Mediterranean Nursing and Midwifery

Mediterr Nurs Midwifery 2021;22(1):17-24 DOI: 10.5152/MNM.2021.21014

ORIGINAL ARTICLE

Stress Factors and Stress Levels of Students Enrolled in the Fundamentals of Nursing Course

Demet Uysal

İskele Health Center, TRNC Health Ministry, North Cyprus

Abstract

Objective: This descriptive study was conducted to determine the stress factors and stress levels of students in the Fundamentals of Nursing course.

Method: The study population consisted of 118 students enrolled in the Fundamentals of Nursing Course that was a part of the Bachelor of Nursing Program in the Health Sciences Department at Eastern Mediterranean University. They were enrolled for the spring semester of the academic year 2016–2017. The study was completed with 90 students who agreed to participate. Data were collected using the Personal Information Form, Stress Factors Questionnaire, Clinical Stress Questionnaire (CSQ), and Nursing Education Stress Scale (NESS). Mann–Whitney U, Kruskal-Wallis H, and Spearman's rho correlation coefficient tests were used for descriptive statistical analyses of the data.

Results: The mean score of the students according to the NESS was 69.46 ± 17.29, and the mean score according to the CSQ was 33.87 ± 11.20. A low-level, significant, and negative linear relationship was found between the overall mean scores of the NESS and the CSQ ($p < .05$). Students reported that they were affected at a medium level in the theoretical part of the course and extremely emotionally affected by the factors related with clinical practice, skills laboratory, assignments, and tests.

Conclusion: As per the results of the study, use of up-to-date teaching approaches in skills laboratories and activities to increase school–hospital collaboration are recommended.

Keywords: Nursing, education, nursing students, stress

Introduction

Nursing education consists of two parts—theoretical part and clinical practice—which complement each other. The objective of the education is to teach nursing information, skills, and behavior in cognitive, affective, and psychomotor domains to students (Mankan et al., 2016; Zengin, 2007). The Fundamentals of Nursing course is a foundational course in nursing education. It provides the basis for all nursing courses with its core nursing concepts, principles, and methods and is very important to achieve the objective mentioned (Görgülü, 2002). In this course, the main nursing practices are taught through theoretical courses, skill laboratories, and practical education in clinics. The skills laboratories are very important to teach students and develop their skills in the cognitive, affective, and psychomotor domains. Clinical practice is also very important in nursing education. Clinical experiences help students to connect theoretical information with clinical practice and improve their psychomotor skills. It also allows them to socialize for future roles (Avdal et al., 2014; Şendir & Acaroğlu, 2006).

Nursing education, just like any other health education discipline, is a stressful process for students. Students can experience intense stress, both during theoretical education and clinical practice. Stress in nursing education can have a negative impact on learnings and performances of the students. The stress factors in nursing education can be classified into four groups: personal, social, academic, and clinical practice. Clinical education has been reported to be the biggest stress factor for nursing students (Jimenez et al., 2010; Zengin, 2007). During clinical education, students experience real life situations and enter into a new social environment that they are not familiar with. In this new social environment, students interact with patients who need their help and also with more experienced and competent health-

Corresponding author
Demet Uysal, E-mail: demet_uysal@windowslive.com

Received: 22.04.2021
Accepted: 18.06.2021

Cite this article as: Uysal, D. (2021). Stress factors and stress levels of students enrolled in the fundamentals of nursing course. *Mediterranean Nursing and Midwifery, 1*(1), 17-24.

care workers. Interaction and communication with patients and healthcare workers can also cause many problems for the students (Taşdelen & Zaybak, 2013; Tel et al., 2004). In a clinical environment, students can have many negative experiences, including unsupportive behavior, lack of effective communication, negative feedback, criticism, condescending behavior, and pressure from healthcare workers. They may also face the problems of not being provided the chance to help with nursing work, being used in other work, rejection by patients, and patients' aggressive behavior and lack of trust in students (Altıok & Üstün, 2013; Bam et al., 2014; Elçigil & Sarı, 2011; Kapucu & Bulut, 2011; Timmins et al., 2011). These problems cause intense stress in students, and this stress experienced in the clinical environment results in students facing difficulties in establishing relationships with healthcare workers and having reduced stress-coping skills, slower response times, and weakened social relations. Furthermore, it results in professional inadequacy, inability to meet patients' expectations, difficulty in adapting to the hospital operations, anxiety about hurting patients or giving them incorrect information, and making mistakes in hospital procedures (Atay & Yılmaz, 2011; Mankan et al., 2016).

The level of stress experienced by nursing students during clinical practices is known to have either a positive or a negative effect on learning and thinking, where high stress levels make learning difficult and low stress levels help with motivation (Şendir & Acaroğlu, 2006). Therefore, as a part of this course, it is very important to determine the stress levels of nursing students in the Fundamentals of Nursing course during their first day of clinical practice to help students learn stress-coping strategies and to make learning easier. In literature, no research was found to have been conducted in the Turkish Republic of Northern Cyprus relevant to this topic.

Study Aim
This study aimed to determine the stress factors and stress levels of students in the Fundamentals of Nursing course.

Study Questions
Question 1: What are the stress factors in the Fundamentals of Nursing Course?
Question 2: What are the stress levels of students in the Fundamentals of Nursing Course?
Question 3: Is there a difference between stress factors according to student demographics in the Fundamentals of Nursing Course?
Question 4: Is there a difference between stress levels of students according to student demographics in the Fundamentals of Nursing Course?
Question 5: Is there a relationship between the Nursing Education Stress Scale (NESS) and the Clinical Stress Questionnaire (CSQ)?

Main Points

- Clinical practice is very important in nursing education.
- Students can experience intense stress both during theoretical education and clinical practice.
- It is necessary to carry out different activities to increase school–hospital collaboration.
- It is important to have a student–lecturer ratio that is in line with international standards.

Material and Methods

Study Design
This study had a descriptive and explanatory study design.

Setting
The study was conducted with first year students of the Bachelor of Nursing Program in the Department of Health Sciences at Eastern Mediterranean University.

Sample
The study population consisted of 118 students enrolled in the Fundamentals of Nursing Course, a part of the Bachelor of Nursing Program in the Health Sciences Department at Eastern Mediterranean University for the spring semester of academic year 2016–2017. All 118 students were considered for the study. However, three students left school and seven did not agree to participate in the study. In addition, 12 students who were taking the Fundamentals of Nursing course for the second time, two who graduated from a vocational high school, and four who were accepted with the external transfer exam did not meet the inclusion criteria and hence were excluded from the study. Therefore, 28 students were not included in the study, and the study was conducted in 90 students. Thus, 76% of the study population was included in the study.

Inclusion Criteria
The inclusion criteria included the following:
- The student should be taking the Fundamentals of Nursing course for the first time.
- The student should meet the course attendance criteria (80%).

Data Collection Tools
Data was collected using the Data Sheet, which that included questions about students' demographics); Stress Factors Questionnaire, CSQ , and NESS.

Data Sheet
The Data Sheet was formed via literature and consisted of nine open-ended questions about the age, gender, and high school of the students. It also included details of how they entered in the Department of Nursing and the reason why they chose to apply for nursing (Arabacı et al., 2015; Avdal et al., 2014; Karagözoğlu et al., 2013; Karagözoğlu et al., 2014; Mankan et al., 2016).

Stress Factors Questionnaire
The Stress Factors Questionnaire was developed by researchers using information given in the literature (Altıok & Üstün, 2013; Görgülü, 2002; Sheu et al., 2002). The form consisted of four subdimensions: Factors related with Theoretical Education, Factors related with Skills Laboratory, Factors related with Clinical Practice, and Factors related with Assignments and Tests. In the Stress Factors Question-

naire, students were asked to give their answers by selecting "causes stress" or "does not cause stress" for all items in the questionnaire. To determine the content validity of the Stress Factors Questionnaire, the opinions of three experts from the Department of Nursing and of one expert from the Department of Psychology were obtained. To verify the comprehensibility of the questions in the Stress Factors Questionnaire, it was first tested in 20 students in the second year in the Department of Nursing (approximately 20% of the population). According to the results of this preliminary study, no change was made in the Stress Factors Questionnaire.

Clinical Stress Questionnaire

The CSQ is a self-report instrument developed by Pagana in 1989 to assess whether the appraisal of stress of nursing students in their first clinical experience was threatening or challenging. The validity and reliability study of the Turkish version of the scale was carried out by Şendir and Acaroğlu (2008). The questionnaire, which consists of 20 items has four subdimensions: "threat," "fight," "damage," and "benefit". Each item in the subdimensions is scored on a five-point scale, and students were asked to choose one of the following: 0, "none"; 1, "a little"; 2, "moderate"; "3, "many"; or 4, ""too many." The total score ranges from 0 to 80. Low scores indicated low stress level, and high scores indicated high stress level. The Cronbach's alpha value of the scale was calculated as 0.70 for the validity and reliability of the Turkish version of the scale (Şendir & Acaroğlu, 2008). Permission from Merdiye Şendir to use the CSQ was obtained via e-mail.

Nursing Education Stress Scale

The NESS was developed by Rhead in 1995. The validity and reliability study of the scale was determined by Karaca et al. (2014). The NESS is a scale with 32 items that allows an overall assessment of academic and clinical stress experienced by nursing students during their education. It is a four-point Likert-type scale (0–3 points) that consists of two subdimensions: application stress (16 items) and academic stress (16 items). Each subdimension has a score ranging from 0 to 48, and the total score of the scale ranges from 0 to 96. An increase in the subdimension score or the total score indicates increased stress. The Cronbach alpha value of the scale was calculated as 0.90 for the validity and reliability of the Turkish version of the scale (Karaca et al., 2014). Permission from Ferhan Açıkgöz to use the NESS was obtained via e-mail.

Data Collection Process

Data were collected by researchers in the spring term of the academic year 2016–2017 after the final exam of the Fundamentals of Nursing Course on May 30, 2017. Students finishing their final exam were invited to a prespecified classroom. Information about the study was provided to the students in the classroom, and informed consent forms were distributed. After the signed informed consent forms were collected from the students who agreed to participate in the study, copies of the Personal Information Form, Stress Factors Questionnaire, CSQ, and NESS were given to the students, and they were asked to fill out these data collection tools, which were then collected from the students in the same session.

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences 22.0 (IBM SPSS Corp.; Armonk, NY, USA). Number and percentage were used to assess the demographics of the students, and the data obtained using the Stress Factors Questionnaire and the mean scores were used to assess the scales. Both scales were assessed on the basis of the total scores of the items in the subdimensions. For a comparison of the independent variables of the scale, Mann Whitney U test was used to compare two groups, and Kruskal Wallis H test was used to compare three and more groups because the data did not have a normal distribution. When results in the Kruskall Wallis H test were significant, Mann Whitney U test was used to assess which groups had a significant difference between them. In addition to the aforementioned, Spearman's rho correlation coefficient test was used to compare the overall and subdimension mean scores on the NESS and the CSQ.

Ethical Considerations

Institutional approval was obtained from the Department of Nursing in Health Sciences at Eastern Mediterranean University (Date: 29.09.2016), and ethics committee approval was obtained from the Scientific Research and Publishing Ethics Committee of the Eastern Mediterranean University (Number: 2016/34-21, Date: 28.11.2016). The students who participated in the study were provided information about the study before they signed the informed consent forms.

Results

The overall mean score of the NESS was 69.46 ± 17.29. The mean scores were 34.41 ± 9.29 in the 'clinical practice stress' subdimension and 35.05 ± 8.61 in the 'academic stress' subdimension. The overall mean score was 33.87 ± 11.20 in the CSQ , and the mean scores in the various subdimensions were as follows: threat subdimension, 8.58 ± 5.00; fight subdimension, 16.46 ± 5.44; damage subdimension, 4.56 ± 4.33; and benefit subdimension, 4.25 ± 2.37 (Table 1).

The overall mean score was 69.46 ± 17.29 in the NESS and 33.87 ± 11.20 in the CSQ. A low-level, significant, and negative linear relationship was found between the overall mean scores of the students in the NESS and the CSQ ($p < .05$). As overall scores in the NESS increased, the overall scores in CSQ decreased (Table 2).

The overall mean score (50.30) and clinical practice stress (53.57) and academic stress (52.17) subdimension mean scores of male students were higher than the mean scores of female students in the NESS ($p < .05$) (Table 3). The CSQ fight subdimension mean score of female students (53.70) was higher than the mean scores of male students (40.75) ($p < .05$) (Table 3). No significant relationship was found between the mean scores of the students in the NESS and CSQ and the independent variables, including age, high school type, how the students entered in the department of nursing, and the students' grade point average (GPA) in the previous academic year ($p < .05$) (Tables 3 and 4).

Table 1
Distribution of Overall and Subdimension Mean Scores in the Nursing Education Stress Scale and Clinical Stress Questionnaire

Scale	*n*	*M*	*SD*	Minimum score	Maximum score
Nursing Education Stress Scale overall	90	69.46	17.29	7.00	96.00
Clinical practice stress Subdimension	90	34.41	9.29	2.00	48.00
Academic stress Subdimension	90	35.05	8.61	5.00	48.00
Clinical Stress Questionnaire overall	90	33.87	11.20	4.00	57.00
Threat subdimension	90	8.58	5.00	0.00	21.00
Fight subdimension	90	16.46	5.44	0.00	26.00
Damage subdimension	90	4.56	4.33	0.00	16.00
Benefit Subdimension	90	4.25	2.37	0.00	8.00

Table 2
Correlation Results for Overall Scores on the Nursing Education Stress Scale and Clinical Stress Questionnaire

Variables	*n*	*M*	*SD*	r_{rho} Value	*p*
Nursing Education Stress Scale overall	90	69.4	17.2	–.215	.042*
Clinical Stress Questionnaire overall		33.8	11.2		

*$p < .05$ is significant.

Table 3
Overall and Subdimension Mean Scores on the Nursing Education Stress Scale According to Demographics of the Students (n = 90)

Demographics		Nursing Education Stress Scale overall		Clinical practice stress subdimension		Academic stress subdimension	
	n	Mean rank	Statistical analysis	Mean rank	Statistical analysis	Mean rank	Statistical analysis
Age							
19 years and younger	43	50.30	U = 804.00	50.57	U = 792.50	50.13	U = 811.50
20 years and older	47	41.11	*p* = .095	40.86	*p* = .078	41.27	*p* = .108
Gender							
Male	57	53.22	U = 500.50	53.57	U = 480.50	52.17	U = 560.50
Female	33	32.17	*p* = .000*	31.56	*p* = .000*	33.98	*p* = .001*
High school							
Regular high school	57	47.41	U = 831.50	47.89	U = 804.50	47.42	U = 831.00
Other high school types	33	42.20	*p* = .361	41.38	*p* = .254	42.18	*p* = .35
Exam to enter Department of Nursing							
EMU exam	30	47.85	U = 829.50	46.60	U = 867.00	50.10	U = 762.00
LYS	60	44.33	*p* = .546	44.95	*p* = .777	43.20	*p* = .237
Grade point average in 2016–2017 Fall Term							
1.00–2.00	21	40.05	$X^2 = 1.65$	40.60	$X^2 = .977$	38.93	$X^2 = 2.66$
2.01–3.00	54	48.28	*SD* = 2	47.16	*SD* = 2	49.09	*SD* = 2
3.01–4.00	15	43.13	*p* = .438	46.40	*p* = .613	41.77	*p* = .264
Job guarantee							
Influential	41	40.09	U = 782.50	41.79	U = 852.50	38.90	U = 734.00
Not influential	49	50.03	*p* = .072	48.60	*p* = .218	51.02	*p* = .028*
Having a nurse or healthcare worker in the family							
Influential	13	39.19	U = 418.50	38.42	U = 408.50	39.58	U = 423.50
Not influential	77	46.56	*p* = .346	46.69	*p* = .290	46.50	*p* = .376

*$p < .05$ is significant.
EMU: Eastern Mediterranean University; LYS: Lisans Yerlestirme Sinavi; U: Mann Whitney U Test

Table 4
Overall and subdimension Mean Scores in the Clinical Stress Questionnaire According to Some Demographics of the Students (n = 90)

Demographics		Clinical Stress Questionnaire overall		Threat subdimension		Fight subdimension		Damage sub-dimension		Benefit subdimension	
	n	Mean rank	Statistical analysis	Mean rank	Statistical analysis	Mean rank	Statistical analysis	Mean rank	Statistical analysis	Mean rank	Statistical analysis
Age											
19 years and younger	43	39.92	U = 770.5	42.76	U = 892.50	42.59	U = 885.50	40.05	U = 776.00	40.09	U = 778.00
20 years and older	47	50.61	*p* = .340	48.01	*p* = .311	48.16	*p* = .057	50.49	*p* = .058	50.45	*p* = .052
Gender											
Male	57	44.40	U = 978.00	48.47	U = 771.00	40.75	U = 670.00	46.31	U = 894.50	41.78	U = 728.50
Female	33	47.39	*p* = .601	40.36	*p* = .155	53.70	*p* = .023*	44.11	*p* = .698	51.92	*p* = .073
High school											
Regular high school	57	43.24	U = 811.50	45.45	U = 937.50	43.78	U = 842.50	44.07	U = 859.00	44.18	U = 865.00
Other high school types	33	49.41	*p* = .280	45.59	*p* = .980	48.47	*p* = .411	47.97	*p* = .492	47.79	*p* = .523
Exam to enter Department of Nursing											
EMU exam	30	45.67	U = 895.00	48.52	U = 809.50	41.47	U = 779.00	47.22	U = 848.50	44.55	U = 871.50
LYS	60	45.42	*p* = .966	43.99	*p* = .438	47.52	*p* = .299	44.64	*p* = .657	45.98	*p* = .806
Grade point average in 2016–2017 fall term											
1.00–2.00	21	45.00	X^2 = 2.87	50.36	X^2 = 1.08	37.60	X^2 = 5.30	49.57	X^2 = 1.61	40.93	X^2 = 3.86
2.01–3.00	54	48.45	*SD* = 2	44.62	*SD* = 2	50.67	*SD* = 2	45.86	*SD* = 2	49.74	*SD* = 2
3.01–4.00	15	35.57	*p* = .238	41.87	*p* = .582	37.97	*p* = .070	38.50	*p* = .445	36.63	*p* = .145
Job guarantee											
Influential	41	50.66	U = 793.00	51.01	U = 778.50	46.35	U = 969.50	50.52	U = 798.50	46.77	U = 952.50
Not influential	49	41.18	*p* = .086	40.89	*p* = .067	44.79	*p* = .776	41.30	*p* = .093	44.44	*p* = .671
Having a nurse or healthcare worker in the family											
Influential	13	54.00	U = 390.00	55.50	U = 370.50	39.73	U = 425.50	59.69	U = 316.00	42.12	U = 456.50
Not influential	77	44.06	*p* = .204	43.81	*p* = .135	46.47	*p* = .388	43.10	*p* = .033*	46.07	*p* = .610

* $p < .05$ is significant.
EMU: Eastern Mediterranean University; LYS: Lisans Yerlestirme Sinavi; U: Mann Whitney U Test

Discussion

The overall mean score was 69.46 ± 17.29. The mean score was 34.41 ± 9.29 in the clinical practice stress subdimension and 35.05 ± 8.61 in the academic stress subdimension of the NESS. Nursing education has a very intense program with theoretical and practical courses, and the nursing students also prepare for their role as nurses during clinical practice. This is very important to develop and improve their professional skills and behavior in hospitals, which have very strong hierarchical structures. Considering all the aforementioned points, it is expected for students to achieve a high mean score in the NESS. Similar to our study findings, in the study by Bahadır-Yılmaz (2016), the overall mean score was 68.50 ± 10.53. The mean score was 33.73 ± 5.54 in the clinical practice stress subdimension and 34.77 ± 5.68 in the academic stress subdimension of the NESS (Bahadır-Yılmaz, 2016). The mean score in the NESS was 63.04 ± 15.54 in the study by Kılıç (2018), 62.23 ± 16.01 in the study by Ağaçdiken et al. (2016), and 62.55 ± 15.94 in the study by Yıldırım et al. (2016). In international studies, the overall mean score in the NESS was 65.4 ± 12.8 in the study by Burnard et al. (2008), and the overall mean score in the NESS was 51.95 ± 13.56 in the study by Edwards et al. (2010).

In this study, the overall mean score in the CSQ was 33.87 ± 11.20. The mean scores in the various subdimensions were as follows: threat subdimension, 8.58 ± 5.00; fight subdimension, 16.46 ± 5.44; damage subdimension, 4.56 ± 4.33; and benefit subdimension, 4.25 ± 2.37 (Table 1). As mentioned in the limitations of the study, the CSQ was applied at the end of the term instead of on the first day of clinical practice. In other words, a certain amount of time had passed from the first day of clinical practice of the students, and they might have forgotten the intensity and level of their feelings they had on that day. As widely known, people tend to remember past positive feelings and experiences more than negative ones to feel better. In addition to this, students can easily talk to a lecturer in the departments or to wards with whom they work during clinical practice and perform nursing practices under the guidance and observation of. They can also get the support of the nurses. This can make students feel

safer. All the aforementioned factors can be the reasons why mean scores in the CSQ were low. Similar to this study, in literature, the overall mean score in the CSQ was 26.13 ± 10.10. The mean scores in the various subdimensions were as follows: threat subdimension, 6.96 ± 4.57; fight subdimension, 11.97 ± 6.13; damage subdimension, 3.37 ± 3.56; and benefit subdimension, 3.81 ± 2.33 (Mankan et al., 2016). The overall mean score in the CSQ was 26.64 ± 9.68 (125) in the study by Karagözoğlu et al. (2014) and 28.37±9.18 in the study by Avdal et al. (2014). However, there are also other studies carried out in Turkey that show higher CSQ scores. In the study by Atay and Yılmaz (2011), which was carried out in nursing and midwifery students to determine initial clinical stress levels of students in the vocational school of healthcare services, 50.6% of the participants were nursing students, and the overall mean score of these students was 51.59 ± 8.30. In the study condcuted by Avdal et al. (2017) in 156 nursing students to investigate their stress levels during their initial oncology clinical experience, the overall mean score in the CSQ was 70.00 ± 4.15.

In the statistical analysis conducted to determine the relationship between the overall scores of the nursing students in the NESS and CSQ, a low-level, significant, and negative linear relationship was found between the overall mean scores of the students in the NESS and in the CSQ ($p < .05$). According to this result, as the overall scores in the NESS increase, the overall scores in the CSQ decrease (Table 2). The reason behind the increase in NESS scores as the CSQ scores decrease can be that the CSQ was applied at the end of the term instead of on the first day of clinical practice. In line with our study, in the study conducted by Arabacı et al. (2015) in 94 first year nursing students to determine their anxiety and stress levels before, during, and after their first clinical experience, it was observed that the clinical stress mean scores of the students decreased in a statistically significant manner as the students continued with clinical practice ($p < .01$).

The NESS and CSQ used in our study were also compared with some variables. Accordingly, the overall mean score of male students were higher than the overall mean score of female students in the NESS. Similarly, the mean scores of male students were higher than female students in the clinical practice stress and academic stress subdimensions (Table 3). According to the statistical analyses, there was a significant difference between the NESS overall scores and the clinical practice stress and academic stress subdimension mean scores in female and male students ($p < .05$). The difference in gender roles traditionally assigned to men and women in Turkey has led to the situation where nursing is considered as a women's occupation. In Turkey, the nursing profession has always been associated with women, and men could only start to work as nurses with the enactment of the Law of Nursing in 2007. However, this career role is still believed to be for women, and hence, men still have difficulty in being accepted as nurses. Considering the above situation, it is expected for male students to experience more stress in their first year in nursing education than female students. In the study by Bahadır-Yılmaz (2016), which had comparable findings to this study, male students had higher academic and clinical stress levels than female students. On the other hand, Yıldırım et al. (2016) found that female students in general had higher education stress, clinical stress, and academic stress than male students.

The overall mean scores and fight subdimension mean scores of female students were higher than the mean scores of male students (Table 4). According to the statistical analyses, there was no significant difference in the overall mean score in the CSQ ($p > .05$) between male and female students, but there was a significant difference in the fight subdimension between male and female students ($p < .05$). It was unexpected for female students to have higher mean scores in CSQ than in NESS. However, it is possible to suggest that women feel the need to fight in education just like in other domains of life to reinforce their social positions, which might have led to higher mean scores for them. Similarly, in the study by Karagözoğlu et al. (2014), the mean overall scores of female students studying in the conventional program were higher than the mean overall scores of male students (Karagözoğlu et al., 2014). However, contrary to our study, there are studies in literature that found that the overall mean scores of male students in the CSQ were higher than the overall mean scores of female students (Avdal et al., 2014; Avdal et al., 2017; Karagözoğlu et al., 2013; Potur & Bilgin, 2014).

In the study by Potur and Bilgin (2014), the mean score of the fight subdimension' was the same for both male and female students in the CSQ, which was applied on the first day of clinical practice. However, with the questionnaire applied on the last day of clinical practice, the mean score of male students in the CSQ fight subdimension was higher than the mean score of female students (Potur & Bilgin, 2014). In the studies by Avdal et al. (2014) and Özden et al. (2013), the mean CSQ overall scores of male students were higher than the mean overall scores of female students (Avdal et al., 2014; Karagözoğlu et al., 2013).

The students with GPAs of 2.01–3.00 had higher mean scores in the NESS and CSQ. According to the statistical analyses, no significant relationship was found between the overall mean scores in the NESS and CSQ and the grade point averages ($p > .05$) (Tables 3 and 4).The reason for this could be that students with a moderate success level were worried about improving their grades, and students with a higher success level experienced less stress because they had confidence in their knowledge and skills. Contrary to our study findings, Yıldırım et al. (2016) found that students who had low perceived success in their academic studies had higher general education stress, clinical stress, and academic stress than students who had moderate and high perceived success in their academic studies.

The overall mean scores were 69.46 ± 17.29 in the NESS and 33.87 ± 11.20 in the CSQ. A low-level, significant, and negative linear relationship was found between the overall mean scores of the students in the NESS and the CSQ, and as the overall scores in the NESS increased, the overall scores in the

CSQ decreased. The overall mean score and the clinical practice stress and academic stress subdimension mean scores of male students were higher than the mean scores of female students in the NESS. The mean scores of female students in the CSQ fight subdimension were higher than the mean scores of male students. There was no significant relationship between the mean scores of the students in the NESS and CSQ and age, high school type, how the students entered in the department of nursing, and the students' GPA in the previous academic year. According to the results of the study, a student–lecturer ratio that is in line with international standards, use of up-to-date teaching approaches in skills laboratories, and activities to increase school-hospital collaboration and further qualitative studies are recommended.

Limitations of the Study

The findings of this study can be applied to students who entered the Department of Nursing in the Department of Health Sciences at Eastern Mediterranean University by passing the DAU entrance exam or LYS exam, who attended the Fundamentals of Nursing course and experienced a clinical environment for the first time.

Application of CSQ on the first day of clinical placement is recommended. In the Turkish Republic of Northern Cyprus, because clinical practice areas are limited and the number of students is high, the students attending the Fundamentals of Nursing course are divided into two groups and have their clinical practice four weeks apart. Therefore, students have different "first days of clinical practice." With the assumption that applying the CSQ on the first day of clinical practice as recommended could lead to interaction among students in the groups, CSQ was applied right after the final test of the course together with the other data collection tools to eliminate such interaction. Expert opinion was sought from the psychology department about applying the CSQ at the end of the term during the planning stage of the study. However, the recommendation of the scale developer was that such application of the CSQ should be mentioned as a part of the limitations of the study.

Ethics Committee Approval: Institutional approval was obtained from the Department of Nursing in Health Sciences at Eastern Mediterranean University (Date: 29.09.2016), and ethics committee approval was obtained from the Scientific Research and Publishing Ethics Committee of the Eastern Mediterranean University (Number: 2016/34-21, Date: 28.11.2016).

Informed Consent: Written informed consent was obtained from all individual participants included in the study.

Peer-review: Externally peer-reviewed.

Acknowledgement(s): The author would like to thank Prof. Refia Selma Görgülü for supervising the study and the students who accepted to participate in the study.

Conflict of Interest: The author has no conflicts of interest to declare.

Financial Disclosure: The author declared that this study has received no financial support.

References

Ağaçdiken, S., Boğa, N. M., & Özdelikara, A. (2016). Hemşirelik öğrencilerinin hemşirelik eğitimine yönelik yaşadıkları stres düzeyinin belirlenmesi. (Determination of nursing students' stress level toward nursing education). *Journal of Samsun Health Sciences, 1*(1), 25–41.

Altıok, H. Ö., & Üstün, B. (2013). Hemşirelik öğrencilerinin stres kaynakları. (The stress source of nursing students). *Educational Sciences: Theory and Practice, 13*(2), 747–766.

Arabacı, L. B., Korhan, E. A., Tokem, Y., & Torun, R. (2015). Hemşirelik birinci sınıf öğrencilerinin ilk klinik deneyim öncesi-sırası ve sonrası anksiyete ve stres düzeyleri ve etkileyen faktörler. (Nursing Students' Anxiety and Stress Levels And Contributed Factors Before-During And After First Clinical Placement). *Journal of Hacettepe University Faculty of Nursing, 2*(1), 1–16.

Atay, S., & Yılmaz, F. (2011). Sağlık yüksek okulu öğrencilerinin ilk klinik stres düzeyleri. (The First Stress Levels of The Students of Vocational Higher School of Health). *Journal of Anatolia Nursing and Health Sciences, 14*(4), 32–37.

Avdal, E. Ü., Arkan, B., & Uran, B. N. Ö. (2017). Investigate stress levels of nursing students in first oncology clinical experience. *Journal of Advanced Practices in Nursing, 2*(2), 1000131.

Avdal, E. Ü., Aydınoğlu, & N., Kılıç, M. (2014). Hemşirelik öğrencilerinin ilk klinik deneyimlerindeki stres düzeylerinin incelenmesi. *Uluslararası Hakemli Hemşirelik Araştırmaları Dergisi, 1*(1), 67-77.

Bahadır-Yılmaz, E. (2016). Academic and clinical stress, stress resources and ways of coping among Turkish first-year nursing students in their first clinical practice. *Kontakt, 18*(3), 160–166. [Crossref]

Bam, V. B., Oppong, G. A., & Ibitoye, M. B. (2014). Stress and coping mechanisms of nursing students during clinical practice in Ghana. *Journal of Science and Technology (Ghana), 34*(2), 50–59. [Crossref]

Burnard, P., Edwards, D., Bennett, K., Thaibah, H., Tothova, V., Baldacchino, D., Bara, P., & Mytevelli, J. (2008). A comparative, longitudinal study of stress in student nurses in five countries: Albania, Brunei, the Czech Republic, Malta and Wales. *Nurse Education Today, 28*(2), 134–145. [Crossref]

Edwards, D., Burnard, P., Bennett, K., & Hebden, U. (2010). A longitudinal study of stress and self-esteem in student nurses. *Nurse Education Today, 30*(1), 78–84. [Crossref]

Elçigil, A., & Sarı, H. Y. (2011). Facilitating factors in clinical education in nursing. *Dokuz Eylül Üniversitesi Hemşirelik Yüksekokulu Elektronik Dergisi, 4*(2), 67–71.

Görgülü, R. S. (2002). Hemşirelik öğrencilerinin klinik eğitimleri sırasında temel hemşirelik uygulamalarını gerçekleştirme durumları. *Hacettepe Üniversitesi Hemşirelik Yüksekokulu Dergisi, 9*(1), 1–20.

Jimenez, C., Navia-Osorio, P.M., & Diaz, C.V. (2010). Stress and health in novice and experienced nursing students. *Journal of Advanced Nursing, 66*(2), 442–455. [Crossref]

Kapucu, S., & Bulut, H. (2011). Turkish nursing students' views of their clinical learning environment: a focus group study. *Pakistan Journal of Medical Sciences, 27*(5), 1149–1153.

Karaca, A., Yildirim, N., Ankaralı, H., Açıkgöz, F., Akkuş, D. (2014). Hemşirelik eğitimi stres ölçeği'nin Türkçeye uyarlanması, *Hemşirelikte Araştırma Geliştirme Dergisi, 16*(2): 29-40.

Karagözoğlu, Ş., Özden, D., Türk, G., & Yıldız, F. T. (2014). Klasik ve entegre müfredat programı hemşirelik öğrencilerinin ilk klinik uygulamada yaşadıkları kaygı, klinik stres düzeyi ve etkileyen bazı faktörler. *Dokuz Eylül Üniversitesi Hemşirelik Yüksekokulu Elektronik Dergisi, 7*(4), 266–274.

Karagözoğlu, Ş., Özden, D., Yıldız, F. T. (2013). Entegre program hemşirelik öğrencilerinin klinik stres düzeyi ve etkileyen faktörler. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 16*(2), 89-95.

Kılıç H. F. (2018). Hemşirelik öğrencilerinin eğitim stresi ve mesleki benlik saygısı arasındaki ilişki. *Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi*, *5*(1), 49–59. [Crossref]

Mankan, T., Polat, H., Cengiz, Z., & Sevindik, F. (2016). Hemşirelik öğrencilerinin ilk klinik stres düzeyleri ve etkileyen faktörler. *İnönü Üniversitesi Sağlık Bilimleri Dergisi*, *5*(1), 10–15.

Özden, D., Karagözoğlu, Ş., & Yıldız, F.T. (2013). Entegre program hemşirelik öğrencilerinin klinik stres düzeyi ve etkileyen faktörler. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*, *16*(2), 89–95.

Potur, D. C., & Bilgin, N. Ç. (2014). Assessment of clinical stress in male and female nursing students, as measured on the first and last day of the obstetrical nursing clinic course, *Kadın Sağlığı Hemşireliği Dergisi*, *1*(1), 93–106.

Şendir, M., & Acaroğlu, R. (2006). Klinik stres anketi'nin türkçe formunun güvenirlik ve geçerliği. *Florence Nightingale Journal of Nursing*, *14*(56), 59–70.

Sheu, S., Lin, H.S., & Hwang, S.L. (2002). Perceived stress and physio-psycho-social status of nursing students during their initial period of clinical practice: the effect of coping behaviors. *International Journal of Nursing Studies*, *39*(2), 165–175. [Crossref]

Taşdelen, S., & Zaybak, A. (2013). Hemşirelik öğrencilerinin ilk klinik deneyim sırasındaki stres düzeylerinin incelenmesi. *Florence Nightingale Hemşirelik Dergisi*, *21*(2), 101–106.

Tel, H., Telaydin, H., & Sabancıoğulları, S. (2004). Hemşirelik birinci sınıf öğrencilerinin laboratuvar uygulamasında birbirlerine im enjeksiyon uygularken ve klinik uygulamanın ilk gününde anksiyete durumları. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi*, *7*(1), 27–32.

Timmins, F., Corroon, A. M., Byrne, G., & Mooney, B. (2011). The challenge of contemporary nurse education programmes. Perceived stressors of nursing students: mental health and related lifestyle issues. *Journal of Psychiatric and Mental Health Nursing*, *18*(9), 758–766. [Crossref]

Yıldırım, N., Karaca, A., Ankaralı, H., Açıkgöz, F., & Akkuş, D. (2016). Stress experienced by Turkish nursing students and related factors. *Clinical Experimental Health Sciences*, *6*(3), 121–128. [Crossref]

Zengin, N. (2007). Sağlık Yüksekokulu Öğrencilerinde Öz-Etkililik-Yeterlilik Algısı ve Klinik Uygulamada Yaşanılan Stresle İlişkisinin İncelenmesi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*, *10*(1), 49–57.