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Attitudes of Coping with Stress and Self-Care Agency Levels of Nursing Students

Abstract

Background: In cases of deviation from health, such as stress, self-care needs arise. It is important that nursing students develop an effective attitude in coping with stress and have a high level of self-care power.

Aim: This study was carried out to determine the relationship between nursing students' stress-coping attitudes and self-care agency levels.

Methods: A descriptive and correlational design was used in this study. Sample of the study consisted of 416 students studying at a Nursing Faculty in Istanbul in the spring semester of 2017-2018. Data were collected by using Structured Questionnaire Form, the New Brief Coping Styles Inventory, and Exercise of Self-Care Agency Scale, and descriptive statistical methods, Student's *t*-test, one-way ANOVA test, Bonferroni test, linear regression, and Pearson correlation analysis were used.

Results: It was observed that the average age of the nursing students was 20.68 ± 1.76 (min: 18-max: 34) years and of which 81.0% were female and 25.0% were fourth-grade students. It was determined that nursing students mostly used the "self-confident approach" as a way of coping with stress. A positive correlation between "self-confident approach" subscale score and self-care agency score was found statistically significant (r: 0.510; $P < .01$). Family income level, participation in social activities/dealing with hobby, and smoking were found to be independent risk factors for self-care agency.

Conclusion: Nursing students should be encouraged to participate in social activities/hobbies to increase their self-care agency. Determining the attitudes of coping with stress and self-care agency of nursing students is important to plan the necessary interventions.

Keywords: Coping skills, self-care, nursing students

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Introduction

Stress is "the nonspecific response of the body to any demand made upon it, that is, the rate at which we live at anyone moment."[1] Stress is the process of experiencing stimuli that cause uneasiness, displeasure, excitement, tension in individuals and the reactions to these stimuli.[1]

It was also stated that unlike other university students, nursing students experienced stress in providing care to healthy/sick individuals.[2] It was stated that although nursing students had moderate to high stress levels,[3,4] they did not use effective coping strategies very often.[5,6] It was observed that nursing students who could not cope with stress had maladaptive coping strategies such as crying, being irritable, ignoring stress, alcohol use, and insufficient self-care behaviors.[7] It was indicated that high self-care practices would decrease perceived stress level and enable students to develop effective attitude in dealing with stress in clinical psychology graduate students.[8] However, the study by Green (2020)[9] investigating holistic self-care educational activities and self-reported stress in nursing students found increased ability to cope with stress after holistic self-care interventions.

Self-care is a process that supports certain positive outcomes, such as a healthy lifestyle or coping with stress.[10] On the other hand, in order to cope with stress, it is important to perform self-care behaviors.[11] Self-care agency is defined as "the ability to initiate and perform self-care activities."[12] It was determined that the students who were not able to participate in self-care sufficiently experienced stress and the stress

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experienced caused physical disorders such as headache, heart palpitations, and stomach cramps.[13] Both self-care and stress coping aim to reduce discomfort through cognitive and behavioral strategies.[11] In fact, the ability of nursing students to cope with stress effectively can protect students' physical and mental health and their relationships with the environment, as well as affect the lives of the individuals they care for.[14] At the same time, nursing education based on the care of the individual inherently aims to eliminate the lack of self-care.[7]

Determining the stress and self-care of nursing students will help students to identify their interests, attitudes, and behaviors about their health during their student life and support them to grow as professionals who are healthy and sensitive to health problems of healthy/sick individuals.[7] Although there are a lot of studies on coping with stress in nursing students, there are few studies on stress coping and self-care,[9] and stress level and self-care.[11-16]

Materials and Methods

Design

This study was carried out as a descriptive and correlational study to determine the relationship between the nursing students' stress-coping attitudes and self-care agency levels. Accordingly, answers were sought for the following research questions:

- What are the nursing students' stress-coping attitudes and their self-care agency?
- Is there a correlation between nursing students' stress-coping attitudes and self-care agency?
- What are the effects of risk factors on nursing students' self-care agency?

Participants

The universe of the study consisted of 1219 nursing students who were studying in the first, second, third, and fourth grades of a Nursing Faculty in Istanbul in the spring semester of 2017-2018. In the calculation of the sample size, it was determined that a minimum of 293 students should be evaluated by using the following formula.

$$n = \frac{Nt^2pq}{d^2(N-1)+t^2pq}$$

$$n = \frac{(1219)(1.96)^2(0.50)(0.50)}{(0.0435)^2(1219-1)+(1.96)^2(0.50)(0.50)}$$

However, since this is a survey study, it was planned that the total number of students to be evaluated should be at least 400 when the losses are taken into consideration. Accordingly, 416 students who accepted to participate in the study and completed consisted of the sample of the study.

Data Collection

The research data were collected through self-completion of the questionnaires by interviewing face-to-face with nursing students. The data were collected after obtaining verbal permission from the faculty members of the courses and the students who accepted to work in the department courses that students took as compulsory courses. Before data collection, students were informed about the purpose of the research, forms, and ethical rules. Necessary explanations were made for the incomprehensible questions that were accompanied by the students during the answer. The response time took approximately 15-20 minutes. Data were collected by using Structured Questionnaire Form, The New Brief Coping Styles Inventory (CSI), and Exercise of Self-Care Agency Scale (ESCA).

Structured Questionnaire Form

The form developed by the researcher in accordance with the literature consisted of questions about age, gender, grade, mothers' education,[5,6,11] family income, chronic disease, smoking and alcohol status, and participating in social activities/dealing with a hobby of students.

The New Brief Coping Styles Inventory

The New Brief Coping Style Scale was derived from Folkman and Lazarus's (1988) The Ways of Coping Inventory.[17] The Turkish validity and reliability study of the scale was conducted by Sahin and Durak (1995)[17]. The scale has 2 dimensions (problem-oriented and emotion-oriented) and 5 subscales as self-confident approach, seeking for social support approach, submissive approach, helpless/self-accusa tory approach, and optimistic approach.[17] The scores given to the subscale in scale scoring vary between 0 and 3 points.[17] Scores related to subscale are collected and the coping method used is determined.[17] In this study, the Cronbach's alpha coefficient of the CSI subscale score was found to be ranged from 0.66 to 0.81 (Table 2).

Exercise of Self-Care Agency Scale

Exercise of Self-Care Agency Scale was developed by Kearney and Fleischer in 1979.[18] The scale determining self-care agency of individuals consists of 43 items. The scale was adapted to adolescent people in Turkish society by Nahcivan in 1993; its reliability and validity study was performed and the number of items in the scale was reduced to 35.[12] The items were valued between 0 and 4 scores and evaluated according to the 5-point Likert scale. The maximum score that can be obtained from the scale is 140.[12,19] A higher score indicates a higher self-care agency.[19] The internal consistency coefficient of the scale was determined to be 0.89,[19] and the Cronbach's alpha coefficient of the ESCA was found to be 0.92 (Table 2).

Data Analysis

When evaluating research findings obtained from the study, IBM's Statistical Package for Social Sciences Statistics 22 (SPSS IBM, Turkey) program was used for statistical analysis. In the evaluation of study data, along with descriptive statistical methods (mean, standard deviation, median, frequency, ratio, minimum, maximum), Student's *t*-test was used for pairwise comparisons of variables that showed normal distribution for comparison of quantitative data. While one-way ANOVA test was used for comparisons of groups of 3 and over with normal distribution, Bonferroni test was used for pairwise comparisons.

Linear regression (backward) analysis was used to examine the effective risk factors affecting self-care agency. Pearson correlation analysis was used to evaluate the relationships between variables. Significance was evaluated at least at the level of $P < .05$.

Ethical Considerations

Ethics committee approval was received for this study from the Clinical Trials Ethics Committee (date and number:12.04.2018/268).

Table 1. Sociodemographic Characteristics (n=416)

		n	%
Age (year)	Min-Max (Median) 18-34 (20) Mean ± standard deviation 20.68 ± 1.76		
Gender	Female	337	81.0
	Male	79	19.0
Grade	First year	106	25.5
	Second year	110	26.4
	Third year	96	23.1
	Fourth year	104	25.0
Mother's education	No literacy	48	11.5
	Literacy	33	7.9
	Primary school	237	57.0
	Junior high school–high school	75	18.1
	University	23	5.5
Family income	Income meets expenses	351	84.4
	Income does not meet expenses	65	15.6
Chronic disease	Yes	41	9.9
	No	375	90.1
Participating in social activities/ dealing with a hobby	Yes	233	56.0
	No	183	44.0
Status of smoking	Once in a month	17	4.1
	Once a week	14	3.4
	Everyday	33	7.9
	Nonsmoker	352	84.6
Alcohol use	Once in a month	28	6.7
	Once a week	12	2.9
	Everyday	1	0.2
	Not drinking	375	90.2

Written permission was obtained from the institution where the research was conducted. Written permission was obtained from the authors who developed the scales for the use of them. Verbal consent was obtained from the nursing students who accepted to participate in the study by giving information about the purpose, content, benefits, duration of the study, and where to use the data. The students were informed about the confidentiality of the collected data and the confidentiality principle was respected.

Results

When the sociodemographic characteristics of the nursing students included in the study were examined (Table 1), it was observed that the average age was 20.68 ± 1.76 (min: 18-max: 34) years and of which

Table 2. CSI Subscales and ESCA Total Mean Score

	Question Number	Min-Max (Median)	Mean ± SD	Cronbach's Alpha
Self-confident approach	7	7-28 (21)	20.22 ± 3.59	0.805
Helpless approach	8	8-32 (18)	17.94 ± 4.24	0.744
Submissive approach	6	6-24 (11)	11.31 ± 2.80	0.624
Optimistic approach	5	5-20 (14)	13.36 ± 2.91	0.766
Support-seeking approach	4	4-16 (11)	11.33 ± 2.21	0.661
ESCA total score	35	42-140 (100)	98.53 ± 18.20	0.919

CSI, the New Brief Coping Styles Inventory; ECSA, Exercise of Self-Care Agency Scale; SD, standard deviation.

81.0% were female and 25.0% were fourth-grade students. About 50.7% of mothers were primary school graduates. It was determined that 84.4% of the families of the students had sufficient income level for their expenses. It was found that 90.1% of students did not have chronic disease and 56.0% of students participated in social activities or dealt with a hobby. When the smoking status is examined, it was determined that 4.1% used once a month, 3.4% used once a week, 7.9% used daily, and 84.6% did not use it, and 90.2% of the students did not use alcohol.

In this study, it was found that students mostly used "self-confident approach," then "helpless styles approach," "optimistic approach," "seeking of social support approach," and "submissive approach" as stress coping styles. Self-care agency score of nursing students was found at medium level (Table 2).

Table 3 shows the comparison of CSI subscale scores and ESCA total scores according to individual characteristics. It was found that there was a statistically significant difference between the mean scores of the "optimistic approach" sub-dimension according to gender, and the optimistic approach scores of male students were higher than the scores of female students ($P = .004$, $P < .01$). In addition, female students' scores of "seeking for social support approach" were higher than the scores of male students ($P = .003$; $P < .01$). It was determined that the "self-confident approach" ($P = .04$; $P < .05$) and "optimistic approach" ($P = .04$; $P < .05$) score of the fourth graders was higher than the second graders. However, a statistically significant difference was found between ESCA mean score according to the family income level ($P = .025$; $P < .05$). The "self-confident approach" and "optimistic approach" sub-dimension mean scores of the students participating in the activity/dealing with hobby were found to be higher than the scores of those who did not participate in the activity/no dealing with hobby ($P < .01$). Exercise of Self-Care Agency Scale scores of the students who participated in the activity/dealing with hobbies were found to be higher than the scores of those who did not participate in the activity and no dealing with hobbies ($P = .001$; $P < .01$). There was no statistically significant difference between the mean scores of CSI sub-dimensions according to smoking ($P > .05$).

Table 3. CSI Subscales and ESCA Total Score Means according to Individual Characteristics

		CSI					ESCA
		SCA	HA	SA	OA	SSA	Total Score
		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Gender	Female	20.12 ± 3.59	17.96 ± 4.20	11.20 ± 2.70	13.17 ± 2.96	11.48 ± 2.18	99.23 ± 18.46
	Male	20.65 ± 3.56	17.84 ± 4.45	11.81 ± 3.14	14.15 ± 2.58	10.66 ± 2.23	95.58 ± 16.83
	Test value; [a]p	*t: -1.182; .238*	*t: 0.237; .812*	*t: -1.754; .080*	*t: -2.949;.004***	*t: 3.014; .003***	*t: 1.604; .109*
Grade	First year	20.22 ± 3.85	18.42 ± 4.85	11.18 ± 2.78	13.31 ± 3.03	11.58 ± 2.04	99.23 ± 17.64
	Second year	19.44 ± 3.63	18.05 ± 4.09	11.21 ± 2.55	12.85 ± 3.05	11.09 ± 2.24	97.31 ± 18.04
	Third year	20.52 ± 3.54	17.85 ± 4.10	11.18 ± 3.22	13.38 ± 3.00	11.30 ± 2.54	95.34 ± 18.55
	Fourth year	20.76 ± 3.19	17.39 ± 3.83	11.69 ± 2.66	13.93 ± 2.47	11.35 ± 2.02	102.07 ± 18.21
	Test value; [b]p	*F: 2.796; .040**	*F: 1.076; .359*	*F: 0.844; .470*	*F: 2.823; .040**	*F: 0.869; .457*	*F: 2.535; .056*
Family income level	Income meets expenses	20.25 ± 3.53	17.73 ± 4.13	11.22 ± 2.71	13.43 ± 2.84	11.32 ± 2.23	99.39 ± 17.81
	Income does not meet expenses	20.05 ± 3.93	19.06 ± 4.67	11.82 ± 3.20	12.95 ± 3.27	11.34 ± 2.15	93.89 ± 19.67
	Test value; [a]p	*t: 0.416; .678*	*t: -2.339; .020**	*t: -1.574; .116*	*t: 1.218; .224*	*t: -0.046; .964*	*t: 2.249; .025**
Status of participating in social activities/dealing with a hobby	Yes	*20.88 ± 3.25*	*17.51 ± 4.08*	*11.28 ± 2.65*	*13.69 ± 2.79*	*11.50 ± 2.17*	*102.04 ± 17.09*
	No	*19.38 ± 3.82*	*18.49 ± 4.38*	*11.36 ± 2.98*	*12.94 ± 3.03*	*11.11 ± 2.26*	*94.07 ± 18.64*
	Test value; [a]p	*t: 4.237; .001***	*t: -2.353; .019**	*t: -0.295; .768*	*t: 2.612; .009***	*t: 1.783; .075*	*t: 4.535; .001***
Status of smoking	Smoker	19.66 ± 3.92	18.42 ± 4.46	11.41 ± 3.14	13.00 ± 3.07	10.92 ± 2.62	93.06 ± 19.52
	Nonsmoker	20.32 ± 3.52	17.85 ± 4.20	11.30 ± 2.73	13.42 ± 2.89	11.40 ± 2.13	99.53 ± 17.80
	Test value; [a]p	*t: -1.360; .175*	*t: 0.994; .321*	*t: 0.284; .777*	*t: -1.069; .286*	*t: -1.381; .171*	*t: -2.633; .009***

[a]Student's *t*-test.
[b]One-way ANOVA test.
**P* < .05; ***P* < .01.
CSI, the New Brief Coping Styles Inventory; ECSA, Exercise of Self-Care Agency Scale; HA, helpless/self-accusatory approach; OA, optimistic approach; SA, submissive approach; SCA: self-confident approach; SD, standard deviation; SSSA, seeking for social support approach.

A statistically significant difference was found between the mean score of ESCA according to smoking, and the score of smokers was found to be lower than nonsmokers ($P = .009$; $P < .01$).

The correlation between CSI subscales score means and ESCA total score mean was shown in Table 4. It was determined that as nursing students' "self-confident approach" scores increase, self-care agency scores increase (r: 0.510; $P < .01$).

According to the model resulting from the Linear Regression (backward) analysis summary showing the degree of influence of gender, grade, family income level, status of participating in social activities/dealing with a hobby, and status of smoking on self-care agency at the end of 3 steps, it was found that gender, grade, family income level, status of participating in social activities/dealing with a hobby, and status of smoking affect self-care agency level at the rate of 7.3% ($r^2 = 0.073$) (Table 5). The effects of gender, grade, family income level, status of participating in social activities/dealing with a hobby, and status of smoking on self-care agency level were tested by regression analysis and it was determined that the relationship between these variables among values in the value column ($F = 10.776$; $P < .1$)

Table 4. The Correlations Between ESCA and CSI Scores

CSI		ESCA
Self-confident approach	*r*	0.510
	P	*.001***
Helpless approach	*r*	-0.336
	P	*.001***
Submissive approach	*r*	-0.257
	P	*.001***
Optimistic approach	*r*	0.362
	P	*.001***
Support-seeking approach	*r*	0.327
	P	*.001***

r, Pearson correlation coefficient. ***P* < .01.
CSI, the New Brief Coping Styles Inventory; ECSA, Exercise of Self-Care Agency Scale.

Table 5. Regression Model Results of the Relation Between Possible Variables and ESCA

	Unstandardized Coefficients		95.0% Confidence Interval for B	
ESCA Model	B	*P*	Lower Bound	Upper Bound
Gender (female)	3.955	*.077*	-0.435	8.344
Grade	1.184	*.129*	-0.345	2.713
Family income level (high)	5.608	*.020**	0.899	10.316
Participation in social activities/dealing with hobby (+)	7.976	*.001***	4.546	11.407
Status of smoking (+)	-5.131	*.034**	-9.871	-0.391
(Constant) r=0.270 r^2=0.073 F=10.776	90.124	*.001***	85.144	95.104

ECSA, Exercise of Self-Care Agency Scale.

at the end of steps was statistically significant. As a result of the regression analysis, it was seen that gender and grade did not have a significant effect on the model ($P > .05$). It was observed that the family income level, status of participating in social activities, and the status of smoking and constant value remained in the model at the end of the 3 steps. Regression model was determined as: *Self-care agency = 90.124 + 5.608 (Family income level) +7.976 (Participating in social activities/dealing with a hobby) – 5.131 (Smoking)* (Table 5).

Discussion

In this study, it was found that nursing students used ways of coping "self-confident approach" the most and "submissive approach" the least. The findings of this study related to stress coping show similarities with study findings conducted with nursing students' samples.[20,21] The findings of this study related to most often chosen problem oriented/active coping strategy than passive strategy shows similarities with study findings conducted with nursing students.[3,4,22,23] and university students.[13,24] However, some studies found that nursing students used emotion-focused coping with the other scale (stress coping behaviors scales).[6] As a matter of fact, these findings showed that nursing students have a good mood and self-confidence in coping with stress. In addition, it was determined that nursing students follow a planned path in which they can make active, conscious, and logical decisions to cope with stress. It was found that the nursing students' stress avoidance levels were low. It is thought that students who know how to follow when faced with a stressful situation exhibit a problem-oriented attitude by taking a confident approach to themselves. It is thought that the use of case/project/problem-based learning interactive learning methods in nursing education in order to provide safe and effective care to healthy/sick individuals contributes to the development of students' critical thinking and problem-solving skills and coping with stress.

In this study, it was found that the self-care agency score of nursing students was 98.53 ± 18.20. This finding is similar to findings of the previous studies conducted with university students majoring health,[25] medical students,[26] and nursing students.[15,27] In the literature, it is stated that the fact that nursing students' self-care agency levels are not low is related to the fact that students' education focuses on basic human needs and related to the practical experience in the field.[28] It is thought that students who realize their own health perceptions and care about their health also have high levels of self-care agency.

The finding of this study, positive effect which found participation in social activities/dealing with hobbies for coping with stress, was similar to the stress coping study of nursing students.[29] In addition, in the study by Myers et al (2012),[8] the relationship between social support and perceived stress by university students showed a similar result. In other study, it was found that activities that provided the individual a social interaction enabled individual to cope with negative effects of stress more easily.[30] As determined in this study, result showed that students should be directed to sociocultural and sports activities to increase their stress-coping skills. In this study, the self-care agency scores of the students who participated in the social activities/dealing with hobby were found to be higher than the students who did not participate in the social activities and were not engaged in any hobbies. This finding was found to be similar to the results of the study of Nahcivan (1993).[12] The maintenance of the balance between loneliness and social interaction is one of the universal self-care requirements that Orem mentions in her theory and in the literature, when universal human self-care needs are met, it affects and supports health and well-being positively.[18,31] Based on Orem's theory, it was thought that it was an inevitable result that self-care agency levels of students who participated in social activities and dealt with a hobby were found high. It is thought that the self-care agency scores are high due to the fact that students who participate in social activities focus on their needs and interests in order to discover the limits and have the opportunity to develop themselves by communicating with other individuals.

In this study, the fact that another variable that predicted the self-care agency level of university students was family income/socioeconomic level was similar to the samples of medical students[26] and adolescent[32,33] in previous studies. This result is thought to be related to the fact that high purchasing power, better living conditions, high probability of having social security, more opportunities to benefit from health services of students with high family income contribute to development of self-care consciousness. In addition, students with

limited financial means do not cast around unless they have serious health problems, which may prevent the development of self-care consciousness.

In this study, it was found that the self-care agency score of the non-smokers was higher than the self-care agency score of the smokers. In the previous study conducted by Ergin et al (2011),[26] the self-care agency score was found to be lower in the smokers.[26] In Akduman et al's study (2004),[34] it was found that there was a statistically significant difference between the smoking status and frequency and self-care agency scores, and self-care agency score was lower in the smokers.[34] This finding is similar to the research finding in adolescents.[32] In this study, the fact that students who smoke have low self-care agency level showed similarity with the literature and other study findings. The previous studies showed that university students who stated higher levels of self-care practices significantly reduced their perceived stress level statistically.[8,11,35] Similarly, in this study, it was found that as the "self-confident approach" scores of nursing students increased, their self-care agency level scores increased. Thus, it was stated that it is necessary to perform self-care behaviors to cope with stress.[7,16] This finding is supported by stress-coping by use self-confident approach also shows that students have a good mental health.[24] According to Orem's theory, self-care includes behaviors that support physical and psychological health of the individual.[31] It is thought that physical and psychological well-being is necessary for identifying and solving problems and coping with stress, and thus, high self-care agency helps nursing students manage their stress. The ability of nursing students to manage their stress and care about their self-care is important not only for themselves but also for the quality of the care they will provide to healthy/sick individuals in the future.

Limitations of the Study

The study was conducted in a single institution. In the literature, the number of studies searching the relationship between stress-coping attitudes and self-care agency levels of nursing students are limited.

Conclusions

This study revealed the importance of participating in social activity/dealing with hobby to develop a positive attitude to cope with stress and to increase self-care agency. In addition to this, it was found that there was a risk of decrease in self-care agency of the students who had low family income and smoked. Nursing students should be encouraged to make more use of the information given in the elective courses and advisory hours and to use stress-coping methods in an active way to know their stress and to increase their stress-coping abilities. Students should be encouraged to participate in sports and social activities in the university environment. It is important for nursing students to adopt a healthy lifestyle, to take care of health problems, to take regular checks, to care for their discomforts, and to organize peer trainings increasing their awareness about help seeking when they cannot fulfill their self-care to increase their self-care agency.

Nursing students who develop positive attitudes about coping with stress can cope more comfortably with academic problems by gaining problem-solving and critical-thinking skills.

Students who can cope with stress will be able to use this skill in the clinical environment when they start the profession, and they will be able to solve individual, social, and professional problems more easily by combining them with professional competence. In addition, nurses who adopt a healthy lifestyle and attach importance to self-care can show the necessary sensitivity about the health and self-care of other individuals.

Manager nurses who have gained skills in dealing with stress in school life can contribute to the increase of quality in care by developing positive leadership characteristics such as solving the crisis in the institution and providing motivation and support to employees.

This study can be a guide for researches on how to identify the changing stressors experienced by nursing students within the context of developing healthcare services, to cope effectively with these stressors, and to increase students' self-care agency.

Repeating the study in larger and different/same sample groups can be recommended.

Ethics Committee Approval: Ethics committee approval was received for this study from Istanbul University Faculty of Dentistry's Clinical Research Ethics Committee. (Decision Number: 268 Date:12.04.2018).

Informed Consent: Informed consent was obtained from the participants who participated in the study.

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