

Relationship between depression, anxiety, cognitive distortions, and psychological well-being among nursing students

Arzu Yüksel¹  | Emel Bahadır-Yılmaz² 

¹Department of Psychiatric Nursing, Faculty of Health Sciences, Aksaray University, Aksaray, Turkey

²Department of Psychiatric Nursing, Faculty of Health Sciences, Giresun University, Giresun, Turkey

Correspondence

Emel Bahadır-Yılmaz, Department of Psychiatric Nursing, Faculty of Health Sciences, Giresun University, 28340 Piraziz, Giresun, Turkey.

Email: ebahadiryilmaz@yahoo.com; emel.bahadir.yilmaz@giresun.edu.tr

Abstract

Purpose: The aim of this study was to determine the relationship between depression, anxiety, cognitive distortions, and psychological well-being among nursing students.

Design and Methods: This descriptive, correlational, cross-sectional study was conducted with 330 nursing students. Data were collected using the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI), the Cognitive Distortion Scale (CDS), and the Psychological Well-being Scale (PWBS).

Findings: The PWBS negatively correlated with the BDI, BAI, and CDS ($P < .05$). Preoccupation with danger was the strongest predictor, followed by hopelessness, self-blame, total CDS and BDI ($P < .05$).

Practice Implications: Nursing students should be evaluated for psychological well-being to prevent psychiatric symptoms such as anxiety and depression.

KEYWORDS

anxiety, cognitive distortions, depression, nursing students, psychological well-being

1 | INTRODUCTION

1.1 | Overview

Nursing students attending a nurse education program are exposed to academic and clinical stressors.¹ These academic and clinical stressors can be triggered by examination preparation, course workload, paying course fees, not meeting personal needs, heavy workload, taking care of patients, being criticized by teachers, encountering a dying patient, the fear of making practice errors and experiencing bullying and discrimination in clinical settings.¹⁻⁴ It has been demonstrated that nursing students use a variety of both adaptive and maladaptive coping strategies to manage these academic and clinical problems.⁵ Particularly in relation to stress and coping, the psychological well-being of nursing students is an important focus of nurse education research.⁶ Considering that psychological well-being is a component of general health, the more psychologically healthy the nursing students are, the more likely they will be productive and successful in their academic and clinical training.⁷

1.2 | Background

Known stressors that have a negative impact on the well-being of students include the pressure of academic assignments, long study hours and lack of freetime and poor faculty support, as well as financial worries and separation from home.⁶ According to He et al,⁸ in coping with these stressors, the predictors of psychological well-being among undergraduate nursing students include internal factors such as self-efficacy, resilience, and mindfulness, as well as external factors such as social support. Some studies focusing on psychological well-being have reported that well-being is associated with resilience, self-esteem, behavioral and affect-focused strategies, family cohesion and social support.⁹⁻¹¹

Ratanasiripong and Wang,⁷ in their study assessed students' well-being using the Rosenberg self-esteem scale, the Center for Epidemiology Studies-Depression Scale Satisfaction with Life Scale, and the Revised Cheek and Buss Shyness Scale. They found that compared with students who were recruited from a comprehensive

college with degree programs in education, arts, sciences, technology, and management, nursing students had higher levels of self-esteem and life satisfaction and that they reported lower levels of depression and social difficulties. Smith and Yang¹² assessed psychological well-being using the General Health Questionnaire to identify the specific symptoms related to psychological distress, anxiety, and depression. The findings demonstrated that impaired psychological well-being was associated with stress and showed a negative correlation with resilience. In another study, psychological well-being was assessed using the Center for Epidemiology Studies-Depression Scale and the Korean-translated Rosenberg self-esteem scale, and it was observed that impaired psychological well-being, such as high depression and low self-esteem, was associated with bullying.¹³

Priesack and Alcock⁶ reported that psychological well-being correlated positively with self-efficacy, whereas low self-efficacy was associated with negative feelings such as anxiety, depression, and helplessness. Furthermore, Smith and Yang¹² stated that psychological well-being was related to anxiety and depression, and according to Strohmeier et al,¹⁴ anxiety and depression were associated with cognitive distortions. Guided by the results obtained from the above-mentioned studies, the aim of this study was to determine the relationship between depression, anxiety, cognitive distortions, and psychological well-being among nursing students. To accomplish this aim, the study sought to answer the following questions:

- What degree do anxiety, depression and cognitive distortions influence overall psychological well-being?
- What are the predictors of psychological well-being among nursing students?

2 | METHODS

2.1 | Design

This is a descriptive, correlational, cross-sectional study conducted in May 2017 at a state university in Aksaray, Turkey.

2.2 | Participants

The study population consisted of 421 nursing students who were enrolled in the Department of Nursing of the Health Science Faculty in the 2016-2017 academic year. From this population, the 330 nursing students who volunteered to participate in the study constituted the sample. No sampling method was performed for this study. The total response rate of the participants was 78.4%; the mean age of the students was 20.77 ± 1.59 years, with 40.0% being aged 20-21 years and 33.6% being aged ≥ 22 years, and the majority of the participants were female (70.0%). The data for the study were collected from 84 first-year, 83 second-year, 80 third-year, and 83 fourth-year nursing students.

2.3 | Ethical considerations

Written approval to conduct this study was obtained from the ethics committee of Aksaray University (number: 2017/43 and date: 08 May 2017), as well as from the Nursing Department of the Faculty of Health Sciences in Aksaray University. Verbal and written consent to participate in the study was received from all participants. The study was conducted according to the ethics guidelines set out in the Declaration of Helsinki.

2.4 | Measures

The data for the study were collected using a Personal Information Form (PIF), the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI), the Cognitive Distortion Scale (CDS) and the Psychological Well-being Scale (PWBS).

- PIF. This form was developed by the researcher based on the most recent literature and includes questions on age, sex, type of family structure, place of residence, parents' education level, and parents' working status.
- BDI. This scale was developed by Beck et al¹⁵ and adapted for use in Turkey by Hisli.^{16,17} The BDI, consisting of 21 items, was used to assess depressive symptoms on the basis of a 4-point Likert-type scale. Possible scores on the BDI range from 0 to 63, with higher scores indicating higher levels of depression. The standard cut-off values are as follows: 0-9 indicates minimal depression, 10-18 indicates mild depression, 19-29 indicates moderate depression and 30-63 indicates severe depression. In the present study, Cronbach's alpha of the scale was 0.87.
- BAI. This scale was developed by Beck et al¹⁸ and the Turkish adaptation was done by Ulusoyet al.¹⁹ The BAI, consisting of 21 items, was used in assessing anxiety symptoms rated on a 4-point Likert-type scale. Scores obtained from the BAI ranged from 0 to 63. Higher scores indicated higher levels of anxiety. The standard cut-off values are as follows: 0-7 indicates minimal anxiety, 8-15 indicates mild anxiety, 16-25 indicates moderate anxiety and 26-63 indicates severe anxiety. In the present study, Cronbach's alpha of the scale was 0.94.
- CDS. This scale was developed by Briere,²⁰ and the validity and reliability of the Turkish version were assessed by Ađır.²¹ The CDS, consisting of 40 items, was used to determine cognitive distortions. Responses to each item ranged from 1 (never) to 5 (very often), with higher scores indicating greater cognitive distortions of an individual. The subdimensions of the scale included self-criticism (SC), self-blame (SB), helplessness (HLP), hopelessness (HOP) and preoccupation with danger (PWD). In the present study, the Cronbach's alpha values were calculated as 0.80 for SC, 0.88 for SB, 0.89 for HLP, 0.92 for HOP, and 0.86 for PWD.
- PWBD. This scale was developed by Diener et al²² and Diener et al,²³ and its adaptation to the Turkish setting was made by Telef.²⁴ The PWBD, consisting of eight items, assesses the

positive relationship, self-perceived emotional competencies and self-perceived feelings of having a meaningful and purposeful life. Responses to the items are based on a 7-point Likert-type scale, ranging from 1 (I don't agree at all) to 7 (I completely agree). Total scores on the PWBD range from 8 to 56, with higher scores indicating greater psychological well-being of an individual. In the present study, Cronbach's alpha of the scale was 0.91.

2.5 | Data collection

After obtaining ethical and institutional permission to conduct the study, the researchers explained the study at the end of the lessons in the students' classrooms. The data collection forms were distributed and students were asked to complete them, which took approximately 20-25 minutes.

2.6 | Data analysis

All data were analyzed using the IBM SPSS, version 23. Descriptive statistics were defined by number, percentage, mean, standard deviation, and minimum and maximum values. Reliability analyses of the scales were performed using Cronbach's alpha coefficients. The conformity of data to normal distribution was evaluated using the Kolmogorov-Smirnov test. Spearman's correlation coefficient test and multiple linear regression analysis were used to evaluate the relationship between BDI, BAI, CDS, and PWBS. The results were evaluated in a reliability range of 95%. Statistical significance was accepted at $P < .05$.

3 | RESULTS

3.1 | Sociodemographic characteristics

Among the study sample that consisted of 330 nursing students, 77.6% of the students had a nuclear family type (a family group consisting of two parents and their children), 54.8% came from a city and 25.5% came from a town. Furthermore, 45.8% of the students' mothers had graduated from elementary school and 82.1% of the mothers were unemployed. Regarding the students' fathers, 33.0% had graduated from elementary school and 23.6% had graduated from high school and 37.6% were unemployed 20.6% were public officers and 20.3% were retired.

3.2 | Mean scores on BDI

The mean BDI total score of the students was $12.45 \pm 8.59\%$, and 20.3% of them had moderate depression, whereas 5.8% had severe depression (Table 1).

TABLE 1 Students' mean scores of the BDI

	N (%)	Mean \pm SD	Min-Max	Cronbach's alpha value
Total BDI		12.45 \pm 8.59	0-45	0.87
Minimal depression	135 (40.9)	5.22 \pm 3.09	0-9	
Mild depression	109 (33.0)	12.51 \pm 1.88	10-16	
Moderate depression	67 (20.3)	20.28 \pm 3.05	17-29	
Severe depression	19 (5.8)	35.94 \pm 4.33	31-45	

Abbreviation: BDI, Beck Depression Inventory.

TABLE 2 Students' mean scores of the BAI

	N (%)	Mean \pm SD	Min-Max	Cronbach's alpha value
Total BAI		16.34 \pm 13.13	0-55	0.94
Minimal anxiety	104 (31.5)	2.79 \pm 2.38	0-7	
Mild anxiety	78 (23.6)	11.39 \pm 2.43	8-15	
Moderate anxiety	65 (19.7)	20.04 \pm 2.84	16-25	
Severe anxiety	83 (25.2)	35.06 \pm 7.20	26-55	

Abbreviation: BAI, Beck Anxiety Inventory.

3.3 | Mean scores of BAI

The mean BAI total score of the students was $16.34 \pm 13.13\%$, and 19.7% of them had moderate anxiety whereas 25.2% had severe anxiety (Table 2).

3.4 | Mean scores of CDS and PWBS

The mean CDS total score of the students was 84.02 ± 28.54 , whereas their mean PWBS total score was 41.16 ± 9.53 (Table 3).

TABLE 3 Students' mean scores of CDS and PWBS

	Mean \pm SD	Min-Max	Cronbach's alpha value
Self-criticism	16.39 \pm 5.84	8-36	0.80
Self-blame	17.73 \pm 6.21	8-37	0.88
Helplessness	17.09 \pm 6.17	8-36	0.89
Hopelessness	15.44 \pm 6.87	8-40	0.92
Preoccupation with danger	17.36 \pm 6.30	8-37	0.86
CDS	84.02 \pm 28.54	40-174	0.96
PWBS	41.16 \pm 9.53	8-56	0.91

Abbreviations: CDS, Cognitive Distortion Scale; PWBS, Psychological Well-being Scale.

3.5 | Correlation among study variables

As shown in Table 4, PWBS negatively correlated with depression, anxiety, SC, SB, HLP, HOP, PWD, and cognitive distortions. The correlational coefficients (*r*) ranged from 0.28 to 0.43 ($P < .01$).

3.6 | Predictors of psychological well-being

The results shown in Table 5 suggest that five independent variables significantly predicted PWB, with all variables explaining 47.30% of its variance. PWD was the strongest predictor ($\beta = 0.66$, $P < 0.01$), followed by HOP ($\beta = 0.56$, $P < 0.01$), SB ($\beta = 0.56$, $P < 0.01$), total CDS ($\beta = 0.40$, $P < 0.01$) and BDI ($\beta = 0.26$, $P < 0.01$).

4 | DISCUSSION

This study aimed at determining the relationship between depression, anxiety, cognitive distortions, and psychological well-being among nursing students. Results demonstrated that there was a moderate and negative relationship between PWBS and BDI scores and a weak and negative correlation between PWBS and BAI scores. This result was consistent with another study that reported that the psychological well-being indicators such as autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life and self-acceptance showed a moderately negative correlation with depression and anxiety in Japanese university students.²⁵ Another study reported that psychological well-being decreased as anxiety and depressive symptoms increased.²⁶ Yet another study stated that psychological well-being was related to anxiety and depression.²⁷ In a similar vein, Smith and Yang¹² observed a low level of psychological well-being in Chinese undergraduate nursing students due to high levels of anxiety and depression. In light of these findings, it can be said that anxiety and depression are important predictors of psychological well-being among nursing students.

TABLE 5 Predictors of psychological well-being among nursing students

	β	SE	Beta	t	P value
BDI	-0.258	0.064	-0.232	-4.056	.000
BAI	-0.048	0.041	-0.066	-1.166	.245
Self-criticism	0.275	0.244	0.168	1.129	.260
Self-blame	0.563	0.175	0.367	3.221	.001
Helplessness	0.139	0.285	0.090	0.486	.627
Hopelessness	-0.566	0.070	-0.408	-8.094	.000
Preoccupation with danger	0.666	0.245	0.440	2.715	.007
CDS	-0.398	0.144	-1.190	-2.757	.006

$R = 0.473$; $R^2 = 0.223$; $F = 13.226$; $P < .01$.

Abbreviations: BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory; CDS, Cognitive Distortion Scale.

In the present study, a negative relationship was detected between psychological well-being levels and SC, SB, HLP, HOP, and PWD among nursing students. Similarly, a study on the retention of university students indicated that as the students' control requests, perfectionist tendencies, and expectations increased, their psychological well-being levels decreased.²⁸ Other research has demonstrated a significant negative association between psychological well-being, HOP, and HLP.^{29,30} In a study conducted by Yavuzer and Karataş,³¹ negative automatic thoughts were significant predictors in explaining the depression level of young adults. Karabacak³² found a significant negative relationship among cognitive distortions, avoidance of intimacy subscale, and psychological well-being and a significant positive relationship between psychological well-being and mind reading, which occurs when a person believes that he or she knows the thoughts or feelings of another person without asking the other person. Another study revealed that defense mechanisms activated cognitive distortions, which in turn intensified the severity of depression. It can be said that cognitive distortions are important predictors of psychological well-being.³³

TABLE 4 The correlations between BDI, BAI, CDS, and PWBS

	BDI	BAI	SC	SB	HLP	HOP	PWD	CDS
BDI								
BAI	0.388*							
SC	0.396*	0.386*						
SB	0.382*	0.422*	0.779*					
HLP	0.446*	0.424*	0.764*	0.787*				
HOP	0.432*	0.366*	0.711*	0.652*	0.833*			
PWD	0.448*	0.469*	0.774*	0.774*	0.818*	0.782*		
CDS	0.471*	0.454*	0.880*	0.877*	0.936*	0.883*	0.919*	
PWBS	-0.373*	-0.285*	-0.307*	-0.286*	-0.403*	-0.430*	-0.346*	-0.396*

Abbreviations: BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory; CDS, Cognitive Distortion Scale; HLP, helplessness; HOP, hopelessness; PWBS, Psychological Well-being Scale; PWD, preoccupation with danger; SB, self-blame; SC, self-criticism.

* $P < .01$.

A review of the studies in the literature shows that the students' psychological well-being levels were affected by their personal characteristics such as coping styles^{8,33,34} and resilience.^{12,35-39} Coping styles and resilience were accepted as predictors of cognitive distortions in these studies. However, the low psychological well-being levels experienced by students may originate not only from student personal characteristics but also from family expectations of having a high status and education relative to a decent earning potential in Turkey.

Bölükbaş⁴⁰ determined that the students preferred nursing according to the wishes of the family and the thoughts that they would not face unemployment in the future. Similarly, Özdelikara et al⁴¹ found that 63.4% of students who chose to nurse without their desire preferred nursing for an employment opportunity. Another study reported that 50.7% of students chose the nursing profession due to the high number of job opportunities.⁴² The students who chose to nurse without their desire did not feel themselves in the profession. It has also been reported that the students who do not feel themselves in the profession have a higher level of stress.⁴³ Therefore, it is important to increase the psychological well-being levels and reduce the anxiety and depression levels of students having high stress. These goals can be achieved by determining the predictors of psychological well-being of the students.

The available literature suggests that nursing educators, internationally, recognize that, despite their many strengths, nursing students have a substantial need for a variety of psychological and concrete supports to promote their wellness and retention in school. Student needs vary by culture and the personal characteristics of students, with substantial overlap existing among students from different countries. This study presents the authors' attempt to develop a scale for the Turkish nursing student population that helps identify students who need such support to complete their nursing education. This scale, either directly or with some modification, may also be of value to those concerned with promoting the welfare of nursing students being educated in other countries.

4.1 | Limitations

Few limitations exist in this study that may have affected the results. First, the results lack generalizability because the study sample comprised only Turkish nursing students. Second, the results may have been affected by the fact that the study was conducted in only one set. For future studies, it can be recommended that different settings be used to explore this topic further.

5 | CONCLUSION

The purpose of this study was to determine the relationship between depression, anxiety, cognitive distortions, and psychological well-being among Turkish nursing students. The results demonstrated that there was in fact a relationship between depression, anxiety, cognitive distortions, and psychological well-being in nursing

students. In addition, cognitive distortions such as PWD, HOP, SB, and the students' depression level predicted their psychological well-being level. The findings derived from this study are considered to be of vital importance for nurse educators and clinical trainers in terms of empowering nursing students who are experiencing academic and clinical stressors, having anxiety and depressive symptoms and having cognitive distortions to achieve psychological well-being.

6 | IMPLICATIONS FOR NURSING

The cognitive distortions about relationships and depression predicted the psychological well-being level of Turkish nursing students. To improve nursing students' psychological well-being, their cognitive distortions and depression level should be determined, and for students at risk, mindfulness-based intervention should be implemented in nurse education settings. Because mindfulness-based intervention increased coping and well-being in medical and psychology students.⁴⁴ According to,⁴⁵ mindfulness meditation programs had a positive impact on nursing students' stress, anxiety, depression, burnout, sense of well-being and empathy.

ACKNOWLEDGMENTS

The authors would like to thank all study participants for participating in the study. This study is accepted as an oral presentation at the 1st Congress of Cognitive Behavioral Psychotherapies, Ankara, Turkey, from 18 October 2018 to 21 October 2018.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

ORCID

Arzu Yüksel  <http://orcid.org/0000-0001-7819-2020>

Emel Bahadır-Yılmaz  <http://orcid.org/0000-0003-1785-3539>

REFERENCES

1. Labrague LJ, McEnroe-Petitte DM, De Los Santos JAA, Edet OB. Examining stress perceptions and coping strategies among Saudi nursing students: a systematic review. *Nurse Educ Today*. 2018;65:192-200. <https://doi.org/10.1016/j.nedt.2018.03.012>
2. Brown K, Anderson-Johnson P, McPherson AN. Academic-related stress among graduate students in nursing in a Jamaican school of nursing. *Nurse Educ Pract*. 2016;20:117-124. <https://doi.org/10.1016/j.nepr.2016.08.004>
3. Mamaghani EA, Rahmani A, Hassankhani H, et al. Experiences of Iranian nursing students regarding their clinical learning environment. *Asian Nurs Res*. 2018;12:216-222. <https://doi.org/10.1016/j.anr.2018.08.005>
4. Bahadır-Yılmaz E. Academic and clinical stress, stress resources and ways of coping among Turkish first-year nursing students in their first clinical practice. *Kontakt*. 2016;18:145-151. <https://doi.org/10.1016/j.kontakt.2016.08.001>

5. McCarty B, Trace A, O'Donovan M, et al. Nursing and midwifery students' stress and coping during their undergraduate education programmes: an integrative review. *Nurse Educ Today*. 2018;61:197-209. <https://doi.org/10.1016/j.nedt.2017.11.029>
6. Priesack A, Alcock J. Well-being and self-efficacy in a sample of undergraduate nurse students: a small survey study. *Nurse Educ Today*. 2015;35:e16-e20. <https://doi.org/10.1016/j.nedt.2015.01.022>
7. Ratanasiripong P, Wang CCDC. Psychological well-being of Thai nursing students. *Nurse Educ Today*. 2011;31:412-416. <https://doi.org/10.1016/j.nedt.2010.08.002>
8. He FX, Turnbull B, Kirshbaum MN, Phillips B, Klainin-Yobas P. Assessing stress, protective factors and psychological well-being among undergraduate nursing students. *Nurse Educ Today*. 2018;68:4-12. <https://doi.org/10.1016/j.nedt.2018.05.013>
9. Chow KM, Tang WKF, Chan WHC, Sit WHJ, Choi KC, Chan S. Resilience and of university nursing students in Hong Kong: a cross-sectional study. *BMC Med Educ*. 2018;18:13. <https://doi.org/10.1186/s12909-018-1119-0>
10. Aydın A, Kahraman N, Hiçdurmaz D. Determining the levels of perceived social support and psychological well being of nursing students. *J Psychiatr Nurs*. 2017;8:40-47. <https://doi.org/10.14744/phd.2017.95967>
11. Brajsa-Zganec A, Lipovcan LK, Ivanovic D, Larsen ZP. Well-being of nursing students: role of affect regulation, self-esteem, family cohesion and social support. *Open Public Health J*. 2017;10:69-79. <https://doi.org/10.2174/1874944501710010069>
12. Smith GD, Yang F. Stress, resilience and psychological well-being in Chinese undergraduate nursing students. *Nurse Educ Today*. 2017;49:90-95. <https://doi.org/10.1016/j.nedt.2016.10.004>
13. Liping R, Hyunli K, Mi Sook J. The association between bullying experience related to clinical placement and psychological well-being in nursing students. *J Korean Acad Community Health Nurs*. 2015;26:321-329. <https://doi.org/10.12799/jkachn.2015.26.4.321>
14. Strohmeier CW, Rosenfield B, DiTomasso RA, Ramsay JR. Assessment of the relationship between self-reported cognitive distortions and adult ADHD, anxiety, depression, and hopelessness. *Psychiatry Res*. 2016;238:153-158. <https://doi.org/10.1016/j.psychres.2016.02.034>
15. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psychiatry*. 1961;4:561-571.
16. Hisli N. Beck Depresyon Envanteri'nin geçerliği üzerine bir çalışma. *Turkish J Psychol*. 1988;6:118-126.
17. Hisli N. Beck Depresyon Envanteri'nin üniversite öğrencileri için geçerliği, güvenilirliği. *Turkish J Psychol*. 1989;7:3-13.
18. Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. *J Consult Clin Psychol*. 1988;56:893-897.
19. Ulusoy M, Şahin NH, Erkmen H. Turkish version of the beck anxiety inventory: psychometric properties. *J Cogn Psychother*. 1996;12:163-172.
20. Briere J. *Cognitive Distortion Scales: Professional Manual*. Odessa, Ukraine: Psychological Assessment Resources; 2000.
21. Ağır M. *The relationship between cognitive distortion, hopelessness, and personal problem solving in university students*. [Unpublished Doctorate Thesis]. Istanbul, Turkey: Social Sciences Institution, Marmara University; 2007.
22. Diener E, Scollon CN, Lucas RE. The evolving concept of subjective well-being: The multifaceted nature of happiness. In: Diener E, ed. *Social Indicator Research Series*. 39. New York, NY: Springer; 2009:pp. 67-100 https://doi.org/10.1007/978-90-481-2354-4_4
23. Diener E, Wirtz D, Tov W, et al. New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Soc Indic Res Series*. 2010;97:143-156. <https://doi.org/10.1007/s11205-009-9493-y>
24. Telef BB. The adaptation of psychological well-being into Turkish: a validity and reliability study. *Hacettepe Universitesi Egitim Fakültesi Dergisi*. 2013;28(3):374-384.
25. Liu Q, Shono M, Kitamura T. Psychological well-being, depression, and anxiety in Japanese university students. *Depress Anxiety*. 2009;26:99-e105. <https://doi.org/10.1002/da.20455>
26. Ramkisson S, Pillay BJ, Sartorius B. Anxiety, depression and psychological well-being in a cohort of South African adults with type 2 diabetes mellitus. *S Afr J Psychiatr*. 2016;22:935. <https://doi.org/10.4102/sajpsychiatry.v22i1.935>
27. Udhayakumar P, Illango P. Psychological wellbeing among college students. *J Soc Work Educ Pract*. 2018;3:79-89.
28. Özpolat AR, İşgör İY, Sezer F. Investigating psychological well-being of university students according to life styles. *Procedia Soc Behav Sci*. 2012;47:256-262. <https://doi.org/10.1016/j.sbspro.2012.06.648>
29. Dirzyte A, Patapas A. Determinants of subjective wellbeing: Lithuanian case. *Eur Sci J*. 2015;11:138. <https://doi.org/10.19044/esj.2015.v11n2p%25p>
30. Singh AK, Singh S, Singh AP, Srivastava A. Hope and well-being among students of Professional courses. *Indian J Community Psychol*. 2013;9:109-119. <https://doi.org/10.13140/2.1.4751.4240>
31. Yavuzer Y, Karataş Z. Investigating the relationship between depression, negative automatic thoughts, life satisfaction and symptom interpretation in Turkish young adults. In: D, Breznoscakova, eds. *Depression*. Croatia, Rijeka: Intech Open; 2018:pp. 71-89.
32. Karabacak A. Examination of relationship between interpersonal cognitive distortions and psychological wellbeing among emerging adulthood individuals. *Int J Soc Sci Educ Res*. 2017;3:425-433.
33. Batmaz S, Koçbıyık S, Yalçınkaya-Alkar Ö, Türkçapar MH. Cognitive distortions mediate the relationship between defense styles and depression in female outpatients. *Eur J Psychiatr*. 2016;30:237-247.
34. Çoban AE. Interpersonal cognitive distortions and stress coping strategies of late adolescents. *Eurasian J Educ Res*. 2013;51:65-84.
35. Chen KJ, Yang CC, Chiang HH. Model of coping strategies, resilience, psychological well-being and perceived health among military personnel. *J Med Sci*. 2018;38:73-80. https://doi.org/10.4103/jmedsci.jmedsci_60_17
36. Çelikkaleli Ö, Kaya S. University students' interpersonal cognitive distortions, psychological resilience, and emotional self-efficacy according to sex and gender roles. *Pegem Eğitim ve Öğretim Dergisi*. 2016;6:187-212. <https://doi.org/10.14527/pegegog.2016.011>
37. Harms PD, Brady L, Wood D, Silard A. Resilience and well-being. In: Diener E, Oishi S, Tay L, eds. *Handbook of Well-Being*. Salt Lake City UT: DEF Publishers; 2018:pp. 1-12.
38. Matel-Anderson DM, Bekhet AK. Resilience in adolescents who survived a suicide attempt from the perspective of registered nurses in inpatient psychiatric facilities. *Issues Ment Health Nurs*. 2016;37:839-846. <https://doi.org/10.1080/01612840.2016.1193578>
39. Shatkin JP, Diamond U, Zhao Y, Dimeglio J, Chodaczek M, Bruzzese JM. Effects of a risk and resilience course on stress, coping skills, and cognitive strategies in college students. *Teaching Psychology*. 2016;43:204-210. <https://doi.org/10.1177/0098628316649457>
40. Bölükbaş N. Occupational selection of nursing students and the effecting factors. *Ordu Üniversitesi Hemşirelik Çalışmaları Dergisi*. 2018;1:10-17.
41. Özdelikara A, Ağaçdiken S, Aydın E. Career choices of nursing students and influencing factors. *ACU Sağlık Bilimleri Dergisi*. 2016;2:83-88.
42. Özdemir FK, Şahin ZA. Factors affecting the career choices of first-year nursing students. *ACU Sağlık Bilimleri Dergisi*. 2016;1:28-32.
43. Karagözoğlu Ş, Özden D, Tok-Yıldız F. Clinical stress levels of nursing students participating in an integrated program and the factors affecting the levels. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*. 2013;16:89-95.

44. De Vibe M, Solhaug I, Rosenvige JH, Tyssen R, Hanley A, Garland E. Six-year positive effects of a mindfulness-based intervention on mindfulness, coping and well-being in medical and psychology students; Results from a randomized controlled trial. *PLoS One*. 2018;13:e0196053. <https://doi.org/10.1371/journal.pone.0196053>
45. Van der Riet P, Levett-Jones T, Aquino-Russell C. The effectiveness of mindfulness meditation for nurses and nursing students: an integrated literature review. *Nurse Educ Today*. 2018;65:201-211. <https://doi.org/10.1016/j.nedt.2018.03.018>

How to cite this article: Yüksel A, Bahadır-Yılmaz E. Relationship between depression, anxiety, cognitive distortions, and psychological well-being among nursing students. *Perspect Psychiatr Care*. 2019;55:690-696. <https://doi.org/10.1111/ppc.12404>