

Stress and Academic Motivation Among Saudi Nursing And Midwifery Students: A Cross-Sectional Study

Abdulaziz F. Abaoud

Shaqra University

Naif S. Alzahrani

nzahrani@taibahu.edu.sa

Taibah University

Abdulaziz M. Almarwani

Taibah University

Fahad M. Alhowaymel

Shaqra University

Hanan F. Alharbi

Princess Nourah bint Abdulrahman University

Mohammed T. Almutairi

King Saud University

Atallah Alenezi

Imam Mohammad ibn Saud Islamic University

Research Article

Keywords: Stress, academic motivation, university students, nursing, midwifery, health

Posted Date: October 7th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10982283/v1>

License:  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Additional Declarations: No competing interests reported.

Abstract

Background: Estimating the prevalence of stress among nursing students and understanding the impact of stress on academic motivation are crucial for educational institutions and educators to develop strategies aimed at reducing stress and fostering positive student motivation.

Methods: The current study aimed to investigate the prevalence and influence of perceived and acute stress on academic motivation among Saudi nursing and midwifery students. A cross-sectional, descriptive, correlational design was chosen for this study. Saudi nursing and midwifery students in a number of universities within the Kingdom of Saudi Arabia were recruited for the study. Demographic information, perceived stress, college students acute stress, and the academic motivation scales were used to collect information. Data were examined using descriptive statistics and multiple regression analyses. The STROBE checklist guided the structure of the study manuscript.

Results: A total of 337 nursing and midwifery students, with an average age of 20.32 years, participated in the study. The majority of the participants (69%) showed a moderate level of perceived stress. More than 50% of the participants reported moderate levels of academic motivation. Regression analyses exhibited a negative association between perceived stress and academic motivation ($\beta = -.156$, $t = -2.725$, $p = .007$) as well as between acute stress academic motivation ($\beta = -.122$, $t = 2.140$, $p = .033$) among participants.

Conclusion: A substantial proportion of the students showed moderate levels of perceived stress, low levels of acute stress, and moderate levels of academic motivation. Additionally, we discerned that both perceived and acute stress exhibited a negative predictive effect on the academic motivation of the nursing and midwifery students. It is important to understand nursing and midwifery students' stress levels, as they influence their academic performance. Educators should pay attention to the stress levels of their students and intervene properly to constraint their influence.

BACKGROUND

Stress

Stress results from inconsistencies between individuals' life burdens (i.e., stressors) and ability to cope with them, which is a normal process that many individuals might experience (1). University life can be stressful, as it introduces students to a new environment that places substantial demands on them. In particular, nursing students are among those who often experience significant stress during their university years. Most of them face stress throughout their academic programs (2). The level of stress among nursing students can vary depending on factors such as academic workload, clinical hours, personal life, and other stressors (3). However, research has consistently shown that nursing students experience higher stress levels than students in other academic fields. The percentage of nursing students experiencing moderate-to-high stress levels ranges from 40% to 80% (4). Similarly, a study conducted in Türkiye reported that 63% of nursing students demonstrated moderate-to-high stress levels

(2). High stress levels were also reported among midwifery students, who, similar to nursing students, are required to recall theoretical knowledge and apply it to their clinical training (5).

Academic Motivation

Academic motivation refers to students' efforts to study and achieve good grades in their classes (6). Motivation is influenced by both internal and external stressors. External stressors affecting motivation include family issues, student finances, and social media use, while internal factors include anxiety, academic pressure, and poor self-confidence (7). These factors can all exert a negative influence on motivation. While some students might experience a positive emotional reaction to some of these factors, such factors can also have an adverse impact on academic motivation.

Stress and Academic Motivation

Stress can significantly impact academic motivation. While some stress can be helpful for motivation, excessive stress can be detrimental to academic performance and motivation (7). Stressful situations lead to different outcomes based on how they are viewed. When viewed as a challenge, stressful events can lead to positive outcomes. Conversely, when viewed as a threat, they might lead to negative outcomes such as anxiety, depression, and poor academic performance (5). Moreover, stress can be classified as either perceived or acute. Perceived stress refers to individuals' perception of stress, whereas acute stress is a response to a specific situation or event (8). Nursing and midwifery students, in particular, may be more susceptible to stress, whether perceived or acute, due to the rigorous and demanding nature of their coursework and clinical placements. Both types of stress can impact academic motivation among these students. Nursing students who experience high stress levels may lose interest in their academic work and clinical experiences, decreasing their motivation to learn and grow in their profession (3).

Perceived stress can also lead to a reduction in self-confidence, which can impact nursing students' motivation to succeed. Nursing students who perceive high levels of stress may experience fatigue and a lack of focus, which can negatively impact their academic performance and motivation (3). Conversely, acute stress is usually experienced during a short period. Individuals experiencing acute stress tend to worry about specific things and aim to achieve them rapidly, causing them to feel overwhelmed (8). This type of stress can cause students to lose focus and concentration, making it challenging to complete assignments (9). In response to acute stress, nursing students may procrastinate or avoid their academic work, which can decrease their academic motivation. This may lead to reduced interest in their studies and further hinder their ability to complete tasks (9).

Current Study

Estimating the prevalence of stress among nursing students and understanding the impact of stress on academic motivation are crucial for educational institutions and educators to develop strategies aimed

at reducing stress and fostering positive student motivation. Furthermore, there is a clear lack of evidence in the literature regarding the level of stress and its relationship with academic motivation among nursing and midwifery students including Saudi students. Thus, the aim of the current study is to investigate the prevalence and influence of perceived and acute stress on academic motivation among Saudi nursing and midwifery students.

METHODS

Study Design

A cross-sectional, descriptive, correlational design was chosen for this study. The purpose was to examine the prevalence of perceived and acute stress and the possible relationships between perceived and acute stress and academic motivation among Saudi undergraduate nursing and midwifery students. The Strengthening the Reporting of Observational Studies in Epidemiology Statement guided the study manuscript.

Sample Size Calculation

The sample size calculations were based on the number of predictors to be included in the statistical analysis (multiple regression analysis). Based on the G*Power 3.1 software, with a medium effect size of 0.15, alpha level of 0.05, a power level of 0.80, and 7 predictors, the suggested sample size was 103 participants. The inclusion of more participants than suggested was for the purpose of ensuring sufficient data in case of missing or incomplete survey input by participants.

Setting and Participants

The study was conducted in a number of governmental universities in the Kingdom of Saudi Arabia. These universities were chosen for their representation of different geographical areas within the Kingdom. The convenience sampling method was employed to recruit study participants from the targeted universities. Participant recruitment involved communicating with nursing and midwifery schools in the targeted universities. Moreover, faculty members of these schools were contacted to recruit eligible participants including both male and female nursing and midwifery students. Faculty members were also informed that targeted participants must be current students in the undergraduate nursing and midwifery programs including those presently in their internship year. Conversely, students who were in preparatory-year programs or had already graduated from either nursing or midwifery programs were excluded from the study. Ultimately, a total of 337 university students from the undergraduate nursing and midwifery programs within the targeted universities agreed to participate in the study. These students agreed to participate after they were completely informed about the study purpose and the possible benefits and risks of participation.

Measurements

The constructed online survey included questions about demographic information, perceived stress, acute stress, and academic motivation.

Demographic Questionnaire

A questionnaire was constructed for the collection of data. The first section of the questionnaire assessed demographic information including sex (male or female), age, marital status, and employment status alongside studying. This section also included education-related items such as current university, study year, grade point average (GPA), major (nursing or midwifery), and time spent studying program materials (hours/week). The second section of the questionnaire assessed participants' perceived stress, acute stress, and academic motivation. Established and validated scales were utilized to measure these variables including the Perceived Stress Scale (PSS), College Student Acute Stress Scale (CSASS), and the Academic Motivation Scale (AMS).

Perceived Stress Scale (PSS)

The PSS is a 10-item self-report questionnaire developed by Cohen and colleagues (10). The items include questions about respondents' feelings toward certain situations they have experienced in the last month. The purpose is to measure respondents' level of perceived stress. A sample item of the scale is as follows: "In the last month, how often have you been upset because of something that happened unexpectedly?" Respondents indicate the frequency of the feelings they have experienced using a 5-point Likert scale ranging from 0 (*never*) to 4 (*often*). The total PSS score is calculated by summing all 10-item responses. The total possible score ranges from 0 to 40, with higher scores indicating higher perceived stress levels. The PSS has shown good internal consistency reliability, with a Cronbach's alpha value of .85 (10). In this study, the PSS demonstrated a good reliability estimate (Cronbach's alpha value) of .80.

College Student Acute Stress Scale (CSASS)

The CSASS is a self-report scale consisting of 14 items that was originally developed by Kent and colleagues (8). Its purpose is to evaluate certain stressors college students may encounter during their studies. The scale includes both general questions and specific questions related to the aspects of college students' lives. It starts by asking respondents to think over past week events and indicate how stressful certain events were to them on a 5-point scale ranging from 0 (*no stress*) to 4 (*constant stress*). The total score is calculated by summing all item answers, with the total possible score ranging from 0 to 56. High scores indicate increased levels of stress. In the current study, we translated the scale into Arabic and then back-translated the Arabic version into English (forward-backward translation), with the assistance of six experts in the field. Because the scale was originally developed for measuring acute stress about American students, we piloted the final Arabic version of the CSASS among 20 participants to assess its adaptability and accessibility. The pilot study showed that no modifications were required. According to Kent and colleagues, the scale has good test-retest reliability, with an r value of .70 (8). In this study, the scale had an r value of .83, indicating good internal consistency reliability.

Academic Motivation Scale (AMS)

The AMS, originally developed by Vallerand and colleagues, is used to measure intrinsic and extrinsic motivations that are part of the self-determination theory (11, 12). The original scale consisted of 28 items focusing on seven domains of motivation including intrinsic motivation to know, intrinsic motivation toward accomplishment, intrinsic motivation to experience stimulation, identified regulation, introjected regulation, external regulation, and amotivation. Respondents are asked to answer these items using a 7-point Likert scale ranging from 1 (*does not correspond at all*) to 7 (*corresponds exactly*). Due to the length of the scale, Kotera and colleagues worked on developing a short version consisting only of 14 items (12). The short version of the AMS has a total score range of 14–98, with higher scores indicating higher levels of academic motivation. In our study, we calculated the total AMS score by summing up the scores of all subscales. Further, we used the following ranges for interpreting the total score: A total score of 14–40 indicated low academic motivation; 41–69, moderate academic motivation; and 70–98, high academic motivation. According to Kotera and associates, the 14-item AMS has a good internal consistency reliability value of .85 (12). In this study, the AMS had a Cronbach's alpha value of .88, which indicated good internal consistency reliability.

Data Collection

The research team developed an online survey for electronic distribution among eligible participants. The survey incorporated an informed consent statement at the beginning, which contained detailed information about the study purpose and the possible benefits and risks of participation. The survey link was provided to the faculty members of the targeted universities for distribution to their students who expressed interest in participation.

Data Analysis

The IBM Statistical Package for the Social Sciences (SPSS) version 29 was used for the data analysis. Descriptive statistics of participants' demographic information and study-related items (i.e., PSS, CSASS, and AMS scores) including means, standard deviations, medians, modes, percentages, and frequencies were calculated. Multiple regression analyses were conducted to examine the relationships between demographic information, perceived and acute stress, and academic motivation among participants. The first regression model included the total PSS score, demographic information (i.e., age and sex), and study-related items (i.e., current university, study year, GPA, and time spent studying) as the independent variables and the total AMS score as the dependent variable. The second regression model included the total CSASS score, demographic information (i.e., age and sex), and study-related items (i.e., current university, study year, GPA, and time spent studying) as the independent variables and the total AMS score as the dependent variable. An alpha value of $\leq .05$ was used for the determination of statistical significance.

Ethical Consideration

The design and data collection for this study were approved by the Shaqra University Standing Committee on the Ethics of Scientific Research (ERC#: ERC_SU_20220097). A written informed consent was obtained from the participants. In addition, this study was conducted in accordance with the guidelines of the Declaration of Helsinki. Participating students were made aware of the aims of the study, that their participation is voluntary, and they have the right to withdraw from the study at any time without consequences. Authors did not obtain identifiers or personal information to maintain full privacy and confidentiality of participants.

RESULTS

Sample Demographic Characteristics

A total of 337 nursing and midwifery students, with an average age of 20.32 years, participated in the study. Most of them were women (71.2%), were single (97.3%), and majored in nursing (78.3%). The mean GPA of the participants was 3.81, and 30% reported spending 4–6 hours studying their course materials weekly. In addition, the participants represented different universities within the Kingdom of Saudi Arabia. Based on the academic year, 40% were in the second year of their program, followed by 36.5%, 15.4%, 5.6%, and 1.8% in their third, fourth, first, and internship years, respectively (Table 1).

Table 1
Descriptive characteristics of study participants (N = 337)

Variable(s)	N	%
Age (Range = 18–26; Mean = 20.32; Std. Dev. = 1.33)	309	
Gender	337	
Female		71.2
Male		28.8
Marital Status	337	
Single		97.3
Married		2.7
GPA (Range = 2.25–4.99; Mean = 3.81; Std. Dev = .625)	328	
Work Beside School	337	
Yes		8.6
No		91.4
Current University	326	
University 1		43.3
University 2		13.1
University 3		26.1
University 4		11.9
Other		2.4
Study Year	337	
1st year		5.6
2nd year		40.7
3rd year		36.5
4th year		15.4
Internship		1.8
Time Spent Studying	337	
Less than 1 hr		3
1–3 hrs		22
4–6 hrs		30.3

Variable(s)	N	%
7–9 hrs		18.7
10 hrs or more		26.1
Studying Major	337	
Nursing		78.3
Midwifery		21.7

Prevalence of Perceived and Acute Stress and Academic Motivation

The majority of the participants (69%) showed a moderate level of perceived stress, with a mean PSS score of 20.40 (± 6.50). Furthermore, almost all participants (90%) had a low level of acute stress, with a mean CSASS score of 8.48 (± 7.26). Conversely, approximately 51% of the participants demonstrated a moderate level of academic motivation, while 41% reported a high level of academic motivation. The mean total AMS score was 62.9 (± 17.55), which indicated a moderate level of academic motivation among the participants (Table 2).

Table 2
Means and standards deviation of participants' scores for perceived stress scale (PSS), college students acute stress scale (CSASS), and academic motivation total scale and subscales (AMS)

Scale	Mean	SD	Median	Mode
Perceived Stress Scale (PSS)	20.40	± 6.50	20	16
College Student Acute Stress Scale (CSASS)	8.48	± 7.26	7	-
Academic Motivation Scale (AMS)				
Total Score	62.9	± 17.55	65	78
Intrinsic Motivation to Know (IMK)	9.62	± 3.51	10	14
Intrinsic Motivation Toward Accomplishment (IMA)	9.30	± 3.45	10	14
Intrinsic Motivation to Experience Stimulation (IMS)	7.59	± 3.98	8	2
Extrinsic Motivation – Identified Regulation (IDR)	10.44	± 3.84	12	14
Extrinsic Motivation – Introjected Regulation (IJR)	10.42	± 3.68	11	14
Extrinsic Motivation – External Regulation (ER)	11.20	± 3.67	13	14
Amotivation (AM)	4.35	± 3.31	2	2

Association Between Perceived Stress and Academic Motivation

Multiple regression analyses were conducted to examine the association between perceived and acute stress and academic motivation. The first model included sex, current university, study year, GPA, time spent studying, and the PSS score as the independent variables. The overall model was significant, with an adjusted r^2 value of .112, which indicated that the independent variables explained 11.2% of the variance in the participants' academic motivation. The total PSS score was negatively associated with the academic motivation level ($\beta = -.156, t = -2.725, p = .007$). A 1-unit increase in the perceived stress level was associated with a .156 decrease in the academic motivation level. Furthermore, age ($\beta = .149, t = 2.064, p = .040$) and sex ($\beta = -.330, t = -5.451, p < .001$) significantly predicted the academic motivation level. Female sex was a strong predictor of an increased academic motivation level. Thus, the female students showed a higher level of academic motivation than the male students (Table 3).

Table 3
Regression analysis to determine perceived stress prediction of participants' academic motivation.

Independent Variables	B	SE B	β	t
Constant)	46.497	16.530	-	2.813**
Age	1.820	.882	.149	2.064*
Gender	-11.859	2.176	-.330	-5.451***
Current University	-.019	.915	-.001	-.021
Study Year	-1.656	1.505	-.085	-1.100
GPA	-2.153	1.742	-.082	-1.236
Time Spent Studying	1.383	.797	.099	1.736
PSS Total Score	-.384	.141	-.156	-2.725**
Adjusted $R^2 = .112, * p < .05; ** p < .01; *** p < .001$				

Association Between Acute Stress and Academic Motivation

The second regression model included the same variables along with the CSASS score. Similar to the previous results, the overall model was significant, with an adjusted r^2 value of .103. Furthermore, the CSASS score significantly predicted the academic motivation level. Specifically, the CSASS score was negatively associated with the academic motivation level ($\beta = -.122, t = 2.140, p = .033$). A 1-unit

increase in the CSASS score was associated with a .122 decrease in the AMS score. Moreover, age ($\beta = .152, t = 2.084, p = .038$) and sex ($\beta = -.316, t = -5.246, p < .001$) significantly predicted the academic motivation level (Table 4).

Table 4
Regression analysis to determine acute stress prediction of participants' academic motivation.

Independent Variables	B	SE B	β	t
(Constant)	39.920	16.522	-	2.416*
Age	1.859	.892	.152	2.084*
Gender	-11.363	2.166	-.316	-5.246***
Current University	-.174	.918	-.011	-.190
Study Year	-1.487	1.509	-.076	-.985
GPA	-2.117	1.751	-1.209	-1.209
Time Spent Studying	1.351	.803	.097	1.683
CSASS Total Score	-.276	.129	-.122	-2.140*
Adjusted $R^2 = .103, * p < .05; ** p < .01$				

DISCUSSION

This study explored the prevalence and impact of perceived and acute stress on academic motivation among Saudi nursing and midwifery students. Our analyses revealed that the majority of the participants experienced a moderate level of perceived stress, and almost all participants demonstrated a low level of acute stress. Comparable levels of perceived stress were reported among Saudi nursing students in previous studies (13, 14). However, our study sample has higher stress levels than a sample of Chinese medical university students (15). The impact of such levels of stress, whether perceived or acute, can vary from person to person. Low or moderate levels of stress can be perceived as a positive and motivating influence among students (2, 16). However, a high level of stress can negatively impact students' performance and motivation toward their studies (3).

According to Karabulut and colleagues, the demanding coursework and clinical training, coupled with the challenges of being university students, are significant sources of stress among undergraduate nursing students (2). This was noted in our study, wherein the students expressed moderate levels of perceived stress. Similarly, Rafati and associates suggested that stress among nursing students can stem from academic, clinical, and financial factors (17). In particular, the clinical training of nursing students can be a notable stressor, especially in competitive environments where errors in patient care are not tolerated

(2). Damayanthi found that nursing students often perceived their academic and clinical workloads as the primary sources of their stress (1). Moreover, first-year and second-year nursing students reported that competing with their peers contributed to higher stress levels. The author proposed that establishing a conducive learning environment and providing consistent support from educational institutions can help students overcome and alleviate these stress-inducing factors.

In the present study, more than half of the participants (51%) demonstrated moderate levels of academic motivation, while 41% reported high levels of academic motivation. Similar findings were observed by El-Sayed and coworkers among nursing students, where the majority (75%) reported experiencing moderate academic motivation (18). It is important to emphasize that academic motivation plays a pivotal role in students' education and serves as the cornerstone of their educational performance (18, 19). Academic motivation can significantly contribute to students' success and attainment of their educational objectives. Conversely, a lack of academic motivation may result in educational setbacks and behavioral challenges (18). Saeedi and Parvizy underscored that academic motivation is perceived as a source of empowerment for students, capable of determining their achievements or setbacks in their studies (19).

Students with high academic motivation are more likely to excel in their studies and acquire essential knowledge and skills (2). It is suggested that internally motivated students tend to thrive, as they derive satisfaction from their work. Additionally, such individuals are better equipped to navigate the challenges they may encounter throughout their educational journey (19, 21). Academic motivation empowers nursing students to actively engage in their studies and cultivate vital nursing care skills, essential for success in both their education and professional careers (20). Nguyen and colleagues discussed that a majority of nursing students exhibited a preference for intrinsic motivation over extrinsic motivation in their choice of major (20). Additionally, students who displayed internal motivation for pursuing nursing tended to outperform those motivated primarily by external factors. The authors noted that internal motivation had the potential to alleviate students' stress and anxiety. Several factors influencing nursing students' academic motivation encompassed engaging educational materials, well-defined training protocols, positive interactions with educators and clinical supervisors, and available support (20, 22). In our study, the external motivation levels of the participants were higher than their internal motivation levels. Fatima and coworkers reported akin results in their study involving undergraduate nursing students (23). The researchers discovered that nursing students were largely driven by external motivations, particularly the desire for high-paying job opportunities and an improved quality of life.

Regarding the examined relationships, the participants' levels of perceived stress significantly predicted their levels of academic motivation. Despite our participants reporting a moderate level of perceived stress, we discovered that increased perceived stress notably correlated with decreased academic motivation. Furthermore, we observed a parallel negative association between the participants' acute stress and academic motivation levels. Among the predictors of academic motivation within our study sample were age and sex. Similar associations between stress and academic motivation among nursing

students were reported by Berdida (24). Nevertheless, their study diverged from ours in the measurement of stress, as the researcher utilized the Perceptions of Academic Stress Scale.

Karabulut and associates investigated the impact of stress on nursing students' academic motivation (2). In their study, the Nursing Education Stress Scale was employed to gauge stress. The findings showed stress levels higher than the average. Despite this, the researchers discovered a positive correlation between the practice stress subscale score and the mean intrinsic and extrinsic motivation scores. They also reported an exclusively positive association between academic stress and intrinsic motivation. These variations in the observed relationships could be attributed to the distinct measurement tools utilized to assess stress.

Despite the literature indicating that low-to-moderate stress levels might have a positive influence on students, our study presented contrasting findings. Most of our participants reported moderate levels of perceived stress and low levels of acute stress. Both types of stress were found to have a negative impact on the participants' academic motivation. These findings might be associated with the specific characteristics of our sample and the tools employed to assess stress. Furthermore, the existing literature has unveiled inconsistencies regarding these relationships—whether they manifest as positive or negative. Such disparities could likely be attributed to the diverse nature of the samples included in various studies. Additionally, differences in the techniques used to measure stress and the approaches utilized to evaluate academic motivation might also contribute to these discrepancies.

Inconsistencies within the literature regarding the correlation between stress and academic motivation persist. Consequently, a demand for further studies featuring more comprehensive samples arises, with the intention of delving deeper into these relationships and elucidating their essence. Furthermore, research endeavors employing a longitudinal design could uncover the underlying dynamics through which stress, whether perceived or acute, influences academic motivation.

Recommendations

The academic environment frequently engenders stress among students at all levels, particularly college students. Given the demanding nature of nursing programs, nursing students tend to be more susceptible to stress. Their educational journey requires not only the acquisition of extensive knowledge but also the development of essential skills for their clinical responsibilities. Consequently, academic institutions are recommended to foster a nurturing and supportive atmosphere for their students, aiding them in managing these demands and mitigate stress. For example, the integration of academic counseling programs could incorporate specific strategies to address students' stress levels and establish initiatives that facilitate effective coping. Achieving this might entail the provision of psychological guidance from clinical experts to ensure the reduction of stress among students, thereby enhancing their prospects of succeeding in their academic pursuits.

Limitations

The present study has some limitations that ought to be addressed. First, this study incorporated a convenience sampling approach which would limit the generalizability of the study results. However, convenience sampling is still an acceptable approach in research due to its merits regarding time and funds consumption. In addition, the study was limited to universities located in three regions within the Kingdom. Therefore, conducting studies in within other regions of the Kingdom as well as other countries and including students from different cultural backgrounds can be beneficial to further examine the relationships found in the current study. Second, self-report measures were utilized in this study. Such measures could introduce bias to the study results. Response bias can present inflation to examined correlations which would lead to inaccurate conclusions. Yet, self-report measures remain significant in research as they provide an insight into individuals' convictions and views. Third, the study adopted a cross-sectional design, enabling only the examination of associative relationships, not temporal sequences between the variables of interest. However, despite these limitations, this study establishes a basis for future studies within the Kingdom and other countries to enable researchers to further examine the relationships observed among nursing and midwifery students.

CONCLUSION

The present study included Saudi nursing and midwifery students from several universities situated within the Kingdom of Saudi Arabia. It explored both perceived and acute stress in relation to their prevalence and connection with the academic motivation of the students. A substantial proportion of the students showed moderate levels of perceived stress, low levels of acute stress, and moderate levels of academic motivation. Additionally, we discerned that both perceived and acute stress exhibited a negative predictive effect on the academic motivation of the nursing and midwifery students. Therefore, it is important to understand nursing and midwifery students' stress levels, as they influence their academic performance. Educators should pay attention to the stress levels of their students and intervene properly to constraint their influence. This can be achieved by developing and applying appropriate counseling services to address stress levels and their causes among nursing and midwifery students.

Declarations

Ethical Approval and Consent to Participate:

The design and data collection for this study were approved by the Shaqra University Standing Committee on the Ethics of Scientific Research (ERC#: ERC_SU_20220097). A written informed consent was obtained from the participants. In addition, this study was conducted in accordance with the guidelines of the Declaration of Helsinki. Participating students were made aware of the aims of the study, that their participation is voluntary, and they have the right to withdraw from the study at any time without consequences. Authors did not obtain identifiers or personal information to maintain full privacy and confidentiality of participants.

Consent for Publication:

Not Applicable

Availability of data and materials:

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions of privacy.

Competing interests:

The authors declare that they have no completing interests.

Funding:

This work was supported by Princess Nourah bint Abdulrahman University Researchers Supporting Project number (PNURSP2026R441), Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia

Authors' Contributions:

AFA and NSA: Conceptualization, Methodology, Writing- Original draft, Formal Analysis. **AMA, FMA, HFA, MTA, and AKA:** Investigation, Visualization, Writing- Review & Editing.

Acknowledgments:

The authors express their gratitude to Princess Nourah bint Abdulrahman University Researchers Supporting Project number (PNURSP2026R441), Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia. Also, the authors would like to thank the Deanship of Scientific Research at Shaqra University for supporting this work.

References

1. Damayanthi HD. Perceived stressors among undergraduate nursing students, University of Peradeniya, Sri Lanka. *Int J Sci Res Publications*. 2014;4(6):1–4.
2. Karabulut N, Gurcayir D, Yildiz BZ. Effect of stress on academic motivation and achievement of students in nursing education. *Int J Caring Sci*. 2021;14(1):15.
3. 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;20:1–9.
4. Zheng YX, Jiao JR, Hao WN. Stress levels of nursing students: A systematic review and meta-analysis. *Medicine*. 2022;101(36):e30547.
5. Budu HI, Abalo EM, Bam V, Budu FA, Peprah P. A survey of the genesis of stress and its effect on the academic performance of midwifery students in a college in Ghana. *Midwifery*. 2019;73:69–77.

6. Rafii F, Saeedi M, Parvizy S. Academic motivation in nursing students: A hybrid concept analysis. *Iran J Nurs Midwifery Res*. 2019;24(5):315–22.
7. Zavaleta JC, Alva RY, Vargas SV, Medina EF, Somoza YP, Andrade-Arenas L. Relationship between stress and academic performance: An analysis in virtual mode. *Int J Adv Comput Sci Appl*. 2021;12:823–33.
8. Kent N, Alhowaymel F, Kalmakis K, Troy L, Chiodo LM. Development of the College Student Acute stress scale (CSASS). *Perspect Psychiatr Care*. 2022;58(4):2998–3008.
9. Rosenthal L, Lee S, Jenkins P, Arbet J, Carrington S, Hoon S, Purcell SK, Nodine P. A survey of mental health in graduate nursing students during the COVID-19 pandemic. *Nurse Educ*. 2021;46(4):215–20.
10. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav*. 1983;24(4):385–96.
11. Vallerand RJ, Pelletier LG, Blais MR, Briere NM, Senecal C, Vallieres EF. The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educ Psychol Meas*. 1992;52(4):1003–17.
12. Kotera Y, Conway E, Green P. Construction and factorial validation of a short version of the Academic Motivation Scale. *Br J Guidance Couns*. 2023;51(2):274–83.
13. Al Zamil L. Perceived level of stress, & coping strategies among Saudi nursing student. *IOSR J Nurs Health Sci*. 2017;6(03):6–13.
14. Shalaby S, AlDilh S. Exploring the relationship between perceived stress and academic achievement among critical care nursing students. *Athens J Health*. 2015;2(4):283–96.
15. Lin XJ, Zhang CY, Yang S, Hsu ML, Cheng H, Chen J, Yu H. Stress and its association with academic performance among dental undergraduate students in Fujian, China: a cross-sectional online questionnaire survey. *BMC Med Educ*. 2020;20:1–9.
16. Alsaleem MA, Alsaleem SA, Al Shehri S, Awadalla NJ, Mirdad TM, Abbag FI, Mahfouz AA. Prevalence and correlates of university students' perceived stress in southwestern Saudi Arabia. *Medicine*. 2021;100(38):e27295.
17. Rafati F, Rafati S, Khoshnood Z. Perceived stress among Iranian nursing students in a clinical learning environment: A cross-sectional study. *Adv Med Educ Pract*. 2020;11:485–91. [Internet].
18. El-Sayed MM, Mousa MAEG, Abd-Elhamid EAEF. Academic Motivation, Academic Self-Efficacy and Perceived Social Support among Undergraduate Nursing Students, Alexandria University, Egypt. *Assiut Sci Nurs J*. 2021;9(240):76–86.
19. Saeedi M, Parvizy S. Strategies to promote academic motivation in nursing students: A qualitative study. *J Educ Health Promotion*. 2019;8(1):86.
20. Nguyen TV, Wantonoro W, Nguyen HX, Huynh MN, Nguyen MT, Le MQ, Vo TM, Huynh LV, Nguyen PV, Nguyen TH. Factors associated with academic motivation in nursing students: a cross-sectional study. *Jurnal Kebidanan Dan Keperawatan Aisyiyah*. 2023;19(1):1–4.

21. Fard FS, Asayesh H, Hosseini MH, Sepahvandi M. Motivation, self-efficacy, stress, and academic performance correlation with academic burnout among nursing students. *J Nurs Midwifery Sci*. 2020;7(2):88–93.
22. Allari Rs Z, Ah, Atout M, Hasan Aa, Alsaleh E, Khalil M, Khalifeh A, Alzyoud M. The Motivating Factors For Studying Nursing: Students' Perception. *J Pharm Negat Results*. 2023;14(2).
23. Fatima M, Ahmed S, Jokhio PB, Rind A, Haroon RM, Malhi LD. Evaluating Nursing Students' Academic Motivation through Academic Motivational Scale: A Cross-Sectional Study of Two Colleges. *Language*. 2021;59:44–7.
24. Berdida DJ. 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.