

ORIGINAL RESEARCH ORJİNAL ARAŞTIRMA

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# Determining the Relationship Between Attitudes and Perceived Stress Levels of Nursing Students Towards Their First Clinical Practice: A Descriptive-Cross-Sectional Study

## Hemşirelik Öğrencilerinin İlk Klinik Uygulamalarına Yönelik Tutum ve Algılanan Stres Düzeyleri Arasındaki İlişkinin Belirlenmesi: Tanımlayıcı-Kesitsel Çalışma

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**ABSTRACT Objective:** Clinical practice has a key role in nursing education and offers students the opportunity to use and experience the scientific knowledge learned in theoretical courses in patient care. Students who enter an environment where real patients and healthcare teams are present during clinical practice experience many problems. **Material and Methods:** This study aims to determine the relationship between nursing students' attitudes toward their first clinical practice and their perceived stress levels. A descriptive, cross-sectional study. The study was conducted in the nursing department of a university between February 2023 and February 2024. 254 students going into clinical practice for the first time participated in the research. Data were collected through a face-to-face survey using the "Descriptive Characteristics Form", "Attitude Towards Clinical Practice Scale", and "Perceived Stress Scale for Nursing Students". **Results:** The total score average of the students' Attitude Towards Clinical Practice scale was 110.20±15.28. The total score average of the Perceived Stress scale is 71.32±26.15. The relationship between the Attitude Towards Clinical Practices and the Perceived Stress scale and its subscales was not statistically significant ( $p>0.05$ ). **Conclusion:** Research findings show that nursing students develop positive attitudes and experience moderate levels of stress in their first clinical practice. It is stated that the increase in satisfaction with the nursing department positively affects the attitude towards clinical practice and reduces the stress level. In addition, for the first time, high school graduation and gender were found to be variables affecting stress during clinical practice.

**Keywords:** Nursing student; first clinical practice; perceived stress; attitude

**ÖZET Amaç:** Klinik uygulama, hemşirelik eğitiminde önemli bir role sahiptir ve öğrencilere teorik derslerde öğrendikleri bilimsel bilgiyi hasta bakımında kullanma ve deneyimleme fırsatı sunar. Klinik uygulama sırasında gerçek hastaların ve sağlık ekiplerinin bulunduğu bir ortama giren öğrenciler birçok sorun yaşarlar. **Gereç ve Yöntemler:** Bu çalışma, hemşirelik öğrencilerinin ilk klinik uygulamalarına yönelik tutumları ile algılanan stres düzeyleri arasındaki ilişkiyi belirlemeyi amaçlamaktadır. Tanımlayıcı, kesitsel bir çalışma. Çalışma, Şubat 2023 ile Şubat 2024 tarihleri arasında bir üniversitenin hemşirelik bölümünde yürütülmüştür. Araştırmaya ilk kez klinik uygulamaya giren 254 öğrenci katılmıştır. Veriler, "Tanımlayıcı Özellikler Formu", "Klinik Uygulamaya Yönelik Tutum Ölçeği" ve "Hemşirelik Öğrencileri İçin Algılanan Stres Ölçeği" kullanılarak yüz yüze anket yoluyla toplanmıştır. **Bulgular:** Öğrencilerin Klinik Uygulamaya Yönelik Tutum Ölçeği toplam puan ortalaması 110,20±15,28'dir. Algılanan Stres Ölçeği toplam puan ortalaması 71,32±26,15'tir. Klinik Uygulamaya Yönelik Tutum ile Algılanan Stres Ölçeği ve alt ölçekleri arasındaki ilişki istatistiksel olarak anlamlı değildir ( $p>0,05$ ). **Sonuç:** Araştırma bulguları, hemşirelik öğrencilerinin ilk klinik uygulamalarında olumlu tutumlar geliştirdiklerini ve orta düzeyde stres yaşadıklarını göstermektedir. Hemşirelik bölümünden duyulan memnuniyetin artmasının klinik uygulamaya yönelik tutumu olumlu yönde etkilediği ve stres düzeyini azalttığı belirtilmektedir. Ayrıca, lise mezuniyeti ve cinsiyetin klinik uygulama sırasında stresi etkileyen değişkenler olduğu ilk kez bulunmuştur.

**Anahtar Kelimeler:** Hemşirelik öğrencisi; ilk klinik uygulama; algılanan stres; tutum

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The nursing profession is an applied discipline that consists of a combination of knowledge and skills. Professional nursing education consists of the application process that provides theoretical knowledge and skills.<sup>1,2</sup> Clinical practice is a process that enables the transition from theory to practice.<sup>3</sup> In this process, students are expected to contribute to patients' healthcare problems with analytical approaches, by using the knowledge, attitudes, and skills they have learned throughout their education life.<sup>1,4</sup>

Nursing education in our country consists of theoretical, clinical, and field practices in 4-year undergraduate education following the European Union criteria.<sup>5</sup> Clinical and field practice periods are at least twice the theoretical course hours.<sup>6</sup> Nursing students start their first clinical practice in the spring semester of their first year at the earliest.<sup>5</sup> Clinical practice has a key role in nursing education, and thanks to clinical practical training, students can use and experience the theoretical scientific knowledge they have learned in patient care.<sup>7</sup> Since clinical practices prepare students for professional nursing, the place of clinical practice in nursing education is indisputable.<sup>2,7</sup>

Students who enter the environment with real patients and healthcare teams for the first-time face different clinical stressors during clinical practice.<sup>4,7-9</sup> Clinical stressors of nursing students in the literature; caring for a patient with pain, and suffering, fear of malpractice, reasons arising from clinical staff and faculty, and lack of practical knowledge.<sup>4,10-12</sup> In addition, students' sociodemographic characteristics such as age and gender, income and education level, personal characteristics, their liking for the nursing profession, and their willingness to join the department.<sup>2,10,13</sup> It is stated that their arrival, the clinical environment in which they practice, and the excessive work and homework load affect stress levels.<sup>8,12,14</sup> In addition, new e-learning methods that have recently been included in the education curriculum and the effort to adapt to these methods can create stress for students.<sup>14</sup>

It is reported that high levels of stress affect students' health and cause physical and psychological symptoms.<sup>2,13</sup> Additionally, sleep problems can lead

to depression and burnout.<sup>9,15</sup> It has been stated that the academic success of students whose problem-solving skills are affected due to stress decreases.<sup>4,10,15</sup> Considering that nursing students' clinical attitudes and stress levels are affected and changed by various factors, identifying the problems students encounter in the clinical environment and providing solutions to the identified problems will support their professional development. Instructors who work with students in clinical practice to recognize the factors that cause stress in students and to develop awareness of stress levels will strengthen the support provided.<sup>12</sup> This study aimed to assess nursing students' attitudes and stress levels regarding their first clinical practice, along with the factors influencing these and their relationships. Currently, there is no research specifically focusing on stress levels and perceived stress in this context. Thus, the findings are expected to enrich the literature on attitudes and stress perceptions of first-time applicants. Additionally, the results may provide valuable insights and solutions for addressing clinical practice challenges today.

### **Research Questions**

1. What are nursing students' attitudes toward their first clinical practice experience?
2. What is the level of perceived stress among nursing students during their initial clinical practice?
3. Is there a significant relationship between nursing students' attitudes toward clinical practice and their perceived stress levels?
4. Do sociodemographic factors influence nursing students' attitudes toward clinical practice and their perceived stress?

## **MATERIAL AND METHODS**

This study is a planned descriptive-cross-sectional study. Strengthening the Reporting of Observational Studies in Epidemiology checklist was used in reporting the study. The research was conducted with 2<sup>nd</sup>-year students at a university's nursing department. At the institution where the study took place, students begin their first clinical practice in the fall semester of their 2<sup>nd</sup> year. The research involved 261 students starting clinical practice for the first time in the 2022-

2023 and 2023-2024 academic years. Participants included those aged 18 and older who voluntarily agreed to join. No sample size calculation was performed; instead, a convenience sampling method was utilized. Although the aim was to include the entire population, the study concluded with 254 students due to 3 absentees and 4 incomplete surveys.

**Descriptive Characteristics Form:** This form comprised 6 questions designed to assess participants' sociodemographic characteristics, including age, gender, high school graduation, satisfaction with the nursing department, general academic grade point average, and the clinic where they practiced.<sup>2,4,5,7,8</sup>

**Attitude Scale Towards Clinical Practice for Nursing Students (ASTCPNS):** The scale developed by Akdeniz Uysal and Yeşil Bayülgen measures students' attitudes toward clinical practice using a 5-point Likert format.<sup>3</sup> It comprises 4 sub-dimensions: beliefs and expectations towards clinical practice, positive approach towards clinical practice, negative approach towards clinical practice, and personal development. Scores range from 26 to 130, with higher total scores indicating a more positive attitude toward clinical practice. Items 9-12, 22, 24, 25 in the scale are reverse-coded. In this study, the internal consistency reliability of the ASTCPNS and its sub-dimensions was examined using Cronbach alpha coefficients. The Cronbach alpha value was 0.926 for the beliefs and expectations sub-dimension, 0.931 for the positive approach sub-dimension, 0.904 for the negative approach sub-dimension, and 0.858 for the personal development sub-dimension. The overall Cronbach alpha coefficient for the total scale score was 0.934. These results indicate that the scale demonstrates high internal consistency and is a reliable instrument for assessing nursing students' attitudes toward clinical practice in this study sample.

**Perceived Stress Scale for Nursing Students (PSSNS):** The scale developed by Sheu et al. measures students' perceived stress levels and was adapted from Karaca et al.<sup>16,17</sup> It consists of 29 items, each using a 5-point Likert format. Scores range from 0 to 116, with higher scores indicating increased stress. Karaca et al. reported a Cronbach alpha reliability coefficient for the scale ranging from 0.67 to

0.93.<sup>17</sup> It consists of a total of 6 subscales: stress caused by lack of professional knowledge and skills, stress experienced while caring for the patient, stress from homework and workload, stress from faculty members and nurses, stress caused by the environment, and stress from peers and daily life. There are no reverse-coded items in the scale.<sup>17</sup> As a result of the reliability analysis of the PSSNS, the Cronbach alpha internal consistency coefficients for each subscale and the total score were found to be high in our study. The Cronbach alpha value was calculated as 0.710 for the subscale "stress caused by lack of professional knowledge and skills", 0.902 for "stress experienced while caring for the patient", 0.837 for "stress from homework and workload", 0.893 for "stress from faculty members and nurses", 0.740 for "stress caused by the environment", and 0.851 for "stress from peers and daily life". The Cronbach alpha value for the general scale was found to be 0.971, indicating a very high level of internal consistency. These results demonstrate that both the subscales and the overall structure of the scale are reliable.

## DATA COLLECTION

Research data were collected from students participating in clinical practice for the first time, immediately after the completion of the practice process. This approach aimed to minimize the impact of the end-of-term homework and exam pressure on students' attitudes towards clinical practice and the stress levels they experience. Participants meeting the inclusion criteria were informed about the research purpose and scales in advance. After obtaining their verbal and written consent, they completed the research forms, which took about 10 minutes using an online method. The surveys were administered in the clinical setting, immediately after the completion of the first clinical practice. The questionnaires were distributed and collected by the researchers responsible for the clinical practice course. To ensure privacy, the data was stored digitally, accessible only to the researchers.

## ETHICAL CONSIDERATION

Before the study commenced, permission was obtained from the university's non-invasive research

ethics committee (date: February 8, 2023, no: 2023/02-09) and the nursing department (February 17, 2023). All participating students provided written and verbal consent. Personal information remained anonymous, ensuring confidentiality of the collected data. The research was conducted in accordance with the Declaration of Helsinki principles 2008.

## DATA ANALYSIS

In this study, descriptive statistics of the participants are given as number, mean, standard deviation, minimum, maximum, and median. The reliability of the scales used in the study was analyzed. As the first step of the statistical analysis, the normality assumption was checked with the Shapiro-Wilk test and the homogeneity of variance was checked with the Levene test. In cases where the normality assumption was not met, the Mann-Whitney U test was used to examine the difference between the means of 2 independent groups. Kruskal Wallis test was applied to compare the means of 3 or more independent groups that did not have a normal distribution. "post hoc" Bonferroni analyses were used to determine the group or groups that made the difference. Spearman correlation was used to measure the relationship between continuous variables that do not comply with normal distribution. Analyzes were carried out in IBM SPSS 25 program.

## RESULTS

The descriptive characteristics of the students are listed in Table 1. Approximately two-thirds of the students (71.7%) are between the ages of 18-20, 70.9% are female. When high school graduations are examined, 73.6% are Anatolian graduates. The average age is  $20.29 \pm 1.38$  years (minimum 18, maximum 30) (Table 1).

The students' mean scores on the Attitude Towards Clinical Practice scale and its subscales are presented in Table 2. The mean score of beliefs and expectations towards clinical practices is  $35.65 \pm 5.39$ , the mean score of positive approach towards clinical practices is  $26.72 \pm 6.19$ , the mean score of negative approach towards clinical practices is  $30.36 \pm 5.98$ , the mean score of personal development is  $17.47 \pm 2.68$ ,

**TABLE 1:** Distribution of students according to their descriptive characteristics (n=254)

Descriptive characteristics	n	%
Age (years)		
18-20 years old	182	71.7
21 years or older	72	28.3
Gender		
Female	180	70.9
Male	74	29.1
Type of high school graduated		
Anatolian high school	187	73.6
Science high school	28	11.0
Technical and health vocational education high school	21	8.3
General high school	18	7.1
How would you rate your satisfaction with the nursing department?		
I am not satisfied	11	4.3
I can't decide on this yet	127	50.0
I think I'm where I want to be	97	38.2
I am very satisfied	19	7.5
GAGPA		
2.50 or less	16	6.3
2.51-3.0	79	31.1
3.01-3.50	138	54.3
3.51-4.0	21	8.3
The clinic where the practice started		
Internal clinics	148	58.3
Surgery clinics	59	23.2
Emergency clinic	18	7.1
Outpatient units	20	7.9
Intensive care units	9	3.5
Minimum	Maximum	Mean
Standard deviation	Median	
Age	18	30
	20.29	1.38
	20	

GAGPA: General academic grade point average

and the total score average is  $110.20 \pm 15.28$ . Statistics of the Perceived Stress scale and its sub-dimensions are shown in Table 2. The average Stress caused by lack of professional knowledge and skills is  $7.03 \pm 2.87$ , the average stress experienced while caring for the patient is  $19.83 \pm 7.47$ , the average Stress from homework and workload is  $12.33 \pm 4.80$ , the average stress from faculty members and nurses is  $14.60 \pm 5.88$ , the average stress caused by the environment is  $7.72 \pm 3.00$ , the average stress from peers and daily life is  $9.81 \pm 3.98$ , and the total score average is  $71.32 \pm 26.15$  (Table 2).

Compare the descriptive characteristics of nursing students with their scores on the Attitude Towards Clinical Practice scale and its subscales. As a result of the analysis, the difference between the satisfaction



**TABLE 2:** Distribution and reliability analysis of students according to the Attitude Scale Towards Clinical Practices, Perceived Stress Scale, and its sub-dimensions (n=254)

	Minimum	Maximum	Mean	Standard deviation	Median	Cronbach alpha
<b>Attitude Scale Towards Clinical Practices</b>						
Beliefs and expectations towards clinical practices	8.00	40.00	35.65	5.39	38.00	0.926
Positive approach towards clinical practices	9.00	35.00	26.72	6.19	27.00	0.931
Negative approach towards clinical practices	7.00	35.00	30.36	5.98	32.00	0.904
Personal development	5.00	20.00	17.47	2.68	18.00	0.858
Total score	33.00	130.00	110.20	15.28	112.00	0.934
<b>Perceived Stress Scale</b>						
Stress caused by lack of professional knowledge and skills	0.00	12.00	7.03	2.87	7.00	0.710
Stress experienced while caring for the patient	0.00	32.00	19.83	7.47	21.00	0.902
Stress from homework and workload	0.00	20.00	12.33	4.80	13.00	0.837
Stress from faculty members and nurses	0.00	24.00	14.60	5.88	15.00	0.893
Stress caused by the environment	0.00	12.00	7.72	3.00	8.00	0.740
Stress from peers and daily life	0.00	16.00	9.81	3.98	10.00	0.851
Total score	0.00	116.00	71.32	26.15	74.50	0.971

level with the nursing department and the total scores of the beliefs and expectations towards clinical practices, positive approach towards clinical practices, negative approach towards clinical practices, and personal development sub-dimensions and the Attitude Towards Clinical Practices scale was determined to be statistically significant ( $p < 0.05$ ). In the Bonferroni analysis for beliefs and expectations towards clinical practices scores, significant differences were found between the groups “I am not satisfied”, “I can’t decide on this yet”, “I think I am where I want to be” and “I am very satisfied” ( $p = 0.016$ ,  $p = 0.002$ ,  $p = 0.019$ ). Very satisfied students scored higher than those who were “not satisfied”, “undecided” or felt they were “where they want to be”. Similarly, in the Bonferroni analysis for positive approach towards clinical practice scores, significant differences were observed between very satisfied students and others ( $p = 0.000$  for all comparisons). Students who are “very satisfied” with their nursing department experience scored higher than those who were “dissatisfied” or “undecided”. In the Bonferroni analysis for negative approach towards clinical practice scores, a significant difference was found between the undecided group and those who felt they were where they wanted to be ( $p = 0.000$ ), with the latter scoring higher. For personal development scores, significant differences were observed between “I am very satisfied”,

“I am not satisfied”, “I cannot decide” and “I think I am where I want” groups ( $p = 0.005$ ,  $p = 0.012$ ,  $p = 0.001$ ). Very satisfied students scored higher than those who were dissatisfied or undecided. The scores of very satisfied students stating they are where they want to be were significantly higher than others. However, the total score of the Attitudes Towards Clinical Practices scale, and its sub-dimensions showed no significant differences based on age, gender, high school graduation, general academic grade point average (GAGPA), or clinical practice settings ( $p > 0.05$ ) (Table 3).

The Perceived Stress Scale and its subscale scores of nursing students were analyzed according to demographic characteristics, as shown in Table 4. Significant differences were observed between high-stress scores of students aged 18-20 and those aged 21 and over, particularly in Stress from peers and daily life subscale ( $p < 0.05$ ). Gender differences were also notable, with females scoring higher on the Perceived Stress Scale and its subscales ( $p < 0.05$ ). Significant variances were found in stress from faculty members and nurses, stress caused by the environment, stress from peers and daily life subscale among different high school graduates ( $p < 0.05$ ). Bonferroni analysis indicated that Anatolian high school graduates experienced significantly higher stress from faculty members and nurses subscale compared to

**TABLE 3:** Distribution and comparison of Attitude Scale Towards Clinical Practices and subscale scores according to the descriptive characteristics of nursing students (n=254)

	Attitude Scale Towards Clinical Practices				
	Beliefs and expectations towards clinical practices	Positive approach towards clinical practices	Negative approach towards clinical practices	Personal development	Total score
	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)
Age					
18-20 years old	35.98 $\pm$ 4.48 (37.5)	26.41 $\pm$ 6.2 (26)	30.7 $\pm$ 5.67 (33)	17.4 $\pm$ 2.54 (18)	110.49 $\pm$ 13.53 (111)
21 years or older	34.81 $\pm$ 7.17 (38)	27.5 $\pm$ 6.16 (28)	29.5 $\pm$ 6.66 (32)	17.65 $\pm$ 3.03 (19)	109.46 $\pm$ 19.08 (114.5)
	U=6501.0 p=0.922	U=5901.0 p=0.216	U=5983.0 p=0.273	U=5882.0 p=0.192	U=6263.0 p=0.584
Gender					
Female	35.68 $\pm$ 5.38 (38)	26.52 $\pm$ 6.1 (26)	30.62 $\pm$ 5.76 (33)	17.48 $\pm$ 2.64 (18)	110.3 $\pm$ 14.59 (111)
Male	35.58 $\pm$ 5.44 (38)	27.19 $\pm$ 6.45 (28)	29.72 $\pm$ 6.48 (32)	17.46 $\pm$ 2.8 (18)	109.95 $\pm$ 16.94 (113.5)
	U=6509.5 p=0.774	U=6108.5 p=0.299	U=6146.5 p=0.326	U=6620.0 p=0.938	U=6594.5 p=0.902
Type of high school graduated					
Anatolian high school	35.64 $\pm$ 5.31 (38)	26.47 $\pm$ 6.31 (28)	30.36 $\pm$ 5.85 (32)	17.32 $\pm$ 2.73 (18)	109.78 $\pm$ 15.56 (111)
Science high school	36.46 $\pm$ 3.92 (37.5)	26.11 $\pm$ 5.7 (25)	29.5 $\pm$ 6.24 (31)	17.79 $\pm$ 2.47 (19)	109.86 $\pm$ 12.94 (112.5)
Technical and health vocational education high school	33.76 $\pm$ 8.32 (37)	27.76 $\pm$ 6.47 (27)	29.95 $\pm$ 8.11 (32)	17.57 $\pm$ 2.93 (18)	108.05 $\pm$ 18.3 (108)
General high school	36.72 $\pm$ 3.41 (37.5)	29.06 $\pm$ 5.05 (27.5)	33.33 $\pm$ 2.25 (33.5)	18.5 $\pm$ 2.09 (20)	117.61 $\pm$ 9.95 (116.5)
	$\chi^2=0.892$ p=0.827	$\chi^2=3.591$ p=0.309	$\chi^2=5.376$ p=0.146	$\chi^2=4.259$ p=0.235	$\chi^2=4.777$ p=0.189
How would you rate your satisfaction with the nursing department?					
I am not satisfied	33.36 $\pm$ 6.58 (35)	20.7 $\pm$ 7.29 (19)	26.91 $\pm$ 7.52 (29)	15.91 $\pm$ 3.08 (17)	96.18 $\pm$ 20 (102)
I can't decide on this yet	35.34 $\pm$ 4.91 (37)	24.87 $\pm$ 5.7 (25)	29.21 $\pm$ 6.39 (31)	16.94 $\pm$ 2.78 (17)	106.36 $\pm$ 14.57 (108)
I think I'm where I want to be	35.91 $\pm$ 5.36 (38)	28.92 $\pm$ 5.19 (30)	31.99 $\pm$ 4.77 (34)	18.03 $\pm$ 2.33 (19)	114.85 $\pm$ 12.87 (118)
I am very satisfied	37.74 $\pm$ 7.3 (40)	31.74 $\pm$ 5.88 (35)	31.68 $\pm$ 5.53 (34)	19.05 $\pm$ 2.25 (20)	120.21 $\pm$ 15.61 (126)
	$\chi^2=14.695$ p=0.002*	$\chi^2=49.433$ p<0.000*	$\chi^2=23.595$ p<0.000*	$\chi^2=23.379$ p<0.000*	$\chi^2=40.785$ p<0.000*
GAGPA					
2.50 or less	36.38 $\pm$ 5.25 (38.5)	27.56 $\pm$ 8.02 (31.5)	30.38 $\pm$ 5.55 (33)	17.88 $\pm$ 3.12 (20)	112.19 $\pm$ 19.31 (119.5)
2.51-3.0	34.8 $\pm$ 6.35 (37)	25.87 $\pm$ 6.81 (26)	29.01 $\pm$ 6.89 (31)	16.86 $\pm$ 3.06 (17)	106.54 $\pm$ 18.4 (109)
3.01-3.50	35.92 $\pm$ 4.48 (38)	26.95 $\pm$ 5.59 (27.5)	30.92 $\pm$ 5.43 (33)	17.64 $\pm$ 3.07 (18.5)	111.43 $\pm$ 12.39 (111.5)
3.51-4.0	36.52 $\pm$ 6.88 (39)	27.71 $\pm$ 6.11 (28)	31.71 $\pm$ 5.53 (35)	18.33 $\pm$ 2.18 (19)	114.29 $\pm$ 14.79 (118)
	$\chi^2=3.667$ p=0.300	$\chi^2=2.057$ p=0.561	$\chi^2=5.563$ p=0.135	$\chi^2=6.403$ p=0.094	$\chi^2=5.770$ p=0.123
The clinic where the practice started					
Internal clinics	35.9 $\pm$ 4.79 (38)	26.47 $\pm$ 6.26 (27)	30.55 $\pm$ 5.45 (33)	17.45 $\pm$ 2.69 (18)	110.36 $\pm$ 14.71 (112)
Surgery clinics	34.66 $\pm$ 6.84 (37)	26.17 $\pm$ 6.6 (26)	29.33 $\pm$ 6.94 (32)	17.29 $\pm$ 2.83 (18)	108.05 $\pm$ 17.56 (108)
Emergency clinic	34.78 $\pm$ 6.03 (37)	28.56 $\pm$ 6.36 (30.5)	28.78 $\pm$ 7.4 (31)	17.61 $\pm$ 3.07 (18.5)	109.72 $\pm$ 18.32 (113.5)
Outpatient units	36.3 $\pm$ 4.89 (38.5)	29.05 $\pm$ 4.76 (29)	30.45 $\pm$ 6.38 (32)	17.65 $\pm$ 2.16 (17)	113.45 $\pm$ 11.4 (111.5)
Intensive care units	38.33 $\pm$ 2.06 (39)	25.56 $\pm$ 3.47 (24)	33.2 $\pm$ 7.4 (34)	18.44 $\pm$ 1.88 (19)	115.33 $\pm$ 7.53 (117)
	$\chi^2=3.868$ p=0.424	$\chi^2=5.874$ p=0.209	$\chi^2=2.837$ p=0.585	$\chi^2=1.433$ p=0.838	$\chi^2=2.127$ p=0.712

\*p<0.05; SD: Standard deviation; M.: Median; U: Mann Whitney U test;  $\chi^2$ : Kruskal Wallis test; GAGPA: General academic grade point average

**TABLE 4:** Distribution and comparison of Perceived Stress scale and subscale scores according to the descriptive characteristics of nursing students (n=254)

	Perceived Stress Scale					
	Stress caused by lack of professional knowledge and skills	Stress experienced while caring for the patient	Stress from homework and workload	Stress from faculty members and nurses	Stress caused by the environment	Stress from peers and daily life
	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)	$\bar{X} \pm SD$ (M.)
Age						
18-20 years old	7.13 $\pm$ 2.81 (7)	7.13 $\pm$ 2.81 (7)	12.44 $\pm$ 4.77 (13)	14.69 $\pm$ 5.87 (15)	7.8 $\pm$ 3.05 (8)	10.12 $\pm$ 3.84 (10)
21 years or older	6.76 $\pm$ 3.01 (7)	6.76 $\pm$ 3.01 (7)	12.07 $\pm$ 4.9 (12)	14.39 $\pm$ 5.95 (14.5)	7.5 $\pm$ 2.9 (7)	9.01 $\pm$ 4.26 (8)
	U=6103.0 p=0.392	U=6127.0 p=0.420	U=6210.0 p=0.517	U=6315.5 p=0.653	U=5963.5 p=0.262	U=5936.0 p=0.024*
Gender						
Female	7.29 $\pm$ 2.74 (8)	7.29 $\pm$ 2.74 (8)	12.76 $\pm$ 4.67 (13)	15.25 $\pm$ 5.68 (16)	8.11 $\pm$ 2.85 (9)	10.26 $\pm$ 3.82 (11)
Male	6.38 $\pm$ 3.09 (6)	6.38 $\pm$ 3.09 (6)	11.31 $\pm$ 4.99 (11)	13.03 $\pm$ 6.12 (13)	6.77 $\pm$ 3.16 (7)	8.7 $\pm$ 4.17 (8)
	U=5414.0 p=0.018*	U=5120.5 p=0.004*	U=5426.0 p=0.020*	U=5170.0 p=0.005*	U=5012.5 p=0.002*	U=5044.5 p=0.002*
Type of high school graduated						
Anatolian high school	7.1 $\pm$ 2.92 (7)	7.1 $\pm$ 2.92 (7)	12.44 $\pm$ 4.92 (13)	14.85 $\pm$ 5.92 (15)	7.78 $\pm$ 3.13 (8)	10.04 $\pm$ 4.06 (10)
Science high school	7.36 $\pm$ 2.21 (7)	7.36 $\pm$ 2.21 (7)	12.79 $\pm$ 3.79 (13)	15.36 $\pm$ 4.82 (15)	8.21 $\pm$ 1.93 (8)	9.64 $\pm$ 3.18 (9)
Technical and health vocational education high school	5.81 $\pm$ 3.4 (6)	5.81 $\pm$ 3.4 (6)	9.62 $\pm$ 5.27 (10)	10.57 $\pm$ 6.49 (12)	5.81 $\pm$ 3.01 (6)	7.24 $\pm$ 4.33 (8)
General high school	7.17 $\pm$ 2.43 (7)	7.17 $\pm$ 2.43 (7)	13.67 $\pm$ 3.29 (13)	15.56 $\pm$ 4.8 (16.5)	8.5 $\pm$ 2.15 (8.5)	10.61 $\pm$ 2.93 (10.5)
	X <sup>2</sup> =2.993 p=0.393	X <sup>2</sup> =7.674 p=0.053	X <sup>2</sup> =7.039 p=0.071	X <sup>2</sup> =8.814 p=0.032*	X <sup>2</sup> =9.888 p=0.020*	X <sup>2</sup> =8.682 p=0.034*
How would you rate your satisfaction with the nursing department?						
I am not satisfied	8.18 $\pm$ 2.23 (8)	8.18 $\pm$ 2.23 (8)	13.73 $\pm$ 4.69 (15)	15 $\pm$ 6.24 (12)	7.36 $\pm$ 3.14 (8)	9.64 $\pm$ 6.04 (8)
I can't decide on this yet	7.39 $\pm$ 2.8 (7)	7.39 $\pm$ 2.8 (7)	12.97 $\pm$ 4.52 (13)	15.7 $\pm$ 5.97 (17)	8.01 $\pm$ 3.06 (8)	10.55 $\pm$ 4.1 (11)
I think I'm where I want to be	7.04 $\pm$ 2.54 (7)	7.04 $\pm$ 2.54 (7)	12.2 $\pm$ 4.29 (13)	14.16 $\pm$ 4.43 (14)	7.88 $\pm$ 2.35 (8)	9.45 $\pm$ 2.87 (9)
I am very satisfied	3.89 $\pm$ 3.41 (3)	3.89 $\pm$ 3.41 (3)	8 $\pm$ 6.8 (6)	9.26 $\pm$ 8.41 (7)	5.16 $\pm$ 4.32 (6)	6.74 $\pm$ 5.18 (6)
	X <sup>2</sup> =17.658 p=0.001*	X <sup>2</sup> =10.550 p=0.014*	X <sup>2</sup> =10.977 p=0.012*	X <sup>2</sup> =14.869 p=0.002*	X <sup>2</sup> =9.047 p=0.029*	X <sup>2</sup> =11.783 p=0.008*
GAGPA						
2.50 or less	7.31 $\pm$ 2.8 (7.5)	7.31 $\pm$ 2.8 (7.5)	14.31 $\pm$ 4.36 (15)	16.44 $\pm$ 5.29 (18)	8.19 $\pm$ 2.74 (8)	11.25 $\pm$ 3.89 (11.5)
2.51-3.0	6.73 $\pm$ 3.13 (7)	6.73 $\pm$ 3.13 (7)	11.95 $\pm$ 5.06 (12)	14.58 $\pm$ 6.51 (15)	7.85 $\pm$ 3.16 (8)	10.23 $\pm$ 3.97 (11)
3.01-3.50	7.18 $\pm$ 2.69 (7)	7.18 $\pm$ 2.69 (7)	12.47 $\pm$ 4.6 (13)	14.38 $\pm$ 5.5 (14.5)	7.62 $\pm$ 2.92 (8)	9.41 $\pm$ 3.94 (9.5)
3.51-4.0	6.9 $\pm$ 3.18 (6)	6.9 $\pm$ 3.18 (6)	11.38 $\pm$ 5.24 (13)	14.76 $\pm$ 6.43 (15)	7.48 $\pm$ 3.25 (8)	9.71 $\pm$ 4.28 (9)
	X <sup>2</sup> =0.743 p=0.863	X <sup>2</sup> =3.051 p=0.384	X <sup>2</sup> =5.425 p=0.219	X <sup>2</sup> =1.815 p=0.612	X <sup>2</sup> =0.881 p=0.830	X <sup>2</sup> =2.206 p=0.531
The clinic where the practice started						
Internal clinics	7.17 $\pm$ 2.84 (7)	7.17 $\pm$ 2.84 (7)	12.49 $\pm$ 4.79 (13)	14.73 $\pm$ 5.8 (15)	7.88 $\pm$ 2.82 (8)	10.01 $\pm$ 3.8 (10)
Surgery clinics	7.15 $\pm$ 2.82 (7)	7.15 $\pm$ 2.82 (7)	12.56 $\pm$ 4.69 (13)	14.93 $\pm$ 5.35 (14)	7.66 $\pm$ 3.19 (8)	9.81 $\pm$ 4.11 (9)
Emergency clinic	5.67 $\pm$ 3.65 (5.5)	5.67 $\pm$ 3.65 (5.5)	9.72 $\pm$ 5.8 (10)	11.28 $\pm$ 8.11 (12)	6.22 $\pm$ 3.78 (6)	7.83 $\pm$ 5.53 (8.5)
Outpatient units	6.8 $\pm$ 2.33 (8)	6.8 $\pm$ 2.33 (8)	12.6 $\pm$ 3.6 (13)	15.4 $\pm$ 4.98 (17)	8 $\pm$ 2.71 (9)	9.75 $\pm$ 3.23 (10)
Intensive care units	7.11 $\pm$ 2.93 (7)	7.11 $\pm$ 2.93 (7)	12.89 $\pm$ 5.23 (14)	15.22 $\pm$ 6.57 (14)	7.78 $\pm$ 3.42 (9)	10.56 $\pm$ 3.75 (10)
	X <sup>2</sup> =2.840 p=0.585	X <sup>2</sup> =4.878 p=0.300	X <sup>2</sup> =4.379 p=0.357	X <sup>2</sup> =3.699 p=0.448	X <sup>2</sup> =3.724 p=0.445	X <sup>2</sup> =4.171 p=0.383

\*p<0.05; SD: Standard deviation; M.: Median; U: Mann Whitney U test; X2: Kruskal Wallis test; GAGPA: General academic grade point average

Technical and Health Vocational Education graduates ( $p=0.027$ ). Similar patterns emerged stress caused by the environment scores ( $p=0.019$ ,  $p=0.047$ ) and stress from peers and daily life ( $p=0.034$ ). The overall Perceived Stress Scale score revealed significant differences based on satisfaction with the nursing department ( $p<0.05$ ). Notably, very satisfied students reported significantly higher stress caused by lack of professional knowledge and skills ( $p=0.004$ ,  $p=0.000$ ,  $p=0.005$ ) and stress experienced while caring for the patient ( $p=0.015$ ). Additionally, stress from homework and workload was significantly higher among very satisfied students compared to undecided peers ( $p=0.010$ ), with similar findings for stress from practice instructors and nurses ( $p=0.003$ ) and environmental stress ( $p=0.019$ ). Overall, the differences in Perceived Stress Scale scores were significant between very satisfied and undecided students ( $p=0.005$ ). However, no significant differences in stress related to lack of professional knowledge and skills, patient care, or workload were found based on age, high school type, GAGPA range, or clinical practice settings ( $p>0.05$ ) (Table 4).

The relationships between nursing students' Attitudes Towards Clinical Practice and the Perceived Stress Scale and its subscales were examined. As a

result of the analyses, the correlation between the Attitude Towards Clinical Practices scale and its sub-dimensions and the Perceived Stress scale and its sub-dimensions is not statistically significant ( $p>0.05$ ) (Table 5).

## DISCUSSION

The nursing profession is practical, and education aims to provide students with nursing skills through clinical practice. Clinical applications are the bridge between theoretical and practical applications. During this process, students who enter the real environment with patients and healthcare staff for the first time are faced with different clinical stressors. In this section, the findings obtained from our research examining nursing students' attitudes towards their first clinical practice, their perceived stress levels, and the relationship between the two, are discussed in the light of the literature information.

### DISCUSSION OF NURSING STUDENTS' ATTITUDES TOWARDS FIRST CLINICAL PRACTICE ACCORDING TO THEIR DESCRIPTIVE CHARACTERISTICS

The study findings revealed that nursing students who started clinical practice for the first time tended

**TABLE 5:** Relationships between nursing students' Attitudes Scale Towards Clinical Practices and Perceived Stress Scale and its sub-dimensions (n=254)

		Beliefs and expectations towards clinical practices	Positive approach towards clinical practices	Negative approach towards clinical practices	Personal development	Total score
Stress caused by lack of professional knowledge and skills	r value	-0.064	-0.061	-0.050	-0.093	-0.064
	p value	0.312	0.333	0.425	0.139	0.312
Stress experienced while caring for the patient	r value	-0.023	-0.023	-0.015	-0.026	-0.015
	p value	0.716	0.711	0.812	0.683	0.814
Stress from homework and workload	r value	-0.010	-0.008	-0.018	0.023	0.007
	p value	0.878	0.898	0.777	0.715	0.909
Stress from faculty members and nurses	r value	-0.020	-0.075	-0.062	-0.004	-0.046
	p value	0.746	0.232	0.329	0.945	0.464
Stress caused by the environment	r value	0.059	0.023	0.033	0.046	0.062
	p value	0.352	0.717	0.600	0.468	0.328
Stress from peers and daily life	r value	-0.036	-0.113	-0.099	-0.059	-0.083
	p value	0.572	0.073	0.117	0.349	0.188
Total Score	r value	-0.020	-0.048	-0.041	-0.019	-0.029
	p value	0.746	0.442	0.511	0.768	0.646

r: Spearman Correlation



to have a positive attitude toward practice. The attitude scores of particularly satisfied students were also positively affected. Students' satisfaction levels in nursing education are a determining factor in coping with the problems they encounter. In a similar study conducted in our country, half of the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> year nursing students were reported to be satisfied with clinical practice.<sup>5</sup> Students' satisfaction during clinical practice may be affected by clinical instructors and nurses, problems during practice time, administrators, and problems in the evaluation process.<sup>18</sup> Additionally, students want to be safe and cared for during clinical practice.<sup>5</sup> The positive attitudes of the students towards clinical practice in our study results can be explained by the fact that they felt safe during their first clinical practice and received enough attention from the clinical team.

The results of the study show that students who are very satisfied with the nursing department have positive beliefs and expectations, a positive approach, personal development sub-dimensions, and general attitudes towards their first clinical practice. No study has been found in the literature examining the relationship between attitudes toward first clinical practice according to the variable of satisfaction with the nursing department. However, Dursun Ergezen et al., pointed out that students who willingly chose the department and profession and were very satisfied perceived the clinical learning environment more positively.<sup>5</sup> Another similar study shows that students who are satisfied with the nursing department also have high clinical practice satisfaction.<sup>18</sup> Some studies report that it positively affects the clinical adaptation and success of interested and enthusiastic students.<sup>19</sup> It can be said that with the literature information in question, willing, interested, and satisfied students are supported in their commitment to the profession while their clinical learning tendencies are triggered.

#### DISCUSSING THE PERCEIVED STRESS LEVELS OF NURSING STUDENTS ACCORDING TO THEIR DESCRIPTIVE CHARACTERISTICS

In line with the findings from our study, it was determined that nursing students experienced moderate levels of stress regarding their first clinical practice.

When the literature is examined, it is seen that there are a limited number of studies addressing the stress levels and affecting factors of nursing students for their first clinical practice in Türkiye.<sup>20-23</sup> These studies show that nursing students have low, medium and high level knowledge about the first clinical practice.<sup>20-24</sup> emphasizes that they experience stress. The difference in study results is striking. When the international literature is examined, like our results, in the study of Hamaideh et al., the general stress levels of nursing students in clinical practice were stated to be mild to moderate.<sup>25</sup> It is thought that the difference in the literature may be due to the difference in the countries where the studies were conducted, their methodology, different measurement tools used, nursing programs, and intercultural differences. In addition, inappropriate working and clinical conditions, instructor-related problems, and the high number of students per faculty member increase the perceived stress in the clinic.<sup>24</sup>

In our study, it was determined that students experienced moderate levels of stress due to the environment in clinical practice. Students' study environments are related to their behavior. Positive clinical work environments for nurses and students support learning and provide room for development.<sup>26</sup> In our study, the difference in the relationship between the units where students practiced and their perceived stress level was found to be insignificant, as well as the moderate level of stress caused by the environment, which may be because it was the students' first clinical practice, and individual factors. Considering that professional commitment and participation in clinical learning are increased by improving the clinical learning environment, it is thought that stress caused by the clinical environment will also decrease.<sup>27</sup>

Admi et al. stated that the most important determinant of undergraduate nursing students' stress in clinical practice is gender, and female students experience more stress than males.<sup>18</sup> In our study, female students' perceived stress sub-dimensions and general stress scores for their first clinical practice were high. Karaca et al., study results similarly indicate that female nursing students experience more stress than males.<sup>24</sup> The fact that female university students

have more responsibilities than men may have caused female nursing students to experience more stress regarding their first clinical practice and to be less inclined to exhibit appropriate coping behavior.

According to our study findings, students between the ages of 18-20 experienced more stress in their first clinical practice due to their peers and daily life than those between the ages of 21 and over. There is no study in the literature comparing the ages of nursing students and their perceived stress levels in the first clinical practice, and studies mostly focus on the stress levels experienced by nursing students in different classes.<sup>28</sup> Gurková and Zeleníková stated in their study that individual stress sources vary depending on the working year.<sup>29</sup> Mazalová et al., study also supports this.<sup>28</sup> Dursun Ergezen et al., also report that as the grade level of nursing students increases, the perception of clinical experience decreases.<sup>5</sup> In addition, considering that the physio-psychosocial status of students and the individual year of study may affect clinical perception, it can be said that the stress level of the students in our study tends to decrease with increasing age.<sup>28</sup>

In our study, it was determined that students who graduated from technical and health vocational high schools had less stress due to instructors and nurses, the environment, and their peers. A limited number of studies have been found in the literature comparing the perceived stress levels of nursing students in the education program they graduated and their first clinical practice.<sup>23</sup> In a similar study conducted differently from our study results, it is stated that the first clinical practice stress of students graduating from other high schools, such as technical and religious high schools, is higher.<sup>23</sup> It is reported that past clinical experiences affect perceptions of the clinical environment.<sup>5,23</sup> According to the literature results, it is thought that the lower stress perception of students who graduated from health vocational high school can be explained, considering their previous experience in clinical practice. Details of the differences arising from students' different high school education may be the subject of future studies.

In our study, students who expressed high satisfaction with the nursing department reported lower

perceived stress levels during their first clinical practice. Similarly, another study found that 2<sup>nd</sup>-year nursing students beginning clinical practice for the first time experienced lower stress levels when satisfied with their program.<sup>18</sup> Bilgic and Celikkalp noted no difference in stress scores among students who voluntarily chose nursing for their first clinical practice.<sup>23</sup> Additionally, some studies indicate no relationship between stress levels experienced due to nursing education and the voluntary choice of the profession.<sup>11</sup> Our findings suggest that the low stress levels among students who choose the nursing department willingly may stem from their positive evaluations of clinical learning and overall satisfaction with the profession.<sup>5</sup>

#### DISCUSSING THE RELATIONSHIP BETWEEN NURSING STUDENTS' ATTITUDES TOWARDS FIRST CLINICAL PRACTICE AND PERCEIVED STRESS LEVELS

According to our study results, it was determined that there was no correlation between nursing students' attitudes toward first clinical practice and their perceived stress levels. No study has been found in the literature examining nursing students' attitudes and perceived stress levels towards their first clinical practice. There are correlational studies in the literature examining the relationship between clinical practice satisfaction, clinical performance, clinical learning environment, and stress levels, but there are also correlational studies examining the relationship between attitude towards clinical practice and stress levels.<sup>18,30,31</sup> However, no study has been found examining the correlation between stress. In their study, Admi et al. mentioned a negative relationship between nursing students' satisfaction with their clinical experiences and their stress levels.<sup>18</sup>

Ye et al. report a negative relationship between clinical performance and perceived stress.<sup>30</sup> Similarly, Mazalová et al. found that students with low academic stress expressed satisfaction with all aspects of clinical practice.<sup>28</sup> In contrast to the existing literature, Jagoda and Rathnayake indicate that students experiencing moderate to high levels of stress have positive perceptions of the clinical environment.<sup>31</sup> The reasons for the different findings reported

in the literature may have varied depending on the individual and cultural characteristics of the students, differences in nursing education curricula, and methods of coping with stress. These variables can be examined in detail in future studies.

## LIMITATIONS

The psychosocial states of the students participating in our study after clinical practice may have affected their responses to the measurement tools. The study was conducted in a province in our country, and the generalizability of the study is limited to cities and countries with different nursing education methods.

## CONCLUSION

In our study, it was determined that nursing students developed positive attitudes towards their first clinical practice and experienced moderate levels of stress, and no relationship was found between these parameters. It was determined that gender, high school graduation, and satisfaction with the nursing department affected perceived clinical stress, while satisfaction with the nursing department affected clinical attitude. The findings of our study may be useful in determining the needs of nursing students before, during, and after their first clinical practice. In addition,

providing a suitable clinical practice environment for instructors working in clinical practice may be beneficial to students in determining appropriate coping strategies.

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## Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

## Authorship Contributions

**Idea/Concept:** Necibe Dağcan Şahin, Burcu Nal, Selmin Şenol; **Design:** Necibe Dağcan Şahin, Burcu Nal, Selmin Şenol; **Control/Supervision:** Selmin Şenol; **Data Collection and/or Processing:** Necibe Dağcan Şahin, Burcu Nal; **Analysis and/or Interpretation:** Necibe Dağcan Şahin, Burcu Nal, Selmin Şenol; **Literature Review:** Necibe Dağcan Şahin, Burcu Nal, Selmin Şenol; **Writing the Article:** Necibe Dağcan Şahin, Burcu Nal, Selmin Şenol; **Critical Review:** Necibe Dağcan Şahin, Selmin Şenol.

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