The research was conducted with 1026 nursing students from two state and two private universities, these students who agreed to participate formed the sample of the research. Sociodemographic characteristics, questions about the COVID-19 Pandemic process, Beck Anxiety Scale, and Nursing Professional Commitment Scale were used to collect data. Data were collected online. The 1st and 4th-year male students' professional commitment average whose grade point average is below 2.00 was low. The anxiety average of female students, students who are in the 2<sup>nd</sup> year, students whose grade point average is below 2.00, who are between the ages of 17-20, who have a chronic illness who lost an acquaintance due to COVID-19 was found as high. It was found that 20 % of nursing students experienced a moderate and high level of anxiety, and that they experienced decreased professional commitment due to an increase in anxiety level and that there is a weak negative relationship between them. In the pandemic process, as the anxiety of nursing students increased, their professional commitment decreased.*

**Keywords:** *Nursing Students; COVID-19; Professional Commitment; Anxiety*

*Received: October 10, 2021*

*Accepted: January 20, 2022*

## 1. Introduction

COVID-19 is a virus that spread worldwide and a virus that causes severe pneumonia [1]. COVID-19 has been declared a pandemic by the World Health Organisation as of March 11, 2020, with a total of 118 thousand cases in 114 countries and causing 4 thousand 291 casualties [2].

COVID-19 caused many problems in many areas, and education is one of them. Higher Education Council (YÖK) has decided to switch to distance education in universities to slow the spread of the virus in Turkey and reduce victimisation in education. Although in theory the distance education has been done, hospital practices for applied courses were not completed. In the nursing profession, which includes applied education and theoretical content, hospital practices have not been performed. This process increased the anxiety areas of nursing students about their profession, one of the problems are the problems experienced in the remote completion of the training<sup>3</sup> and another problem is that nurses, who are at the forefront in patient care, are in the high-risk group during the COVID-19 pandemic [4,5].

It is stated that while healthcare workers are increasingly infected with coronavirus due to stress and long working hours, there is also an increase in physical, mental, and emotional exhaustion levels [4,6,7]. In addition to all this, the fact that healthcare workers experience the risk of infecting their families also causes anxiety [4,8]. It is known that nursing students who witnessed what happened during the COVID-19 pandemic and experienced the pandemic process experienced symptoms of anxiety [3,9]. These situations which cause anxiety may affect nursing students' commitment to the profession. Commitment to the profession is defined as the time, and effort individuals spend in order to do their profession in a better manner and to improve themselves (more so in the technical sense) [10]. It is stated that commitment to the profession is affected by factors such as education level, age, burnout, job satisfaction [11]. Nurses in close contact with patients with COVID-19 or with suspected illness face many challenges and risks such as pathogen exposure, long working hours, psychological problems, fatigue, occupational burnout, physical or psychological violence [12]. In addition, the cancellation of employees' leave, the frequent coverage of news in verbal and written media about healthcare workers who lost their lives during the pandemic may affect the professional commitment of nursing students who have had difficulties during their education.

Commitment to the profession is important in achieving professional status as a member of the healthcare team in the future, providing qualified service to the community, and having a strong professional identity [13]. Commitment to the profession is an important criterion for nurses to make an effort while conducting this profession throughout their lives, to be willing to improve themselves, and to be determined to continue their profession [11].

Based on this, this research aimed to identify the relationship between the anxiety experienced by nursing students during the pandemic process, which is an anxiety-inducing situation, and the commitment to the profession; in addition, this research aimed to identify variables that affect anxiety and the professional commitment.

#### **Research Questions:**

1. Do nursing students' levels of anxiety, and professional commitment differ according to their sociodemographic characteristics?
2. Do the levels of anxiety and professional commitment of nursing students differ according to their experiences regarding the COVID-19 pandemic process?
3. Do nursing students' levels of professional commitment differ according to the anxiety degree experienced during the COVID-19 pandemic process?
4. Is there a relationship between the anxiety experienced by nursing students regarding the COVID-19 pandemic process and their professional commitment?

## **2. Materials and Methods**

### **2.1. Type of the Research**

This is descriptive and correlational research conducted to examine the relationship between nursing students' anxiety levels and professional commitment during the COVID-19 pandemic process and to determine the influencing factors.

### **2.2. Time and Place of the Research**

The research population consists of students enrolled in two different foundations -two-state two private universities- in the fall semester of the 2020-2021 academic year. In the research, we tried to reach the whole universe without using any sampling method. A total of 1026 students who volunteered to participate in the research were included in the sample.

## 2.3. Data collection tools

### 2.3.1 General Information Form:

The General Information Form used in the research was prepared by the researchers and includes questions about the student's introductory characteristics.

### 2.3.2 Beck Anxiety Scale

The scale was developed by Beck et al. (1988) and Turkish validity and reliability study of the scale was conducted by Ulusoy (1993)[14]. Each item is scored between 0 and 3, and high scores from the scale indicate a high anxiety level. Scores between 0-17 obtained from the scale indicate low, 18-24 indicate moderate, 25 points and above indicate a high anxiety level. In the research, the Cronbach alpha coefficient of the scale was calculated as 0.92.

### 2.3.3 The Nursing Professional Commitment Scale

The scale was developed by Lu et al. (2000), and its validity and reliability studies in Turkish were conducted by Cetinkaya et al. (2015). The scale is a four-point likert-type scale with 26-items and three sub-scale[15]. The Nursing Professional Commitment Scale includes the following sub-dimensions; continuing to become a member of the profession (8 items), belief in goals and values (5 items), and willingness to make an effort (13 items); potential answers range from "strongly disagree (1)" to "strongly agree (4)". In the scale, items 14,15,16,17,18,19,20,21,25 are reverse oriented. An increase in the score obtained from the scale indicates that nurses' commitment to the profession is high [15]. The Cronbach alpha coefficient of the scale was calculated as 0.67 in the research. The data were collected online by considering the pandemic process, using the information form and scales.

## 2.4. Data Analysis

Descriptive statistical methods (mean, median, frequency, percentage) were used while evaluating the research data. The suitability of the quantitative data to normal distribution was tested with the Kolmogorov Smirnov test, and it was determined that the quantitative data did not show a normal distribution. Mann-Whitney U test and Kruskal-Wallis test were used for comparisons of quantitative variables.

**Ethical Dimension of the Research:** Written permission has been obtained from the Turkish Ministry of Health (approval dd.2020-07-01; No.T14\_51\_23). Ethics committee approval was obtained from the Ethics Committee of the Maltepe University (approval dd. 10.07.2020; No.220/08-06).

## 3. Results

It was found that 33.7% of the students within the scope of the research study at a state university, 82.3% are women, 98.6% are single, 56.2% are between the ages of 17-20, 92.6% are not working, the grade point average of 35.5% is between 2.50-2.99, 30.3% are in year 2, 84.1% chose to be a nurse willingly, 78.0% still want to become a nurse, 86,4% do not think that they chose the wrong profession, 68.9% want to work during the pandemic process voluntarily, 81.2% experience anxiety during the pandemic process, 91.1% do not have a chronic illness, 80.6% do not experience a physical or mental problem during the pandemic process, 76.2% have a relative or acquaintance diagnosed with coronavirus 19, 76.3% have a relative or acquaintance who was diagnosed with coronavirus 19 and recovered, 69.6% do not have a relative or acquaintance who lost their lives due to coronavirus 19 (Table 1).

**Table 1.** Distribution of student characteristics

Characteristics	n	%
University of Education		
Foundation 1	153	14.9
Foundation 2	243	23.7
State 1	284	27.7
State 2	346	33.7
Gender		
Women	844	82.3
Man	182	17.7
Marital status		
Married	14	1.4
Single	1012	98.6
Age		
Between 17-20	578	56.3
21 and above	448	43.7
Employment Status		
Working	76	7.4
Not working	950	92.6
Grade Point Average (42 students did not answer this question)		
2.00 and below	25	2.4
Between 2.01-2.49	108	10.5
Between 2.50-2.99	364	35.5
Between 3.00-3.49	361	35.2
3.50 and above	126	12.3
Year		
1	224	21.8
2	311	30.3
3	290	28.3
4	201	19.6
The status of willingly choosing to be a nurse		
Yes	863	84.1
No	163	15.9
The current status of wanting to be a nurse		
Yes	800	7.0
No	40	3.9
Undecided	186	18.1
The status of thinking you chose the wrong profession		
Yes	140	13.6
No	886	86.4
The status of wanting to work voluntarily during the pandemic process		
Yes	707	68.9
No	319	31.1
The status of experiencing anxiety during the pandemic		
Yes	833	81.2
No	193	18.8
The status of having a chronic illness		
Yes	91	8.9
No	935	91.1
Experiencing a physical or mental health problem during the Coronavirus pandemic process		
Yes	199	19.4
No	827	80.6
The status of having a relative or acquaintance diagnosed with Coronavirus		
Yes	783	76.3
No	243	23.7
The status of having lost a relative or acquaintance due to Coronavirus		
Yes	312	30.4
No	714	69.6

It was found that female students between the ages of 17-20 have higher score averages on the Nursing Professional Commitment Scale and on Beck Anxiety Scale. It was determined that Nursing Professional Commitment Scale score averages of students whose grade point average is 2.00 and below are lower than students whose grade point average is between 3.00-3.49 and 3,50 and above and have a higher Beck Anxiety Scale total point average it was determined that Nursing Professional Commitment Scale score average of students who are in the 2<sup>nd</sup> year are higher than students who are in other years and it is due to 3<sup>rd</sup> and 4<sup>th</sup> year students' having a higher Beck Anxiety Scale (Table 2).

**Table 2.** Distribution of sociodemographic variables that affect students' levels of professional commitment and anxiety

Groups		n	Nursing Professional Commitment Scale Median	Beck Anxiety Scale Median
Gender	Women	844	90.00	8.00
	Men	182	87.00	4.00
	U		63287.5	56588.5
	P		p:0.000 **	p:0.000**
Marital Status	Married	14	92.00	4.00
	Single	1012	89.00	7.00
	U		6321.5	6881.5
	P		p:0.488	p:0.854
Age	Between 17-20	578	90.00	8.00
	21 years old and above	448	88.50	6.00
	U		118567.5	117523.5
	P		p:0.020*	p:0.011*
Employment Status	Yes	76	91.00	7.00
	No	950	89.00	7.00
	U		35205.5	35500.0
	P		p:0.719	p:0.809
Grade Point Average	2.00 and below	25	88.00	9.00
	Between 2.00-2.49	108	89.00	8.00
	Between 2.50-2.99	364	88.50	7.00
	Between 3.00-3.49	361	91.00	7.00
	3.50 and above	126	91.00	7.00
	H		23.200	4.685
P		p:0.000**	p:0.321	
Year	1	224	88.50	7.00
	2	311	91.00	9.00
	3	290	89.00	8.00
	4	201	88.00	5.00
	H		9.884	22.187
	P		p:0.020*	p:0.000**

U: Mann Whitney U test; H:Kruskall Wallis H Test; post hoc pairwise Mann-Whitney analyses; \*:p<0.05; \*\*:p<0.01

While the Nursing Professional Commitment score average of students who chose to become a nurse willingly is higher, their Beck Anxiety Scale score average is lower. While the total score average of the Nursing Professional Commitment Scale score of students who currently want to become nurses and students who do not think they chose the wrong profession is higher, their Beck Anxiety Scale score average is lower. We observed that the total score average of the Nursing Professional Commitment Scale of students who want to work voluntarily during the pandemic process is higher, their Beck Anxiety Scale score average is lower (Table 3). We observed that the Beck Anxiety Scale score average of those who experience anxiety during the pandemic, those who have a chronic illness, those who have a relative or acquaintance diagnosed with covid19, those who lost a relative or an acquaintance due to covid 19 is higher (Table 3).

**Table 3.** Distribution of variables related to the covid-19 pandemic process that affect the professional commitment and anxiety levels of students

Groups	n	Nursing Professional Commitment Scale Median	Beck Anxiety Scale Median
The status of willingly choosing to be a nurse			
Yes	863	91.00	7.00
No	163	75.00	10.00
	U	27135.0	60405.5
	P	p:0.000**	p:0.040*
The current status of wanting to be a nurse			
Yes	800	92.00	7.00
No	40	63.50	16.50
Undecided	186	77.00	9.00
	H	279.5	9917.5
	P	p:0.000**	p:0.000**
The status of thinking you chose the wrong profession			
Yes	140	70.00	12.00
No	886	91.00	7.00
	U	13240.0	42874.0
	P	p:0.000**	p:0.000**
The status of wanting to work voluntarily during the pandemic process			
Yes	707	91.00	7.00
No	319	85.00	8.00
	U	76441.0	99508.0
	P	p:0.000**	p:0.003**
The status of experiencing anxiety during the pandemic			
Yes	833	90.00	8.00
No	193	89.00	4.00
	U	79102.0	58794.0
	P	p:0.729	p:0.000**
The status of having a chronic illness			
Yes	91	90.00	13.00
No	935	89.00	7.00
	U	42081.0	29630.5
	P	p:0.864	p:0.000**
The status of having a relative or acquaintance diagnosed with Coronavirus			
Yes	783	89.00	8.00
No	243	91.00	5.00
	U	89432.0	77780.5
	P	p:0.157	p:0.000**
The status of having lost a relative or acquaintance due to Coronavirus			
Yes	312	89.00	9.00
No	714	90.00	6.00
	U	105437.5	88205.0
	P	p:0.173	p:0.001**

U: Mann Whitney U test;H:Kruskall Wallis H Test, post hoc pairwise Mann-Whitney analyses; \*:p<0.05; \*\*:p<0.01

The total score average of the Nursing Professional Commitment Scale of students with a low level of anxiety is found to be significant and higher than students with a high level of anxiety (p:0.000) (Table 4). The total score average of Nursing Professional Commitment Scale of students with a low level of anxiety (6.29±4.93) is found as 90.00; anxiety score average of those with a moderate anxiety level (20.93±1.93), have a total score of professional commitment of 88.00, and students with a high

level of anxiety score average ( $31.44 \pm 7.03$ ) have a total professional commitment score average of 82.00 (Table 4).

**Table 4.** Comparison of students' professional commitment scale scores according to their anxiety levels

	Avg.±Ss.		n	Median	Nursing Professional Commitment Scale Total Score Average
Beck Anxiety Scale	10.18±9.41	Low (0-17)	817(%79.63)	5.00	90.00
		Moderate (18-24)	121(%11.8)	21.00	88.00
		High ( $\geq 25$ )	88(%8.6)	29.00	82.00
		H			23.347
			P		p:0.000**

H:Kruskall Wallis H Test; post hoc pairwise Mann-Whitney analyses; \*:p<0.05; \*\*:p<0.01

A weak negative correlation was found between the average scores of the Beck Anxiety Scale and Nursing Professional Commitment Scale. As the Beck Anxiety score average increased, the total score average of Nursing Professional Commitment decreased (Table 5).

**Table 5.** The relationship between Students' Beck Anxiety Scale and Professional Commitment Scale

	Beck Anxiety Scale	Nursing Professional Commitment Scale
	r(p)	r(p)
<b>Beck Anxiety Scale</b>	1	-0.157 (p:0.000**)
<b>Nursing Professional Commitment Scale</b>	-0.157 (p:0.000**)	1

r: Spearman's rho; \*\*:p<0.01

#### 4. Discussion

This study is important in terms of taking measures by evaluating the reflection of the anxiety levels of nursing students, who are the healthcare professionals of the future, on their professional commitment during the pandemic process, preventing negativities in the health institutions they will work in and increasing the quality of patient care.

In this study, the average scores of professional commitment and anxiety of female students were found to be significantly higher than the average of male students (Table 2). A study by Turk et al. (2018) conducted to examine nursing students' profession preferences concluded that female students preferred the nursing profession more than males, and students chose the profession with the motivation of helping others [16]. On the other hand, male students' professional commitment and anxiety levels were found to be below. A study emphasised that male nurses are inadequate than female nurses in nursing care attitudes and behaviours [17]. A study conducted by Maaravi and Heller in the UK in 2020, with 407 individuals found that women experienced more anxiety during the pandemic process [18]. Studies conducted by Colgecen and Colgecen (2020) evaluating the level of anxiety experienced during the pandemic process, the state-trait anxiety levels of women were found to be significantly higher than men [8]. The results of the study are similar to the results of this study. In our research, the fact that female students have chosen the nursing profession willingly can be shown as the reason for their higher commitment to the profession than males. An important finding in the study is that the grade point

average makes a difference in professional commitment and anxiety. Students with a grade point average of 2.00 and below have lower mean scores on the Nursing Professional Commitment Scale than students whose grade point averages are between 3.00-3.49 and 3.50 and higher; In contrast, the total score average of Beck Anxiety Scale is higher (Table 2). This data suggests that the pandemic process caused a decrease in the roles and responsibilities expected from the student, such as the students' desire to learn and take an active role in learning. Students with low-grade average experience professional anxiety from not having enough professional knowledge and skills during the pandemic process. Therefore, we think that their professional commitment is low.

In this research, the 1st and 4th-year students' commitment and anxiety were lower than 2<sup>nd</sup> and 3<sup>rd</sup>-year students. The literature states that although the transition from being a student to professional life is a pleasing experience, beginning to work, working independently, and taking responsibility is worrisome [19]. A study by Kurtuncu and Kurt (2020) on the problems faced by nursing students during the COVID-19 pandemic, found that 1<sup>st</sup> and 4<sup>th</sup> year nursing students are worried about the efficiency of the lessons with the distance education system and that 4<sup>th</sup> year students think that giving practice-based lessons remotely is insufficient[3]. The reason 1<sup>st</sup>-year students think that their vocational education is insufficient may be due to the fact that they didn't have the opportunity to receive training in clinics, and this might be the reason their commitment to the profession is lower compared to the 2<sup>nd</sup> and 3<sup>rd</sup>-year students. The fact that 4<sup>th</sup>-year students witnessed the negative working conditions created by the pandemic process and that they will start their professional lives under such conditions may have affected their professional commitment. Unlike the results of our research, the Nursing Professional Commitment Scale score average of 2<sup>nd</sup>-year students and their Beck Anxiety Scale score average is higher compared to 1<sup>st</sup>,3<sup>rd</sup> and 4<sup>th</sup>-year students (Table 2). Continuing nursing education online during the pandemic period and not being able to do hospital practices increased students' anxiety. The reason why 2<sup>nd</sup>-year students' professional commitment levels are high, which is to say their professional commitment is not affected, maybe due to the thought that both theoretical and practical education will be completed when the conditions are appropriate. However, the fact that 4<sup>th</sup>-year students will start their profession, and they have a feeling of inadequacy due to online education may have led to this result. In a study, Turk et al. conducted before the pandemic (2018) using the care behaviours scale, the difference between the average scores obtained from the knowledge and skills, respect, and commitment sub-dimensions of the scale was found to be significant [16]. As a result of our study, we found that with the increase in grade level, the average score of commitment to the profession increased and the average scores of anxiety decreased. The reduction in nursing students' anxiety may be due to the increase in theoretical knowledge and experience that comes with grade-level advancement.

Choosing the profession willingly is important for students to be more successful in working life and have higher professional satisfaction. Provided that university students who chose to become a nurse do not like the profession, do not accept the profession, and continue their education solely based on the motivation that finding a job will be easy will cause many negativities for the profession whose field of work is human [20]. Based on this idea, the students who chose the nursing profession willingly, who state that they made the right choice in profession, who want to work voluntarily during the pandemic process have a high level of professional commitment and a low level of anxiety score (Table 3). The study of Peksoy et al. (2020) which examined the perception of professionalism and the commitment to professional values, found scores of professionalism in the profession of fourth-year students with a special interest in nursing are high and significant [21]. The findings of these studies support our study. Although the pandemic process causes difficulties in nursing education, students with low anxiety have a high professional commitment level. Also, to be willing to work voluntarily during the pandemic process is pleasing and promising for the advancement of the nursing profession. The results of a study conducted before the pandemic differ from the results of our study; the study examined the areas in



which students are most anxious. Catching a disease related to their profession (77%) ranked first, and the study suggested that students love and adopt nursing during their education [22]. Our research revealed that students who chose the nursing profession willingly, students who agreed to work as a nurse during the pandemic, even though they knew that they had a high risk of getting infected with COVID-19, have a low level of anxiety and a high level of commitment to the profession. It can be said that students choosing the profession willingly means they have positive or negative information about the profession and that their commitment to the profession is high because they are interested in the education they receive. These positive developments can be explained by the acceptance of nursing as a professional profession and the increase in its prestige in recent years.

The Beck Anxiety Scale average score of students who stated that they experienced anxiety during the pandemic was found to be higher and significant compared to those who stated that they did not experience anxiety ( $p:0.000$ ) (Table 3). We found that the students' professional commitment scores stated that their anxiety increased during the pandemic did not differ. In our research, the pandemic process was considered a factor that causes anxiety, so we did not investigate other causes of anxiety. However, the continuation of theoretical and practical training online, restrictions students experienced related to the system, having difficulties in following lessons, and the announcement made by the International Nurses Association (ICN) that thousands of nurses were infected by COVID-19 and that hundreds of nurses died [23] may have caused students who will start this profession to experience anxiety. A study revealed that students used the expressions that "I can not focus on my study because the school is closed, I am not able to go to the clinic so I can't learn by practicing one-on-one" and "I can not focus on studying because I am psychologically affected" [3]. Being infected or being with people who are COVID-19 positive is also a condition that increases mental effects [4]. The fact that students expressed their anxiety in this process indicates that they cannot effectively cope with the pandemic process they are in. Another significant result of our research is that students with chronic illness have a high level of anxiety. We found that the anxiety experienced by students with chronic illness does not affect professional commitment. It is known that the presence of chronic diseases in the early period increases the risk of getting infected with SARS-CoV-2 [24]. This situation can cause anxiety in students with chronic illnesses since the COVID-19 virus spreads rapidly; there is no treatment, drug, or vaccine so far.

Similarly, a study conducted by Cao et al. (2020) reports that the reason for the students to experience stress and to delay their academic studies is that their relatives are infected and the risk of being infected [25]. Individuals with poor health and a history of chronic disease reported that they experienced the psychological effects of the epidemic more and the severity of stress, anxiety, and depression are higher during the COVID-19 process [26]. In ensuring the continuity of professional commitment, students with risky chronic diseases in terms of COVID-19 prognosis should be closely followed up and controlled. Students with chronic illnesses are psychologically affected. Initiating support programs to increase psychological resilience in universities can reduce anxiety during the pandemic process.

Students who were diagnosed with COVID-19 and students who lost a relative due to coronavirus-19 have low professional commitment scores and higher anxiety score average (Table 3). The anxious individual feels the dangers of the present moment and the future, and questions their life intensely. If nursing students who will do the profession in the future witness the loss of their relatives and witness the increase in anxiety for a long time, it may create changes in their commitment to the nursing profession. Similar to the results of our study, a study by Dogan and Duzel (2020) conducted to examine fear-anxiety levels in COVID-19 reported that participants are afraid of their family/acquaintances getting infected by the virus; this fear ranked first with a very high rate [27]. Kurtuncu and Kurt (2020) conducted a study on the problems nursing students experienced during the

COVID-19 pandemic, in the study students said "some people around me got infected with the COVID-19 virus [3]. I am always at risk of getting infected. I live with my grandmother, and I meet the needs of the family." The study of participants was evaluated according to their state and anxiety levels according to having a relative diagnosed with COVID-19 infection; unlike the results of our research, there is no significant difference between groups [8]. The reason for this was stated in the same study; it was due to the low number of people who were diagnosed with COVID-19 infection in their relatives. The presence of infected individuals in their immediate surroundings during the pandemic process can be a factor that increases the level of anxiety. Considering both the anxiety of losing a relative and the risk of contamination with the immediate surroundings, including oneself, can affect the level of anxiety. We examined whether students' anxiety levels affect their commitment to the profession and found that the commitment to the profession of students with low anxiety levels was higher than those with high anxiety levels (Table 4). A study by Donmez and Karakus (2019) on newly graduated nurses found that nurses' commitment to the profession is moderate and that job security, working conditions, and team communication are important elements in commitment to the profession [27]. We conducted our research during the pandemic period. We can say the increase in the busy working hours of healthcare workers, being infected with coronavirus, and witnessing an increase in physical, mental, and emotional exhaustion levels cause anxiety in students. There are studies revealing that individuals' anxiety levels have increased in studies conducted in different samples with the COVID-19 outbreak [8,28]. Another study with similar results to our study Okuyan et al. (2020) examined the health anxiety levels of nursing students during the pandemic process and found that their health anxiety levels are high, they feel overwhelmed and anxious and experience the fear of virus contamination and death [9]. The literature reports that the fear of COVID-19 has negative effects on psychology, stress, anxiety, work-family conflict, and substance use [29]. Another study found that about 24.9% of students experienced anxiety due to the COVID-19 pandemic [1]. Similarly, in this study, we found that 20% of the students experienced moderate and high anxiety levels (Table 4). The studies conducted show similarities with the results of our study. A significant result of the research is that due to the increase in the anxiety score averages of the students, their Nursing Professional Commitment average scores decrease and there is a weak negative relationship between them (Table 5). The anxiety individuals experience during the pandemic process may cause serious problems such as a decrease in commitment to the profession, experiencing problems in the transition from being a student to working life, inadequate connection with the profession, reluctance to continue to the profession, and the inability to achieve organisational commitment [30]. A study conducted by Flinkman et al. (2008) revealed that especially young nurses and newly graduated nurses have a higher tendency to quit the profession[31]. Our study, which has a very high sample and was carried out in four different institutions, shows an important problem of the COVID-19 pandemic process reflected on nursing students. To prevent these problems, the insufficiencies of nursing students should be completed before they graduate. In this context, suggestions for nursing education in the COVID-19 pandemic have been developed. One of the suggestions to determine ways to ensure self-confidence, motivation, and self-expression skills in the education process, is to ensure the functionality and improvement of all these processes and establish the necessary systems. Another suggestion is that nursing schools and the health institutions that employ nursing graduates can contribute to the things to be done in the upcoming period and strengthen their efforts by maintaining their communication in cooperation [32]. In line with the approaches, students' anxiety levels can be reduced, and their commitment to the profession can be positive. Because nurses' professional commitment begins to develop during their primary education and continues as a professional socialisation process that contributes to the internalisation of professional values. As a result, professional commitment, patient safety, and perceived patient care quality increase in nurses [33]. During the pandemic process, there may be some consequences of students' starting duty without

being sufficiently prepared to fulfill their roles and responsibilities. This might result in students' being indifferent to the profession and showing inappropriate behaviours towards the group they serve. Problems that may arise can be avoided by addressing and supporting the variables effective for anxiety and professional commitment in the research at an early stage.

**Limitations of the Study:** The study is limited to nursing students studying at two-state and two foundation universities and agreeing to participate in the research.

## 5. Conclusion

As a result of the study which was conducted during the pandemic period in Turkey in four different universities, we found that 20% of nursing students experience a moderate to a high level of anxiety, the commitment to the profession decreases due to an increase in the level of anxiety and that there is a weak negative relationship between them. It is a result that should be taken into consideration that as the anxiety of nursing students increases during the pandemic process, their professional commitment decreases.

Our research results serve as a guide to health institutions in which the new graduate nurses will work. It is recommended to develop professional competencies by creating in-service training programs when nursing candidates start working in health institutions. The causes of individual anxiety in students should also be addressed, and support should be provided in their relationships with the profession. Since the pandemic affects the whole world, the results of this research will guide the educational planning of national and international nursing schools and help students prepare better for working life.

The pandemic process has created a sense of anxiety in nursing students, who will practice the nursing profession in the future, and their professional commitment has decreased in line with the anxiety levels. It is recommended that psychosocial support be provided against anxiety throughout the education process and regarding professional commitment which plays a key role in healthcare quality, professional competence be provided in both educational establishments and medical institutions.

### **Acknowledgments:**

Many thanks to the nursing students who participated in the research.

### **Ethical Dimension of the Research:**

Written permission has been obtained from the Turkish Ministry of Health. Ethics committee approval was obtained from the Ethics Committee of the Maltepe University (approval dd. 10.07.2020; No.220/08-06). Written permission has been obtained from the relevant institutions to conduct the study. The research was carried out in accordance with the principles of the Helsinki Declaration.

### **The compliance to the Research and Publication Ethics:**

This study was carried out by the rules of research and publication ethics.

### **Declaration of Conflicting Interests:**

The authors declare that there is no conflict of interest.

### **Authors' Contributions:**

Sebahat ATEŞ(SA), Havva KAÇAN(HK), Azzet YÜKSEL(AY), Fatma AYHAN(FA)

Study design: SA, HK, AY, FA

Data collection and/or analysis: SA, HK, AY, FA

Preparation of the article: SA, HK, AY, FA All authors read and approved the final manuscript.

## References

- [1] Huang, C., Wang, Y., Li, X., et al. "Clinical features of patients infected with 2019 novel coronavirus in Wuhan China", *The Lancet*, 395(10223), 497–506, 2020. doi.org/10.1016/S0140-6736(20)30183-5.
- [2] World Health Organization (WHO) announces the COVID-19 outbreak a pandemic. (2020). Accessed on: 16.04.2020 Access address: <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemic>
- [3] Kurtuncu, M., Kurt, A. "Problems experienced by nursing students in distance education during the Covid-19 pandemic", *Journal of Eurasian Social and Economic Studies*, 5, 66-77, 2020.
- [4] Kaya, B. "Effects of the pandemic on mental health", *Clinical Psychiatry*, 23, 123-124, 2020.
- [5] Turkish Thoracic Society Occupational Lung Diseases Working Group (2020). Information and advice on occupational risks in healthcare workers during the covid 19 pandemic. <httpss://toraks.org.tr/halk/news.aspx?detail=5768>. Date of Access: 21.01. 2021.
- [6] Su A. (2020). Doctors and nurses fighting coronavirus in China die of both infection and fatigue. LA time. 2020 Retrieved from: <https://www.latimes.com/world-nation/story/2020-02-25/doctors-fighting-coronavirus-in-china-die-of-both-infection-and-fatigue>. Data of Access: 15.03.2020.
- [7] Jankowicz M. (2020). An Italian coronavirus nurse posted a picture of her face bruised from wearing a mask to highlight how much health workers are struggling. MSN. 2020 <https://www.msn.com/en-us/health/health-news/an-italian-coronavirus-nurse-posted-a-picture-of-her-face-bruised-from-wearing-a-mask-to-highlight-how-much-health-workers-are-struggling/ar-BB115QWS>.Data of Access: 15.03.2020.
- [8] Colgecen, Y., Colgecen, H. "Evaluation of the level of anxiety caused by dependence on Covid 19 pandemic: Turkey", *Turkish Studies*, 15(4), 261-275, 2020. <https://dx.doi.org/10.7827/TurkishStudies.44399>.
- [9] Okuyan, C.B., Karasu, F., Polat, F. "The Effect of COVID-19 on the Health Anxiety Levels of Nursing Students", *Van Health Sciences Journal*, 13, 45-52, 2020.
- [10] Cakır, O. *The phenomenon of commitment to work and the factors affecting it*, Seçkin Publishing, 2001, Ankara.
- [11] Dönmez, S., Karakuş, E. "Examination of newly graduate students' commitment to the profession", *Kocaeli Med J.* 8(1), 146-152, 2019.
- [12] Baykara, Z.G., Eyuboglu, G. "Nursing care in the Covid-19 pandemic", *Gazi Journal of Health Sciences Special Issue*: 9-17, 2020.
- [13] Tarhan, G., Kılıc, D., Yıldız, E. "Examining the relationship between nurses' attitudes towards the profession and their professional professionalism", *Gülhane Medical Journal*, 58, 411-6, 2016.
- [14] Ulusoy, M. Beck Anxiety Inventory: Validity and reliability study. (Unpublished medical specialty thesis). *Bakırköy Mental Health and Neurological Diseases Hospital*, 1993, İstanbul.

- [15] Cetinkaya, A., Ozmen, Oz. Dilek, B.T.A. “Validity and Reliability Study of the Nursing Professional Commitment Scale”, *Dokuz Eylül University Faculty of Nursing E-Journal* 8(2), 54-60, 2015.
- [16] Turk, G., Adana, F., Erol, F. et al. “Nursing students' motivation for choosing the profession and the perception of care behaviours”, *Gümüşhane University Journal of Health Sciences*. 7(3), 1-10, 2018.
- [17] Codier, E. MacNaughton, N.S. “Are male nurses emotionally intelligent?”, *Nursing Management*, 43(4), 1-4, 2012.
- [18] Maaravi, Y., Heller, B. “Not All Worries Were Created Equal: The Case of COVID-19 Anxiety”, *Public Health*, 185, 243-245, 2020. doi.org/10.1016/j.puhe.2020.06.032
- [19] Zamanzadeh, V., Jasemi, M., Valizadeh, L., et al. “lack of preparation: Iranian nurses' experiences during transition from college to clinical practice”, *Journal of Professional Nursing*, 31(4), 365-73, 2015.
- [20] Ulas, G.K., Softa, H.K.”Views of first-year nursing students on the nursing profession”, *Yıldırım Beyazıt University Faculty of Health Sciences Nursing E-Journal*, (3)3, 20-30, 2015.
- [21] Peksoy, S., Şahin, S., Demirhan, İ., et al. “Evaluation of the relationship between perception of professionalism and commitment to professional values in nursing students” *Hacettepe University Journal of Nursing Faculty*, 7(2), 104-112, 2020. Doi: 10.31125/hunhemsire.763138
- [22] Temel, M., Celikalp, Ü., Bilgic, S., et al. “Occupational concerns of nursing students after graduation and the factors affecting them”, *Anadolu Journal of Nursing and Health Sciences*, 23(1), 23-34, 2020.
- [23] ICN, ICN calls for data on healthcare worker infection rates and deaths International Council of Nurses 2020. Date of Access: 10.05.2020. Available: <https://www.icn.ch/news/icn-calls-data-healthcare-worker-infection-rates-and-deaths>
- [24] Saldalci, B., Uyaroglu, A., Guven, G.S. “The role, importance and recommendations of chronic diseases in COVID-19”, *Flora Magazine*, 25, 1-7, 2020.
- [25] Cao, W., Fang, Z., Hou, G., et al. “The psychological impact of the COVID-19 epidemic on college students in China”, *Psychiatry Research*, 287, 112934, 2020. doi.org/10.1016/j.psychres.2020.112934.
- [26] Wang, C., Cheng, Z., Yue, X.G., et al. “Risk Management of COVID-19 by universities in China”, *Journal of Risk and Financial Management*, 13(36), 2-6, 2020. doi.org/10.3390/jrfm13020036
- [27] Dogan, M.M., Duzel, B. “Fear-Anxiety Levels in Covid 19”, *Turkish Studies*, 15(4), 739-752, 2020. doi.org/10.7827/TurkishStudies.44678.
- [28] Goksu, O., Kumcağız, H. “Perceived stress level and anxiety levels in individuals in the Covid-19 pandemic”, *Turkish Studies*, 15(4), 463-479, 2020. doi.org/10.7827/TurkishStudies.44397.
- [29] Bitan, D.T., Grossman-Giron, A., Bloch, Y., et al. “Fear of COVID-19 scale: Psychometric characteristics, reliability and validity in the Israeli population”, *Psychiatry Research*. 289, 1-5, 2020
- [30] Yang, L., Yang, H.H., Chen, H.T., et al. “A study of nurses' job satisfaction: The relationship to professional commitment and friendship networks”, *Health*, 4(11), 1098-105, 2012.

- [31] Flinkman, M., Laine, M., Leino-Kilpi, H., et al. “Explaining young registered Finnish nurses' intention to leave the profession: A questionnaire survey”, *International Journal of Nursing Studies*, 45(5), 727–39, 2008.
- [32] Vatan, F., Avdal, E.Ü., Yağcan, H., et al. “COVID-19 pandemic and nursing association activities”. *Koç University Nursing Education and Research Journal*, 17(4), 369-73, 2020. doi:10.5222/KUHEAD.2020.32858.
- [33] Kon, L., Chen, X., Shen, S., et al. “Professional commitment and attributional style of medical-college nursing students in China: A cross-sectional study”, *Nurse Educational Today*, 40, 154-60, 2016.