



Resilience among Nursing Students in Jordan: A Correlational Cross-sectional Study

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ABSTRACT

Background: Nursing students encounter substantial academic, practical, and personal challenges during their educational journey. When they fail to cope effectively with these challenges, this may negatively impact their psychological well-being and lead them to adopt unhealthy lifestyles. **Purpose:** This research aimed to assess resilience levels and identify its associated predictors in a sample of nursing students. **Methods:** A cross-sectional descriptive correlational design was used to test resilience levels and linked predictors among nursing students in Jordan. Data was collected from a convenient sample of active nursing students. The students completed the study questionnaire using Google Forms. **Results:** Two hundred nursing students completed the study questionnaire. The sample mostly consisted of female students (56.5%) in their third and fourth academic levels (51.5% and 38.5%, respectively). Seventy-one students reported low resilience scores (35.5%), while only 33 students (16.5%) reported exceptional resilience scores. Predictors of total resilience and personal resilience were the number of courses currently enrolled in and cumulative grade point average. Multiple linear regression analysis demonstrated an inverse relationship between the number of courses currently enrolled in and both total resilience and personal resilience scores. **Conclusion:** Academic nursing programs are strongly encouraged to establish and implement resilience intervention programs to provide support to students. **Implications for Nursing:** The study's findings help identify students who may be less resilient and support the creation of focused resilience intervention programs in nursing education. The results also support calls for policies that strike a balance between academic demands and healthy learning environments.

Keywords: Nursing students, Resilience, Coping, Well-being, Jordan.

What does this paper add?

1. Nursing students encounter numerous challenges during their academic journey, including both academic and personal challenges. Failing to effectively manage these challenges can negatively impact their psychological well-being.
2. Resilience represents the individual's ability to overcome stressors and effectively respond to them in a healthy manner.
3. A significant portion of nursing students self-reported low resilience scores. Notably, students with higher CGPA and lower course enrollments exhibited higher resilience scores.
4. The study results support the development of

targeted resilience intervention programs within nursing education and help identify students at risk of reduced resilience, promoting calls for policies that balance academic demands to strengthen healthy learning environments.

Introduction

Nursing is a scientific discipline that necessitates the integration of standardized holistic care with unwavering commitment and dedication (Martiningsih et al., 2021). As defined by the World Health Organization (WHO), the nursing profession includes collaborative care across diverse age groups, including individuals, families, or communities within various clinical settings (WHO, 2025). The nursing care process encompasses health promotion, disease prevention, and the provision of care to ill, suffering, and dying patients (Alkaissi et al., 2023). Consequently, nursing students during their educational journey need to acquire comprehensive knowledge, essential skills, and competencies to fulfill the roles and responsibilities of the nursing profession (Shen et al., 2024).

Nursing education is characterized by its multifaceted and demanding nature (Amsrud et al., 2019). In contrast to other academic disciplines, nursing education entails confronting substantial practical, academic, and personal stressors and challenges (Alatawi et al., 2020). Previous scientific reports have indicated that students in nursing schools show moderate to high levels of stress during their academic journey, which is associated with the demanding academic and emotional requirements imposed upon them when they assume patient care responsibilities. This stress can have adverse effects on their psychological well-being if left unmanaged (Alatawi et al., 2022; Reeve et al., 2013).

Nursing students frequently encounter numerous demands and challenges during their academic journey. On the one hand, they are transitioning from adolescence to adulthood, a period characterized by uncertainty and instability associated with numerous social role transitions, including education, relationships, and residential status (Matud et al., 2020). Conversely, nursing education programs impose a higher level of stress on students due to a substantial academic workload, frequent examinations, a competitive peer environment, apprehension about making errors, and the complexity and diversity of

clinical areas (Alatawi et al., 2022; Aryuwat et al., 2024a; Ching et al., 2020). The demanding nature of nursing education, coupled with the transition to adulthood, requires that nursing students develop resilience to effectively navigate the challenges and hardships that they encounter. This resilience will not only enable them to overcome obstacles, but also foster personal and professional growth (Kalaivani, 2021; Spurr et al., 2021).

Resilience is the individual's capacity to successfully adapt to and overcome challenges and stressors (Wu et al., 2013). It is the capability to respond to stress in a healthy manner (Epstein & Krasner, 2013). According to Ungar and Liebenberg (2011), resilience requires individuals to identify and access resources that support their well-being. It also emphasizes the responsibilities of families, communities, and governments to offer resources that align with individual values. The authors further explain that in essence, resilience emerges from the successful identification and utilization of resources, as well as the negotiation for their provision in a meaningful and impactful way.

Recently, several research reports have investigated resilience in nursing students to enhance our understanding and exploration of this concept. Aryuwat et al. (2023) explained resilience in nursing students as the capacity of students to cope with and recover positively from adverse or challenging circumstances to accomplish important goals. Froneman et al. (2016) described it as the capacity to effectively manage stressors. Keener et al. (2021), however, characterized resilience in nursing students as a dynamic and evolving process that can be acquired through learning and development. This process empowers students to navigate and overcome challenges and adversities encountered during their educational journey. Several research reports have inferred that resilience in nursing students is the positive compensation experienced after facing challenges or obstacles (Ching et al., 2020; Hamaideh et al., 2024; Rayani et al., 2024).

To further investigate resilience levels among nursing students, numerous studies have been conducted across various countries. For example, Chamberlain et al. (2016) discovered in their study that Australian nursing students exhibited a high resilience level. In contrast, Hamaideh et al. (2024) reported that a substantial majority (34%) of nursing students in Jordan, who participated in their study, demonstrated a lack of

resilience. The findings in Jordan were comparable to those from a report from Saudi Arabia, where researchers concluded that nursing students at Saudi universities exhibited a lower level of resilience compared to their colleagues from other countries (Rayani et al., 2024).

Research has indicated that certain variables may contribute to nursing students' resilience. Studies have demonstrated that resilience levels vary among students based on demographic characteristics, such as age and gender (Aryuwat et al., 2023). While some studies suggest a positive correlation between age and higher resilience levels in nursing students (Hasson et al., 2021; Ching et al., 2020), other studies did not reveal a significant relationship between age and resilience levels (Aryuwat et al., 2024b; Rayani et al., 2024). A recent study has revealed that male students exhibit a higher level of resilience compared to female students (Abuejheisheh et al., 2024). In addition, researchers have observed a negative association between resilience levels and perceived stress among nursing students. A recent study conducted by Hamaideh et al. (2024) explored the relationships between resilience, perceived stress, and social support in a sample of nursing students in Jordan, and found a significant negative association between resilience levels and perceived stress. Also, Mohammed et al. (2024) reported that medical students in Egypt exhibited low resilience, which was significantly correlated with high stress levels. Other studies have established a negative association between levels of resilience and perceived stress among nursing students from the UK, China, and Thailand (Aryuwat et al., 2024b; Hasson et al., 2021).

Recent studies have indicated that high resilience levels are linked to better health and well-being (Aryuwat et al., 2023; Spurr et al., 2021). Additionally, resilient nursing students experience various positive outcomes, including personal growth essential for future careers, effective coping with adversity, and reduced psychological distress (Keener et al., 2021; Shen et al., 2024). Moreover, resilient nursing students demonstrate academic success (Gause et al., 2024). Rayani et al. (2024) emphasized the association between resilience and psychological well-being, suggesting that resilient nursing students tend to perceive their well-being more positively.

According to Gause et al. (2024), resilience can be influenced by several factors related to social support,

academic accomplishment, and optimism about the future, which can significantly correlate with the resilience level during university education. Several studies revealed a robust positive correlation between social support and resilience among nursing students globally and confirmed the influence of social support in achieving adaptability and enhancing well-being in confronting both clinical and academic stressors (Aryuwat et al., 2023; Aryuwat et al., 2024b; Hamaideh et al., 2024). The purpose of this study was to assess the resilience levels and identify associated predictors among university nursing students in Jordan. The scarcity of scientific knowledge pertaining to resilience levels and factors contributing to resilience will limit the efforts to enhance and support resilience among nursing students.

Materials and Methods

Design, Sample, and Settings

A cross-sectional descriptive correlational design was used in this study. Data was collected at a single point of time via an online Google Form. The study was open to all current nursing students, but inactive nursing students who did not have active Microsoft Teams accounts and therefore did not receive the invitation message, were excluded. Convenience sampling was selected due to its ease of use and efficiency. The study was performed at one of Jordan's leading universities, with an enrollment of over 29,000 students at the time of data collection, with 980+ students enrolled in the nursing program. G*power software (Faul et al., 2007) was employed to determine the optimal sample size for the study. The following parameters were used in the analysis: moderate effect size, significance level (α) of 0.05 for 22 predictors, and power of 90%. The power analysis revealed that a sample size of 198 participants is necessary to achieve the desired statistical power.

Data Collection

Once the university's Institutional Review Board (IRB) approved the research, the research data collections tools or questionnaires were combined into one single instrument using Google Forms to create a survey. The link to the survey was emailed to students via their Microsoft Teams accounts. Every student at this institution utilizes Microsoft Teams for all aspects of their education, such as taking classes, receiving class materials, and communicating with their instructors.

The provided survey link included a description of the study, including the purpose of the study, the estimated time to complete the survey, a statement emphasizing the voluntary nature of participation and the freedom to quit at any time with no incurring any further consequences on their withdrawal, and a declaration of their informed consent to participate. Students' consent to participate was obtained at the beginning of the survey. Out of the almost 980 active nursing students, 200 participants agreed to participate and completed the survey. The data was collected between April 2024 and November 2024.

Measures

Two questionnaires were used to collect data: the demographic questionnaire and the resilience scale. The researchers developed the demographic questionnaire, which includes questions about the participants' demographic information, such as age, gender, academic level, courses currently enrolled in, and Cumulative Grade Point Average (CGPA). The Child and Youth Resilience Measure (CYRM-R), the youth simplified version, was used to measure resilience among nursing students (Resilience Research Centre, 2018). The simplified version of the CYRM-R is a self-report tool of social ecological resilience, developed by the Research Resilience Centre (2018). It consists of a 17-item 5-point Likert-type scale that ranges from 1 (Not at all) to 5 (A lot) and consists of two sub-scales: personal and caregiver sub-scales. The highest possible total resilience score is 85, while the lowest possible total resilience score is 17. The higher score reflects a high resilience level, while a low resilience score reflects a low resilience level. The personal resilience sub-scale consists of 10 items, with the highest possible score being 50 and the lowest possible score being 10. The caregiver resilience score consists of 7 items, with the highest possible score being 35 and the lowest possible score being 7. The total score's Cronbach's alpha was reported at 0.87 (Resilience Research Centre, 2018). The Cronbach's alpha for the personal resilience sub-scale was reported at 0.82 and for the caregiver sub-scale was at 0.82 (Jefferies et al., 2019). In the current study, the reliability analysis revealed satisfactory internal consistency; the total resilience scale's Cronbach's alpha was 0.90, while the alpha values for the personal and caregiver resilience sub-scales were 0.85 and 0.82, respectively. In accordance with the scale

manual, this study employed continuous and categorical scoring protocols to determine resilience scores. For continuous scoring, a cumulative sum of all items is calculated as an index of total resilience. Higher scores indicate a higher resilience level. Categorical scores were calculated following the categorical scoring protocol: low resilience (<61), moderate resilience (61-69), high resilience (70-75), and exceptional resilience (≥ 76).

Data Analysis

The Statistical Package for Social Sciences (SPSS), version 26.0 (SPSS Inc., Chicago, IL, USA) was the software used to analyze the collected data. Data was cleaned to remove missing values, identify outliers and inconsistencies using boxplots and z-scores. Descriptive statistics (means, standard deviations, frequency distributions, and percentages) provided the sample characteristics. Before linear regression analyses were completed, all regression assumptions were assessed, including normality of residuals, linear association between the DV and predictor(s), homogeneity of variance, and random errors with no systematic bias due to configuration effects. Scatter plots, histogram views of DV values by each predictor, and Q-Q plots allowed the visualization of regression assumption violations. The one-way ANOVA was used to identify statistically significant predictors of resilience at a p-value level of 0.05.

Ethical Considerations

The university's IRB approved the study. Students were invited to participate via a message sent to their Microsoft Teams accounts by the principal investigator. The message contained a description of the study objectives and a link to the study questionnaires. The participating students gave their consent to participate when they opened and reviewed the study's information by clicking the link. All data was collected anonymously, and confidentiality was ensured throughout the study. No identifying information was ever obtained from the students' completed questionnaires. Participants were informed that their participation was voluntary and that they could withdraw from the study at any time without penalty. There was no expectation of physical or psychological injury resulting from participation in this study. The principal investigator received and stored all completed

questionnaires securely on a computer, accessible only to the research team, using a secure password.

Results

A total of 200 students completed the study questionnaires. A significant number of the participants were female (56.5%), aged 20 years or older (82.5%), single (98.5%), living with their family (95.5%), and

had five or more family members residing in the same household (87.5%). The sample consisted of predominately students in their third (51.5%) and fourth academic level (38.5%), registered in 5 or more courses (42%), and have a CGPA of 3.0 or more (59.5%). More detailed demographic characteristics of the sample are shown in Table 1.

Table 1. Sample characteristics (N = 200)

	n	Valid (%)
Gender		
Male	87	43.5%
Female	113	56.5%
Age		
19 years of less	5	2.5%
19-20 years	30	15.0%
20-21 years	97	48.5%
21 years or more	68	34.0%
Marital Status		
Single	197	98.5%
Married	2	1%
Divorced	1	0.5%
Living with		
Family	190	95.5%
Alone	8	4.0%
With roommate	2	1.0%
Number of Family Members You Live with in the Household		
1 family member	5	2.5%
2 family members	1	0.5%
3 family members	8	4.0%
4 family members	11	5.5%
5 or more family members	175	87.5%
Academic Level		
Year 1	5	2.5%
Year 2	15	7.5%
Year 3	103	51.5%
Year 4	77	38.5%
Number of Courses Currently Enrolled in		
1 course	28	14.0%
2 courses	16	8.0%
3 courses	28	14.0%
4 courses	44	22.0%
5 courses	46	23.0%
6 course or more	38	19.0%
Current Cumulative Grade Point Average (CGPA)		
Do not know my CGPA	17	8.5%
1.0-1.9	5	2.5%
2.0-2.9	59	29.5%
3.0 and above	119	59.5%

Resilience Level and Categories

The analysis of the resilience scores revealed that the sample mean of the total resilience scores is 64.37

(±12.807) with a range of [22-85], the mean of the personal resilience sub-scale is 37.98 (±7.755) with a range of [12-50], while the mean of the caregiver sub-

scale is 26.39 (± 5.894), with a range of [9-35]. Table 2 presents the means and standard deviations of the

demographic variables across total resilience scale, as well as personal and caregiver sub-scales.

Table 2. Variables' means (M) and standard deviations (SD) across total resilience, personal resilience, and caregiver resilience

	Total Resilience M (SD)	Personal Resilience M(SD)	Caregiver Resilience M(SD)
Gender			
Male	62.45 (12.15)	36.86 (7.75)	25.59 (5.25)
Female	65.84 (13.16)	38.83 (7.69)	27.01 (6.30)
Age			
< 19 years	61.60 (11.84)	37.80 (7.89)	23.80 (5.93)
19-20 years	63.33 (14.16)	37.27 (8.42)	26.07 (6.78)
20-21 years	64.70 (12.95)	38.06 (7.90)	26.64 (5.62)
> 21 years	64.54 (12.27)	38.18 (7.39)	26.37 (5.94)
Academic Level			
Year 1	61.60 (13.46)	38.60 (7.60)	23.00 (7.81)
Year 2	62.73 (14.85)	36.47 (8.95)	26.27 (6.66)
Year 3	64.03 (13.60)	37.75 (8.27)	26.28 (6.13)
Year 4	65.31 (11.36)	38.53 (6.86)	26.78 (5.31)
Number of Courses			
1 course	68.39 (9.95)	40.54 (5.53)	27.86 (5.21)
2 courses	66.38 (11.45)	39.13 (7.27)	27.25 (4.49)
3 courses	62.14 (16.19)	36.89 (9.57)	25.25 (7.03)
4 courses	63.77 (11.39)	37.52 (6.91)	26.25 (5.34)
5 courses	65.24 (12.71)	38.61 (7.91)	26.63 (5.62)
6 courses or more	61.82 (13.88)	36.16 (8.42)	25.66 (6.91)
CGPA			
Do not know	58.59 (19.88)	34.71 (11.58)	23.88 (8.64)
1-1.9	57.20 (13.08)	32.80 (7.40)	24.40 (5.77)
2-2.9	63.46 (12.06)	37.58 (7.58)	25.88 (5.34)
3 or above	65.94 (11.66)	38.86 (7.05)	27.08 (5.62)

Following the resilience tool categorical scoring manual, the data was converted into four categories: low resilience < 61, moderate resilience 61-69, high resilience 70-75, and exceptional resilience ≥ 76 . The analysis showed that 71 students self-reported low

resilience scores (35.5%), while only 33 students (16.5%) self-reported exceptional resilience scores. More information about resilience categories can be found in Table 3.

Table 3. Resilience categories (N = 200)

	Frequency	Valid Percent	Cumulative Percent
Low Resilience	71	35.5	35.5
Moderate Resilience	56	28.0	63.5
High Resilience	40	20.0	83.5
Exceptional Resilience	33	16.5	100.0
Total	200	100.0	

Predictors of Resilience

Multiple linear regression analysis was performed to further understand the impact of specific demographic variables, including age, academic level, number of courses currently enrolled in, and CGPA, on resilience

level. Multiple linear regression method was used in the analysis, as all independent and dependent variables are continuous.

In the first regression model, total resilience was regressed on the demographic variables. The proportion

of variance (R^2) in total resilience accounted for by age, academic level, number of courses currently enrolled in, and CGPA was 5.9%, $R^2 = 0.059$, $F(4, 195) = 3.065$, $p < 0.05$ with adjusted $R^2 = 0.04$. Number of courses currently enrolled in and CGPA make a significant unique contribution to the prediction of the dependent variable total resilience, with CGPA as the strongest predictor of total resilience. The standardized coefficient for CGPA was 0.204, $t = 2.841$, $p < 0.05$. The model revealed a negative standardized coefficient value for the number of courses currently enrolled in -0.163 , $t = -2.281$, $p < 0.05$, which means an inverse relationship between number of courses enrolled in and total resilience scores. Age and academic level did not make a significant unique contribution to total resilience.

In the second regression model, personal resilience was regressed on age, academic level, number of courses enrolled in and CGPA. The proportion of variance (R^2) in personal resilience accounted for by the independent variables was 5.8%, $R^2 = 0.058$, $F(4, 195) = 3.017$, $p <$

0.05 with adjusted $R^2 = 0.039$. Similar to the first regression model, the number of courses currently enrolled in and CGPA make a significant unique contribution to the prediction of personal resilience among students, with CGPA as the strongest predictor of personal resilience. The standardized coefficient for CGPA was 0.199, $t = 2.769$, $p < 0.05$. The model revealed a negative standardized coefficient value for the number of courses currently enrolled in -0.173 , $t = -2.425$, $p < 0.05$, indicating a negative relationship between the number of courses currently enrolled in and personal resilience among students. Age and academic level did not make a significant unique contribution to personal resilience.

In the third regression model, caregiver resilience was regressed on the four previously mentioned independent variables. The results of the analysis model did not show a statistically significant result, $R^2 = 0.046$, $F(4, 195) = 2.326$, $p = 0.058$. More results of the regression models can be seen in Table 4.

Table 4. Predictors of resilience

Student Variables	B	SE	β	t
Total Resilience^a				
(Constant)	56.39	5.756		9.796**
Age	-0.026	1.299	-0.002	-0.020
Academic Level	0.949	1.412	0.052	0.672
Number of Courses	-1.268	0.556	-0.163	-2.281*
CGPA	2.293	0.807	0.204	2.841**
Personal Resilience^b				
(Constant)	33.975	3.487		9.743**
Age	-0.020	0.787	-0.002	-0.025
Academic Level	0.428	0.856	0.039	0.500
Number of Courses	-0.816	0.337	-0.173	-2.425*
CGPA	1.354	0.489	0.199	2.769**

a: Overall model: $R^2 = 0.059$; $F = 3.065$; $p < 0.05$; Adjusted $R^2 = .040$.

b: Overall model: $R^2 = 0.058$; $F = 3.017$; $p < 0.05$; Adjusted $R^2 = 0.039$.

* $p < 0.05$. ** $p < 0.01$.

Discussion

The present study investigated resilience levels and associated factors among nursing students in Jordan. The analysis revealed that the students' mean score of total resilience is around 64 [17-85]. Notably, the authors of the resilience scale employed in this study refrain from specifying a cut-off point for defining "good" or "normal" resilience, as this may vary across contexts (Resilience Research Centre, 2018). Another key finding of the analysis revealed that CGPA and the number of courses the student is currently enrolled in are significant predictors of resilience.

A remarkable finding of this study is that the highest percentage (35.5%) of nursing students who participated in this study self-reported low resilience level, while lowest percentage self-reported exceptional resilience level (16.5%). In a previous study conducted in Oman, which is in a region similar to Jordan, 45.3% of the sample self-reported low resilience level, while only 5.5% self-reported high resilience level (Al Omari et al., 2023). In a similar finding from Egypt, which is another country in the same region as Jordan, university students self-reported low resilience level (49.9%), while only 3.2% self-reported high resilience (Mohammed et al.,

2024). This finding noteworthy considers that while nursing students encounter significant practical, academic, and personal challenges during their academic journey (Alatawi et al., 2020), resilience is essential for their successful adaptation and coping with these stressors. Research has shown that it is important for nursing students to develop resilience, as they face a variety of challenges, including the demands of a busy educational program, managing unpredictable patient situations, and emotionally decompressing after their experience as both a nursing student and a health care worker (Aryuwat et al., 2024b). Unsuccessful adaptation and failing to cope with academic stressors could turn students to unhealthy lifestyles, like alcohol or drugs, to relieve their stress (Timmins et al., 2011). Consequently, this result indicates the need to integrate resilience-building techniques into nursing education to promote students' psychological well-being.

This study reveals that the number of courses in which nursing students are currently enrolled is a predictive variable for both total and personal resilience levels, which is consistent with previous literature (Park & Choi, 2025). The nature of the relationship indicating an inverse type, where each increase in the number of courses will decrease total and personal resilience levels. Usually, nursing schools provide students with a plan of study advising students which courses to enroll in each academic semester. The study plan is distributed according to both clinical and theory courses. However, some students might be behind in some courses or failed other courses; therefore, they will enroll in more courses in specific semesters to be able to complete their academic program within the appropriate program duration. This will add more academic and personal challenges for those students, affecting their performance and well-being. Furthermore, considering that the majority of nursing students who participated in this study were in their third or fourth year of study, they are becoming closer to complete the four-year program duration; therefore, they are enrolling in more courses to complete their degree requirements. Nursing students under those circumstances are confronting increased challenges, not only to manage the academic workload associated with each course, such as examinations, competitive peer environment, and the complexity and diversity of clinical settings (Alatawi et al., 2022; Aryuwat et al., 2024a; Ching et al., 2020), but also to overcome the challenge of completing their academic

program requirements. This finding underscores the need to enhance those students' resilience, which can improve students' capacity to cope with and recover positively from similar academic challenges and accomplish their goals (Aryuwat et al., 2023). This can be achieved by supporting students thorough an effective and successful program of academic advising. In a study conducted on nursing students in Egypt and Saudi Arabia with over 1100 nursing students, the authors found that students who were more satisfied with their academic advising were less likely to face psychological health issues (Selim et al., 2024). Additionally, Alaween and Alzayyat (2023) recommended, in their literature review findings the establishment of a support system for nursing students to enhance their resilience.

This study also shows that CGPA is a predictive variable for both total resilience and personal resilience. The analysis revealed a positive relationship of CGPA with total and personal resilience. Each increase in CGPA will increase total resilience and personal resilience. This result is in line with another study that examined resilience among university students in Oman, which concluded that CGPA is a positive predictor of resilience level among students (Al Omari et al., 2023). The findings suggest that students with higher CGPA, therefore, exhibit higher academic performance and are capable of adapting to and overcoming stressors, while those with low CGPA, hence low academic performance, are facing difficulties in coping with and overcoming adversity. However, the effect of CGPA relies on other factors, such as coping mechanisms, personality traits, and available support network (Findyartini et al., 2021). Nursing programs could monitor course load each semester, as the number of courses seems to influence resilience, since a heavy academic load could limit coping capacity and negatively impact stable personal resilience.

Limitations and Recommendations for Future Research

Several limitations exist in the current study. The convenience sampling method employed in the study restricts the generalizability of the findings. It is recommended to use probability-based sampling methods to enhance representation and reduce selection bias. Another recommendation is to conduct longitudinal studies to track changes in resilience over

time, identify students at risk, and explore how resilience interacts with mental health indicators, such as burnout and depressive symptoms. Data was collected using the self-report method, which limits the participants regarding recalling some information. Future research could employ qualitative approaches to explore how students describe their coping and needs, as well as to develop an in-depth understanding of how personal and environmental factors, such as academic stress, peer support, and clinical training pressure, could shape resilience. Stressors, level of stress, and the total number of credit hours already passed were not collected from participants in the current study; thus, future research is warranted to assess these variables.

Implications for Nursing

Nursing students encounter practical, academic, and personal stressors during their academic journey that can result in an adverse effect on their psychological well-being if left unmanaged (Alatawi et al., 2022; Reeve et al., 2013). Creating a supportive learning environment in nursing schools will boost students' academic performance and resilience (Froneman et al., 2016). Student centers at college campuses are also encouraged to establish and build resilience programs to support students and help them cope with and overcome adversity.

Researchers interested in resilience are encouraged to conduct future studies with students from other disciplines. This will enable us to compare nursing students with students from other disciplines to enhance

our understanding of the factors that influence resilience among students.

Conclusion

The findings of this study revealed that nursing students have a moderate resilience performance on the total scale. The analysis also revealed that CGPA and number of courses the student currently enrolled in are significant predictors of students' resilience. The findings of this study highlighted the need for college campuses to establish and implement resilience programs that can help students cope with and overcome stressful events. Enhancing students' resilience will not only help them adapt to and cope successfully with stressors, but also maintain their holistic health and well-being (Aryuwat et al., 2023).

Conflict of Interests

The authors confirm that there is no conflict of interests to declare.

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Authors' Contributions

Study Design: **HA**. Data Collection: **HA, EI**. Data Analysis: **HA**. Study Supervision: **HA, EI**. Manuscript Writing: **HA, EI, AA**. Critical Revision for Important Intellectual Content: **HA, AA**.

REFERENCES

- Abuejheisheh, A.J., Haddad, R.H., Daghameen, F.M., Odatallah, T.M.S., Abuiraiyah, S.A., Abusiryeh, S.R., Alsha'Er, J.A., Najajerh, S.S., Turkman, H.E., Salman, R.I., & Hamdan-Mansour, A.M. (2024). Anxiety, depression, stress, and resilience among undergraduate nursing students at Al-Quds University: The impact of war started on October 7 in Palestine. *BMC Nursing*, 23(1). <https://doi.org/10.1186/s12912-024-02442-6>
- Al Omari, O., Al Yahyaee, A., Wynaden, D., Damra, J., Aljezawi, M., Al Qaderi, M., Al Ruqaishi, H., Abu Shahrour, L., & Albashtawy, M. (2023). Correlates of resilience among university students in Oman: A cross-sectional study. *BMC Psychology*, 11(1), 2. <https://doi.org/10.1186/s40359-022-01035-9>
- Alatawi, A., Gonzales, A.G., Alatawi, Y., Albalawi, M., & Alatawi, N. (2020). Stress and coping strategies of the nursing students in the University of Tabuk, Saudi Arabia. *International Journal of Nursing and Health Care Research*, 3, 1186. <https://doi.org/10.29011/2688-9501.101186>
- Alatawi, A.O., Morsy, N.M., & Sharif, L.S. (2022). Relation between resilience and stress as perceived by nursing students: A scoping review. *Evidence-based Nursing Research*, 4(1), 42-60. <https://doi.org/10.47104/ebnrojs3.v4i1.232>
- Alaween, S.H., & Alzayyat, A. (2023). Association between stress in clinical training and resilience among nursing students. *Jordan Journal of Nursing Research*, 2(2), 122-135. <https://doi.org/10.14525/JJNR.v2i2.07>
- Alkaissi, A., Said, N.B., Qadous, S., Alkony, M., &

- Almahmoud, O. (2023). Factors associated with perceived resilience among undergraduate nursing students: Findings of the first cross-sectional study in Palestine. *BMC Nursing*, 22(1). <https://doi.org/10.1186/s12912-023-01325-6>
- Amsrud, K.E., Lyberg, A., & Severinsson, E. (2019). Development of resilience in nursing students: A systematic qualitative review and thematic synthesis. *Nurse Education in Practice*, 41, 102621. <https://doi.org/10.1016/j.nepr.2019.102621>
- Aryuwat, P., Asp, M., Lövenmark, A., Radabutr, M., & Holmgren, J. (2023). An integrative review of resilience among nursing students in the context of nursing education. *Nursing Open*, 10(5), 2793-2818. <https://doi.org/10.1002/nop2.1559>
- Aryuwat, P., Holmgren, J., Asp, M., Lövenmark, A., Radabutr, M., & Sandborgh, M. (2024b). Factors associated with resilience among Thai nursing students in the context of clinical education: A cross-sectional study. *Education Sciences*, 14(1), 78. <https://doi.org/10.3390/educsci14010078>
- Aryuwat, P., Holmgren, J., Asp, M., Radabutr, M., & Lövenmark, A. (2024a). Experiences of nursing students regarding challenges and support for resilience during clinical education: A qualitative study. *Nursing Reports*, 14(3), 1604-1620. <https://doi.org/10.3390/nursrep14030120>
- Chamberlain, D., Williams, A., Stanley, D., Mellor, P., Cross, W., & Sieglhoff, L. (2016). Dispositional mindfulness and employment status as predictors of resilience in third year nursing students: A quantitative study. *Nursing Open*, 3(4), 212-221. <https://doi.org/10.1002/nop2.56>
- Ching, S.S.Y., Cheung, K., Hegney, D., & Rees, C.S. (2020). Stressors and coping of nursing students in clinical placement: A qualitative study contextualizing their resilience and burnout. *Nurse Education in Practice*, 42, 102690. <https://doi.org/10.1016/j.nepr.2019.102690>
- Epstein, R.M., & Krasner, M.S. (2013). Physician resilience: What it means, why it matters, and how to promote it. *Academic Medicine*, 88(3), 301-303. <https://doi.org/10.1097/ACM.0b013e318280cff0>
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191. <https://doi.org/10.3758/BF03193146>
- Findyartini, A., Greviana, N., Putera, A.M., Sutanto, R.L., Saki, V.Y., & Felaza, E. (2021). The relationships between resilience and student personal factors in an undergraduate medical program. *BMC Medical Education*, 21(1), <https://doi.org/10.1186/s12909-021-02547-5>
- Froneman, K., Du Plessis, E., & Koen, M.P. (2016). Effective educator–student relationships in nursing education to strengthen nursing students’ resilience. *Curationis*, 39(1), <https://doi.org/10.4102/curationis.v39i1.1595>
- Gause, G., Sehularo, L.A., & Matsipane, M.J. (2024). Factors that influence resilience among first-year undergraduate nursing students: A cross-sectional descriptive study. *Nursing Reports*, 14(2), 1324-1337. <https://doi.org/10.3390/nursrep14020100>
- Hamaideh, S., Khait, A.A., Modallal, H.A., Malak, M., Masa’deh, R., Hamdan-Mansour, A., & Bashtawy, M.A. (2024). Relationships and predictors of resilience, social support, and perceived stress among undergraduate nursing students. *The Open Nursing Journal*, 18(1). <https://doi.org/10.2174/0118744346238230240103055340>
- Hasson, F., Li, Z., Slater, P., & Guo, X. (2021). Resilience, stress and well-being in undergraduate nursing students in China and the UK. *International Journal of Research in Nursing*, 12(1), 11-20. <https://doi.org/10.3844/ijrnsp.2021.11.20>
- Jefferies, P., McGarrigle, L., & Ungar, M. (2019). The CYRM-R: A Rasch-Validated Revision of the Child and Youth Resilience Measure. *Journal of evidence-based social work*, 16, 70-92. DOI: <https://doi.org/10.1080/23761407.2018.1548403>
- Kalaivani, D. (2021). Academic resilience among students: A review of literature. *International Journal of Research and Review*, 8(6), 360–369. <https://doi.org/10.52403/ijrr.20210646>
- Keener, T.A., Hall, K., Wang, K., Hulsey, T., & Piamjariyakul, U. (2021). Quality of life, resilience, and related factors of nursing students during the COVID-19 pandemic. *Nurse Educator*, 46(3), 143-148. <https://doi.org/10.1097/NNE.0000000000000969>
- Martiningsih, W., Winarni, S., & Alvarado, A.E. (2021). Nursing profession, caring and discipline. *Health Notions*, 5(2), 59-61. <https://doi.org/10.33846/hn50205>
- Matud, M., Díaz, A., Bethencourt, J., & Ibáñez, I. (2020). Stress and psychological distress in emerging adulthood: A gender analysis. *Journal of Clinical Medicine*, 9(9), 2859. <https://doi.org/10.3390/jcm9092859>

- Mohammed, H.E., Bady, Z., Abdelhamid, Z.G., Elawfi, B., AboElfah, H.E., Elboraay, T., & Abdel-Salam, D.M. (2024). Factors influencing stress and resilience among Egyptian medical students: A multi-centric cross-sectional study. *BMC Psychiatry*, 24(1). <https://doi.org/10.1186/s12888-024-05820-1>
- Park, S., & Choi, M. (2025). Resilience of nursing students: A concept analysis study. *Nurse Education Today*, 144, 106463. <https://doi.org/10.1016/j.nedt.2024.106463>
- Rayani, A.M., Alodhailah, A.M., & Alreshidi, S.M. (2024). A cross-sectional study of resilience and well-being among nursing students in Saudi Arabia. *SAGE Open Medicine*, 12. <https://doi.org/10.1177/20503121241245224>
- Reeve, K.L., Shumaker, C.J., Yearwood, E.L., Crowell, N.A., & Riley, J.B. (2013). Perceived stress and social support in undergraduate nursing students' educational experiences. *Nurse Education Today*, 33(4), 419-424. <https://doi.org/10.1016/j.nedt.2012.11.009>
- Resilience Research Centre. (2018). *CYRM and ARM user manual*. Resilience Research Centre, Dalhousie University. <http://www.resilienceresearch.org/>
- Selim, A., Ibrahim, N., Awad, S., Salama, E., & Omar, A. (2024). Do academic advising and levels of support affect nursing students' mental health? A cross-sectional study. *International Journal of Nursing Practice*, 30(6), e13267. <https://doi.org/10.1111/ijn.13267>
- Shen, Y., Feng, H., & Li, X. (2024). Academic resilience in nursing students: A concept analysis. *BMC Nursing*, 23(1). <https://doi.org/10.1186/s12912-024-02133-2>
- Spurr, S., Walker, K., Squires, V., & Redl, N. (2021). Examining nursing students' wellness and resilience: An exploratory study. *Nurse Education in Practice*, 51, 102978. <https://doi.org/10.1016/j.nepr.2021.102978>
- Timmins, F., Corroon, A.M., Byrne, G., & Mooney, B. (2011). The challenges of contemporary nurse education programmes: Perceived stressors of nursing students-Mental health and related lifestyle issues. *Journal of Psychiatric and Mental Health Nursing*, 18(9), 758-766. <https://doi.org/10.1111/j.1365-2850.2011.01780.x>
- Ungar, M., & Liebenberg, L. (2011). Assessing resilience across cultures using mixed methods: Construction of the child and youth resilience measure. *Journal of Mixed Methods Research*, 5(2), 126-149. <https://doi.org/10.1177/1558689811400607>
- World Health Organization. (2023). *Mental health*. <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
- World Health Organization. (2025). *Nursing and midwifery*. <https://www.who.int/health-topics/nursing>
- Wu, G., Feder, A., Cohen, H., Kim, J.J., Calderon, S., Charney, D.S., & Mathé, A.A. (2013). Understanding resilience. *Frontiers in Behavioral Neuroscience*, 7, 10. <https://doi.org/10.3389/fnbeh.2013.00010>