ACADEMIC BURNOUT AND PSYCHOLOGICAL RESILIENCE RELATIONSHIP IN UNDERGRADUATE NURSING STUDENTS IN THE EASTERN PROVINCE OF THE KINGDOM OF SAUDI ARABIA: A QUANTITATIVE CROSS-SECTIONAL STUDY

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Abstract

Background: Academic burnout has a role in nursing student attrition, which contributes to the Saudi nursing shortage. Resilience increases students' capacity to overcome academic stressors that can lead to academic burnout. However, no studies have been conducted in Saudi Arabia to investigate their relationship. Therefore, this study aims to investigate the relationship between academic burnout and psychological resilience among Saudi undergraduate nursing students.

Method: A descriptive correlation study was conducted using an online survey comprised of the Connor-Davidson Resilience Scale-10 (CD-RSC), the Maslach Burnout Inventory (MBI) Student Survey, and the socio-demographic survey to collect data from a convenient sample of (n=243) undergraduate nursing students at Imam Abdullah bin Faisal University (IAU) in the Eastern region of Saudi Arabia. Descriptive and inferential tests were employed in the data analysis process.

Results: 61% of students experienced moderate to high levels of academic burnout, and only 17.3% experienced high psychological resilience. A significant negative relationship was found between Saudi undergraduate nursing students' academic burnout and psychological resilience ($r=-0.14$, $p<.022$). Differences were noted in academic burnout ($p=0.034$) and resilience ($p=0.024$) based on the student's academic year, as both increased with the student's level. Additionally, significant differences were found in students' psychological resilience concerning age ($p=0.011$).

Conclusions and recommendations: Psychological resilience serves as a protective factor, as students with high resiliency reported less academic burnout and greater professional efficacy. These findings suggest that efforts are required to create supportive educational settings to enhance students' resilience to overcome academic burnout and address the nursing shortage.

Key Words: Academic Burnout, Psychological Resilience, Nursing Students, Saudi Arabia.

Introduction

It is widely acknowledged that the demands and pressures associated with healthcare school pose a significant threat to the well-being of healthcare students, resulting in high rates of anxiety and exhaustion (1). Nursing students experience significantly higher levels of stress than students in other health-related fields (2). In a study that focused on nursing students in the Kingdom of Saudi Arabia, nursing students reported moderate levels of stress (3). Additionally, nursing students reported the highest prevalence of stress-induced self-medication (59.09%) in a study on health and non-health colleges in Saudi Arabia (4). The presence of numerous stressors can adversely affect the health and academic performance of nursing students (5). Some examples of course-related stresses that Saudi nursing students encounter include challenging coursework, a lack of knowledge and skills, clinical practice pressure, and critical thinking requirements (6). A mix of these stressors can contribute to burnout among nursing students (7).

The World Health Organization has recognised burnout as a phenomenon caused by unmanaged long-term stress (8). Academic burnout syndrome occurs when a student's mental exhaustion, cynicism, and low perception of their efficacy all increase (9). Academic burnout among nursing students can have significant consequences. For example, students who experience academic burnout are more likely not to complete their degrees, resulting in a shortage of nursing graduates that will result in a shortage of nurses in the workforce (10).

In 2020 there was a global nursing shortage of 5.9 million nurses (11), including the Kingdom of Saudi Arabia, with only 56 nurses available for every 10,000 residents (12). Nursing contributes significantly to the achievement of the Sustainable Development Goals (SDGs), particularly SDG 3, which is concerned with the well-being and health of the population (13). Given the shortage and importance of nursing staff, the Kingdom of Saudi Arabia has released 100,000 nursing jobs to be filled by Saudi nurses by 2030 (14). Thus, in order to fill the shortage of nurses in Saudi Arabia, nursing students' psychological well-being must be protected in order for them to overcome the academic stressors that lead to the development of burnout issues.

Resilience helps nursing students handle the academic stressors that lead to academic burnout (15). In the context of nursing education, resilience is defined as the process of development that occurs when nursing students learn to cope effectively with perceived academic stress and adversity by drawing on their own strengths (16). Resilience assists students in enhancing their capacity to complete their studies and achieving academic and clinical success (17, 18, 19). Therefore, enhancing psychological resilience among nursing students has shown promise as a means of preventing or reducing academic burnout. To date, Saudi nursing students' psychological resilience and academic burnout have rarely been studied, and no study has investigated the relationship between the impact of resilience and academic burnout. Thus, understanding the prevalence of academic burnout, psychological resilience, and their relationship among Saudi undergraduate nursing students assists in how interventions can be tailored to best serve the population and to ensure that there are enough nursing graduates available to meet Saudi Arabian healthcare system needs and help in achieving SDG3.

Methods

1. Study Design and Settings: The author conducted a quantitative correlation study at a nursing college at Imam Abdulrahman bin Faisal University (IAU) in the eastern province of Saudi Arabia during the academic year 2023.

2. Sampling Method and Study Population: A convenience sample technique was used with a sample size of 169 participants. This number was determined by utilising an automated calculator created by Raosoft (2009), based on a population of 300, with a margin of error of 5% and a 95% confidence level (20). The study sample included all 3rd and 4th year nursing students aged 18 and above. This sample was selected due to the fact that their curriculum is mainly centred on extensive practical training as well as theoretical parts. Students in their 1st and 2nd years were not included since they had not yet begun clinical training. Additionally, graduate students and students under the age of 18 were excluded from this study sample.

3. Data Collection: A web-based tool, Qualtrics, was used to distribute an online survey. In compliance with the researcher's agreement with the gatekeeper, the IAU nursing college sent an email invitation to all participants' academic email containing the QR code and electronic link for this study survey. The questionnaires were distributed between 1 April and 30 April 2023. On the first page of the survey, students' consent and the confidentiality and anonymity of information were assured. Also, participants were informed in the participation information sheet that participation is entirely voluntary and can be withdrawn anytime, and in the case of any further questions, the information of the principal investigator was provided. Following the participant's completion of the questionnaire, the web tool transferred the data into a password-protected Excel sheet for further use.

4. Instruments: Three sections of the questionnaire were added to be completed once per student as intended and not adapted in any way.

Section A: Socio-demographic characteristics of the **students including: age, gender, academic year, and overall GPA.**

Section A: Socio-demographic characteristics of the students including: age, gender, academic year, and overall GPA.

Section B: Maslach Burnout Inventory-Student Survey (MBI-SS): The MBI-SS comprises 16 elements which correspond to the following scales: Emotional Exhaustion (EE) (five questions), Cynicism (CY) (five questions) and Professional Effectiveness (PE) (six questions). On the MBI-SS, questions are given a score between 0 and 6 based on how often they are indicated to be used, with 0 suggesting (never), 1 indicating (a few times a year), 2 indicating (monthly), 3 indicating (a few times a month), 4 indicating (weekly), 5 indicating (a few times a week), and 6 indicating (daily). According to the MBI-SS manual, the score is calculated in two ways. First, the sum of responses of items for each subscale to determine academic burnout levels (9). A score of 16 or greater indicated high EE. Similarly, a CY score of 11 or more indicated high EE. Conversely, a score of 23 or less on the PE scale indicated high EE; these cutoff scores were used to define a high level of academic burnout. Further, moderate burnout has scores spanning from 11 to 15 for EE, 6 to 10 for CY, and 24 to 29 for PE. Also, low burnout is defined as scores below these ranges for each. By using these cutoff scores, participants were classified according to their burnout levels, and the data was analysed accordingly. Additionally, using the second method of calculating the mean score, the frequency with which participants experienced academic burnout symptoms within each domain was quantified. This allows for comparisons between various domains and a more nuanced data analysis. In addition, the mean scores varied between 0 (never) and 6 (daily) (9).

Furthermore, for MBI-SS internal reliability, Cronbach's coefficient alpha was used, yielding values of 0.90 for EE, 0.79 for CY, and 0.60 for PE (9). In this study, the reliability of the MBI-SS was measured, and Cronbach's alpha was reported to be 0.90 for EE, 0.75 for CY, and 0.77 for PE. Also, MBI-SS has been proven to be valid in studies conducted in Saudi Arabia on healthcare specialities (21; 22), which indicates its trustworthiness in measuring academic burnout.

Section C: Connor-Davidson Resilience Scale 10 (CD-RISC-10): CD-RISC contains 10 items and is based on a five-point Likert scale where 0 represents (not true at all), 1 represents (rarely true), 2 represents (sometimes true), 3 represents (often true), and 4 represents (true nearly all the time). In addition, CD-RISC-10 had five domains. Flexibility (questions 1 and 5), self-efficacy (questions 2, 4, and 9), optimism (questions 3, 6, and 8), question (10) for the ability to regulate emotion, and question (7) for cognitive focus/maintaining attention under stress. According to Connor Davidson's Resilience 10-item scale scoring system, each item has a minimum of 0 and a maximum of 4 points (23). The CD-RISC 10 has a maximum score of 40 and a minimum score of 0 (23). By adding up all ten items, one can determine the final score. To illustrate, a score of (0-29) suggests that psychological resilience is low, (30-32) indicates that psychological resilience is moderate, and (33-40) indicates it is high (23).

Moreover, the CD-RISC 10 Cronbach's alpha for reliability analysis was (0.89), which is in line with the original instrument psychometric assessment, which showed an internal consistency reliability coefficient of 0.89 (23). In addition, a previous study conducted on Saudi healthcare students demonstrated the scale's validity in assessing resilience (24).

5. Data Analysis: The survey Excel sheet was examined for any missing MBI-SS, CD-RISC-10, and socio-demographic survey data. Incomplete data disqualified its participants from the study. As a result, a total of 243 questionnaires were completed (81% response rate) and entered for analysis. The analysis was performed using the SPSS for Windows, version 20.0 (SPSS, Chicago, IL). The normality of the data was checked by the Shapiro-Wilk test. The results showed a normal distribution for all variables. Descriptive and frequency statistics were used to analyse the student's academic burnout, psychological resilience, and socio-demographic characteristics. Pearson's Coefficient Correlation Test was used to determine the correlation between students' academic burnout and psychological resilience. The independent T-test was used to examine significant differences between students' (gender and academic year) and academic burnout and psychological resilience levels. The ANOVA test was used to compare resilience and academic burnout among students with various age ranges and GPAs. The significance level was set at $p < 0.05$.

6. Ethical Considerations: Ethical approval was attained from the School of Health and Social Care Research Ethics Committee at Swansea University (20 March 2023). Certification of training for protecting human research participants (number 2986761) was obtained. Authorisation of use for MBI-SS (number TVZKOEKIF) and CD-RISC-10 was granted. Contact information of the IAU Counselling Services Centre was included in the debriefing sheet to avoid any risk foreseen by participants while filling out the survey.

Results

1. The Description of Students' Socio-Demographic Characteristics: Approximately one-third of the students (36.2%) were males, while two-thirds (63.8%) were females. The average age of participants was 21 years old, with 70% of participants between the ages of 21 and 22 years. The mean GPA was reported at (4.13 ± 0.48), which represents an academic record of "very good", and 67.1 % of students had a GPA between (3.5 and 4.5), 23.5% had a GPA of (4.5 and above), and 9.5% had a GPA of (3.5 and less). Most participants were in their third year (58%), while 42% were in their fourth year. (Table 1)

Table 1. Number and distribution of the socio-demographic characteristics of the undergraduate nursing students (N=243).

	n	%
Age (Years)		
< 21	31	12.8
21 – 22	172	70.8
23 or More	40	16.5
Mean ±SD	21.41 ±1.03	
Gender		
Male	88	36.2
Female	155	63.8
GPA*		
< 3.5	23	9.5
3.5 – 4.5	163	67.1
More than 4.5	57	23.5
Mean ±SD	4.13 ±0.48	
Academic Year		
3rd Year	141	58.0
4th Year	102	42.0

*Note GPA = General Point Average is out of 5.

The full sample (N). A proportion of the sample (n). Percentage distribution (%). Standard deviation (SD).

2. The Prevalence of Academic Burnout and Psychological Resilience: The MBI-SS total score indicates that 18.1% of nursing students experience high academic burnout, 42.8% experience moderate academic burnout, and 39.1% experience low academic burnout (Table 2). Regarding psychological resilience, approximately half of the nursing students (52.7%) had a moderate level of psychological resilience. (Table 3)

Table 2. Maslach Burnout Inventory-Student Survey assessment and total averaged score.	n	%
Exhaustion		
Low	63	25.9
Moderate	107	44.0
High	73	30.0
Mean ±SD	3.69 ±1.44	
Cynicism		
Low	126	51.9
Moderate	78	32.1
High	39	16.0
Mean ±SD	2.93 ±1.42	
Professional Efficacy		
Low	96	39.5
Moderate	127	52.3
High	20	8.2
Mean ±SD	2.81 ±1.02	
Maslach Burnout Inventory-Student Survey (Total) Score		
Low	95	39.1
Moderate	104	42.8
High	44	18.1
Mean ±SD	3.14 ±0.91	

A proportion of the sample (n). Percentage distribution (%). Standard deviation (SD).

Table 3: Assessment of the Connor – Davidson Resilience-10 items scale score.	Low		Moderate		High		
	n	%	n	%	n	%	Mean ±SD
CD-RISC score	73	30.0	128	52.7	42	17.3	22.90 ±7.14

A proportion of the sample (n). Percentage distribution (%). Standard deviation (SD).

4. Correlations Analysis between Academic Burnout and Psychological Resilience: A significant negative relationship was found between academic burnout and psychological resilience (r=-147, p=.022) among IAU nursing students. Additionally, a negative correlation was observed in the academic burnout subdomain of EE and CY with psychological resilience (r=-0.348, p<0.001 and r=-0.528, p<0.001), respectively. In contrast, students' PE and psychological resilience had a positive relationship (r=0.596, p<0.001). (Figure 1) (Table 4)

Figure 1. The correlation between Maslach Burnout Inventory-Student Survey and Connor–Davidson Resilience-10 items scale Scores

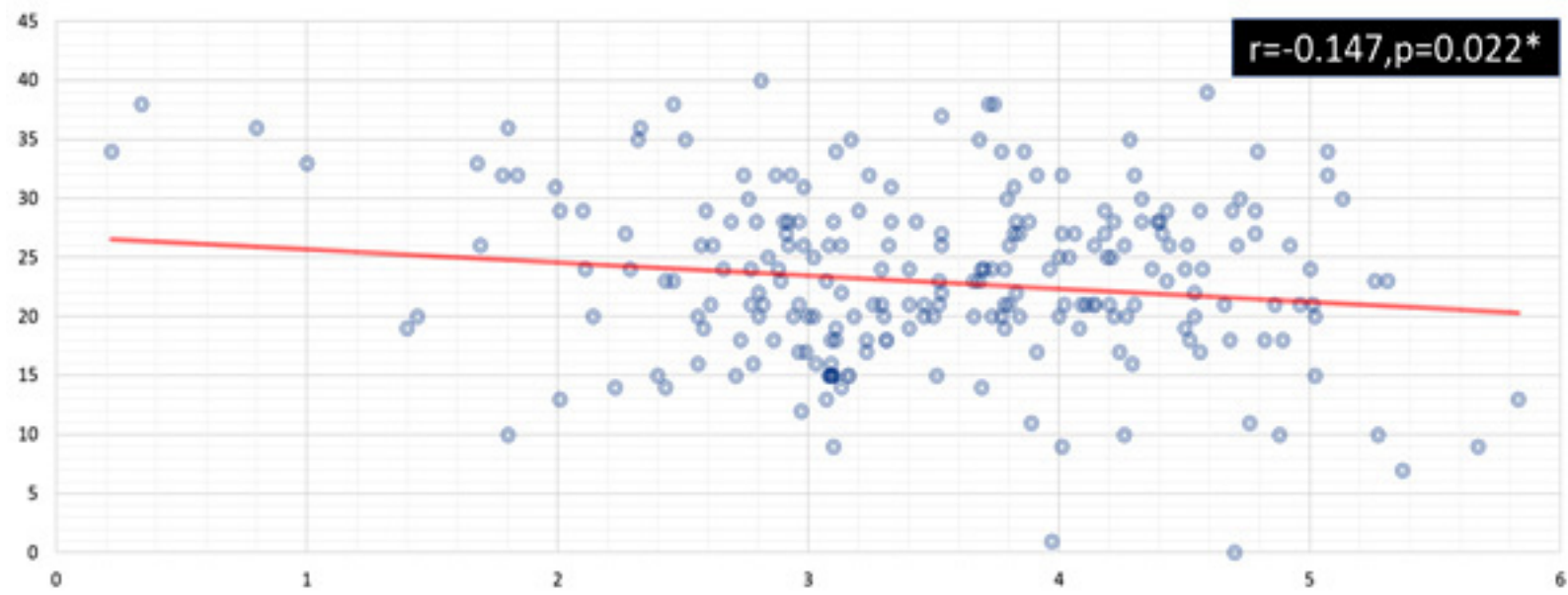

Table 4. The correlation between MBI-SS domains with total CD-RISC-10 scores.

	Correlation	
	r	p
Exhaustion	-0.348	<0.001**
Cynicism	-0.528	<0.001**
Professional Efficacy	0.596	<0.001**

*The Pearson correlation coefficient (r). *Statistically significant p-value at ≤0.05.

5. Differences in Academic Burnout and Psychological Resilience Based on Participants' Socio-Demographic Characteristics: There was a statistically significant difference between psychological resilience and students' age (p=0.011); the differences were in favour of students aged 21-22 years old with mean ± SD of (24.17 ±6.45). Furthermore, there was a statistically significant difference in psychological resilience measures and students' academic year (p=0.024). The differences were in favour of fourth-year nursing students, with a mean ± SD of (23.78 ± 6.78) when compared with third-year nursing students, with a mean ± SD of (21.69 ± 7.47). Also, the result indicates no significant difference in students' levels of psychological resilience and academic burnout according to gender or GPA.

Table 5. The statistical significance of the students' socio-demographic characteristics with MBI-SS and CD-RISC-10 scores.

	Academic Burnout (MBI-SS)		Psychological Resilience (CD-RISC-10)	
	Mean ±SD	Significance Test	Mean ±SD	Significance Test
Age (Years)				
< 21	3.21 ±0.90		19.45 ±7.31	
21 – 22	3.52 ±0.97		24.17 ±6.45	
23 or More	3.51 ±0.84	F=1.485, P=0.228	23.23 ±7.11	F=4.575, P=0.011*
Gender				
Male	3.41 ±0.96		22.64 ±7.43	
Female	3.52 ±0.93	T=0.970, P=0.333	23.05 ±6.99	T=0.430, P=0.668
GPA*				
< 3.5	3.55 ±0.67		21.95 ±6.61	
3.5 – 4.5	3.41 ±0.98		22.79 ±7.17	
More than 4.5	3.67 ±0.91	F=1.797, P=0.168	23.61 ±7.31	F=0.500, P=0.607
Academic Year				
3rd Year	3.34 ±0.82		21.69 ±7.47	
4th Year	3.59 ±1.01	T=2.132, P=0.034*	23.78 ±6.78	T=2.272, P=0.024*

* Note GPA = General Point Average is out of 5. *Statistically significant p-value at ≤0.05. SD: Standard deviation.

Discussion

The purpose of this study was to examine undergraduate nursing students' psychological resilience and academic burnout prevalence and relationship. The findings of the current study revealed that most of the participants experienced an average level of academic burnout, and this aligns with the finding of the Alshammari et al. (14) study that was carried out on Saudi nursing students. During college education, students handle heavy workloads, numerous assignments, worries about their future careers, and financial issues. These stressors can contribute to nursing students' academic burnout levels (15; 24; 25). In terms of the psychological resilience of nursing students, participants reported a moderate level of resilience with a mean score of (22.90). This finding was incongruent with Grande et al. (26), who used the same tool (CD-RISC-10) as this study and was conducted on Saudi undergraduate nursing students. Grande et al. (26) found a higher psychological resilience than this study, with a mean score of (32.23). This may be due to the fact that the current study collected the data at a time when there were no exams or pressures, as opposed to the Grande et al. (26) study that measured the resilience among nursing students during the stressful period of the COVID-19 crisis. However, the current study sample's level of psychological resilience was comparable to other international studies that used the CD-RISC-10 and studied undergraduate nursing students from China and Nigeria (27, 28).

Furthermore, a high level of resilience can help students cope with the stress and difficulties associated with their studies (25; 29), which can lower their risk of academic burnout. According to the present study's findings, academic burnout and psychological resilience are significantly linked and negatively correlated. This illustrated that students with a higher level of psychological resilience have lower academic burnout (EE, CY) and vice versa. Also, the present study found a positive relationship between resilience level and PE of students. These findings provide additional evidence as they support those of other studies conducted on nursing students from countries across the globe, including Korea, Iran, and Spain (25, 30, 31, 32, 33, 34).

The present study also revealed that students' psychological resilience differed based on age. Chow et al. (28), Ros-Risquez et al. (33), and Hasson et al. (35) support the current study findings as they identified age-related differences in the resilience levels of nursing students from China and Spain. Based on these findings, age can be considered a factor influencing psychological resilience levels. Additionally, the present study found that students' academic level can influence their academic burnout and psychological resilience, as fourth-year nursing students had higher academic burnout and psychological resilience than third-year nursing students. This can be justified by the fact that students at higher academic levels are required to take advanced courses and have a heavier practical load (36). Also, this can be related to nursing students' concerns regarding their entry into the labour market, acceptance into selective processes, and expectations of their professional success (37; 38). In addition, the statistically significant difference among fourth-year students is in line with the fact that the greater the pressure, the greater the need to establish protective factors such as resilience (16). The result of this study provides additional evidence as it supports previous studies done on undergraduate nursing students (28; 36).

Limitation:

Although this research is the first in Saudi Arabia to investigate the relationship between academic burnout and undergraduate nursing students' psychological resilience, it had some limitations. First, the convenient sampling technique limits this study's ability to generalise its findings to all Saudi nursing students nationwide. Secondly, the data was obtained through self-report questionnaires which may affect the accuracy of the data provided by the participants.

Conclusion and Recommendations

The psychological resilience of nursing students serves as a protective factor, as students with high resiliency reported less academic burnout and greater professional efficacy. These findings suggest that efforts are required to create supportive educational settings to enhance students' resilience to overcome academic burnout and increase students' professional efficacy to succeed in their studies and graduate enough nurses to fill the nursing shortage in Saudi Arabia. Ultimately, it aids Saudi Arabia in achieving the sustainable development goal of promoting population health and well-being. Also, it would be beneficial to conduct qualitative research and look into the impact of additional social factors such as students' marital status, family size, economic status, and behavioural factors like smoking, exercise, and sleeping patterns, to more comprehensively identify the factors that may influence Saudi nursing students' resilience and academic burnout.

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