Academic Stress and Academic Self-Efficacy among Medical and Nursing Students in Post-COVID-19 Pandemic Era, in Erode, Tamilnadu: A Cross-Sectional Study

Nithya.M[1],Sivakumar.R[2],Muthukumar.D[3]Nandakumar.S[4], Vajiravelu Suganthi[5], Panneerselvam Periasamy[6], Sasikala Gunasekaran[7]***

1. Dr. Nithya.M, Assistant Professor, Department of Anatomy, Nandha Medical College and Hospital, Perundurai, Erode, Tamilnadu. Email: drnnithya311@gmail.com
2. Dr.Sivakumar.R, Assistant Professor, Department of forensic medicine and toxicology, Government Medical College, Tiruppur, Tamilnadu. Email: sivakumardr07@gmail.com
3. Dr.Muthukumar.D, Assistant Professor, Department of Forensic Medicine, Government Medical College, Tiruppur, Tamilnadu. Email:muthukumarduraiappa@gmail.com
4. Dr.Nandakumar.S, Senior Assistant Professor, Department of Forensic Medicine, Government Erode Medical College, Perundurai, Erode, Tamilnadu. Email: drsnandu2611@gmail.com
5. Dr. Vajiravelu Suganthi, Professor & Head, Department of Physiology, Vinayaka Mission's Kirupananda Variyar Medical College & Hospital, VMRF(DU), Salem, Tamilnadu. Email: vsuganthiarasan@gmail.com (https://orcid.org/0000-0001-8881-8146)
6. Panneerselvam Periasamy, Research Scholar in Medical Physiology, Vinayaka Mission's Research Foundation (Deemed to be University), Salem, Tamilnadu. Email: pannphysio@gmail.com (https://orcid.org/0000-0002-3358-313X) .
7. Dr. Sasikala Gunasekaran, Department of Nursing, Government Erode Medical College Hospital, Perundurai, Erode, Tamilnadu, India. Email: saipannsasi@gmail.com(https://orcid.org/0000-0003-4986-6588)

*****Corresponding Author:**

Dr.Nandakumar.S, Senior Assistant Professor, Department of Forensic Medicine, Government Erode Medical College, Perundurai, Erode, Tamilnadu. Email: drsnandu2611@gmail.com Phone Number: 9500526662

Abstract:

Background: After Covid-19 Pandemic, there are many elements including academic stress that contribute to psychological problems among medical students. Most importantly, these psychological elements may have an impact on how satisfied they are with their academic success.**Aim and Objectives:**To study the association between academic stress and academic self-efficacy on academic performance among MBBS and nursing students in the post-COVID-19 pandemic.**Methodology:**This is a cross‑sectional study and it was conducted via Google Form survey completed by students studying MBBS and nursing students in Erode

district.A self-report format was used to collect data from students regarding academic stress, academic self-efficacy, and academic performance.**Results:**A total of 295 students(33.9% male, 66.1% female) had completed survey. MBBS and nursing students had a moderate level of academic self-efficacy (69.9%), a high level of academic stress.Students' academic stress, self-efficacy, and academic performance were found to be positively correlated ($p < .05$). The results show that significantly MBBS students' academic self-efficacy mean score significantly higher than Nursing students ($P < 0.05$). **Conclusion:**There is a significant association was observed on the levels of Academic Self efficacy versus MBBS and Nursing course students ($P<0.05$).

Keywords: Academic Stress, Academic Self-Efficacy, Post-Covid-19,Academic performance

Introduction:

The mental health of medical and paramedical college students is likely to be severely affected by the second wave of COVID‑19pandemics, affecting their learning process. As a result of the novel coronavirus illness in December 2019 (COVID19), which had its origins in Wuhan, China, spreading to other parts of the world, the World Health Organization was forced to declare it a worldwide pandemic on March 11, 2020[1]. Runny noses or GIT issues, which are common in severe acute respiratory syndrome, are uncommon when the current COVID-19 is compared to the prior coronavirus (SARS). [2] As of March 16, 2021, SARS-CoV2 was responsible for 2.66 million fatalities and more than 120 million cases of severe viral pneumonia across 220 nations. [3]. Hospitals are the principal sites of confirmed or suspected COVID-19 cases, making them the most susceptible places for new infections because they are the epicentre of epidemic prevention and control. The current viral pandemic has undoubtedly had the greatest impact on frontline medical staff (FMS), who now face a greater workload that includes diagnosing and treating new infections, higher stress levels, a constrained or overburdened health system, and a higher risk of infection. [4] The quality of their sleep and mental health may be negatively impacted by these ongoing challenges for FMS patients. Anxiety was analysed in 12 research during the COVID-19 pandemic, with a pooled frequency of 23.2%, while depression was evaluated in 10 studies, with a prevalence rate of 22.8%. [5].

Stress is defined as "the inability to cope with recognised (real or perceived) threats to mental, bodily, emotional, and spiritual welfare" (source). Stress can result in a number of physiological changes and reactions. A difficult time for young adults making the move to

adulthood might be college [6]. Academic stress is today the main source of stress for college students, according to a number of variables, including environmental changes, academic demands, higher education programmes, competition with other students, the transition to independence, and failure [7, 8]. It might even exceed high school levels. According to a survey, around 80% of college students worldwide reported experiencing academic stress [9].

Academic stress is described by the World Health Organization as "the perception by certain students of events in the learning process as a threat to themselves, resulting in a range of negative behaviours" (example: worry, anxiety, or dread). Persistent learning stress has been shown to contribute to symptoms and problems such poor energy, depression, difficulty concentrating, irritability, tension, and physical discomfort [10]. A survey of 27,343 college students who were experiencing academic stress found that 23% of them felt extremely stressed out and that 91% of them had experienced negative academic outcomes in the previous six months [11]. This suggests that academic stress among college students has increased to the point where further research is necessary.

Demands, restrictions, and opportunities are regarded as threats to a person's skills while they are under stress, which is a dynamic interaction [12]. Because of this, stress is a negative element for people who are unable to meet their needs and demands and a positive factor for people who can manage their demands [13]. Due to changes in their social and psychological demands and requirements, students find the transfer to university or college to be daunting [13,14]. extrinsic factors that cause stress include academic responsibilities, financial limitations, social problems, health-related challenges, and campus culture. The effect on students may vary depending on the level of intensity, the length of the stress, the level of self-efficacy, the support of family and peers, and university policies and regulations [15].In order to comprehend students' contentment and performance, it is necessary to define the multifaceted nature of stress and studentship.

University students are reportedly under more stress than ever, which has been shown to hinder their academic performance [16]. University students regard managing their personal psychosocial lives, balancing their academic schedules, and studying for exams as possible pressures [17]. In addition to the pressures listed above, nursing students in particular must manage a heavy course load and lengthy needs for clinical training [18]. This makes nursing students more susceptible to increased levels of stress and psychological disturbances, which will likely have an impact on their performance in school and in their

social lives. It has been discovered that overburdened nursing students exhibit worse levels of academic performance and insufficient clinical skills [19].The clinical working environment, time and financial constraints, as well as course assignments, have all been linked to stress among nursing students [19,20].

Stress Demands and stresses are a common part of daily life for people, but according to Lazarus and Folkman [21], when these threaten or overload a person's resources or put their well-being "at danger," the person frequently feels stressed. Low levels of stress can improve performance, but sustained or excessive levels of stress can be harmful to a person's wellbeing [22]. In fact, those who experience high stress and believe it has a negative influence on their health may be at a greater risk of poorer mental and physical health outcomes, and even premature mortality[23].

Self-efficacy People approach tasks more consciously and with greater calmness when they are convinced they can finish them [24]. Self-efficacy is the idea that a person believes they can "arrange and carry out the actions necessary to obtain certain attainments"[25]. In academic domains, self-efficacy has frequently operated under the term "academic self-efficacy," which is defined as a student's confidence in their ability to "success-fully attain educational goals" [26]. Self-efficacy may vary between, and within, "activity domains" [25].Although Honicke and Broadbent[26] note the large variation in the measures used, as well as the internal consistency and construct validity of academic self-efficacy scales, it is often tested at a task-specific level [27].

Numerous stressors that MBBS nursing students face have been adequately covered in the literature; however, the detrimental effects of stress on nursing students' academic performance, capacity to complete course requirements, and satisfaction with the curriculum and faculty supervision have not been sufficiently covered. There have been few attempts to link the experiences of MBBS nursing students with the performance and satisfaction of academic nursing students. However, further research is required to determine how unpleasant experiences and academic stress affect students' performance, contentment, and opinions of the nursing education system. this study aims to in order to better understand how academic stress and academic self-efficacy affect academic performance among MBBS and nursing students.

Materials and Methods:

This cross‑sectional study was conducted via online surveyamong 295 (142 of MBBS and 153 of nursing)students aged between 18 and 24 years during the period June 2022 to November 2022.This study used descriptive correlational design to collectdata usingGoogle Form survey a self-administered questionnaire from MBBS and nursingstudents of Erode district, Tamilnadu. A self-report format was used to collect data from students regarding academic stress, academic self-efficacy, and academic performance.A convenience sample of 295MBBS and Nursing students wererecruited from Government Erode Medical college and Nursing college from Erode, Tamilnadu.

Prior to data collection, ethical approval was obtained fromthe intuitional Ethics Committee Government Erode Medical college, Perundurai, Erode. Studentswere recruited through an announcement at the students' what's app official group. Those who expressed interest inparticipating were requested to contact principal investigator. Students were informed that the studyis anonymous and voluntary. Interested students were given theself-report questionnaires with a he purpose of the study, its significance, and a noteconfirming the anonymity and confidentiality of the study. Toensure confidentiality, participants were assured in the consentletter that the data will be used for research purposes only. Anonymity assured through havingall identifiable information saved in a separate file using acoding system. The data from June 2022 to November 2022.

Study tool

Based on a review of the literature, the questionnaire appliedin this study was designed. The

questionnaire was created to decrease survey fatigue and wasreviewed by the experts in survey research for face validity. Thefinal version of the questionnaire required 5–10 min of timeapproximately to complete. Sociodemographic informationincludes age, gender, course studying, year of study, Type of Family, Place of living and Monthly family income. The first partof the online Google Form survey contained the informationregarding participants' demographic details, and second part contain academic performance associated factors, Academic Stress Scaleand Academic self-efficacy scale.

Academic Stress Scale consists of 40 items describing the stress in yourinstitution/ college life from the various sources. The level of stressyou feel for each item can be indicated by marking a mark in thebracket given against each statement.If you feel No Stress put a 'S'

mark in the 1st bracket (NS),Slight Stress in the 2nd (SS), Moderate Stress in the 3rd (MS), HighStress in the 4th (HS) and you feel Extreme Stress put a mark in the5th bracket (ES).Keeping this in view a 40 item rating scale which was originallydeveloped by Kim (1970) was used in the present study. The scale wasadapted to Indian conditions by Rajendran and Kaliappan (1990) [28] byadministering the adapted version of the Students' Academic StressScale to 285 subjects of their study and assessed the efficiency ofbehavioural programmes in managing academic stress in improvingacademic performance. The academic stress scale comprises of 40items. Each item had five alternatives varying from the response 'NoStress' to 'Extreme Stress'. Each response carries a score of 'O', '1','2', '3' and '4' respectively. The items are classified into five areascontained 8 items each viz.,a. Personal inadequacy (FI), b. Fear of failure (F2), c. Interpersonal difficulties with teachers (F3), d. Teacher-pupil relationship / Teaching methods (F4) and e. Inadequate study facilities (F5). The total items were 40. Therefore 160 (4 x 40) is the maximumpossible score and the highest score on each factor would be 32 (4 x 8).Each factor has equal number of items. The higher the value of thescore, the more the academic stress and vice-versa.

Academic self-efficacyscale was measured using a questionnaire that consisted of 31 questionsdivided into domains of students' ability to do assignments, mastery of lessons or assignments, and thestability of their confidence The questionnaire was adopted from Winanti [29]. The questionnaire is aLikert scale ranging from 1 (completely false) to 4 (completely true). The results will be classified asmild (score <62), moderate (score between 62 and 93), or high (score ≥94).

Statistical analysis:

The survey results of the questionnaire were extracted and recoded using MS Excel and then imported and analysed using SPSS version 25. Univariate descriptive analysis such as frequency and the percentage was done for sociodemographic and categorical (nominal and ordinal) demographic variables. Descriptive statistical measures were calculated for numeric scale variables. Reliability is the consistency of measurement or stability of measurement over a variety of conditions in which the same results should be obtained. Cronbach's Alpha is the measure to check the reliability of the questionnaire instrument. As per the survey-related research literature, the Cronbach Alpha value above 0.7 is acceptable, the reliability analysis reveals that for all domain items Cronbach's Alpha was >0.90. (Table 1). Reliability

analysis was performed for the domain containing Likert scale items. Chi-squared test of association was used to study the significant associations between categorical sociodemographic variables versus categorical dependent variables. One-way analysis of variance (ANOVA) was used to compare the mean values of numeric variables with demographic variables containing more than two levels. Pearson correlations were used to examine the relationship between any numeric. When P value < 0.05 is considered statistically significant.

Table1: Reliability analysis for all the domain items

SNO	Domain	Cronbach's Alpha	N of Items
1	ACADEMIC STRESS SCALE	0.954	40
2	ACADEMIC SELF-EFFICACY	0.907	31

Results:

There were 295MBBS (48.1%) and nursing (51.9%)students were participated in the study. Amongthem,100 (33.9%) were male and 195 (66.1%) were female.The mean age of was 19.83 ± 1.52.About 63.5% of the students were 1st and 2nd year students (Table 2).

Table 3 shows MBBS and nursing students are having 69.9% moderate and 28% having mild academic self-efficacy. Chi square good ness of fit test results reveal that, the frequencies are statistically significant (P<0.05).

Table 4 shows The chi square association test results reveal that, there is a significant association was observed on the levels of Academic Self efficacy among MBBS and Nursing Students students (P<0.05).

Table 2: Frequency analysis of socio demographic variables MBBS and Nursing Students

Sociodemographic variables	Categories	Count	%	Chi Square	P Value
Gender	Male	100	33.9	94.902	0.000
	Female	195	66.1		
COURSE STUDYING	Nursing	153	51.9	252.373	0.000
	MBBS	142	48.1		
YEAR OF STUDY	Year 1	113	38.5	101.430	0.000
	Year 2	73	25.0		
	Year 3	51	16.9		

	Year 4	58	19.6		
Type of Family	Joint Family	58	19.6	338.330	0.000
	Nuclear Family	237	80.4		
Place of living	Rural	133	45.3	8.254	0.004
	Urban	162	54.7		
Monthly family income	<10000	68	22.9	477.939	0.000
	11,000-20,000	99	33.7		
	21,000-40,000	52	17.6		
	41,000-60,000	35	11.7		
	61,000-75,000	17	5.8		
	76,000-90,000	13	4.5		
	>90,000	11	3.9		

AGE	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
	19.83	1.52	17.00	24.00

Table 3 : To assess the academic self-efficacy among MBBS and Nursing

Academic self-efficacy	**Frequency**	**Percentage**
Mild	83	28.0%
Moderate	206	69.9%
High	6	2.1%
Chi square value	644	
P value	0.000	

Table 4: Academic self-efficacy among MBBS and Nursing Students

Academic Self efficacy	**BSc Nursing**		**MBBS**		**Chi square**	**P Value**
	Frequency	%	Frequency	%		
Mild	49	32.0%	17	12.0%		
Moderate	98	64.1%	123	86.6%		
High	6	3.9%	2	1.4%	31.01	0.000
Total	153	100.0%	142	100.0%		

Table 5: Comparing the academic self-efficacy among MBBS and Nursing Students

Courses	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		F value	P Value
					Lower Bound	Upper Bound		
BSc Nursing	153	66.34	13.60	1.10	64.17	68.51	4.74	0.001
MBBS	142	71.32	10.27	0.86	69.62	73.03		

Table 6: To assess the Academic Stress by using academic Stress Scale among MBBS and Nursing Students

Academic stress scale	Course	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		F Value	P Value
						Lower Bound	Upper Bound		
Personal Inadequacy	BSc Nursing	153	11.75	6.70	0.54	10.68	12.82	1.232	0.296
	MBBS	142	11.44	5.46	0.46	10.53	12.34		
	Total	295	12.15	6.39	0.21	11.74	12.56		
Fear of Failure	BSc Nursing	153	10.58	6.79	0.55	9.49	11.66	1.486	0.204
	MBBS	142	11.25	5.79	0.49	10.29	12.21		
	Total	295	11.59	6.73	0.22	11.15	12.02		
Interpersonal difficulties with teachers	BSc Nursing	153	12.27	6.82	0.55	11.18	13.36	0.375	0.827
	MBBS	142	12.20	5.28	0.44	11.32	13.07		
	Total	295	12.44	6.02	0.20	12.04	12.83		
Teacher-pupil relationship / Teaching methods	BSc Nursing	153	11.86	6.52	0.53	10.82	12.90	0.575	0.681
	MBBS	142	11.44	5.09	0.43	10.59	12.28		
	Total	295	12.05	6.18	0.20	11.65	12.45		
Inadequate study facilities	BSc Nursing	153	12.03	6.90	0.56	10.93	13.13	2.309	0.056
	MBBS	142	11.13	5.55	0.47	10.21	12.05		
	Total	295	12.38	6.49	0.21	11.96	12.80		

Table 5 shows One way analysis of variance test reveal that academic self-efficacy mean score statistically significant, MBBS students' academic self-efficacy mean score significantly higher among nursing students ($P < 0.05$). there is The chi square association test results reveal that, there is a significant association was observed on the levels of academic self-efficacy levels versus different course students ($P<0.05$).One way analysis of variance test reveal that academic stress subscale domain mean score statistically did not differ MBBS and nursing students ($P>0.05$) (Table 6).

Table 7: Comparing the Academic Performance and its Associated factors among MBBS and Nursing Students

Academic Performance	Course	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		F Value	P Value
						Lower Bound	Upper Bound		
Average marks as scored in Internal examination	BSc Nursing	153	65.86	15.03	1.21	63.46	68.26	10.092	0.000
	MBBS	142	60.12	15.32	1.29	57.57	62.66		
Aggregate percentage marks scored in HSE (+2) Examination	BSc Nursing	153	170.13	241.52	19.72	131.17	209.10	1.625	0.166
	MBBS	142	130.40	116.92	9.99	110.65	150.15		
Aggregate percentage marks scored in Tamil Nadu SSLC Examination	BSc Nursing	153	82.57	9.69	0.79	81.02	84.13	4.782	0.001
	MBBS	142	91.65	33.07	2.78	86.17	97.14		

One-way analysis of variance test was used to compare the mean academic performance score among the different course students reveal that the mean academic performance of (Average marks as scored in Internal examination; Aggregate percentage marks scored in Tamil Nadu SSLC Examination) significantly differ among the different course students ($P<0.05$). However, Aggregate percentage marks scored in HSE (+2) Examination did not differ significantly differ among all the Medical &nursing students during post Covid 19 pandemic ($P>0.05$) (Table 7).

Discussion:

In general, university students are burdened with social and psychological expectations, which leaves them open to high-risk behaviours [14, 30]. Consequently, a variety of social and psychological factors cause stress in college students. Due to the rigorous academic requirements, clinical expectations, and challenging clinical environments, nursing education in particular is thought to be stressful [31, 32]. As a result, nursing students now spend longer at clinical sites and are expected to take on more responsibilities, which adds to their stress. In this investigation, nursing students' academic happiness was compared to their levels of academic stress and self-efficacy.Students were found to have a moderate level of stress in relation to their academic achievement and a moderate to high level of self-efficacy in relation to their capacity to complete the necessary in-class and outside-of-class assignments. The results generally concur with other research that showed a significant level of academic stress [33]. However, we discovered that students in our study showed moderate to high levels of self-efficacy, which likely helps to mitigate the harmful effects of stress. One explanation might be connected to the type of students involved in this study, who chose to

pursue nursing and had high average high school test scores. They may have developed a high sense of self-efficacy and less harmful academic stress as a result of this.

An earlier worldwide study that focused on the impact of academic stress on students found that it prevented nursing students' capacity to perform at their best and stunted their growth and development [34]. This demonstrates how students' satisfaction and performance might suffer as a result of academic stress.

Additionally, it has been discovered that nursing students' stress is primarily caused by a lack of professional knowledge and abilities, while other studies have found that nursing interns encounter moderate to severe levels of stress when undergoing clinical training [35].The idea that someone will be more susceptible to stress or stressors simply by virtue of being a nurse student is supported by both international and domestic studies [35].

It will be easier to plan and implement effective instructional strategies to attain the desired learning outcomes if you are aware of academic self-efficacy. Students are eventually able to design goals that are not too challenging to achieve by using proximal goals. In order to accomplish these goals, students must be aware of their own capabilities, and one essential element is self-efficacy assessment. Students frequently underrate their skills, which can prevent them from achieving the necessary academic success [36]. Because it has a significant impact on students' self-efficacy, correct calibration, in which students are given an accurate evaluation of their skills, is crucial [36]. This might be accomplished with direct, sincere criticism and feedback [36].

Academic self-efficacy was a positive predictor, according to this study. The correlation identified and the fact that many students chose to study nursing and had high average high school test scores may help to explain this.

Conclusion:

Academic achievement and sentiments of life satisfaction—both of which have been linked to academic self-efficacy and stress—are indicators of students' success in the medical curriculum. A female student, a nursing MBBS student, or a young student may need additional support to ensure they have the confidence in their abilities and the stress management skills that would help them to achieve their academic goals and maintain their wellbeing throughout their studies, according to differences in students' stress and academic-self-efficacy levels across gender and age. It is in the best interests of the student, the

educational system, and society at large for everyone to be given the opportunity to realise their full potential and pursue a hard yet gratifying career in medicine.

Limitation:

Every study will undoubtedly have its limitations. First of all, because our study is a cross-sectional analysis, it can only explain how academic stress, academic self-efficacy, and academic success are related. Future studies should ideally entail cross-national and multicentre collaborations.Second, because the questionnaire was chosen using a convenience sampling technique, there is a chance that selection bias affected how representative the sample was. Thirdly, the results may have been impacted by the fact that the majority of participants in the general demographic characteristics were female and from the Erode district.

Acknowledgment:

We sincerely thank each and every one of the participants for taking part in research this study. The authors thank the Government Erode Medical College and Hospital, Perundurai, Tamil Nadu, for providing the necessary facilities.

IEC Approval:

Institutional Ethical Committee was approved for the study by the Government Erode Medical College and Hospital, Perundurai, Tamil Nadu. Personal identifiers such as names were not collected during the study.

Author Contributions

Dr.Nandakumar.S (NS) and Dr.Sivakumar.R (SR) had the idea for this study. Dr Nithya.M (NM) and Dr.Muthukumar.D (MD) are the principal investigators of the research work. Vajiravelu Suganthi(VS), Panneerselvam Periasamy(PP) &NS designed the study protocol. Sasikala Gunasekaran (SG), SR & NM performed data collection, MD & VS conducted the analyses, and SR & GS drafted the manuscript. NS, MD, PP and NM further edited the manuscript, and all gave the final approval.

Declaration of interests:

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Funding: There is no funding for this Project.

Reference:

1. World Health Organization, WHO Director‐General's Opening Remarks at the Media Briefing on COVID‐19 – 11 March 2020, in Secondary WHO Director‐General's Opening Remarks at the Media Briefing on COVID‐19 – 11 March 2020. Available from: https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks‐at‐the‐mediabriefing‐on‐covid‐19‐‐‐11‐march‐2020. [Last accessed on 2021 Jan 07].
2. Deng SQ, Peng HJ. Characteristics of and public health responses to the coronavirus disease 2019 outbreak in China. J Clin Med 2020;9:575.
3. Dong E, Du H, Gardner L. An interactive web‐based dashboard to track COVID‐19 in real time. Lancet Infect Dis 2020;20:533‐4.
4. Galea S, Merchant RM, Lurie N. The mental health consequences of COVID‐19 and physical distancing: The need for prevention and earlyintervention. JAMA Intern Med 2020;180:817‐8.
5. 5. Brooks M. COVID‐19: Mental Illness the "Inevitable" Next Pandemic? Medscape Psychiatry News; 2020. Available from: https://www.medscape.com/viewarticle/928756. [Last accessed on 2020 Dec 27].
6. Ji L, Chen C, Hou B, Ren D, Yuan F, Liu L, et al. A study of negative life events driven depressive symptoms and academic engagement in Chinese college students. Sci Rep. 2021;11:17160. https:// doi. org/ 10. 1038/s41598- 021- 96768-9.
7. Yaribeygi H, Panahi Y, Sahraei H, Johnston TP, Sahebkar A. The impact of stress on body function: a review. EXCLI J. 2017;16:1057–72. https:// doi.org/ 10. 17179/ excli 2017- 480.
8. Ma Y, Zhang B, Meng Y, Cao Y, Mao Y, Qiu C. Perceived stress and depressive symptoms among Chinese college students: a moderated mediation model of biorhythm and ego resilience. Front Public Health.2022;10:951717. https:// doi. org/ 10. 3389/ fpubh. 2022. 951717.
9. Nguyen MT, Nguyen TG, Tran TTA, Nguyen TTN, Le DD, Nguyen TTB, et al. Network analysis of psychological factors related to academic pressure faced by

medical students in the central and highland regions of Vietnam. Med Educ Online. 2022;27:2007577. https:// doi. org/ 10. 1080/ 10872981. 2021. 20075 77.

10. Zhang C, Shi L, Tian T, Zhou Z, Peng X, Shen Y, et al. Associations between academic stress and depressive symptoms mediated by anxiety symptoms and hopelessness among Chinese college students. Psychol ResBehavManag. 2022;15:547–56. https:// doi. org/ 10. 2147/ PRBM. S3537 78.
11. Chen Y, Liu X, Yan N, Jia W, Fan Y, Yan H, et al. Higher academic stress was associated with increased risk of overweight and obesity among college students in China. Int J Environ Res Public Health. 2020;17:5559.https:// doi. org/ 10. 3390/ ijerp h1715 5559.
12. Kohler JM, [1] Munz DC, Grawitch MJ. Test of a Dynamic Stress Model for Organisational Change: Do Males and Females Require Different Models? Appl Psychol 2006; 55(2): 168-91. [http://dx.doi.org/10.1111/j.1464-0597.2006.00229.x]
13. Pender NJ, Murdaugh CL, Parsons MA. Health Promotion in Nursing Practice. 7th ed. UK: Pearson 2015.
14. Hamdan-Mansour AM, Halabi JO, Dawani HA. Depression, hostility,and substance use among university students in Jordan. Ment Health Subst Use 2009; 2(1): 52-63. http://dx.doi.org/10.1080/17523280802593301]
15. Artino AR Jr. Academic self-efficacy: From educational theory to instructional practice. Perspect Med Educ 2012; 1(2): 76-85. [http://dx.doi.org/10.1007/s40037-012-0012-5] [PMID: 23316462]
16. American College Health Association-National College Health Assessment. Publications and Reports 2014.http://www.acha-ncha.org/pubs_rpts.html
17. Araas TE. Dissertation Abstracts International. Associations of mindfulness, perceived stress, and health behaviors in college freshmen.Humanities and Social Sciences. ProQuest Information & Learning 2008; 69: p. 521.
18. Jimenez C, Navia-Osorio PM, Diaz CV. Stress and health in novice and experienced nursing students. J Adv Nurs 2010; 66(2): 442-55. [http://dx.doi.org/10.1111/j.1365-2648.2009.05183.x] [PMID:20423427]
19. Shaban IA, Khater WA, Akhu-Zaheya LM. Undergraduate nursing students' stress sources and coping behaviours during their initial period of clinical training: A Jordanian perspective. Nurse Educ Pract 2012; 12(4): 204-9.

20. Spielberger CD, Reheiser EC. Research Companion to Organizational Health Psychology.Research companion to organizational healthpsychology. 2005; pp. 441-54.
21. Lazarus, R. S. ,& Folkman, S. (1986). Cognitive theories of stress and the issue of circular- ity. In M. H. Appley, & R. Trumbull (Eds.), Dynamics of stress. physiological, psycholog- ical, and social perspectives (pp. 63–80). Plenum .
22. Varghese, R. , Norman, T. S. , &Thavaraj, S. (2015). Perceived stress and self-efficacy among college students: A global review. International Journal of Human Resource Man- agement and Research, 5 (3), 15–24 .
23. Keller, A., Litzelman, K., Wisk, L. E., Maddox, T., Cheng, E. R., Creswell, P. D., & Witt, W. P. (2012). Does the perception that stress affects health matter? The association with health and mortality. Health psychology, 31 (5), 677–684. 10.1037/a0026743 .
24. Chemers, M. M., Hu, L., & Garcia, B. F. (2001). Academic self-efficacy and first-year college student performance and adjustment. Journal of Educational Psychology, 93 (1), 55–64. 10.1037//0022-0663.93.1.5 .
25. Bandura, A. (1997). Self-efficacy: The exercise of control . W. H. Freeman and Company .
26. Honicke, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. Educational Research Review, 17 , 63–84. 10.1016/j.edurev.2015.11.002 .
27. Ferla, J., Valcke, M., & Cai, Y. (2009). Academic self-efficacy and academic self-concept: Reconsidering structural relationships. Learning and Individual Differences, 19 , 499–505. 10.1016/j.lindif.2009.05.004 .
28. Rajendren R, Kaliappan KV. Efficacy of behavioral programme in managing the academic stress and improving academic performance. Journal of Personality and Clinical Studies. 1990;6:193-196.
29. Winanti VR. Korelasi Self-efficacy denganPengambilan Keputusan MelanjutkanStudi pada MahasiswaFakultasTarbiyah dan Keguruan UIN RadenIntan Lampung Angkatan 2016 [Self-efficacy correlation with decision making continue studying on students of tarbiyah faculty and teaching of UIN RadenIntan Lampung 2016] Bandar Lampung (Indonesia): UIN RadenIntan Lampung; 2018. [Google Scholar]

30. Sumner DA. A Measurement of Student Satisfaction Levels as a Means of Program Evaluation: An Examination of Baker University's Educational Leadership Doctoral Program. Baker University 2008.
31. Hussein Shehadeh J, Hamdan-Mansour AM. Prevalence and association of premenstrual syndrome and premenstrual dysphoric disorder with academic performance among female university students. PerspectPsychiatr Care 2018; 54(2): 176-84. [http://dx.doi.org/10.1111/ppc.12219] [PMID: 28543046]
32. Hamaideh SH, Hamdan-Mansour AM. Psychological, cognitive, and personal variables that predict college academic achievement among health sciences students. Nurse Educ Today 2014; 34(5): 703-8. [http://dx.doi.org/10.1016/j.nedt.2013.09.010] [PMID: 24094748]
33. Çivitci A. The Moderating Role of Positive and Negative Affect on the Relationship between Perceived Social Support and Stress in College Students. Educ Sci TheorPract 2015; 15(3): 565-73.
34. Freeburn M, Sinclair M. Mental health nursing students' experience of stress: Burdened by a heavy load. J PsychiatrMent Health Nurs 2009; 16(4): 335-42.
35. Singh C, Sharma S, Sharma RK. Level of stress and coping strategies used by nursing interns. Nursing and Midwifery Research Journal 2011; 7(4): 152-60.
36. van de Grift W, Helms-Lorenz M, Maulana R. Teaching skills of student teachers: Calibration of an evaluation instrument and its value in predicting student academic engagement. Stud Educ Eval 2014; 43:150-9. [http://dx.doi.org/10.1016/j.stueduc.2014.09.003]