

Learning to Care, Fearing What Lies Ahead: Future Anxiety Among Student Nurses

Abstract

Background: Nursing students often experience future anxiety as they prepare for professional life. Understanding the factors that influence this anxiety is essential for developing effective support strategies.

Aim: This study aimed to examine future anxiety levels among nursing students and identify associated individual and contextual factors.

Methods: A descriptive study was conducted with 211 nursing students at a foundation university in Istanbul. Data were collected through a Personal Information Form and the Future Anxiety Scale for University Students. Data were collected face-to-face. The Pearson correlation test, analysis of variance (ANOVA), and independent samples t-test were used for data analysis.

Results: The participants had a mean age of 21.29 years and a mean grade point average (GPA) of 3.00. Participants reported moderate levels of future anxiety (mean: 2.85; standard deviation: 0.55), with greater concern about uncertainty than hopelessness. Significant factors associated with elevated anxiety included year of study, living arrangements, career plans, readiness to practice, prior clinical experiences, and perceptions of societal views on nursing. Third-year students and those intending to work as nurses after graduation reported higher levels of fear about the future. Students who had negative clinical experiences or were dissatisfied with the public image of nursing also exhibited higher anxiety levels. No significant associations were found with age, gender, or grade point average.

Conclusion: The findings underscore the need for supportive educational strategies and psychosocial interventions to reduce future anxiety among nursing students.

Keywords: Anxiety, future anxiety, nursing, students

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Introduction

Anxiety is a common and universal emotional response experienced across all stages of life. It is typically triggered by perceived threats or uncertainty and is often associated with fear, pessimism, and a sense of hopelessness about the future.¹ According to the American Psychological Association (APA),² anxiety involves feelings of tension, worried thoughts, and physical symptoms, often reflecting an individual's concerns about anticipated future events and outcomes. While general anxiety involves a broad state of tension and physiological arousal, future anxiety, defined as a state of worry and fear specifically related to anticipated negative events in the future, is more cognitive in nature than general anxiety and stems from the human capacity to imagine potential catastrophes.³

Among university students, nursing students represent a particularly vulnerable group with respect to anxiety.⁴ Studies have consistently shown that nursing students frequently experience moderate to high levels of future anxiety.⁵⁻⁹ For instance, Comparcini et al.⁶ reported that 88.5% of nursing students experienced high anxiety levels, while Karaman and Karatepe⁷ observed moderate levels of future-related concerns among students in Türkiye.

Future anxiety is shaped by multiple factors, including demographic characteristics, academic performance, socioeconomic status, employment expectations, and perceived preparedness for professional life.^{6,7,10,11} Broader societal influences, such as economic instability, natural disasters, armed conflicts, and global pandemics, also play a critical role.¹² The coronavirus disease 2019 (COVID-19) pandemic, in particular, has amplified students' uncertainty regarding their education, career prospects, and overall future.¹³

In Türkiye, studies indicate that nursing students' future anxiety levels are notably high and are influenced by both systemic challenges in nursing education and regional geopolitical factors.^{14,15} For example, students in conflict-affected areas or those involved in caring for displaced populations report heightened anxiety levels.¹⁶ Additionally, career-related stressors, such as professional recognition, workplace safety, and communication within healthcare teams, further exacerbate anxiety.^{17,18}

Despite the growing body of literature on nursing students' anxiety, few studies have comprehensively examined how clinical, educational, and societal factors collectively shape future anxiety, particularly within the Turkish context. Most existing research focuses on isolated variables or general stress, without exploring the nuanced interplay among professional readiness, social perception, and prior clinical experiences. Given the high levels

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of uncertainty reported by nursing students in Türkiye and the evolving challenges in nursing education, there is a pressing need for evidence that reflects these multidimensional influences. Therefore, this study aims to investigate the future anxiety levels of nursing students and identify key individual and contextual factors associated with heightened anxiety. The findings are expected to inform targeted interventions to enhance students' psychological resilience and professional preparedness.

Research Questions

1. What is the distribution of sociodemographic characteristics among the nursing students included in the study?
2. What are the future anxiety levels of the nursing students included in the study?
3. Do nursing students' future anxiety levels differ according to their sociodemographic characteristics?
4. What is the relationship between nursing students' sociodemographic characteristics and their future anxiety levels?

Materials and Methods

This descriptive study was conducted to examine the future anxiety levels of nursing students in relation to various variables.

Study Population and Sample

The study population consisted of students enrolled in the Nursing Department of the Faculty of Health Sciences at a university in Istanbul during the 2023–2024 academic year (N=345). The sample size was determined using the known population sampling method. At a 98% confidence level, the required sample size was calculated as 211 students.

Inclusion Criteria

- Being actively enrolled in the nursing department during the study period
- Voluntarily agreeing to participate in the study.

Exclusion Criteria

- Not providing consent for participation
- Incompletely completing the data collection forms.

Study Variables

The independent variables of the study were the sociodemographic characteristics of the nursing students. The dependent variable was the score obtained from the Future Anxiety Scale for University Students.

Instruments

Data were collected using the Personal Information Form and the Future Anxiety Scale for University Students.

Personal Information Form: A 22-item questionnaire designed to collect sociodemographic information.

Future Anxiety Scale for University Students: Developed by Geylani and Çiriş Yıldız,¹⁹ this 19-item scale uses a 5-point Likert format and was validated through exploratory and confirmatory factor analyses. The scale consists of two subdimensions: *Fear of the Future* and *Hopelessness About the Future*. The total variance explained by the scale is 63.50%, and the internal consistency coefficient (Cronbach's alpha) is 0.91. Test-retest reliability was evaluated by administering the scale to the same group two weeks apart, yielding a significant correlation coefficient. Confirmatory factor analysis verified the two-factor structure. The minimum possible score on the scale is 13, the maximum is 65, and the midpoint is 39. Higher scores indicate greater future anxiety, whereas lower scores reflect lower anxiety levels. The Cronbach's alpha values obtained in this study were 0.85 for the total future anxiety scale, 0.85 for the *Fear of the Future* subdimension, and 0.90 for the *Hopelessness About the Future* subdimension.

Data Collection

The study data were collected between November 2023 and March 2024. Prior to participation, students were informed about the study and the data collection instruments and were asked to complete the forms. Completion of the data collection instruments took approximately 15–20 minutes. Data were collected face-to-face.

Data Analysis

The data were analyzed using IBM SPSS Statistics for Windows, version 25.0 (IBM Corp., Armonk, NY, USA). The selection of analysis techniques was based on the normality of the data distribution, which was assessed by examining skewness and kurtosis values. A normal distribution was assumed when these values fell within the range of ± 2 .²⁰ An independent samples t-test was used to compare future anxiety scale and subdimension scores according to gender and employment status. A one-way analysis of variance (ANOVA) was conducted to compare future anxiety scale and subdimension scores across various categorical variables, including year of study, economic status, housing situation, reasons for choosing nursing, post-graduation career plans, perceived ease of finding employment after graduation, perceptions of the adequacy of undergraduate education for career preparation, perceived readiness to practice the profession, satisfaction with societal perceptions of the profession, concerns regarding the misalignment between clinical and academic training, prior negative experiences in clinical practice, and perceived preparedness for working conditions in the profession. As post hoc analyses, the Games-Howell test, the Least Significant Difference (LSD) test, and the Tukey Honestly Significant Difference (Tukey HSD) test were applied where appropriate. To assess the relationship between age and future anxiety scale and subdimension scores, Spearman's correlation analysis was used. Additionally, Pearson's correlation analysis was performed to examine the relationship between grade point average (GPA) and future anxiety scale and subdimension scores. Statistical significance was set at $p < 0.005$.

Ethical Considerations

Ethical approval for the study was obtained from the Ethics Committee of Istanbul Arel University (Approval Number: 2023/24, Date: 29.12.2023). Written informed consent was obtained from all participating students. Permission to use the Future Anxiety Scale for University Students was obtained from the original authors. The study was conducted in accordance with the Declaration of Helsinki.

Results

The participants had a mean age of 21.29 years and a mean grade point average of 3.00. Among them, 74.4% were female, 31.3% were second-year students, and 70.1% reported that their income was equal to their expenses. Additionally, 96.7% were single, 72% were not employed, and 60.2% lived with their families. Furthermore, 59.7% reported choosing the nursing department voluntarily, and 44.5% intended to pursue a nursing career after graduation (Table 1).

It was found that 74.4% of participants believed they would easily find a job after graduation, while 41.2% considered their undergraduate education sufficient to achieve their career goals. Additionally, 28.4% of participants felt ready to practice their profession, whereas 49.3% were dissatisfied with society's perception of the nursing profession. It was also determined that 57.8% had not experienced a negative experience during clinical practice, and 35.5% felt prepared for the working conditions of the profession. Regarding the impact of the COVID-19 pandemic, 54% of participants believed that their education during the pandemic was inadequate, and 34.1% stated that changes in the education system during the pandemic had affected their future plans. Furthermore, 59.7% of students reported following current events both globally and nationally; 50.7% followed news related to climate change, and 64% followed news about natural disasters (Table 1).

The mean future anxiety score was 2.85 [standard deviation (SD): 0.55]. The mean scores for the subdimensions *Fear of the Future* and *Hopelessness About the Future* were 2.96 (SD: 0.72) and 2.61 (SD: 0.81), respectively. Since the skewness and kurtosis values for the future anxiety scale and its subdimensions were within the range of ± 2 , the data were considered to be normally distributed (Table 2).

No significant relationship was found between future anxiety scores and age ($r = -0.10$, $p > 0.05$) or grade point average ($r = -0.03$, $p > 0.05$). However, a very strong positive correlation was observed between future anxiety scores and *Fear of the Future* ($r = 0.89$, $p < 0.01$), and a moderate positive correlation was found between future anxiety scores and *Hopelessness About the Future* ($r = 0.45$, $p < 0.01$). No significant relationship was found between *Fear of the Future* and *Hopelessness About the Future* scores ($r = -0.02$, $p > 0.05$), nor between *Fear of the Future* scores and age ($r = -0.09$, $p > 0.05$) or GPA ($r = -0.01$, $p > 0.05$). Similarly, *Hopelessness About the Future* scores were not significantly correlated with age ($r = -0.08$, $p > 0.05$) or GPA ($r = -0.03$, $p > 0.05$). Additionally, no significant correlation was found between age and GPA ($r = -0.08$, $p > 0.05$) (Table 3).

Table 1. Opinions on profession and career (N=211)

Opinions	Yes		No		Partially		Neutral	
	n	%	n	%	n	%	n	%
Perceived ease of finding employment after graduation	157	74.4	8	3.8	35	16.6	11	5.2
Perceived sufficiency of undergraduate education for career preparation	87	41.2	43	20.4	60	28.4	21	10.0
Perceived readiness to practice the profession	60	28.4	48	22.7	81	38.4	22	10.4
Satisfaction with society's perception of the profession	50	23.7	104	49.3	29	13.7	28	13.3
Concerns regarding the misalignment between clinical training and academic education	88	41.7	30	14.2	61	28.9	32	15.2
Prior negative experiences during clinical practice	31	14.7	122	57.8	38	18.0	20	9.5
Perceived preparedness for the working conditions of the profession	75	35.5	44	20.9	52	24.6	40	19.0
Perceived adequacy of education received during the COVID-19 pandemic	38	18.0	114	54.0	30	14.2	29	13.7
Impact of changes in the education system during the pandemic on future career plans	72	34.1	62	29.4	57	27.0	20	9.5
Following current events nationally and globally	126	59.7	13	6.2	58	27.5	14	6.6
Following news related to climate change nationally and globally	107	50.7	21	10.0	63	29.9	20	9.5
Following news about natural disasters nationally and globally	135	64.0	7	3.3	54	25.6	15	7.1

Table 2. Descriptive statistics for future anxiety scale and subdimension scores among nursing students (N=211)

Future anxiety scale	Mean	SD	Min	Max	Skewness	Kurtosis
Future Anxiety	2.85	0.55	1.26	4.42	-0.08	0.41
Fear of the Future	2.96	0.72	1.00	5.00	0.15	0.59
Hopelessness About the Future	2.61	0.81	1.00	4.83	0.16	0.02

SD: Standard deviation.

No significant differences were observed in future anxiety scores based on gender, year of study, economic status, employment status, reasons for choosing nursing, perceived ease of finding employment after graduation, perceptions of the adequacy of undergraduate education for career preparation, satisfaction with society's perception of the profession, or concerns regarding the misalignment between clinical training and academic education ($p > 0.05$) [Appendix 1].

However, a significant difference was found in future anxiety scores based on students' living arrangements. Students living with their families had higher future anxiety scores compared to those living with relatives ($p < 0.05$). A significant difference was also observed according to post-graduation career plans; students who intended to pursue a nursing career had higher future anxiety scores than those planning an academic career ($p < 0.05$) [Appendix 1].

Regarding perceived readiness to practice the profession, a significant difference was found in future anxiety scores. Students who did not feel ready to practice their profession had higher scores compared to those who felt ready or partially ready ($p < 0.05$). A significant difference was also found based on prior negative experiences during clinical practice; students who had experienced negative incidents during clinical training had higher future anxiety scores than those who had not ($p < 0.05$). Lastly, a significant difference was observed according to perceived preparedness for the working conditions of the profession, with students who did not feel prepared reported higher future anxiety scores compared to those who felt prepared ($p < 0.05$) [Appendix 1].

No significant differences were observed in *Fear of the Future* scores based on gender, economic status, employment status, reasons for choosing nursing, post-graduation career plans, perceived ease of finding employment after graduation, perceptions of the adequacy of undergraduate education for career preparation, satisfaction with society's perception of the profession, concerns regarding the misalignment between clinical training and academic education, or perceived preparedness for working conditions ($p > 0.05$) [Appendix 2].

However, a significant difference in *Fear of the Future* scores was found according to year of study, with third-year students reporting higher scores than fourth-year students ($p < 0.05$). A significant difference was also observed based on living arrangements; students living with their families had higher *Fear of the Future* scores

Table 3. Correlations between age, grade point average, and future anxiety scale and subdimension scores among nursing students (N=211)

Future anxiety scale/age, GPA	Future Anxiety	Fear of the Future	Hopelessness About the Future	Age	Grade Point Average (GPA)
Future anxiety	1				
r					
Fear of the Future	0.89	1			
r	0.00*				
Hopelessness About the Future	0.45	-0.02	1		
r	0.00*	0.78			
Age	-0.10	-0.09	-0.08	1	
r	0.14	0.21	0.25		
Grade point average	-0.03	-0.01	-0.03	-0.08	1
r	0.68	0.84	0.63	0.28	

*: $p < 0.001$. r: Pearson correlation, p: Spearman correlation.

compared to those living with relatives ($p < 0.05$). Regarding perceived readiness to practice the profession, a significant difference was found in *Fear of the Future* scores. Students who did not feel ready to practice their profession had higher scores compared to those who felt ready or partially ready ($p < 0.05$). Additionally, a significant difference was observed based on prior negative experiences during clinical practice; students who had experienced negative incidents during clinical training reported higher *Fear of the Future* scores than those who had not ($p < 0.05$) [Appendix 2].

No significant differences were observed in *Hopelessness About the Future* scores based on gender, year of study, economic status, employment status, living arrangements, reasons for choosing nursing, post-graduation career plans, perceived ease of finding employment after graduation, perceptions of adequacy of undergraduate education for career preparation, perceived readiness to practice the profession, prior negative experiences during clinical practice, or perceived preparedness for working conditions ($p > 0.05$) [Appendix 3].

However, a significant difference was found in *Hopelessness About the Future* scores based on satisfaction with society's perception of the profession. Students who were satisfied with how society viewed the profession had lower hopelessness scores compared to those who were dissatisfied or uncertain ($p < 0.05$). Additionally, a significant difference was observed in *Hopelessness About the Future* scores based on concerns regarding the misalignment between clinical training and academic education. Students who perceived this misalignment as concerning reported higher hopelessness scores than those who did not ($p < 0.05$) [Appendix 3].

Discussion

The results of this study showed that nursing students experienced moderate levels of future anxiety. The *Fear of the Future* subscale scored slightly higher than the *Hopelessness About the Future* subscale, indicating that students' anxiety was more closely related to uncertainty than to outright hopelessness. Similar to our findings, Karaman and Karatepe⁷ also reported moderate levels of future anxiety among nursing students. Consistent with our results, a study conducted with sports science students found similar levels of future anxiety and fear but reported significantly higher levels of hopelessness about the future.²¹ Likewise, other studies conducted with university students have reported moderate levels of future anxiety.^{22,23} Nursing students worldwide commonly experience future anxiety, characterized by persistent concerns about their careers and life after graduation. Recent studies indicate that anxiety levels among nursing and other healthcare students are strikingly high. For example, Macauley et al.²⁴ reported that 83% of healthcare students had above-normal state anxiety levels. Similarly, a meta-analysis found that approximately one-third of medical students experience anxiety disorders.²⁵ Another study²⁶ revealed that university students with high levels of future anxiety tend to demonstrate low levels of psychological flexibility and cognitive reappraisal, along with high levels of expressive suppression, depression, and stress. These findings show that concerns about the future are widespread among healthcare students. Elevated anxiety may negatively affect learning, academic performance, and overall well-being, making it a critical issue for university populations.⁹

The present study also found that third-year students reported higher *Fear of the Future* scores than fourth-year students. In contrast, Şanlı Kula and Saraç²³ reported no significant association between university students' future anxiety levels and their year of study. Research over the past decade suggests that anxiety about the future tends to increase as students progress through their education. One study reported that senior nursing students experienced significantly higher future anxiety compared to first-year students and noted that self-efficacy was higher in the early years but declined by the fourth year as anxiety about the upcoming career increased.⁸ Similarly, a longitudinal study conducted in Türkiye that followed nursing students until graduation found that senior students reported more intense anxiety about their professional future than first-year students.⁹ In the present study, students who intended to pursue a nursing career also reported higher levels of anxiety. As graduation approaches, students begin to anticipate assuming full professional responsibility, which may contribute to a decline in their mental well-being. Overall, the progression through nursing education appears to be associated with increased anxiety about the future, particularly among final-year students who are close to entering the workforce.⁸ This pattern is consistent with qualitative findings indicating that the final phase of clinical training is perceived as one of the most anxiety-inducing periods in nursing education.²⁷

As graduation nears, many students feel uncertain about their next steps, whether to begin working as nurses, pursue further education, or leave the profession altogether. Concerns about securing employment and intense competition for desirable positions further intensify anxiety.⁴ Additionally, many students report low confidence in their practical skills, fearing that they may not be sufficiently competent or prepared for real clinical settings.²⁸ As awareness of these issues has increased, recent literature has increasingly examined how nursing and healthcare students manage future anxiety and career-related stress. Sönmez et al.⁹ identified dissatisfaction with social activities, largely due to the demanding nature of health-related education limiting personal time, as a significant risk factor for adverse psychological outcomes. Regarding career stress, one study found that clinical clerkships play a critical role in helping students develop a clearer future work self-concept, thereby reducing career decision-making stress.²⁹

In the present study, students living with their families were found to have higher levels of future anxiety. Another study that examined family-related factors in greater detail reported that students who experienced conflicts at home and required greater emotional support from their families had the highest anxiety scores.³⁰ This finding may be attributed to pressure stemming from family expectations, lack of emotional support, students' perceived lack of independence, and conflicting or stressful family environments, all of which may increase anxiety levels. In contrast to present findings, some studies have reported that students living with their families experienced lower levels of anxiety.^{31,32} Strong perceived social support, close family ties, and reduced financial burden associated with living at home may help explain these results.

Consistent with previous research indicating that nursing students are highly concerned about society's insufficient respect for the profession,⁵ present study showed that students who were satisfied with society's perception of nursing reported lower levels of *Hopelessness About the Future*. The societal image of a profession can directly influence professional preference. Enhancing the public image of nursing may be facilitated by nurses strengthening their communication skills and consistently demonstrating professional identity and behavior. However, individual efforts alone are insufficient. Nurses remain underrepresented in policymaking and leadership roles. Gender bias and societal stereotypes further contribute to this issue. Students' perceptions of these issues may, in turn, contribute to future anxiety.

In the present study, students who reported negative clinical experiences had higher *Fear of the Future* and overall future anxiety scores. One study found that nursing students encounter a wide range of anxiety-provoking situations during clinical internships.³³ Other studies have shown that problems experienced in clinical settings negatively affect anxiety levels.^{34,35} Such negative experiences may lead students to question their professional competence and future success, thereby increasing fears about the future.

In the present study, a moderate positive correlation was observed between hopelessness scores and overall future anxiety. Previous research suggests that hope functions as a protective factor against anxiety and stress, with higher levels of hope associated with lower anxiety.^{26,36-38} Similarly, a study conducted with dental and nursing students in Greece identified hope as the strongest predictor of psychological resilience.³⁶ Another finding of the present study was that students who were satisfied with society's perception of their profession reported lower hopelessness scores. This finding underscores the importance of extrinsic motivation and social support in shaping individuals' perceptions of the future. Another finding of the study was that students who were concerned about inconsistencies between clinical training and academic coursework reported higher hopelessness scores. This suggests that structural uncertainties within the educational process can weaken students' goal-oriented motivation. Similarly, a study conducted with older adults demonstrated that hope serves as a central mechanism in preventing spiritual exhaustion during periods of uncertainty.³⁸ These findings highlight the importance of incorporating hope-enhancing strategies into the curricula of future healthcare professionals.

The results indicate a critical need to implement targeted support measures aimed at strengthening nursing students' mental health and fostering resilience in the face of future uncertainties.

Study Limitations

The findings may have limited generalizability, as the study was conducted in the nursing department of a single university. Data were based on students' self-reported responses, which may be subject to recall and social desirability bias. In addition, the cross-sectional design limits causal interpretation.

Conclusion

Overall, this study highlights that academic stage, clinical experiences, concerns regarding the misalignment between clinical training and academic education, living arrangements, and societal perceptions of nursing are associated with future anxiety among nursing students. Supportive educational environments, strengthened clinical mentoring, and comprehensive integration of anxiety-related content into the curriculum may help reduce future anxiety and promote psychological well-being among nursing students. Furthermore, nursing curricula should extend beyond theoretical knowledge by incorporating structured training in psychological resilience, professional coping strategies, and hope-enhancement techniques. Such practical educational interventions may equip students with the tools necessary to manage clinical stressors effectively and bridge the gap between academic expectations and professional realities.

Ethics Committee Approval: The study was approved by the Istanbul Arel University Ethics Committee [Approval Number: 2023/24, Date: 29.12.2023].

Informed Consent: Written informed consent was obtained from all participating students.

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Appendix 1. Comparison of future anxiety scores by categorical variables (N=211)

Categorical variables/future anxiety scale		n	Mean	SD	Test Stat.	p	Diff.
Sex	a. Female	157	2.87	0.53	T 1.161	0.25	-
	b. Male	54	2.77	0.60			
Year of study	a. 1 st year	53	2.83	0.62	F 2.081	0.10	-
	b. 2 nd year	66	2.90	0.51			
	c. 3 rd year	29	3.01	0.58			
	d. 4 th year	63	2.73	0.50			
Economic status	a. Income lower than expenses	39	2.84	0.51	F 0.081	0.92	-
	b. Income equal to expenses	148	2.85	0.54			
	c. Income higher than expenses	24	2.81	0.72			
Employment status	a. Employed	59	2.89	0.50	T 0.680	0.50	-
	b. Not employed	152	2.83	0.57			
Living Arrangements	a. Dormitory	62	2.79	0.48	F 3.070	0.03*	c<b
	b. Living with family	127	2.92	0.58			
	c. Living with a relative	10	2.50	0.44			
	d. Living with a friend	12	2.63	0.54			
Reason for choosing the nursing department	a. Family influence	35	2.74	0.53	F 1.640	0.20	-
	b. Personal choice	126	2.83	0.58			
	c. Employment opportunities	50	2.95	0.50			
Post-graduation career plans	a. Practice nursing	94	2.85	0.56	F 3.176	0.03*	d<b
	b. Do not plan to practice nursing	29	3.10	0.47			
	c. Work abroad	48	2.81	0.53			
	d. Pursue an academic career	40	2.70	0.56			
Perceived ease of finding employment after graduation	a. Yes	157	2.80	0.58	F 1.943	0.12	-
	b. No	8	2.86	0.39			
	c. Partially	35	3.05	0.46			
	d. Neutral	11	2.86	0.46			
Perceived sufficiency of undergraduate education for career preparation	a. Yes	87	2.86	0.49	F 0.227	0.88	-
	b. No	43	2.78	0.69			
	c. Partially	60	2.86	0.54			
	d. Neutral	21	2.85	0.53			
Readiness to practice the profession	a. Yes	60	2.76	0.53	F 4.398	0.01*	a, c<b
	b. No	48	3.08	0.56			
	c. Partially	81	2.76	0.51			
	d. Neutral	22	2.89	0.59			
Satisfaction with society's perception of the profession	a. Yes	50	2.74	0.52	F 0.978	0.40	-
	b. No	104	2.86	0.64			
	c. Partially	29	2.89	0.43			
	d. Neutral	28	2.94	0.35			
Concerns regarding the misalignment between clinical training and academic education	a. Yes	88	2.90	0.54	F 0.491	0.69	-
	b. No	30	2.79	0.56			
	c. Partially	61	2.80	0.60			
	d. Neutral	32	2.86	0.49			
Prior negative experiences during clinical practice	a. Yes	31	3.14	0.42	F 5.445	0.00*	b<a
	b. No	122	2.73	0.59			
	c. Partially	38	2.92	0.51			
	d. Neutral	20	2.95	0.29			
Preparedness for working conditions	a. Yes	75	2.78	0.63	F 2.865	0.04*	a<b
	b. No	44	3.06	0.47			
	c. Partially	52	2.79	0.48			
	d. Neutral	40	2.81	0.52			

*: p<0.05: Statistically significant at the 0.05 level. Diff: Difference, F: One-way analysis of variance (ANOVA), SD: Standard deviation, Test Stat.: Test statistics, T: Independent samples t-test.

Appendix 2. Comparison of *Fear of the Future* scores by categorical variables (N=211)

Fear of the future/categorical variables		n	Mean	SD	Test Stat.	p	Diff.
Sex	a. Female	157	2.97	0.69	T 0.482	0.63	-
	b. Male	54	2.91	0.81			
Year of study	a. 1 st year	53	2.93	0.94	F 3.069	0.03*	d<c
	b. 2 nd year	66	3.01	0.59			
	c. 3 rd year	29	3.25	0.71			
	d. 4 th year	63	2.79	0.60			
Economic status	a. Income lower than expenses	39	2.93	0.71	F 0.277	0.76	-
	b. Income equal to expenses	148	2.95	0.71			
	c. Income higher than expenses	24	3.06	0.85			
Employment status	a. Employed	59	3.01	0.70	T 0.621	0.54	-
	b. Not employed	152	2.94	0.73			
Living arrangements	a. Dormitory	62	2.86	0.68	F 2.956	0.03*	c<b
	b. Living with family	127	3.06	0.74			
	c. Living with a relative	10	2.59	0.48			
	d. Living with a friend	12	2.65	0.75			
Reason for choosing the nursing department	a. Family influence	35	2.85	0.65	F 1.787	0.17	-
	b. Personal choice	126	2.92	0.76			
	c. Employment opportunities	50	3.12	0.66			
Post-graduation career plans	a. Practice nursing	94	2.96	0.78	F 1.381	0.25	-
	b. Do not plan to practice nursing	29	3.19	0.69			
	c. Work abroad	48	2.90	0.63			
	d. Pursue an academic career	40	2.85	0.70			
Perceived ease of finding employment after graduation	a. Yes	157	2.92	0.76	F 0.688	0.56	-
	b. No	8	2.85	0.31			
	c. Partially	35	3.11	0.67			
	d. Neutral	11	3.00	0.51			
Perceived sufficiency of undergraduate education for career preparation	a. Yes	87	2.99	0.71	F 0.212	0.89	-
	b. No	43	2.89	0.93			
	c. Partially	60	2.94	0.61			
	d. Neutral	21	3.00	0.63			
Readiness to practice the profession	a. Yes	60	2.83	0.77	F 3.634	0.01*	a, c<b
	b. No	48	3.24	0.76			
	c. Partially	81	2.87	0.63			
	d. Neutral	22	3.00	0.69			
Satisfaction with society's perception of the profession	a. Yes	50	2.93	0.76	F 0.089	0.97	-
	b. No	104	2.94	0.80			
	c. Partially	29	3.00	0.54			
	d. Neutral	28	2.99	0.52			
Concerns regarding the misalignment between clinical training and academic education	a. Yes	88	2.93	0.72	F 0.285	0.84	-
	b. No	30	3.07	0.79			
	c. Partially	61	2.95	0.77			
	d. Neutral	32	2.94	0.59			
Prior negative experiences during clinical practice	a. Yes	31	3.25	0.70	F 3.273	0.02*	b<a
	b. No	122	2.83	0.78			
	c. Partially	38	3.06	0.65			
	d. Neutral	20	3.03	0.31			
Preparedness for working conditions	a. Yes	75	2.92	0.87	F 1.915	0.13	-
	b. No	44	3.18	0.63			
	c. Partially	52	2.88	0.62			
	d. Neutral	40	2.87	0.59			

*: p<0.05: Statistically significant at the 0.05 level. Diff: Difference, F: One-way analysis of variance (ANOVA), SD: Standard deviation, Test Stat.: Test statistics, T: Independent samples t-test.

Appendix 3. Comparison of *Hopelessness About the Future* scores by categorical variables (N=211)

Hopelessness about the future/categorical variables		n	Mean	SD	Test Stat.	p	Diff.
Sex	a. Female	157	2.66	0.78	T 1.578	0.12	-
	b. Male	54	2.46	0.88			
Year of study	a. 1 st year	53	2.62	1.09	F 0.324	0.81	-
	b. 2 nd year	66	2.66	0.70			
	c. 3 rd year	29	2.48	0.65			
	d. 4 th year	63	2.60	0.70			
Economic status	a. Income lower than expenses	39	2.64	0.80	F 2.513	0.08	-
	b. Income equal to expenses	148	2.66	0.78			
	c. Income higher than expenses	24	2.26	0.90			
Employment status	a. Employed	59	2.63	0.82	T 0.266	0.79	-
	b. Not employed	152	2.60	0.80			
Living arrangements	a. Dormitory	62	2.64	0.82	F 0.527	0.66	-
	b. Living with family	127	2.62	0.83			
	c. Living with a relative	10	2.30	0.68			
	d. Living with a friend	12	2.58	0.58			
Reason for choosing the nursing department	a. Family influence	35	2.50	0.82	F 0.442	0.64	-
	b. Personal choice	126	2.64	0.84			
	c. Employment opportunities	50	2.60	0.72			
Post-graduation career plan	a. Practice nursing	94	2.61	0.87	F 2.599	0.053	-
	b. Do not plan to practice nursing	29	2.91	0.63			
	c. Work abroad	48	2.63	0.85			
	d. Pursue an academic career	40	2.37	0.63			
Perceived ease of finding employment after graduation	a. Yes	157	2.53	0.81	F 2.576	0.06	-
	b. No	8	2.90	0.80			
	c. Partially	35	2.91	0.82			
	d. Neutral	11	2.56	0.48			
Perceived sufficiency of undergraduate education for career preparation	a. Yes	87	2.59	0.84	F 0.468	0.71	-
	b. No	43	2.55	0.79			
	c. Partially	60	2.71	0.81			
	d. Neutral	21	2.51	0.72			
Readiness to practice the profession	a. Yes	60	2.61	0.95	F 0.814	0.49	-
	b. No	48	2.75	0.73			
	c. Partially	81	2.52	0.77			
	d. Neutral	22	2.64	0.69			
Satisfaction with society's perception of the profession	a. Yes	50	2.32	0.79	F 3.163	0.03*	b, d>a
	b. No	104	2.68	0.85			
	c. Partially	29	2.64	0.70			
	d. Neutral	28	2.83	0.68			
Concerns regarding the misalignment between clinical training and academic education	a. Yes	88	2.82	0.81	F 5.822	0.00*	b<a
	b. No	30	2.19	0.82			
	c. Partially	61	2.46	0.75			
	d. Neutral	32	2.68	0.71			
Prior negative experiences during clinical practice	a. Yes	31	2.90	0.82	F 2.318	0.08	-
	b. No	122	2.51	0.89			
	c. Partially	38	2.61	0.60			
	d. Neutral	20	2.77	0.44			
Preparedness for working conditions	a. Yes	75	2.47	0.94	F 1.637	0.18	-
	b. No	44	2.79	0.67			
	c. Partially	52	2.60	0.70			
	d. Neutral	40	2.69	0.77			

*: p<0.05: Statistically significant at the 0.05 level. Diff: Difference, F: One-way analysis of variance (ANOVA), SD: Standard deviation, Test Stat.: Test statistics, T: Independent samples t-test.