SHORT COMMUNICATION

Volume 18 Suppl.1 2026

DOI: 10.21315/eimj2026.18.S1.7

ARTICLE INFO

Submitted: 24-06-2025
Accepted: 18-04-2026
Online: 28-08-2026

Evaluating the Resilience Level and Its Association to Psychological Parameters Among Nursing Students in Universiti Sains Malaysia

Logeswary K Vesupathy[1], Jamilah Al-Muhammady Mohammad[1], Norhasmah Md Zain[2], Anisa Ahmad[1]

[1]*Department of Medical Education, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, MALAYSIA*

[2]*School of Nursing Sciences, Faculty of Medicine, Universiti Sultan Zainal Abidin, Gong Badak Campus, Terengganu, MALAYSIA*

To cite this article: Vesupathy LK, Mohammad JAM, Md Zain N, Ahmad A. Evaluating the resilience level and its association to psychological parameters among nursing students in Universiti Sains Malaysia. Education in Medicine Journal. 2026;18(Suppl. 1):81–93. https://doi.org/10.21315/eimj2026.18.S1.7

To link to this article: https://doi.org/10.21315/eimj2026.18.S1.7

ABSTRACT

This study evaluated the resilience level among nursing students at Universiti Sains Malaysia (USM) and its association with psychological parameters. A total of 240 students from Year 1 to Year 4 were recruited through purposive sampling, and 186 responded (77.5% response rate). Data were collected via a Google Forms questionnaire distributed through WhatsApp, including demographic information, the Connor-Davidson Resiliency Scale (CD-RISC 25), and the General Health Questionnaire (GHQ-28). Resilience levels were categorised as significant or non-significant based on CD-RISC 25 scores. The highest domain mean was for managing negative emotions or stress (mean = 3.621, SD = 0.68). Statistical analyses showed that gender and educational level were significantly associated with resilience ($p < 0.001$). Age and years of study were also linked to resilience levels. Multiple linear regression revealed significant associations between resilience and psychological parameters, specifically somatic symptoms, anxiety, and insomnia. The findings suggest that USM nursing students demonstrated resilience, which was associated with various psychological factors. Therefore, interventions to enhance resilience are essential to support students in managing academic and clinical psychological stress.

Keywords: *Resilience, Nursing students, Stress, Psychological parameters, Insomnia*

CORRESPONDING AUTHOR

Anisa Ahmad, Department of medical education, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia

Email: anisa@usm.my

INTRODUCTION

Nurses today are increasingly facing a high volume of patients with diverse and complex conditions, requiring demanding treatment approaches. Yılmaz (1) reported that the pressure resulting from these challenges can lead to work-related issues such as stress, traumatic experiences, and burnout. The author emphasised that resilience is essential for nurses to endure these challenges and maintain a stable psychological work life. Similarly, Salem et al. (2) found that stress among nurses is associated with physical and mental illnesses, low job satisfaction, poor performance, burnout, marital conflict, and staff turnover, all of which

negatively impact the quality of patient care and reduce patient satisfaction. Resilience was identified as a key factor in addressing these issues. In addition, the World Health Organisation projected a global shortage of skilled health professionals, increasing from 7.2 million in 2014 to 12.9 million by 2035, which could worsen stress and burnout among nurses due to staffing shortages (3). Stress and burnout are not limited to practising nurses but also affect nursing students in academic institutions. Hussien (4) described resilience as the ability to face and manage hardships, a necessary trait for overcoming challenges. Therefore, developing resilience is critical for both nurses and nursing students to maintain psychological stability and manage workplace stress (2).

Nurses play a vital role in the healthcare system, yet globally, there is a significant shortage of nursing staff. Studies have shown that this shortage can lead to high stress levels due to inadequate conflict management skills and difficulties coping with psychological conditions such as stress and depression (5). Nursing students transitioning from academic learning to clinical placements also face high stress, impacting their mental health (6). Resilience is an essential quality that helps both nurses and nursing students navigate the challenges in educational and clinical environments (7). Moreover, building resilience in undergraduate and graduate nursing students helps them recover from burnout and psychological distress, ultimately improving their quality of life (6).

Nursing is a respected profession, and nurses hold crucial responsibilities in healthcare systems. However, workplace stressors such as long working hours, staffing shortages, workplace violence, peer conflicts, and insufficient emotional or financial support contribute to burnout (8). Self-compassion, which includes resilience, kindness, shared humanity, and mindfulness, plays a key role in addressing stress and burnout. In Malaysia, one in four nurses is affected by burnout, especially younger nurses working shifts (9). Evidence suggests that enhancing resilience among nurses can reduce burnout, increase job satisfaction, and lower turnover rates (10). Resilience also helps nurses manage and reduce psychological stress in the workplace (11). Stress levels vary by work setting, with emergency departments identified as highly stressful environments. Nurses with strong resilience can overcome challenges across different work environments, and resilience serves as a universal trait that helps reduce errors and workload burdens (12). During the COVID-19 pandemic, a study at an Iranian hospital found nurses had a moderate level of resilience, with particularly low scores in the domain of 'trust in individual instincts' (13). In contrast, a study conducted in a psychiatric mental health hospital in Egypt showed a high overall resilience level among nurses, moderate professional quality of life, and moderate burnout (14). Therefore, this study was aimed to evaluate the resilience level among nursing students in Universiti Sains Malaysia (USM) and its association with psychological parameters and demographic factors.

METHODOLOGY

Research Design

This study used a cross-sectional quantitative research design.

Study Area

The research was conducted at the School of Health Sciences, USM.

Study Population

The target population included USM nursing students enrolled in diploma and degree programmes, specifically from Year 1 to Year 3 for diploma students and Year 1 to Year 4 for degree students.

Subject Criteria

Inclusion criteria included diploma students (Year 1 to Year 3) and degree students (Year 1 to Year 4) at USM. Exclusion criteria were postgraduate nursing students and those with a history of psychological illness.

Sample Size Estimation

The sample size for this study was estimated based on hypotheses related to resilience among USM nursing students using parameters from previous studies. Based on the study by Alkaissi et al. (5), the hypothesis that USM nursing students have a high resilience level was calculated using the single mean formula with a mean of 134.1, standard deviation (SD) of 12.8, and precision of 1.473, resulting in an estimated sample size of 290 (4). For the hypothesis examining the association between resilience and demographic factors (gender, years of study, and age), the comparison of two means formula was used, which produced estimated sample sizes ranging from 289 to 290. Additionally, the association between resilience level and psychological factors among USM nursing students was determined using the G*Power calculator as recommended by Franz et al. (15), based on parameters from Hussien (4). However, since the total population of diploma and degree nursing students at USM is only 240, purposive sampling was used to include most or all eligible students.

Sampling Method

Due to the small total population (240 students), purposive sampling was adopted to include as many eligible diploma and degree students as possible.

Research Tools

The questionnaire included three sections: Section A (demographics: age, gender, education level, and study year), Section B (Connor-Davidson Resilience Scale, CD-RISC 25), and Section C (General Health Questionnaire, GHQ-28). The CD-RISC 25, a validated resilience measure (16), includes 25 items rated on a 5-point Likert scale and covers five domains: self-competency, emotion management, positive adaptation to change, perceived control, and spirituality (17). It has a high internal consistency (Cronbach's $\alpha = 0.956$) (18). The GHQ-28 assesses psychological wellbeing, covering four subscales: somatic symptoms, anxiety and insomnia, social dysfunction, and depression (19, 20). Items are rated on a 4-point Likert scale, with total scores ranging from 0 to 84, and reliability reported at Cronbach's $\alpha = 0.766$ (19).

Data Collection Method

Data were collected after obtaining ethical approval. Participants were recruited via WhatsApp groups and briefed by semester leaders. They received the consent form and questionnaire (Google Forms) through the same platform. To ensure individual responses, reminders were sent, and confidentiality was maintained throughout. Completion time was approximately 15 minutes.

Data Analysis

Data were analysed using SPSS Version 28. Descriptive statistics (mean, frequency, SD) were calculated. Independent *t*-tests and Analysis of Variance (ANOVA) test were used to analyse demographic variables. Pearson correlation and multiple linear regression were used to assess associations between resilience and psychological factors.

Vulnerability of subject of participant

Participants were fully informed of potential risks and given sufficient information to provide informed consent. Only those who could understand the implications were selected.

Declaration of conflict of interest

The researcher declares no conflict of interest or financial gain in this study.

Handling privacy and confidentiality issue

All responses were anonymised and stored securely in SPSS, accessible only to the research team. Data were reported in aggregate to maintain confidentiality.

Community sensitivities and benefits

The study supports existing literature that resilience is essential for nursing students' academic and clinical success. Findings may benefit educational institutions by reinforcing the need to foster resilience in nursing education.

RESULTS

Demographic Data

Out of 240 USM nursing students, 186 students (77.5%) from Year 1 to Year 4 participated in the study, while 54 students (22.5%) did not respond despite multiple reminders. Most participants were female (85.5%) and from the degree programme (68.3%). Most respondents were aged between 21 and 24 years (75.3%), and Year 2 students had the highest response rate (29.0%) compared to other year groups.

Resilience Level Among USM Nursing Students Using CD-RISC 25

Table 1 shows that the highest mean score among the five domains was in managing negative emotions or stress (mean = 3.621, SD = 0.68). The overall mean score of the CD-RISC 25 was 3.50 (SD = 0.63), suggesting that resilience levels among USM nursing students were generally moderate.

Table 1: Mean and SD of CD-RISC 25 items by domains

Domains	Mean	SD
Total score	3.50	0.63
Self-competency	3.51	0.69
Management of negative emotions or stress	3.62	0.68
Positive reaction upon to change	3.37	0.85
Reflection of perceived control	3.34	0.73
Self-spiritual	3.65	0.77

Psychological Level Among USM Nursing Students Using GHQ-28

The highest mean score was in the somatic symptoms' domain (mean = 1.99, SD = 0.52), and the overall mean score of the GHQ-28 was 1.88 (SD = 0.43), reflecting a moderate level of psychological distress among students as the range of mean scores is from the highest to 1.99 to the lowest score 1.64. Similarly, GUQ-28 questionnaire was used in a cross-sectional study done in Turkey and Cyprus among undergraduate nursing students, where the findings indicates that mental health of the nursing students are influenced by stress and anxiety (20, 21). Table 2 shows that male students had slightly higher resilience scores across all five domains compared to female students, particularly in managing negative emotions or stress (mean = 3.69, SD = 0.57 vs mean = 3.61, SD = 0.69). However, the difference was not statistically significant ($p = 0.12$).

Table 2: Gender and resilience level comparison among USM nursing students

Domains	Gender	N	Mean	Mean difference (95%CI)	*t*-stat (df)	*p*-value
Self-competency	Male	27	3.52	0.01 (0.29, 0.22)	0.09 (184)	0.13
	Female	159	3.51			
Management of negative emotions or stress	Male	27	3.69	0.84 (0.36, 0.33)	0.60 (184)	0.12
	Female	159	3.61			
Positive reaction upon to change	Male	27	3.50	0.16 (0.51, 0.43)	0.90 (184)	0.17
	Female	159	3.35			
Reflection of perceived control	Male	27	3.42	0.93 (0.39, 0.34)	0.61 (184)	0.32
	Female	159	3.33			
Self-spiritual	Male	27	3.69	0.38 (0.35, 0.28)	0.24 (184)	0.10
	Female	159	3.65			

Notes: Independent-*t*-test = parametric assumptions were met at 95% confidence interval (CI), *p*-value is significant at the level of 0.

Association Between Resilience and Level of Education

Table 3 indicates that only the self-spirituality domain showed a significant difference between diploma and degree students (p = 0.01), while the other four domains had no significant association (p > 0.05).

Table 3: Comparison between educational level and resilience level among USM nursing students

Domains	Education level	N	Mean	Mean difference (95%CI)	*t*-stat (df)	*p*-value
Self-competency	Diploma	59	3.50	−0.01 (0.20, 0.22)	−0.71 (184)	0.15
	Degree	127	3.51			
Management of negative emotions or stress	Diploma	59	3.65	0.44 (0.25, 0.27)	0.41 (184)	0.07
	Degree	127	3.61			
Positive reaction upon to change	Diploma	59	3.39	0.26 (0.29, 0.27)	0.19 (184)	0.98
	Degree	127	3.36			
Reflection of perceived control	Diploma	59	3.46	0.17 (0.40, 0.40)	1.50 (184)	0.19
	Degree	127	3.29			
Self-spiritual	Diploma	59	3.74	0.12 (0.36, 0.38)	1.03 (184)	0.01
	Degree	127	3.61			

Notes: Independent-*t*-test = parametric assumptions were met at 95% confidence interval (CI), *p*-value is significant at the level of 0.

Association Between Resilience and Years of Study

As shown in Table 4, Year 3 students had the highest mean scores in most resilience domains. Only the domain 'positive reaction to change' showed a statistically significant association with years of study (p = 0.01). Other domains, including self-competency, management of negative emotions, reflection of perceived control, and self-spirituality, showed no significant differences (p > 0.05), although the self-spirituality domain approached significance (p = 0.051).

Table 4: Comparison between years of study and resilience level among USM nursing students

Domains	Years of study	N	Mean	F (df)	*p*-value
Self-competency	First year	52	3.48	2.85 (3.18, 185)	0.13
	Second year	54	3.34		
	Third year	52	3.69		
	Fourth year	28	3.63		
Management of negative emotions or stress	First year	52	3.54	0.61 (3.18, 185)	0.12
	Second year	54	3.54		
	Third year	52	3.75		
	Fourth year	28	3.70		

(*Continued on next page*)

Table 4. (*continued*)

Domains	Years of study	N	Mean	F (df)	*p*-value
Positive reaction upon to change	First year	52	3.21	1.39 (3.18, 185)	0.01
	Second year	54	3.37		
	Third year	52	3.59		
	Fourth year	28	3.26		
Reflection of perceived control	First year	52	3.26	2.04 (3.18, 185)	0.95
	Second year	54	3.36		
	Third year	52	3.57		
	Fourth year	28	3.01		
Self-spiritual	First year	52	3.60	1.20 (3.18, 185)	0.05
	Second year	54	3.66		
	Third year	52	3.80		
	Fourth year	28	3.50		

Correlation Between Demographics and Resilience Domains

Table 5 indicates that age, gender, and educational level did not show significant correlations with resilience. However, years of study had a significant correlation with self-competency ($p = 0.04$), while the other domains did not show significant relationships.

Table 5: Correlation between age, gender, educational level, years of study, and CD-RISC 25 scale

Psychological domain	Self-competency (*p*-value)	Management of negative emotions/ stress (*p*-value)	Positive reaction upon to change (*p*-value)	Reflection of perceived control (*p*-value)	Self-spiritual (*p*-value)
Age	0.08 (0.31)	0.04 (0.59)	0.03 (0.73)	−0.05 (0.50)	−0.07 (0.38)
Gender	−0.01 (0.93)	−0.04 (0.55)	−0.07 (0.37)	−0.05 (0.54)	−0.02 (0.81)
Educational level	0.01 (0.94)	−0.03 (0.68)	−0.01 (0.84)	−0.11 (0.14)	−0.075 (0.31)
Years of study	0.15 (0.04**)	0.12 (0.10)	0.09 (0.24)	−0.02 (0.82)	0.01 (0.93)

Note: **Pearson correlation is significant at the level of 0.05 (2-tailed)

Association Between Domains of Resilience and Psychological Parameters

According to Table 6, the depression domain was significantly associated with self-competency ($p = 0.02$) similar to the hypothesis where the resilience level is significantly associated with the psychological parameters. The statistical test that is used to identify the association between the two domains is multiple linear regression. Table 6 shows that anxiety and insomnia had a positive B value (B = 0.23), suggesting that higher anxiety levels were linked to greater self-competency, while other domains like somatic symptoms, social dysfunction, and depression had negative B values.

Table 6: Association between self-competency and psychological parameters domain

Psychological domain	Unstandardised coefficients		Standardised coefficients	*t*	Sig.
	B	Std. error	Beta		
Age	−0.20	0.13	−0.15	−1.51	0.133
Gender	0.23	0.13	0.17	1.73	0.086
Educational level	−0.31	0.13	−0.21	−2.34	0.021
Years of study	−0.31	0.10	−0.28	−3.10	0.002

Notes: Dependent variable: self-competency, multiple linear regression analysis, B: coefficient of X, *t*: significance of each coefficient, significant value at 0.05

Table 7 reveals significant associations between reflection of perceived control and both anxiety and insomnia ($p < 0.001$) and depression ($p = 0.009$). A positive B value for anxiety and insomnia (B = 0.18) suggests a link between high perceived control and increased anxiety. The other psychological domains had negative B values.

Table 7: Association between reflection of perceived control and psychological parameters domain

Psychological domain	Unstandardised coefficients		Standardised coefficients	*t*	Sig.
	B	Std. error	Beta		
Somatic symptoms	−0.18	0.13	−0.13	−1.35	0.180
Anxiety and insomnia	0.18	0.13	0.13	1.35	0.177
Social dysfunction	−0.54	0.13	−0.34	−4.10	< 0.001
Depression	−0.27	0.10	−0.23	−2.66	0.009

Notes: Dependant variable: reflection of perceived control, multiple linear regression analysis, B: coefficient of X, *t*: significance of each coefficient, significant value at 0.05.

Table 8 shows significant associations with social dysfunction and self-spirituality ($p = 0.11$ and $p < 0.001$, respectively). It shows a positive B value for somatic symptoms (B = 0.18), and negative B values for the remaining domains, suggesting that positive adaptability may reduce overall psychological distress.

Table 8: Association between positive reaction upon to change and psychological parameters domain

Psychological domain	Unstandardised coefficients		Standardised coefficients	*t*	Sig.
	B	Std. error	Beta		
Somatic symptoms	0.18	0.16	0.11	1.11	0.270
Anxiety and insomnia	−0.02	0.16	−0.01	−0.14	0.893
Social dysfunction	−0.41	0.16	−0.23	−2.56	0.011
Depression	−0.45	0.13	−0.33	−3.64	< 0.001

Notes; Dependant variable: positive reaction upon to change, multiple linear regression analysis, B: coefficient of X, *t*: significance of each coefficient, significant value at 0.05.

Table 9 shows significant associations between self-spirituality and both social dysfunction ($p = 0.003$) and depression ($p = 0.019$). It reports a positive B value for anxiety and insomnia (B = 0.13), while the other domains had negative B values, indicating that self-spirituality may reduce psychological symptoms except for anxiety.

Table 9: Association between positive reaction upon to change and psychological parameters domain

Psychological domain	Unstandardised coefficients		Standardised coefficients	*t*	Sig.
	B	Std. error	Beta		
Somatic symptoms	−0.16	0.14	−0.11	−1.12	0.266
Anxiety and insomnia	0.13	0.15	0.09	0.90	0.372
Social dysfunction	−0.44	0.15	−0.27	−3.04	0.003
Depression	−0.27	0.11	−0.21	−2.37	0.019

Notes: Dependant variable: self-spirituality, B: multiple linear regression analysis, coefficient of X, *t*: significance of each coefficient, significant value at 0.05.

DISCUSSION

Based on the overall findings of this study, the majority of participants were female nursing students in their second year of the degree programme, predominantly aged 21. Among the five domains measuring resilience, the highest score was observed in the domain of managing negative emotions or stress. In terms of psychological well-being, assessed using the GHQ-28, the most reported symptom was somatic in nature. The analysis found only one significant association between resilience domains and demographic variables, specifically between the first domain of resilience and years of study. Additionally, a few resilience domains were significantly associated with certain psychological parameters. A similar study conducted at Suez Canal Hospital found a statistically significant inverse association between resilience and psychological distress among nurses (4).

The CD-RISC 25 is a validated instrument for measuring resilience, consisting of five domains: self-competency, management of negative emotions or stress, positive reaction to change, reflection of perceived control, and self-spirituality (17, 22). In this study, male nursing students had higher resilience scores than female students, particularly in managing emotions and self-spirituality. This is supported by findings from An-Najah National University (23), although other studies, such as one in Northeast Thailand, reported higher resilience in females (6). It has been suggested that men typically engage in more problem-focused coping and immediate action, whereas women may ruminate in stressful situations, contributing to lower resilience scores among females (24).

Regarding educational level, nursing students in the degree programme demonstrated higher resilience compared to those in the diploma programme. This finding aligns with Nourollahi-Darabad et al. (25), who found that nurses with higher education levels exhibited three times more resilience than those with only general nursing certification. Increased education enhances academic and clinical experiences, which supports the development of resilience (25). Similarly, years of study showed a significant association with the self-spirituality domain of resilience. A study in Singapore also found that nurses with more years

of education had greater resilience, as advanced knowledge fosters professional growth (26). However, no significant association was found between age and resilience in this study, contrasting with findings from a study in Jeddah where older healthcare professionals showed higher resilience, suggesting that age may enhance coping mechanisms over time (27).

Psychological distress among healthcare professionals globally has increased, particularly during the COVID-19 pandemic, as shown in a study from Germany (28). The GHQ-28 is a validated instrument used to detect early signs of psychological distress, encompassing four domains: somatic symptoms, anxiety and insomnia, social dysfunction, and depression (19, 27). In this study, USM nursing students identified somatic symptoms as the most prevalent form of distress. A related study in India using the Scale for Assessment of Somatic Symptoms (SASS) found that stress-induced somatic symptoms such as headaches and body pain were common among psychiatric nurses (30).

The main purpose of this study was to explore the relationship between psychological parameters and resilience levels. The analysis revealed that self-competency was significantly associated with anxiety and insomnia, suggesting that highly self-confident individuals may still experience anxiety. During the COVID-19 pandemic, reduced self-efficacy due to lack of preparedness led to increased anxiety among nurses (31). Similarly, those who effectively managed negative emotions still reported anxiety and insomnia, which mirrors findings from China where nurses showed high anxiety levels despite coping strategies (32). In the domain of positive reaction to change, higher scores were associated with increased somatic symptoms but decreased anxiety, social dysfunction, and depression. This is supported by a study in Cameroon where positive workplace behaviour improved motivation and confidence among nurses (33). For the domain of reflection of perceived control, higher scores correlated with increased anxiety and insomnia. This contradicts findings from a study by Kondo et al. (34), which found that higher perceived control reduced mental health issues. In the final domain, self-spirituality was associated with higher anxiety and insomnia, which opposes findings from Cyprus where spiritual students exhibited high self-esteem without increased anxiety or depression (35). Overall, the findings suggest that resilience is significantly related to psychological parameters, especially somatic symptoms and the management of negative emotions or stress.

Limitation and Recommendation

Several limitations were encountered during this study. The sample only included USM diploma and degree nursing students, limiting generalisability to other student groups such as postgraduate or medical students. Additionally, data collection was delayed due to student examination schedules, and not all eligible students responded, citing academic and clinical commitments.

Based on the results, several recommendations are proposed. Future studies should include a larger and more diverse sample, including master's students, and conduct factor analysis to identify underlying influences on resilience and psychological distress. To support resilience development, collaborative leadership programmes involving nursing and medical educators could be implemented to help students identify psychological factors impacting their resilience. The integration of resilience training into academic and clinical settings is also recommended, with clinical preceptors playing a key role in guiding students to build resilience skills.

CONCLUSION

In conclusion, USM nursing students possess resilience traits, though not at an optimal level. The study identified both positive and negative impacts of resilience on psychological parameters. Resilience was notably higher among degree students, suggesting the need for targeted interventions among diploma students. While gender did not show a significant relationship with resilience, male students generally scored higher. Age and years of study were identified as important demographic variables influencing resilience. Nursing institutions should implement accessible programmes and activities to help all students manage psychological distress and build resilience for future professional success.

ACKNOWLEDGEMENTS

This research was self-funded. Therefore, the authors did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

ETHICAL APPROVAL

Ethical approval was obtained from the Human Research Ethics Committee (JEPEM), USM, (Ethical approval number: USM/ JEPeM/KK/23100809)

REFERENCES

1. Yılmaz EB. Resilience as a strategy for struggling against challenges related to the nursing profession. Chin Nurs Res. 2017;4:9–13. https://doi.org/10.1016/j.cnre.2017.03.004

2. Salem SM, Ahmed MZ, Aldahshan ME. Resilience in nursing: a concept analysis. Menoufia Nurs J. 2022;7(1):73–82. https://doi.org/10.21608/menj.2022.226376

3. Yu F, Raphael D, Mackay L, Smith M, King A. Personal and work-related factors associated with nurse resilience: a systematic review. Int J Nurs Stud. 2019;93:129–40. https://doi.org/10.1016/j.ijnurstu.2019.02.014

4. Hussien RM. Relationship between resilience and psychological distress among hospital staff nurses. J Posit Sch Psychol. 2022;6(9):809–22.

5. Alkaissi A, Said NB, Qadous S, AlMahmoud O, AlKony M. Resilience among undergraduate nursing students: findings of the first cross-sectional study in Palestine. Res Sq. 2021:1–24. https://10.21203/rs.3.rs-1091162/v1

6. Aryuwat P, Asp M, Lovenmark A, Radabutr M, Holmgren J. An integrative review of resilience among nursing students in the context of nursing education. Nurs Open. 2023;10(5):2793–818. https://doi.org/10.1002/nop2.1559

7. Chow KM, Tang FWK, Tang WPY, Leung AWY. Resilience-building module for undergraduate nursing students: a mixed-methods evaluation. Nurse Educ Pract. 2020;49:102912. https://doi.org/10.1016/j.nepr.2020.102912

8. Abdollahi A, Taheri A, Allen KA. Perceived stress, self-compassion and job burnout in nurses: the moderating role of self-compassion. J Res Nurs. 2020;26(3):182–91. https://doi.org/10.1177/1744987120970612

9. Zakaria N, Zakaria NH, Rassip MNABA, Lee KY. Burnout and coping strategies among nurses in Malaysia: a national-level cross-sectional study. BMJ Open. 2022;12(10):e064687. https://doi.org/10.1136/bmjopen-2022-064687

10. Alameddine M, Clinton M, Bou-Karroum K, Richa N, Doumit MAA. Factors associated with the resilience of nurses during the COVID-19 pandemic. Worldviews Evid Based Nurs. 2021;18(6):320–31. https://doi.org/10.1111/wvn.12544

11. Majrabi M. Nurses burnout, resilience and its association with safety culture: a cross-sectional study. Open J Nurs. 2022;12(1):70–102. https://doi.org/10.4236/ojn.2022.121006

12. Pragholapati A, Yosep I. The correlation of resilience with nurses work stress in emergency unit Rumah Sakit Al Islam (RSAI) Bandung. Sorume Health Sci J. 2020;1(1):9–18.

13. Yusefi AR, Daneshi S, Davarani ER, Nikmanesh P, Mehralian G, Bastani P. Resilience level and its relationship with hypochondriasis in nurses working in COVID-19 reference hospitals. BMC Nurs. 2021;20:219. https://doi.org/10.1186/s12912-021-00730-z

14. Abdel-Aziz AE, Adam SS. Relationship between resilience, burnout and professional quality of life among nurses working at El-Abbassiya. Egypt J Health Care. 2020;11(2):551–77. https://doi.org/10.21608/ejhc.2020.156951

15. Franz F, Erdfelder E, Buchner A, Lang AG. Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. Behav Res Methods. 2009;41:1149–60. https://doi.org/10.3758/BRM.41.4.1149

16. Nia HS, She L, Froelicher ES, Maroco J, Moshtagh M, Hejazi S. Psychometric evaluation of the Connor-Davidson Resilience Scale among Iranian population. BMC Psychiatry. 2023;23:92. https://doi.org/10.1186/s12888-023-04580-8

17. Velickovic K, Hallberg IR, Axelsson U, Borrebaeck CAK, Ryden L, Johnsson P, et al. Psychometric properties of the Connor-Davidson Resilience Scale (CD-RISC) in a non-clinical population in Sweden. Health Qual Life Outcomes. 2020;18:132. https://doi.org/10.1186/s12955-020-01383-3

18. Khordeh NK, Dehvan F, Dalvand S, Repisti S, Gheshlagh RG. The COVID-19 fear, anxiety, and resilience among emergency nurses. Front Psychol. 2022;13:999111. https://doi.org/10.3389/fpsyg.2022.999111

19. Reverté-Villarroya S, Ortega L, Raigal-Aran L, Suras-Colon E, Ricoma-Muntane R, Ballester-Ferrando D, et al. Psychological well-being in nursing students: a multicentric, cross-sectional study. Int J Environ Res Public Health. 2021;18(6):3020. https://doi.org/10.3390/ijerph18063020

20. Sokratous S, Alexandrou G, Zavrou R, Karanikola M. Mental health status and stressful life events among postgraduate nursing students in Cyprus: a cross-sectional descriptive correlational study. BMC Nurs. 2023;22:294. https://doi.org/10.1186/s12912-023-01463-x

21. Karaca A, Yildirim N, Cangur S, Acikgoz F, Akkus D. Relationship between mental health of nursing students and coping, self-esteem and social support. Nurse Educ Today. 2019;76: 44–50. https://doi.org/10.1016/j.nedt.2019.01.029

22. Mealer M, Schmiege SJ, Meek P. The Connor-Davidson Resilience Scale in critical care nurses: a psychometric analysis. J Nurs Meas. 2016;24(1):28–39. https://doi.org/0.1891/1061-3749.24.1.28

23. Shaabna Z. Resilience, self-efficacy, and burnout among nursing students in Palestine [dissertation]. Palestine: An-Najah National University, Faculty of Graduate Studies; 2021.

24. Yalcin-Siedentopf N, Pichler T, Welte AS, Hoertnagl CM, Klasen CC, Kemmler G, et al. Sex matters: stress perception and the relevance of resilience and perceived social support in emerging adults. Arch Womens Ment Health. 2021;24(3):403–11. https://doi.org/10.1007/s00737-020-01076-2

25. Nourollahi-Darabad M, Afshari D, Chinisaz N. Psychosocial factors associated with resilience among Iranian nurses during COVID-19 outbreak. Front Public Health. 2021;9:714971. https://doi.org/10.3389/fpubh.2021.714971

26. Ang S, Uthaman T, Ayre TC, Mordiffi SZ, Ang E, Lopez V. Association between demographics and resilience: a cross-sectional study among nurses in Singapore. Int Nurs Rev. 2018;65(3):459–66. https://doi.org/10.1111/inr.12441

27. Aldarmasi MA. Factors associated with resilience among healthcare professionals during the COVID-19 pandemic: a cross-sectional study. Cureus. 2022;14(5):e25106. https://doi.org/0.7759/cureus.25106

28. Hering C, Gangnus A, Budnick A, Kohl R, Steinhagen-Thiessen E, Kuhlmey A, et al. Psychosocial burden and associated factors among nurses in care homes during the COVID-19 pandemic: findings from a retrospective survey in Germany. BMC Nurs. 2022;21:41. https://doi.org/10.1186/s12912-022-00807-3

29. Kayaroganam R, Sarkar S, Satheesh S, Tamilmani S, Sivanantham P, Kar SS. Prevalence and correlates of psychological distress among nurses in a teaching institute in South India. J Family Med Prim Care. 2022;11(11):6765–71. https://doi.org/10.4103/jfmpc.jfmpc_2313_21

30. Gandhi S, Sangeetha G, Ahmed N, Chaturvedi SK. Somatic symptoms, perceived stress and perceived job satisfaction among nurses working in an Indian psychiatric hospital. Asian J Psychiatr. 2014;12:77–81. https://doi.org/10.1016/j.ajp.2014.06.015

31. Xiong H, Yi S, Lin Y. The psychological status and self-efficacy of nurses during COVID-19 outbreak: a cross-sectional survey. Inquiry. 2020;57:46958020957114. https://doi.org/10.1177/0046958020957114

32. Shen Y, Zhan Y, Zheng H, Liu H, Wan Y, Zhou W. Anxiety and its association with perceived stress and insomnia among nurses fighting against COVID-19 in Wuhan: a cross-sectional survey. J Clin Nurs. 2021;30(17–18):2654–64. https://doi.org/10.1111/jocn.15678

33. Chen H, Kewou NYN, Atingabili S, Sogbo ADZ, Tcheudjeu AT. The impact of psychological capital on nurses' job performance: a chain mediation analysis of problem-focused coping and job engagement. BMC Nurs. 2024;23:149. https://doi.org/10.1186/s12912-024-01802-6

34. Kondo A, Abuliezi R, Naruse K, Oki T, Niitsu K, Ezeonwu M. Perceived control, preventative health behaviors, and the mental health of nursing students during the COVID-19 pandemic: a cross-sectional study. Inquiry. 2021;58(1):469580211060279. https://doi.org/10.1177/00469580211060279

35. Papazisis G, Nicolaou P, Tsiga E, Christoforou T, Sapountzi-Krepia D. Religious and spiritual beliefs, self-esteem, anxiety, and depression among nursing students. Nurs Health Sci. 2014;16(2):232–8. https://doi.org/10.1111/nhs.12093