

Perceived Stress, Psychological Resilience, and Achievement Motivation Among Nursing Students: A Cross-Sectional Study

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Research Article

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Abstract

Background

Nursing students face multiple stressors that may impact their academic performance, psychological resilience, and achievement motivation, particularly within demanding nursing education and clinical training environments. Understanding these relationships is crucial for developing interventions to support student well-being.

Objective

This study aimed to examine the relationships among perceived stress, psychological resilience, and achievement motivation in nursing students, and to investigate whether resilience and motivation predict stress levels.

Methods

A cross-sectional study was conducted with 295 nursing students. Data were collected using the Perceived Stress Scale, the Brief Resilience Scale, and a motivation assessment form. Statistical analyses included independent t-tests, one-way ANOVA, Pearson correlation, and hierarchical regression.

Results

Female students had higher motivation scores than males ($t = 3.634$, $p < 0.001$), and students receiving psychological support had lower perceived stress ($F = 3.056$, $p = 0.049$). Perceived stress was negatively correlated with resilience ($r = -0.128$, $p < 0.05$), and resilience was positively correlated with motivation ($r = 0.322$, $p < 0.001$). Regression analysis indicated that psychological resilience significantly predicted perceived stress, while motivation did not.

Conclusions

Psychological resilience is a key protective factor against perceived stress in nursing students and is positively associated with achievement motivation. Interventions to enhance resilience and targeted psychological support embedded within nursing education programs and clinical training may improve student well-being and academic outcomes.

Clinical Significance

Psychological resilience appears to be a protective factor against stress in nursing students and is positively associated with achievement motivation. These findings may inform the development of resilience-focused support programs within nursing education.

Introduction

Nursing students play a critical role in the development of healthcare systems by contributing to the alleviation of workforce shortages in the nursing profession ^[1]. From the early stages of their educational trajectory, they are confronted with psychological, professional, and particularly economic difficulties, as well as various stressors that may affect both their academic achievement and quality of life ^{[2][3][4]}. In addition to theoretical instruction, this period is characterized by intensive and demanding clinical practice experiences, which constitute a central component of nursing education and student learning.

Nursing students may be exposed to prolonged and uncontrollable stress, which can adversely affect both professional identity development and overall health status ^{[5][6]}. Such stress has been shown to impair students' cognitive and decision-making abilities, leading to declines in academic performance ^{[7][8]}, and to increase the risk of various health problems, including cardiovascular diseases and weakened immune functioning ^[9]. In educational contexts, elevated stress may disrupt learning processes and hinder the acquisition of clinical skills.

Elevated stress levels may negatively influence students' learning motivation and psychological resilience, thereby complicating educational processes, and academic stress has been reported to be negatively associated with both motivation and resilience ^[10]. Psychological resilience is defined as the capacity to adapt to, recover from, and maintain functioning in the face of stress and adversity ^[11]. Students with higher levels of resilience are better able to cope effectively with stress and sustain their achievement motivation. Recent studies conducted with nursing students indicate that academic stress negatively affects psychological resilience and academic motivation, and that resilience and academic motivation mediate the relationship between stress and learning-related outcomes ^[12]. Reducing stress levels and enhancing resilience may positively influence both students' academic performance and their professional satisfaction.

The psychological health of nursing students is of critical importance for their successful completion of undergraduate education, the development of strong academic trajectories, and their ability to deliver high-quality healthcare services to patients. A review of the literature indicates that stress and mental health problems reduce both learning performance and clinical performance. This situation affects not only learning outcomes but also the quality of patient care. In order to enhance students' academic success, nursing education programs need to identify sources of stress and other psychosocial problems experienced by students ^[13]. The present study, in this context, aimed to examine the relationship between perceived stress levels, psychological resilience, and achievement motivation among nursing students. In addition, the effects of perceived stress on psychological resilience and motivation were evaluated, and the correlational and predictive relationships among these variables were analyzed. It is expected that the findings will contribute to the planning of stress management and resilience-enhancing interventions within nursing education programs. From an educational perspective, the findings are expected to inform curriculum design, student support systems, and psychologically supportive learning environments in nursing education. The study also aimed to inform the development of recommendations to promote stress management and enhance resilience throughout the nursing education process.

Research Questions

1. Is there a significant relationship between perceived stress levels and psychological resilience among nursing students?
2. Is there a significant relationship between psychological resilience levels and achievement motivation among nursing students?
3. Does perceived stress significantly predict psychological resilience and achievement motivation among nursing students?

METHODS

Study Design

This study was conducted as an analytical observational (cross-sectional analytical) exploratory study.

Study Setting and Period

The study was carried out in the Department of Nursing, Faculty of Health Sciences, at a university in Türkiye.

Population and Sample

The study population consisted of nursing students enrolled in the Department of Nursing, Faculty of Health Sciences, between 10 June 2025 and 10 January 2026. Voluntary students who met the inclusion criteria were included in the sample. The sample size was calculated using the formula for populations with a known size. Based on a 95% confidence interval, a margin of error of 0.05, and a statistical power of 80% ($\beta = 0.80$), the parameters were set as follows: $N = 477$, $p = 0.50$, $q = 0.50$, $d = 0.05$, and $t = 2.76$ ($1.96 + 0.80$). Accordingly, the required sample size was determined to be 293. The study was conducted between September 2025 and November 2025 and was completed with 295 students who met the inclusion and exclusion criteria. Students who were aged between 18 and 30 years, who were actively enrolled in the nursing program, who completed the survey forms in full, and who voluntarily agreed to participate were included in the study. Those students who left more than 20% of the survey unanswered and those with a history of a diagnosed severe psychiatric disorder (based on self-report) were excluded from the study.

Data Collection

The study data were collected by the researchers between September 2025 and November 2025 through face-to-face interviews with voluntary participants. Data collection took approximately 15 minutes for each student.

Data Collection Instruments

Data were collected using the Demographic Information and Motivation Assessment Form, the Perceived Stress Scale, and the Brief Resilience Scale (BRS).

Demographic Information and Motivation Assessment Form: It consisted of a total of 11 items designed to assess the sociodemographic characteristics and motivation levels of nursing students. To measure students' motivation, a five-item motivation survey was developed by the researchers based on a review of the literature ^{[14][15]}. The items included statements such as: "I continue my education willingly", "Studying is important to me in order to achieve my goals", "Academic success is a personal priority for me", "I do not give up on my academic goals in the face of difficulties", and "I want to be successful in my field in the future". Each item was rated on a 5-point Likert scale ranging from 1 to 5. An exploratory factor analysis indicated a single-factor structure. Factor loadings ranged between 0.74 and 0.82, and the internal consistency reliability coefficient (Cronbach's alpha) of the motivation form was calculated as 0.84.

Perceived Stress Scale (PSS)

It was developed by Cohen, Kamarck, and Mermelstein (1983) and adapted into Turkish by Yerlikaya and İnanç (2007) ^{[16][17]}. The scale was designed to assess the degree to which individuals perceive their lives as unpredictable, uncontrollable, and overloaded with stress. It is a 5-point Likert-type scale, with response options ranging from 0 (never) to 4 (very often). Higher total scores indicate higher levels of perceived stress. Items 4, 5, 7, and 8 are reverse scored. Total scores range from 0 to 40. In this study, the 10-item version of the scale was used. The original internal consistency coefficient was reported as 0.86, and the Cronbach's alpha coefficient calculated for this study was 0.84.

Brief Resilience Scale (BRS)

It was developed by Smith et al. (2008), and its Turkish adaptation, including validity and reliability analyses, was conducted by Doğan (2015) ^{[18][19]}. The BRS was designed to assess individuals' ability to recover from or bounce back after stress. The scale uses a 5-point Likert format, ranging from 1 (strongly disagree) to 5 (strongly agree). It consists of six items, of which items 1, 3, and 5 are positively worded, while items 2, 4, and 6 are negatively worded. The BRS is scored by reverse coding items 2, 4, and 6 and calculating the mean of all six items. After reverse coding, higher scores indicate higher levels of psychological resilience. The internal consistency coefficient of the scale was reported as 0.83, and in the present study, it was calculated as 0.68.

Data Analysis

Statistical analyses were performed using the SPSS 24.0 software package. Frequency tables and descriptive statistics were used to interpret the findings. Given the sample size ($n = 295$), parametric tests were applied based on the Central Limit Theorem. Accordingly, independent-samples t tests and one-way analysis of variance (ANOVA) were used to compare scale mean scores across students' descriptive characteristics and to examine differences between groups. Pearson correlation analysis was conducted to assess relationships between the scales, and regression analysis was performed to examine the effects of predictor variables. Statistical significance was evaluated at a p -value of < 0.05 .

The reporting of this study adheres to the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines for observational studies ^{[20][21]}. A completed STROBE checklist is provided as Supplement A.

RESULTS

Table 1
Distribution of Participants' Demographic Characteristics ($n = 295$)

Variable	Groups	n	%
Age	17–20 years	160	54
	21–24 years	124	42
	25 ≤ years	11	3.7
Gender	Female	229	77.6
	Male	66	22.4
Year of Study	1st year	57	19.3
	2nd year	89	30.2
	3rd year	80	27.1
	4th year	69	23.4
Family Income	≤ 10.000 TL	7	2.4
	10.001-20.000 TL	43	14.6
	20.001-30.000 TL	74	25.1
	≥ 30.001 TL	102	34.6
	Prefer not to disclose	69	23.4
Type of Residence	With family	171	58
	Dormitory	118	40
	Other*	6	1.1
Receiving Psychological Support	Yes	5	1.7
	No	285	96.6
	Prefer not to disclose	5	1.7
Total		295	100.0

* Other: living with roommates, living alone.

Among the nursing students participating in the study, 77.6% were female, 27.1% were third-year students, and the majority lived with their families (58.0%), while 40.0% resided in dormitories. In terms of family income, 34.6% reported a monthly

income of 30,000 TL or above, and 96.6% indicated that they were not receiving any form of psychological support (Table 1).

Table 2
Mean Scores and Minimum–Maximum Values of Perceived Stress Scale, Brief Resilience Scale, and Motivation Level

	Mean $\pm$ SD	Observed Min–Max	Possible Min–Max
PSS	23.11 $\pm$ 4.57	10–40	0–40
BRS	18.42 $\pm$ 2.38	6–27	5–30
Motivation Level	19.33 $\pm$ 3.54	5–25	5–25

Min: Minimum; Max: Maximum. PSS: Perceived Stress Scale; BRS: Brief Resilience Scale.

The mean score of the PSS was 23.11 $\pm$ 4.57, the mean BRS score was 18.42 $\pm$ 2.38, and the mean motivation level score was 19.33 $\pm$ 3.54 (Table 2).

In comparisons of mean scores according to sociodemographic characteristics, a statistically significant difference was observed in motivation scores by gender ($t = 3.634$, $p < 0.001$) and in perceived stress scores by psychological support status ($F = 3.056$, $p = 0.049$). No statistically significant differences were found for the remaining variables ($p > 0.05$) (Table 3).

Table 4
Relationships Among Perceived Stress, Psychological Resilience, and Motivation Levels

Variables		PSS	BRS	Motivation
PSS	r	1		
	p			
BRS	r	-0.128	1	
	p	0.028		
Motivation	r	-0.056	0.322	1
	p	0.341	0.001	

r: Pearson correlation coefficient; statistical significance was accepted at $p < 0.05$. PSS: Perceived Stress Scale; BRS: Brief Resilience Scale.

A statistically significant negative correlation was found between perceived stress and psychological resilience ($p < 0.05$). No significant relationship was identified between perceived stress and motivation levels ($p > 0.05$). A moderate, positive, and statistically significant correlation was observed between psychological resilience and motivation ($p < 0.001$) (Table 4).

Table 5
Results of Regression Analysis Examining the Relationships Among Perceived Stress, Resilience, and Motivation Levels in Nursing Students

Model	Variables	B	SE	Beta	t	*p	Tolerance	VIF
1	Constant	27.65	2.07		13.36	0.001		
	BRS	– .246	.11	– .128	-2.21	0.028	1.000	1.000
	Model Summary	R= .128 R ² = 0.016 Adjusted R ² = 0.013 Durbin-Watson = 2.076 F = 4.88 p = 0.028						
2	Constant	27.87	2.23		12.48	0.001		
	BRS	– .236	.18	– .123	-2.00	0.046	.896	1.116
	Motivation Level	– .021	.07	– .016	– .262	0.794	.896	1.116
	Model Summary	R=.129 R ² = 0.017 Adjusted R ² = 0.010 Durbin-Watson = 2.075 F = 2.47 p = 0.086 ^b						
<i>β: standardized regression coefficient; SE: standard error; R²: coefficient of determination; p < 0.05 was considered statistically significant</i>								

In this study, the roles of psychological resilience and motivation level in predicting perceived stress among nursing students were examined using a two-step regression model. In Model 1, psychological resilience was found to be a significant predictor of perceived stress ($\beta = -0.128$, $t = -2.21$, $p = 0.028$), with the model explaining 1.6% of the variance in perceived stress. In Model 2, psychological resilience remained a significant predictor of perceived stress ($\beta = -0.123$, $t = -2.00$, $p = 0.046$); however, when motivation was included in the regression model, motivation did not have a significant effect on perceived stress ($\beta = -0.016$, $t = -0.262$, $p = 0.794$). The explanatory power of Model 2 was 1.7%. Durbin–Watson values (≈ 2.075) and VIF/tolerance values indicated no multicollinearity problems (Table 5).

DISCUSSION

Stress was identified as an important factor influencing psychological resilience and academic motivation among nursing students ^[12]. Prolonged exposure to stress may lead to psychological distress, emotional exhaustion, and a decline in psychological resilience in nursing students. However, resilience was shown to mitigate the negative effects of stress. Psychological resilience plays a critical role in nursing students' academic success and in the sustainability of academic nursing programs ^[22]. Recent studies further emphasize that psychological resilience is associated with improved coping capacity and reduced burnout among nursing students, particularly in academically demanding environments. The impact of perceived stress on students' health depends largely on their coping abilities, and resilience constitutes one of the key strategies for coping with stress ^[23]. The present study was thus conducted to examine the relationship between perceived stress, psychological resilience, and achievement motivation among nursing students.

In this study, the participating nursing students' perceived stress levels were found to be moderate. Similarly, Alharbi (2025) reported moderate stress levels among nursing students. Although the female students in the present study exhibited slightly higher stress scores than the male students, this difference was not statistically significant; in contrast, Alharbi's study reported significantly higher stress levels among female students ^[24]. The literature presents mixed findings on this issue. For instance, a study conducted among Chinese college students reported no significant gender-based differences in stress levels ^[25], whereas research conducted in the United States reported higher stress levels among female students ^[26]. Such inconsistencies in gender-related findings may be influenced by sociocultural factors, gender role expectations, and

differences in coping styles across populations^{[27][28]}. In addition, the increasing academic and psychosocial demands of higher education may heighten university students' sensitivity to stressors originating from multiple sources^[29].

Correlation analysis indicated that as the participating students' psychological resilience levels increased, their perceived stress levels decreased. Consistent with this finding, studies conducted by Seyedfatami (2015) among nursing students identified a statistically significant relationship between perceived stress and resilience^[23]. Similarly, a cross-sectional and correlational study conducted by Asghar et al. (2025) with 150 nursing students at Lahore University reported a strong and significant negative relationship between stress and resilience, thereby supporting the present findings^[30]. These findings suggest that resilience functions as a protective psychological resource that buffers the negative impact of stress in nursing education contexts, and represents a developable competency rather than a fixed personal trait^{[18][23]}. In the current study, no statistically significant relationship was found between perceived stress and motivation. The literature presents mixed results regarding the relationship between stress and motivation. While some studies have reported that stress reduces motivation, others have found no significant association. Berdida (2023) reported that academic stress negatively affected both resilience and motivation among nursing students, suggesting that the relationship between stress and motivation is complex and multifaceted^[12].

In contrast, the present study found a significant positive relationship between psychological resilience and achievement motivation. This finding suggests that students with higher levels of resilience may also demonstrate higher levels of achievement motivation. Berdida (2023b) similarly reported that when resilience and academic motivation were considered together, they played an effective role in mitigating the negative effects of academic stress. This association may be explained by the role of resilience in sustaining goal-directed behavior and academic engagement despite stressors^[31]. As emphasized by Asghar et al. (2025), resilience serves a critical protective role in reducing burnout and academic stress among nursing students, which highlights the importance of resilience-building strategies in nursing education^[30]. When compared with the existing literature, the findings of this study support the view that psychological resilience is a key determinant in reducing stress. Taken together, these results indicate that resilience plays a crucial role in enabling students to cope with stressful situations and in protecting them against the adverse effects of stress on mental health and psychological well-being.

Regression analysis further demonstrated that psychological resilience was a significant predictor of perceived stress among the participating nursing students. Those students with higher resilience levels were found to perceive lower levels of stress, supporting the notion that psychological resilience functions as a protective factor in stress management. A large-scale study by Alatawi (2022) similarly emphasized the importance of resilience in coping with stressors encountered by nursing students in both academic and practical settings^[22]. Psychological resilience has been widely examined in the literature as an important psychological variable among nursing students, with its associations with various individual characteristics well documented^[32]. The present findings reinforce the view that resilience remains a central explanatory factor in stress-related outcomes among nursing students^{[22][30]}.

Although motivation was included in the extended regression model, it did not demonstrate a significant effect on stress levels. Nevertheless, even with the inclusion of motivation, psychological resilience continued to exert a significant effect on perceived stress, indicating that resilience remained the primary explanatory factor. In addition, no issues related to autocorrelation or multicollinearity were identified in the models, which suggests that the regression results were statistically reliable. Overall, the findings indicate that psychological resilience was the most prominent predictor of perceived stress among the participating nursing students, whereas motivation did not significantly influence stress levels.

Limitations of the Study

This study has several limitations that should be acknowledged. First, the sample was drawn from nursing students at a single university, which may limit the generalisability of the findings to other educational or cultural contexts. Second, the

use of self-reported measurement tools may have introduced response bias, including social desirability effects. Third, the cross-sectional design precludes causal inferences regarding the relationships among perceived stress, psychological resilience, and achievement motivation. Future studies should therefore employ longitudinal or experimental designs to clarify causal pathways and explore changes in stress, resilience, and motivation over time. Additionally, incorporating multi-centre samples and mixed-methods approaches may provide a more comprehensive understanding of the psychosocial dynamics affecting nursing students.

Implications for Nursing Education

The findings of this study underscore the central role of psychological resilience as a protective factor in reducing perceived stress among nursing students. Given the demanding academic and clinical nature of nursing education, integrating structured resilience-building and stress management interventions into undergraduate curricula may be particularly beneficial. Such interventions may include mindfulness-based programs, cognitive-behavioural coping skills training, peer support initiatives, and access to professional psychological services. Furthermore, acknowledging individual differences—such as gender and access to psychological support—may enable nursing educators to develop more targeted and inclusive support strategies. Strengthening institutional support mechanisms may not only enhance students' psychological well-being but also contribute to sustained academic motivation, professional competence, and long-term retention in the nursing workforce. Faculty development initiatives aimed at increasing educators' awareness of student stress and resilience may further strengthen supportive educational climates.

CONCLUSION

This study demonstrated that nursing students experienced moderate levels of perceived stress and psychological resilience, alongside moderate-to-high levels of achievement motivation. A significant negative association was identified between perceived stress and psychological resilience, while a significant positive association was observed between psychological resilience and achievement motivation. In contrast, achievement motivation was not directly associated with perceived stress. Regression analyses further indicated that psychological resilience was a significant predictor of perceived stress, whereas motivation did not exert a direct predictive effect. These findings suggest that psychological resilience represents a key explanatory and protective variable in understanding stress among nursing students. Future research should examine stress-related psychosocial variables within more comprehensive theoretical models. From an educational perspective, embedding resilience-enhancing practices within nursing curricula and clinical education frameworks may play a critical role in promoting student well-being, academic success, and professional sustainability.

Glossary

Perceived Stress Scale: PSS

Brief Resilience Scale: BRS

Declarations

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Ethical Approval and Informed Consent Statements:

Ethical approval for the study was obtained from the Kahramanmaraş Sütçü İmam University Social and Human Sciences Ethics Committee (approval no. 2025/16-9). Institutional permission was obtained from the Department of Nursing, Faculty of Health Sciences, Kahramanmaraş Sütçü İmam University, and written informed consent was obtained from all participating students. The nursing students were informed about the purpose of the study, the confidentiality of their information, and their right to withdraw from the study at any time without consequences. In addition, the study was conducted in accordance with the principles of the Declaration of Helsinki, and written consent was obtained from the students using an Informed Consent Form.

Data Availability Statement;

The data supporting the findings of this study are available within the article.

Declaration of Interest:

The author declares no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Author Contributions (CRediT)

Tuba Geçdi: Conceptualization, Design, Supervision, Data Collection, Data Analysis and Interpretation, Literature Review, Writing – Original Draft, Writing – Review & Editing.

Clinical Resources

Abdullah, T., Ali, J., & Alam, A. (2024). Academic stress and its impact on students' emotional wellbeing and academic performance at universities. *J Educ Psychol Pedagog Sci*, 4(1), 13–30.

https://www.researchgate.net/publication/387668242_Academic_Stress_and_Its_Impact_on_Students'_Emotional_Well-being_and_Performance_at_Universities

Alharbi, H.F., Abaoud, A.F., Almutairi, M., Alzahrani, N.S., Almarwani, A.M., Alenezi, A., & Alhowaymel, F.M. (2025). Gender differences in acute and perceived stress, bullying, and academic motivation among nursing and midwifery students. *BMC Nurs*, 24, 26. <https://doi.org/10.1186/s12912-024-02666-6>

Alatawi, A., Morsy, N., & Sharif, L. (2022). Relation between Resilience and Stress as Perceived by Nursing Students: A Scoping Review. *Evidence-Based Nursing Research*, 4(1), 42–60. Retrieved from <https://www.ajol.info/index.php/ebnr/article/view/219525>.

International Council of Nurses (ICN). (2021). *Nursing education and the emerging nursing workforce in COVID-19 pandemic*. Accessed December 31, 2022, from: https://www.icn.ch/sites/default/files/inlinefiles/ICN%20Policy%20Brief_Nursing%20Education.pdf

Mcdermott, R. C., Fruh, S. M., Williams, S., Hauff, C., Graves, R. J., Melnyk, B. M., & Hall, H. R. (2020). Nursing students' resilience, depression, well-being, and academic distress: Testing a moderated mediation model. *Journal of advanced nursing*, 76(12), 3385–3397. <https://doi.org/10.1111/jan.14531>

References

1. International Council of Nurses (ICN). Nursing education and the emerging nursing workforce in COVID-19 pandemic. Accessed December 31, 2022, from: https://www.icn.ch/sites/default/files/inline-files/ICN%20Policy%20Brief_Nursing%20Education.pdf

2. Pulido-Martos M, Augusto-Landa JM, Lopez-Zafra E. Sources of stress in nursing students: a systematic review of quantitative studies. *Int Nurs Rev*. 2012;59(1):15–25. <https://doi.org/10.1111/j.1466-7657.2011.00939.x>.
3. Mcdermott RC, Fruh SM, Williams S, Hauff C, Graves RJ, Melnyk BM, Hall HR. Nursing students' resilience, depression, well-being, and academic distress: Testing a moderated mediation model. *J Adv Nurs*. 2020;76(12):3385–97. <https://doi.org/10.1111/jan.14531>.
4. Alluhidan M, Tashkandi N, Alblowi F, Omer T, Alghaith T, Alghodaier H, Alazemi N, Tulenko K, Herbst CH, Hamza MM, Alghamdi MG. Challenges and policy opportunities in nursing in Saudi Arabia. *Hum Resour health*. 2020;18(1):98. <https://doi.org/10.1186/s12960-020-00535-2>.
5. Altıok HÖ, Üstün B. The stress sources of nursing students. *Educational Sciences: Theory Pract*. 2013;13(2):747–66. https://www.researchgate.net/publication/286164433_The_Stress_Sources_of_Nursing_Students.
6. Edwards D, Burnard P, Bennett K, Hebden U. A longitudinal study of stress and self-esteem in student nurses. *Nurse Educ Today*. 2010;30(1):78–84. <https://doi.org/10.1016/j.nedt.2009.06.008>.
7. Maville JA, Kranz PL, Tucker BA. Perceived stress reported by nurse practitioner students. *J Am Acad Nurse Pract*. 2004;16(6):257–62. <https://doi.org/10.1111/j.1745-7599.2004.tb00448.x>.
8. Karaca A, Yıldırım N, Ankaralı H, Açıkgöz F, Akkuş D. Nursing Students' Perceived Levels of Clinical Stress, Stress Responses and Coping Behaviors. *J Psychiatric Nurs*. 2017;8(1):32–9. <https://doi.org/10.14744/phd.2017.22590>.
9. Lee MH, Holzemer WL, Faucett J. Psychometric evaluation of the Nursing Stress Scale (NSS) among Chinese nurses in Taiwan. *J Nurs Meas*. 2007;15(2):133–44. <https://doi.org/10.1891/106137407782156381>.
10. Abdullah T, Ali J, Alam A. Academic stress and its impact on students' emotional wellbeing and academic performance at universities. *J Educ Psychol Pedagog Sci*. 2024;4(1):13–30. https://www.researchgate.net/publication/387668242_Academic_Stress_and_Its_Impact_on_Students'_Emotional_Well-being_and_Performance_at_Universities.
11. Wu G, Feder A, Cohen H, Kim JJ, Calderon S, Charney DS, Mathé AA. Understanding resilience. *Front Behav Neurosci*. 2013;7:10. <https://doi.org/10.3389/fnbeh.2013.00010>.
12. Berdida DJE. Resilience and academic motivation's mediation effects in nursing students' academic stress and self-directed learning: A multicenter cross-sectional study. *Nurse Educ Pract*. 2023;69:103639. <https://doi.org/10.1016/j.nepr.2023.103639>.
13. Cheng C, Cheung MW-L, Wang H. Multinational comparison of internet gaming disorder and psychosocial problems versus well-being: Meta-analysis of 20 countries. *Comput Hum Behav*. 2018;88:153–67. <https://doi.org/10.1016/j.chb.2018.06.033>.
14. Souza GC, Meireles E, Mira VL, Leite MMJ. Academic motivation scale - reliability and validity evidence among undergraduate nursing students. *Rev Latinoam Enferm*. 2021;29:e3420. <https://doi.org/10.1590/1518-8345.3848.3420>.
15. Li J, Yang Z, Qi R, Tan M, Ji X, Hou B, Zou Y, Zhang H. Psychometric evaluation of the Chinese version of motivation for nursing student scale (MNSS): A quantitative and cross-sectional design. *Nurse Educ Pract*. 2023;71:103690. <https://doi.org/10.1016/j.nepr.2023.103690>.
16. Cohen S, Kamarack T, Mermeistein R. (1983). A global measure of perceived stress. *J Health Soc Behav*, 1983; 24(4), 385–396. <https://doi.org/10.2307/2136404>
17. Yerlikaya EE, Inanc B. (2007, October). Psychometric properties of the Turkish translation of the perceived stress scale. In IX National Psychological Counseling and Guidance Congress Abstract Book. <file:///C:/Users/user/Downloads/AlglananStresleininTrkeevirisininPsikometrikzellikleri.pdf>
18. Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J. The brief resilience scale: assessing the ability to bounce back. *Int J Behav Med*. 2008;15(3):194–200. <https://doi.org/10.1080/10705500802222972>.
19. Doğan T. Adaptation of the Brief Resilience Scale into Turkish: A validity and reliability study. *J Happiness Well-Being*. 2015;3(1):93–102. <https://jhwbjournal.com/uploads/files/c6d5317a51c32cbf3b82c77b73eea1fd.pdf>.

20. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP et al. Oct;. The strengthening the reporting of observational studies in epidemiology (STROBE) statement: Guidelines for reporting observational studies. *Annals of Internal Medicine* [Internet]. 2007; 147(8):573–7. Available from: <https://www.acpjournals.org/doi/10.7326/0003-4819-147-8-200710160-00010>
21. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP et al. The STROBE reporting checklist. In: Harwood J, Albury C, Beyer J de, Schlüssel M, Collins G, editors. *The EQUATOR network reporting guideline platform* [Internet]. The UK EQUATOR Centre; 2025; Available from: <https://resources.equator-network.org/reporting-guidelines/strobe/strobe-checklist.docx>
22. Alatawi A, Morsy N, Sharif L. (2022). Relation between Resilience and Stress as Perceived by Nursing Students: A Scoping Review. *Evidence-Based Nursing Research*, 4(1), 42–60. Retrieved from <https://www.ajol.info/index.php/ebnr/article/view/219525>
23. Seyedfatemi N, Pourafzal F, Inanloo M, Haghani H. Perceived stress and resilience in nursing students. *Eur Psychiatry*. 2015;30(S1):1–1. [https://doi.org/10.1016/S0924-9338\(15\)30787-2](https://doi.org/10.1016/S0924-9338(15)30787-2).
24. Alharbi HF, Abaoud AF, Almutairi M, Alzahrani NS, Almarwani AM, Alenezi A, Alhowaymel FM. Gender differences in acute and perceived stress, bullying, and academic motivation among nursing and midwifery students. *BMC Nurs*. 2025;24:26. <https://doi.org/10.1186/s12912-024-02666-6>.
25. Gao W, Ping S, Liu X. Gender differences in depression, anxiety, and stress among college students: A longitudinal study from China. *J Affect Disord*. 2020;263:292–300. <https://doi.org/10.1016/j.jad.2019.11.121>.
26. Younas A. Levels of stress and coping strategies used by nursing students in Asian countries: an integrated literature review. *JMENAS*. 2016;2(4):50–7. <https://doi.org/10.12816/0032673>.
27. Nuñez-Fadda SM, Castro-Castañeda R, Vargas-Jiménez E, Musitu-Ochoa G, Callejas-Jerónimo JE. Impact of Bullying-Victimization and Gender over Psychological Distress, Suicidal Ideation, and Family Functioning of Mexican Adolescents. *Child (Basel Switzerland)*. 2022;9(5):747. <https://doi.org/10.3390/children9050747>.
28. Onieva-Zafra MD, Fernández-Muñoz JJ, Fernández-Martínez E, García-Sánchez FJ, Abreu-Sánchez A, Parra-Fernández ML. Anxiety, perceived stress and coping strategies in nursing students: a cross-sectional, correlational, descriptive study. *BMC Med Educ*. 2020;20(1):370. <https://doi.org/10.1186/s12909-020-02294-z>.
29. Hutchison ED. *Dimensions of human behavior: The changing life course*. 6th ed. SAGE; 2018.
30. Asghar S, Aslam S, Qadri HMA, Mukhtar M. Explore the relationship between burnout with resilience and academic stress among nursing students. *JHWCR*. 2025;3(14):e832. https://www.researchgate.net/publication/396508932_Explore_the_Relationship_Between_Burnout_with_Resilience_and_Academic_Stress_Among_Nursing_Students.
31. Berdida DJE, Lopez V, Grande RAN. Nursing students' perceived stress, social support, self-efficacy, resilience, mindfulness and psychological well-being: A structural equation model. *Int J Ment Health Nurs*. 2023;32(5):1390–404. <https://doi.org/10.1111/inm.13179>.
32. Güngörmüş K, Okanlı A, Kocabeyoğlu T. Factors influencing resilience in nursing students. *J Psychiatric Nurs*. 2015;6(1):9–14. <https://dx.doi.org/10.5505/phd.2015.80299>.

Table 3

Table 3 is available in the Supplementary Files section.

Supplementary Files

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