

The predictive role of nursing students' individual characteristics and psychological resilience in psychological distress

Özgü Serçe MSc^{1,2}  | Sevecen Çelik Ince PhD³  | Burcu Özkul PhD⁴  |
Neslihan Partlak Günüşen PhD² 

¹Department of Psychiatric Nursing, Health Sciences Institute, Dokuz Eylül University, Izmir, Turkey

²Department of Psychiatric Nursing, Faculty of Nursing, Dokuz Eylül University, Izmir, Turkey

³Department of Psychiatric Nursing, Faculty of Health Science, Zonguldak Bülent Ecevit University, Zonguldak, Turkey

⁴Department of Nursing, Faculty of Health Science, Izmir University of Economics, Izmir, Turkey

Correspondence

Özgü Serçe, MSc, Department of Psychiatric Nursing, Health Sciences Institute, Dokuz Eylül University, 35340 Izmir, Turkey.
Email: ozguserce@gmail.com and ozgu.serce@deu.edu.tr

Abstract

Purpose: This study aims to determine the predictive role of nursing students' individual characteristics and psychological resilience in psychological distress.

Design and Methods: This study is a descriptive cross-sectional study. The study sample included 652 nursing students. Binary logistic regression analysis was used for analysis.

Findings: It has been determined that 65.3% of nursing students have psychological distress. Having a chronic disease, being a woman, poor academic success, choosing the profession so as not to be unemployed, being single and low psychological resilience are factors that affect psychological distress.

Practice Implications: It is recommended to screen nursing students for psychological distress to increase interventions that improve the psychological resilience of risky students.

KEYWORDS

nursing students, psychological distress, psychological resilience

1 | INTRODUCTION

Nursing students experience stressors, such as uncertainty, insufficient professional knowledge and skills, fear of making mistakes, excessive workload, and encountering the death of the patient, and they face stress-related occupational health risks.¹ The stressors of nursing students are divided into three groups: academic, clinical, and personal/social. Nursing students' academic stressors were found to be their course load, exams/assessment, and anxiety about failure; clinical stressors are fear of making mistakes, negative reactions to death or patients' pain, and relationships with others in the team; personal/social stressors were found to be economic problems, the imbalance between housework/social life and school-work.² In a systematic review examining the stress, psychological well-being, and psychological resilience of nursing students, it was determined that the stress levels of nursing students were high, and

students experienced burnout.³ A survey conducted by nursing students in Turkey produced similar results; students experienced moderate academic and clinical stress.⁴⁻⁷

Stressors can adversely affect a person's compliance and mental health. If students do not have the resilience to protect themselves against the stress and strain to which they are exposed, they may feel weak and experience psychological distress.⁸ In a systematic review and meta-analysis examining the prevalence of depression among nursing students, the prevalence of depression was determined to be 34%.⁹ In another study, it was found that 8.8% of nursing students received high scores from the general health questionnaire cutoff point and were at risk in terms of psychological distress.¹⁰

One of the most important features that enables the individual to recover quickly in the face of stressful life events is psychological resilience.¹¹ Psychological resilience means the

ability of a person to successfully overcome and adapt to these adverse conditions despite difficult circumstances.¹² Psychological resilience is important for nursing students to cope with difficulties and to take on professional roles after graduation.¹³ Resilience has important effects and is a determining factor of psychological distress. In a systematic review, resilience was positively correlated with psychological well-being, and higher resilience led to better psychological well-being.³ In a study in which nursing students' burnout, psychological resilience, and psychological well-being were examined longitudinally, it was found that resilience was an important positive resource and had positive effects on students' psychological well-being.¹⁰

Because nursing students are exposed to different stressors throughout their education and their stress levels are high, it is important to examine their psychological distress. Supporting psychological resilience, especially in dealing with stressors, increases the well-being of the individual.¹⁴ It is important to support nursing students who will encounter various stressors in work environments after graduation regarding psychological resilience within the scope of primary protection while they are still in education. In a recent systematic review, studies on the resilience, stress and well-being of nursing students in different countries have been suggested.³ It is important to conduct such studies in other countries due to differences in education curricula and cultural differences. Nursing students in Turkey, taking at least 4 years of theoretical and clinical training, are going through tough training. At least one-third of the total training time is theoretical training, and half is clinical training.¹⁵ In addition, Turkey, with 301 nurses per 100,000 patients, has the lowest patient/nurse ratio among Organization for Economic Co-operation and Development (OECD) countries.¹⁶ According to these results, the clinical areas are stressful for both nurses and nursing students. It is thought that the large sample size of this study conducted with nursing students and the evaluation of the data with advanced analysis methods will emphasize the importance of psychological resilience and encourage studies to improve students' psychological resilience levels.

This study aims to determine the predictive role of nursing students' characteristics and psychological resilience levels on psychological distress mental health.

(1). Is there a difference between the psychological distress levels of nursing students and their characteristics (gender, marital status, grade, income, perceived academic success, presence of chronic illness, alcohol, and smoking use)?

(2). How much do nursing students' individual characteristics and psychological resilience explain psychological distress?

2 | DESIGN AND METHODS

2.1 | Study design

The research is a descriptive cross-sectional study.

2.2 | Sample and settings

The research was conducted between February and May 2019 with students at the Faculty of Nursing of a university in western Turkey. There were a total of 1535 nursing students in the Faculty of Nursing where the study was conducted. The students graduated with 1596 h of theoretical and 1400 h of clinical training. Volunteer students who agreed to participate in the study were included in the sample. Students with vision, hearing, and perception problems and students with psychiatric illness were excluded from the sample. A total of 717 nursing students who agreed to participate in the study completed the questionnaires. However, students with missing data were excluded from the sample. As a result, 625 nursing students were included in the sample of the study. The rate of participation in the study is 46.7%.

The average age of student nurses was 20.62 ± 2.44 , 70.6% were female, 98.2% were single, and 28.6% were 4th grade. It was determined that 50.2% of the student nurses had a middle level of income status and 57.1% had "medium-level" academic success. A total of 77.6% of student nurses did not smoke, 75.8% did not use alcohol, and 92.5% did not have any chronic disease. A total of 47.0% of the students stated that they chose the nursing profession to avoid being unemployed.

2.3 | Measures

In the study, "Personal Information Form," "General Health Questionnaire-12 (GHQ-12)" and "The Resilience Scale for Adults" were used.

2.4 | Personal information form

The Personal Information Form includes questions about the descriptive characteristics of nursing students. This form contains information about the nursing students' age, gender, marital status, grade/class, income, academic success, smoking and alcohol use, presence of chronic illness, and reason for choosing the profession.¹⁷

2.5 | General health questionnaire-12

In this study, the GHQ was used to determine the psychological distress level of nursing students. The GHQ was developed by David Goldberg in 1972.¹⁸ The GHQ-12 is a 4-point Likert-type scale (0-0-1-1) surveying psychological distress observed within the last few weeks. Among the answers given to the questions in the questionnaire, "0" points are given to options A (never), B (usually) and "1" point is given to options C (more often than usual) and D (always), and participants can obtain points between 0 and 12. To determine psychological distress on this scale, items such as "Do you feel unhappy and depressed?," "Can you enjoy your daily work?," "Do you have insomnia because of your

worries?" are posed. The Turkish validity and reliability study was conducted by Kılıç in 1996. According to the ROC analysis, the sensitivity at this cutoff point was 0.74, and the specificity was found to be 0.82.¹⁹ Those who score "2 and above" are determined to be a risky group in terms of psychological distress according to the GHQ-12 result.¹⁹ In other studies, two and above cutoff points were used to define psychological distress.²⁰ The internal consistency coefficient for the GHQ-12 was found to be 0.78.¹⁹ In this study, the internal consistency coefficient was found to be 0.85.

2.6 | The resilience scale for adults

The Resilience Scale for Adults, developed by,²¹ is a scale created to measure the individual's ability to recover from difficult life experiences or the ability to overcome change or disasters. The scale has six subdimensions: "perception of self," "perception of future," "structural style," "social competence," "family cohesion," and "social resources."²¹ A Turkish validity and reliability study was conducted by Basım and Çetin.²² Subdimensions of the original scale were also preserved in the Turkish validity and reliability study.²² The scale is a 5-point Likert-type (1–2–3–4–5) scale. The higher the scores, the higher the psychological resilience. In the scale, questions numbered 1–3–4–8–11–12–13–14–15–16–23–24–25–27–31–33 are calculated by reversing. The scale includes items such as "I always find a solution when an unexpected event occurs," "I know how to achieve my future goals," and "I fully trust my judgments and decisions" to determine resilience. High scores obtained from each subdimension of the scale indicate that the individual has the feature evaluated by the relevant subdimension. The scores that can be obtained from the scale range from 33 to 165. The total Cronbach's alpha coefficient of the original scale is 0.86. In this study, the internal consistency coefficient was found to be 0.88.

2.7 | Data collection procedure

During the data collection process, the researchers waited for the students to finish the course and collected the data in the classroom. Researchers introduced themselves to student nurses. Then, they gave information to the students about the purpose of the research and how to perform it. They obtained verbal and written consent from the nursing students who agreed to participate in the study after the information was given. Questionnaires were distributed to the students who accepted, and they were asked not to write names on the questionnaires to ensure confidentiality. It took an average of 20 min to complete the questionnaires.

2.8 | Statistical analysis

IBM SPSS 22.0 package program (Izmir, Turkey) was used to evaluate the data. Psychological distress according to categorical variables was

analyzed with the χ^2 test, and psychological resilience mean scores according to psychological distress groups were analyzed with the Student *t* test. The significance level accepted for descriptive analysis in this study was $p < 0.05$. In multivariate analysis, variables that were found to be statistically significant (gender, academic success, having a chronic illness, reason to choose the profession variables and psychological resilience) and close to significance (marital status and smoking variables) in previous analyses were tested with binary logistic regression analysis. The model fit was assessed by the Hosmer-Lemeshow test. If the p value in the model is greater than 0.05, the predictive value of the model is considered high. As a result of this research, the Hosmer-Lemeshow test p value was determined to be 0.228. Therefore, the predictive value of the model is high.

2.9 | Ethical consideration

Approval of the ethics committee of this study was obtained from the related university noninvasive research ethics committee (Decision Number: 2019/04-34). Written institutional permission was obtained from the faculty where the study was conducted. Before data collection, participants were informed about the research, and written and verbal consent was obtained.

3 | RESULTS

Based on their scores from the GHQ, the relevant students were divided into two groups, one with low scores (<2 points) and the other with high scores (≥ 2 points). It was found that 65.3% ($n = 408$) of the nursing students had psychological distress.

Nursing students' psychological distress (GHQ-12) assessment based on sociodemographic variables is presented in Table 1. There was a statistically significant difference between students' gender, academic success, presence of chronic illness, reasons for choosing the profession, psychological resilience, and psychological distress ($p < 0.05$) (Table 1).

The psychological distress levels of female students ($p = 0.003$), those with poor academic success ($p < 0.001$), those with chronic diseases ($p = 0.001$), and students who chose nursing to avoid being unemployed ($p < 0.001$), were high (Table 1).

No statistically significant difference was found between the psychological distress of nursing students according to marital status, class, income status, smoking status, or alcohol use status ($p > 0.05$) (Table 1).

The psychological resilience levels of nursing students with high levels of psychological distress were significantly lower ($p = 0.000$) (Table 1).

Binary logistic regression analysis was applied to determine the predictive role of sociodemographic characteristics and psychological resilience on psychological distress. In the binary logistic regression analysis, in addition to the sociodemographic variables that were significant in the first table, marital status and smoking

TABLE 1 Examination of psychological distress of nursing students according to their sociodemographic characteristics ($n = 625$)

Socio-demographic variables	Psychological distress risky (≥ 2)		Psychological distress non risky (< 2)		χ^2	p
	Number	%	Number	%		
Gender					8.825	
Female	304	68.9	137	31.1		0.003
Male	104	56.5	80	43.5		
Marital status					4.131	0.055 ^a
Married	4	36.4	7	63.6		
Single	404	65.8	210	34.2		
Grade					2.575	0.462
1	92	61.3	58	38.7		
2	98	64.5	54	35.5		
3	101	70.1	43	29.9		
4	117	65.4	62	34.6		
Income status					3.462	0.177
Enough	111	66.5	56	33.5		
Middle	195	62.1	119	37.9		
Insufficient	102	70.8	42	29.2		
How he evaluates his academic success					17.963	0.000
Very good	20	54.1	17	45.9		
Good	114	59.7	77	40.3		
Middle	237	66.4	120	33.6		
Bad	37	92.5	3	7.5		
Smoking					3.749	0.053
Yes	101	72.1	39	27.9		
No	307	63.3	178	36.7		
Alcohol use					.492	0.483
Yes	95	62.9	56	37.1		
No	313	66.0	161	34.0		
Presence of chronic illness					10.807	0.001
Yes	41	87.2	6	12.8		
No	367	63.5	211	36.5		
The reason to choose the profession					19.982	0.000
Because I want	111	54.1	94	45.9		
Because my family wants	34	69.4	15	30.6		
In order not to be unemployed	214	72.8	80	27.2		
Other	49	63.6	28	36.4		
The Resilience Scale for Adults Total Score ($X \pm SS$)	116.60 \pm 18.45 ($n = 408$)		129.30 \pm 16.13 ($n = 217$)		$t = -8.550$	0.000

Note: Bold values indicate statistically significant $p < .05$.

^aFisher.

variables, which were close to the significant value, were also included (Table 2).

The model created could accurately predict the psychological distress of student nurses using these variables at a rate of 70.7% (Table 2).

According to the binary logistic regression analysis results, being a woman, having chronic diseases, having poor academic success and choosing the profession to avoid being unemployed increased psychological distress by 2.42, 4.43, 4.44, and 1.6 times, respectively. Being married is 0.12 times and high psychological resilience is 0.95

times protective regarding psychological distress. According to the results of binary logistic regression analysis, smoking status was not a predictor of psychological distress (Table 2).

4 | DISCUSSION

In this study, the psychological distress of nursing students was examined regarding individual characteristics and psychological resilience variables.

Risk factors	Odds ratio	95% Confidence interval for EXP ^a (B) ²		p
		Lower	Upper	
Gender (female)	2.425	1.611	3.733	0.000
Marital status (married)	0.124	0.026	.593	0.009
How she/he evaluates his academic success				
Academic success (good)	0.891	0.403	1.969	0.775
Academic success (middle)	0.821	0.379	0.1781	0.618
Academic success (bad)	4.447	1.050	18.841	0.043
Smoking	0.771	0.478	1.243	0.286
Presence of chronic illness (yes)	4.439	1.733	11.371	0.002
The reason to choose the profession				
The reason to choose the profession (because my family wants)	1.317	0.620	2.795	0.474
The reason to choose the profession (in order not to be unemployed)	1.687	1.105	2.574	0.015
The reason to choose the profession (other)	1.259	0.700	2.266	0.441
Psychological resilience	0.959	0.947	0.970	0.000

Nagelkerke R^2 : 0.250; $p < 0.001$.

The rate at which the model correctly predicts psychological distress: 70.7%

The Hosmer-Lemeshow test p value of the model: 0.228 The predictive value of the model is high.

Since the p value of the model is greater than 0.05, it has a sufficient fit.

Note: Bold values indicate statistically significant $p < .05$.

^a95% Confidence interval for Exp(B).

According to the results of this study, more than half of the nursing students are at risk of psychological distress. In a systematic review, the prevalence of depression in nursing students was found to be 34%.⁹ In a study conducted with 1561 nursing students in China, nursing students had high stress levels, and their psychological distress increased towards the end of their education.²³ Nursing students have more stress, anxiety, sleep disorders, and stress-related illnesses than other university students.²⁴ It is important to empower nursing students who will step into a stressful profession before they graduate. It is recommended to establish psychological counseling units in nursing schools, screen students at regular intervals, and direct risky students to counseling units. It is important to support nursing students with interventions, such as stress reduction programs and counseling, to reduce the risk of psychological distress and to improve their coping skills.

As a result of this study, gender, marital status, academic success, reason to choose the profession, presence of chronic illnesses, and psychological resilience were determined to be predictors of psychological distress risk in nursing students. A study revealed that female nursing students experience higher levels of stress than male nursing students.²⁵ In a study conducted with a large student population in the United States, female nursing students expressed higher levels of anxiety symptoms than female students in other professions.²⁶ In a study conducted with 1193 nursing students in Peru, ages between 20 and 29 years were a risk factor for both depression and anxiety, and being a woman was a risk factor for

anxiety.²⁷ Considering the rates of mental illness in the world, women are more affected by depression than men.²⁸ According to the Global Burden of Disease study, the incidence of depression, standardized by age, is almost two times higher in women than in men.^{29,30} Starting in adolescence, young women appear to be at risk for psychiatric symptoms. The fact that nursing continues to be a profession preferred by women may increase the risk of nursing students regarding psychological distress.⁹ Although there is no definitive evidence about why women more commonly suffer from depression than men, there are various opinions. In addition to environmental (socioeconomic and cultural) and individual characteristics (temperament, personality patterns, and coping styles), biological causes (genetic influences, stress response, and hormonal effects) have also been investigated.^{31,32} It is known that social judgments about the female gender reflect on the nursing profession. The struggle against social judgments cannot be thought of independently of individual and social transformations. It is an important step for the beginning that women to get to know themselves and realize their inner resources. Besides, it is important for the nursing profession consisting mostly of women that women realize that they are in an extremely valuable and powerful position in the survival of societies and that women create environments in which they can support each other.

In this study, it was determined that having a chronic physical illness is the factor that affects psychological distress the most. Physical and mental health should be considered together. In another

TABLE 2 Examining the risk factors affecting the psychological distress of student nurses (n : 625)

study conducted in Turkey, nursing students were divided into two groups regarding psychological distress: high and low risk. Students who perceive their health as poor have a higher risk of mental illness.¹⁷ In another study, a strong correlation was found between the clinical depressive symptoms of university students who perceived their health as poor.³³ These results are similar to the findings of our study, supporting the view that the presence of physical illness affects mental health.

According to our results, choosing the nursing profession to avoid being unemployed and having poor academic success increase the level of psychological distress. One study found that nursing students who evaluated their academic success as poor and chose the profession involuntarily had a high level of psychological distress.¹⁷ Therefore, career choice can be considered as an important factor in individual mental health. Learning the motivations of nursing students to choose the profession is important regarding their psychological well-being, academic success and commitment to the profession after graduation.^{34,35}

According to the study findings, psychological resilience and being married are protective factors for mental health. Similar to our findings, in a study with a large sample group, married individuals have a better state of psychological well-being than single or divorced individuals.³⁶ In a systematic review, the interaction between psychological resilience, stress, and well-being was high, and high psychological resilience and low stress better predicted well-being.³ In a study conducted in Australia, students with high psychological well-being had higher levels of psychological resilience, mindfulness, and self-efficacy, and the strongest predictor of psychological well-being is resilience.³⁷ In a study examining the relationships between resilience, psychological well-being, and academic exhaustion in nursing students, high-level resilience and low-level emotional exhaustion predicted better psychological well-being.¹⁰ Individuals with high psychological resilience regulate their emotions in a healthy way, have a high awareness of the present moment, experience fewer repetitive thoughts (less rumination), and thus have better coping skills.^{38,39} The number of intervention studies that strengthen psychological resilience is increasing.^{13,40} Interventions that increase psychological resilience are needed to reduce psychological distress in nursing students. It is recommended that nursing programs add learning methods that will increase psychological resilience, such as mentoring, developing a positive perspective, emotional intelligence, cognitive flexibility, reflection, self-awareness, critical thinking, and problem-solving skills training, into the curriculum.⁴¹

5 | IMPLICATIONS FOR NURSING PRACTICE

Nurses are the occupational group that is most affected by work stress and has the most burnout among health professionals.^{42,43} Nursing can be challenging due to the characteristics of the job, working conditions, and the role of the nurse in the health system. Inexperienced nurses who are new to the profession are affected

more than experienced nurses.⁴⁴ For this reason, it is important to increase the psychological resilience of nursing students in nursing education before they start their profession and for graduate nurses to enter health care systems feeling empowered. In this context, it is recommended to regularly screen the psychological distress levels of nursing students and to provide counseling to risky students. When counseling students with chronic diseases, it is important to diagnose their needs and provide support, taking into account that they may be riskier psychologically.

It is important for nursing students to know the profession in the first years of nursing education. It is recommended that educators introduce the profession in the first year and support students to understand whether they really want the profession or not.

Women are at higher risk of psychological distress, and the contribution of gender roles to this situation cannot be denied. The roles played by nurses within the health care system are also often associated with the roles attributed to women. The place and value of women in society seem to be related to the nursing profession, which consists mostly of women. In this sense, it is important for nurses to be aware of the reflections of gender on the nursing profession and to support and lead policies that improve gender equality.

6 | LIMITATIONS

This study has some limitations. The fact that this is a cross-sectional study may limit the determination of the causality of psychological distress risk factors. This study was conducted with students from a nursing school in western Turkey. Therefore, the generalizability of the results of the study is limited. In addition, the low number of male nursing students may have reduced their power to reveal gender differences.

7 | CONCLUSION

This study makes important contributions to the literature in determining nursing students' risk factors for psychological distress. According to the results of the study, 65.3% of the nursing students were at risk of psychological distress. According to the results of the binary logistic regression analysis, being a woman and having a chronic disease, poor academic success, and choosing the profession so as not to be unemployed were risk factors of psychological distress, while being married and psychological resilience were protective factors.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and meet at least one of the following criteria: (1) the conception and design of the study, or

acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in (repository name e.g., "figshare") at [http://doi.org/\[doi\]](http://doi.org/[doi]), reference number (reference number).

ORCID

Özgü Serçe  <https://orcid.org/0000-0002-6629-3710>

Sevecen Çelik İnce  <https://orcid.org/0000-0003-3113-4565>

Burcu Özkul  <https://orcid.org/0000-0002-3181-4483>

Neslihan Partlak Günüşen  <https://orcid.org/0000-0002-1666-291X>

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