

Relationships between Academic Stress and Socio-demographic data among Nursing Students during COVID-19 Pandemic

العلاقات بين الإجهاد الأكاديمي والبيانات الاجتماعية والديموغرافية بين طلاب التمريض خلال جائحة COVID-19

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الخلاصة:

خلفية البحث: تشير الضغوطات الأكاديمية إلى زيادة المطالبات الأكاديمية (على سبيل المثال، مطالبات ببنية أو اجتماعية أو داخلية) تجعل الطالب يؤثر على سلوكه. التعلم والفحص، ومنافسة الأداء، وخاصة إتقان الكثير من المعرفة في وقت قصير، من شأنه أن يؤدي إلى درجات مختلفة من الضغط الأكاديمي. على الرغم من أن جميع فصول الدراسة المخطط لها قد تأثرت بوباء COVID-19، إلا أن التعلم عبر الإنترنت لا يزال يترك لطلاب الجامعات نفس العبء الأكاديمي كالمعتاد.

الأهداف: هدفت الدراسة إلى تقييم الضغط الأكاديمي لدى طلاب التمريض، و تقييم العلاقة بين الإجهاد الأكاديمي والبيانات الاجتماعية والديموغرافية لدى طلاب التمريض.

المنهجية: أجريت هذه الدراسة باستخدام تصميم وصفي كمي في الفترة من 10 / تشرين الأول / 2020 إلى 2 / تموز / 2021، تم تطبيق طريقة أخذ العينات في هذه الدراسة باستخدام طريقة هادفة غير احتمالية، وتم اختيار 237 طالب تمريض جامعي من كليات التمريض في ثلاث جامعات عراقية. تم استخدام استبيان مكون من جزأين لتحقيق أهداف الدراسة. يتضمن الجزء الأول المعلومات الاجتماعية والديموغرافية للطلاب، بينما يحتوي الجزء الثاني على مقياس تقييم الإجهاد الأكاديمي لتقييم مستوى الإجهاد الأكاديمي.

النتائج: أشارت النتائج إلى أن حوالي (70٪) من الطلاب تعرضوا لمستوى متوسط من الضغط الأكاديمي بينما حوالي (25.3٪) يعانون من ضغوط أكاديمية شديدة، وحوالي (4.6٪) يعانون من ضغوط أكاديمية منخفضة.

الاستنتاج: نظرًا لارتباط تأثير الإجهاد الأكاديمي في هذه الدراسة بين طلاب التمريض، فإنه يمثل قضية حرجية تتطلب اهتمامًا وثيقًا لتقليل التأثير المتوقع عليهم.

التوصيات: زيادة وعي أعضاء الهيئة التدريسية بمستوى التوتر لمساعدتهم على إيجاد طرق جديدة لدعم طلابهم.

الكلمات المفتاحية: ضغوط أكاديمية، إجهاد، طلاب تمريض.

ABSTRACT:

Background: Academic stress refers to any academic demands (e.g., environmental, social, or internal demands) that effect in student behavior. Learning and examination, performance competition, especially mastering much knowledge in a short time, would lead to different degrees of academic pressure. Although all planned courses have been affected by the COVID-19 epidemic, online learning still leaves college students with the same academic burden as usual.

Aims of the study: this research aimed to assess the academic stress among nursing students, and to assess the relationship between academic stress and Socio-demographic data among Nursing Students.

Methodology: this study conducted by using a quantitative descriptive design during the period from 10 / October / 2020 to 2 / July / 2021, The sampling method was applied in this study using a non-probability purposive method, and 237 undergraduate nursing students were selected from nursing colleges at three Iraqi universities. A two parts questionnaire was used to fulfill the study objectives. The first part includes student's socio-demographic information, and the second part contains the Academic Stress Inventory Scale to assess the academic stress level.

Results: The result indicated that about (70%) of students experienced a moderate level of academic stress whereas; about (25.3%) had severe academic stress and also about (4.6%) had low academic stress.

Conclusion: Because academic stress and nursing students were significantly correlated in this study, academic stress is a critical issue that requires close attention to minimize the expected impact on student academic performance.

Recommendations: it is important to raise awareness of faculty members about the alarming level of stress among students to help them find new ways of supporting their students.

Keywords: academic stress, stress, nursing students.

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INTRODUCTION

Different groups of nursing students have different learning styles, as do rural and urban students it's critical to know if nursing students' academic levels differ at the end of their education ⁽¹⁾. Academic stress can have both positive and negative consequences if it is not addressed and managed properly ⁽²⁾. Students must learn how to prevent, alleviate, and

manage stress because both stress and anxiety have been shown to negatively impact academic performance as well as physical and mental health, which studies has shown that nursing students face a tremendous amount of stress during their professional education, one-third of all nursing students are stressed to the point of mental illness ⁽³⁾. While some stress is necessary to stimulate learning, excessive or prolonged stress can disrupt the normal learning process, causing a student's clinical and academic development to be delayed ⁽⁴⁾.

Unfortunately, stress harms students' academic performance as well as their overall health and well-being ⁽⁵⁾. According to studies, there is a strong link between poverty and academic stress. Information technology resources primarily harm them. Due to digital inequalities and a lack of access to modern technology, students from lower-income families have limited or no access to online classes. High internet costs, on the other hand, are another barrier to taking online classes ⁽⁶⁾.

AIMS OF THE STUDY

This research aimed to assess the academic stress among nursing students and to assess the relationship between academic stress and Socio-demographic data among Nursing Students.

METHODOLOGY

A quantitative descriptive research design was used in this research to accomplish the objectives of the study. This type of research is used to present and describe a problem in numerical data that can be converted into usable statistics. The descriptive study was used in the present study with the application of the Academic Stress Inventory scale for the study sample. The sampling method was applied in this study using a non-probability purposive method. This type of sample was chosen, especially under the circumstances of the situation that students are going through and their absence on campus and e-learning study, as it saves the researcher time and financial cost. The number of students of the College of Nursing in Baghdad reached 600, and the answer to the form was only 144, and the number of students of the College of Nursing at Karbala University was only 700 students who answered the form 83 students, and the number of students of the College of Nursing at Babylon University was 500, the form was answered by only 10 students, with an average of the response to the study as a whole was 237 students who responded with a response rate of 13.1 percent.

The study instrument was divided to part 1. The Academic Stress Inventory includes seven domains, with a total of 34 items 2. The demographics include participants' age, gender, class level, place of residence, and monthly household income. In addition, another question regarding career interest (choosing a nursing school was my wish), with a yes or no answer was included.

The sample collection in this study was electronic. A link was made to the form of the search form in Google form, and the link was sent via a social networking site (Telegram) to students' groups at the Baghdad, Karbala and Babylon University. A link was made on the Google form for the research questionnaire and a message via the social networking site (Telegram) to share to groups that gather students in the colleges through which consent was obtained to collect data. For the study participants, during and after their participation in the study, the researcher assured the participants that their data would remain confidential.

The sample participants were also told that their identities would remain anonymous by the researcher. Study participants were also informed that their names would be kept confidential at study initiation, publication, and / or later publication, according to the researcher.

RESULTS:**Table (1):** Distribution of Sample According to their Socio-demographic Characteristics

Baseline Characteristics		N	%
Age:		M±SD= 21.55±3.24 year	
Gender	Male	74	31.2
	Female	163	68.8
	Total	237	100
University	Baghdad	144	60.8
	Kerbela	83	35
	Babylon	10	4.2
	Total	237	100
Class level	First	58	24.5
	Second	64	27
	Third	61	25.7
	Fourth	54	22.8
	Total	237	100
Residency	Urban	173	73
	Rural	64	27
	Total	237	100
Marital status	Single	205	86.5
	Married	25	10.5
	Divorced	5	2.1
	Widowed / er	2	0.8
	Total	237	100
Monthly income	Insufficient	18	7.6
	Barely sufficient	103	43.5
	Sufficient	116	48.9
	Total	237	100
Willing to study nursing	No	105	44.3
	Yes	132	55.7
	Total	237	100

N: Number, %: Percentage

Table 1 shows the descriptive analysis demonstrates that students were with average age of 21.55±3.24 year old. Gender variable refers that they were female (n=163, %= 68.8). More than half of the students were from University of Baghdad (n= 144, %= 60.8). The class level was approximately equally from the four level; second level (n= 64, %= 27), third level (n= 61, %= 25.7), first level (n= 58, %= 24.5), and fourth level (n= 54, %= 22.8). The residency demonstrates that more of the students were from urban (n= 173, = 73). The students has seen single (n= 205, %= 86.5). The monthly income refers to sufficient income (n= 116, %= 48.9) while 48.9%, n=103 were associated with barely sufficient income. More than half of the students were studying nursing with their own willing (n= 132, %= 55.7).

Table (2): Correlation between Academic Related Stress and Age among Undergraduate Nursing Students (N=237)

Variables	Correlation	Age	Academic Stress
Age	Pearson Correlation	1	-.108
	Sig. (2-tailed)		.097

Academic Stress	Pearson Correlation	-.108	1
	Sig. (2-tailed)	.097	

Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows that the bivariate correlation analysis demonstrates that there is no significant relationship between academic related stress and age of undergraduate nursing students ($p=0.097$).

Table (3): Association between Academic Related Stress and Gender among Undergraduate Nursing Students (N=237)

Gender	Academic Related Stress			
	Low	Moderate	High	Total
Male	4	53	17	74
Female	7	113	43	163
Total	11	166	60	237
C.C= 0.041 p-value= 0.816 Sig.= N.S				

C.C: Contingency Coefficient, p: Probability, Sig: Significance, N.S: Not significant

Table 3 shows the contingency coefficient analysis exhibits that there is no significant difference between academic related stress and gender variable of undergraduate nursing students ($p=0.816$).

Table (4): Association between Academic Related Stress and University among Undergraduate Nursing Students (N=237)

University	Academic Related Stress			
	Low	Moderate	High	Total
Baghdad	6	103	35	144
Kerbela	5	58	20	83
Babylon	0	5	5	10
Total	11	166	60	237
C.C= 0.129 p-value= 0.405 Sig.= N.S				

C.C: Contingency Coefficient, p: Probability, Sig: Significance, N.S: Not significant.

Table 4 shows the contingency coefficient analysis reveals that there is no significant difference between academic related stress and university of undergraduate nursing students ($p=0.405$).

Table (5): Correlation between Academic Related Stress and Class Level among Undergraduate Nursing Students (N=237)

Class level	Academic Related Stress			
	Low	Moderate	High	Total
First	3	34	21	58
Second	2	46	16	64
Third	4	42	15	61
Fourth	2	44	8	54
Total	11	166	60	237
r = - 0.288 p-value= 0.001 Sig.= H.S				

r: Pearson correlation, p: Probability, Sig: Significance, H.S: High significant

Table 5 shows the bivariate correlation analysis indicates that there is high significant difference (reverse) between academic related stress and class level of undergraduate nursing students at $p\text{-value}= 0.001$ respectively.

Table (6): Association between Academic Related Stress and Residency among Undergraduate Nursing Students (N=237)

Residency	Academic Related Stress			
	Low	Moderate	High	Total
Urban	7	118	48	173
Rural	4	48	12	64
Total	11	166	60	237
C.C= 0.098 p-value= 0.318 Sig.= N.S				

C.C: Contingency Coefficient, p: Probability, Sig: Significance, N.S: Not significant

Table 6 shows the contingency coefficient analysis demonstrates that there is no significant difference between academic related stress and residency of undergraduate nursing students (p=0.318).

Table (7): Association between Academic Related Stress and Marital Status among Undergraduate Nursing Students (N=237)

Marital status	Academic Related Stress			
	Low	Moderate	High	Total
Single	8	144	53	205
Married	0	19	6	25
Divorced	2	3	0	5
Widowed/er	1	0	1	2
Total	11	166	60	237
C.C= 0.320 p-value= 0.001 Sig.= H.S				

Table 7 shows the contingency coefficient analysis reveals that there is high significant difference (positive) between academic related stress and marital status of undergraduate nursing students at p-value=0.001.

Table (8): Correlation between Academic Related Stress and Monthly Income among Undergraduate Nursing Students (N=237)

Monthly income	Academic Related Stress			
	Low	Moderate	High	Total
Insufficient	2	11	5	18
Barely sufficient	3	68	32	103
Sufficient	6	87	23	116
Total	11	166	60	237
r = - 0.149 p-value= 0.022 Sig.= S				

Table 8 shows the bivariate correlation analysis presents that there is significant difference (reverse) between academic related stress and monthly income of undergraduate nursing students at p-value= 0.022.

Table (9): Association between Academic Related Stress and Willing to Study Nursing among Undergraduate Nursing Students (N=237)

Willing	Academic Related Stress			
	Low	Moderate	High	Total
No	6	70	29	105
Yes	5	96	31	132
Total	11	166	60	237
C.C= 0.070 p-value= 0.557 Sig.= N.S				

Table 9 shows the contingency coefficient analysis reveals that there is no significant relationship difference academic related stress and willing to study nursing among undergraduate nursing students ($p=0.557$).

Table (10): Mean Score and Standard Deviation for Academic Related Stress among Undergraduate Nursing Students with regard to their Socio-demographic Characteristics (N=237)

Characteristics	Academic related stress				
	M.S	SD	F	P-value	η^2
Age	21.55	1.43	1.075	5.991	0.381
Gender	1.69	3.243	0.041	2.776	0.425
University	1.43	0.578	2.656	0.665	0.072
Class level	2.47	1.095	4.276	0.707	0.006
Residency	1.27	0.445	0.184	0.669	0.235
Marital status	1.17	0.487	3.339	0.707	0.020
Monthly income	2.41	0.629	3.440	0.811	0.034
Willing to study NSG.	0.56	0.498	0.082	0.775	0.390

The inferential statistics of this table reveal that there are significant differences among academic-related stress with class level, marital status, and monthly income at p -value= 0.006, 0.020, and 0.034, respectively. The inferential statistics in this table also revealed that there were no significant differences between the relevant academic stresses with age, gender, university, residency, and Willing to study nursing at p -value= 0.381, 0.425, 0.072, 0.235, and 0.390.

Table (11): Overall Assessment of Academic Related Stress among Undergraduate Nursing Students

Academic stress	F	%	M $\pm$ SD
Low stress	11	4.6	93.78 $\pm$ 15.036
Moderate stress	166	70	
High stress	60	25.3	
Total	237	100	

f: Frequency, %: Percentage, M: Mean for total score, SD: Standard Deviation for total score, Low= 34 – 68, Moderate= 69 – 102, High= 103 – 136.

Table 11 shows the analysis of academic-related stress was demonstrate that students are experienced academic stress with average of 93.78 ± 15.036 ; the students experienced moderate level of academic related stress during Covid-19 pandemic ($n=166$, $\%=70$).

DISCUSSION

According to the descriptive analysis, the average age of the student was 21.55 ± 3.24 years, there is also a study (Al-Ziyadi & Muhammad 2019) to measure academic stress among undergraduate nursing students, and the main age group of the study sample was (18-23) years 47.8% ⁽⁷⁾. O'Callaghan (2014) also found an association between stress, gender, age, academic motivation, student expectations, and self-esteem among students whose main age group was the study sample (27-25) years ⁽⁸⁾. The current results may clarify the natural numbers and proportions of the class of students, as it is normal for students to be accepted into Iraqi universities from the age of 18 to 22 or 23 years ⁽⁹⁾.

The gender variable indicates that females ($n = 163$, percentage = 68.8) and males ($n = 74$, percentage = 31.2). O'Callaghan (2014) also found associations between stress, gender, age, academic motivation, student expectations, and self-esteem among students, there were

436 participants in total, with 31.4 percent (n = 137) males and 68.6 percent (n = 299) females⁽⁸⁾. According to the findings of a recent study, the number of female students who participated in the study was almost three times that of male students, indicating that female students outnumber male students⁽¹⁰⁾. This percentage is due to the Iraqi Ministry of Higher Education and Scientific Research's central acceptance plan, which places women at 75% acceptance and men at 25%, indicating a clear increase in the number of females⁽⁷⁾.

More than half of the students were from the University of Baghdad (n= 144, %= 60.8). The class level was approximately equally from the four-level; second level (n= 64, %= 27), third level (n= 61, %= 25.7), first-level (n= 58, %= 24.5), and fourth level (n= 54, %= 22.8). Al-Ziyadi, et, al. (2019) on measuring academic stress among undergraduate nursing students, most of the participants were second-year students at 43.2%, the percentage of the rest of the stages was the first year of university (19.7%), the third university year (21.5%) and the fourth university year (15.6%)⁽⁷⁾. This result may be due to the convenience sample and the presence of students in clinical training areas at the teaching hospitals which requires the attendance of students in the hospitals, not at college⁽¹¹⁾.

The residency demonstrates that more of the students were from urban (n= 173, = 73%). Totan et al., (2014) also conducted on the importance of rural, municipal and urban life in the interaction between social and emotional learning and social behaviors the results show that about 82% were living in urban areas⁽¹²⁾. This is due to the density of population distribution, which is concentrated in cities and not in rural areas because of the availability of infrastructure, services, and job opportunities⁽¹³⁾.

Indicate marital status single (86.5%), married (10.5%), divorced (2.1%), and widowed/er (0.8%). Ermasova et al., (2020) also found stress and coping in Russian students: do gender and marital status make a difference? Percentage of participating students in relation to marital status single (87.7%), married (9.6%), divorced (2.2%), and widowed/er (0.3%).

The monthly income refers to sufficient income (n= 116, %= 48.9) while 48.9%, n=103 were associated with barely sufficient income. Al-Ziyadi, et al., (2019) also about measuring academic stress among undergraduate nursing students, the results indicated that the monthly income of families ranged between barely (43.0) and sufficient (40.7)⁽⁷⁾. Finally, more than half of the students were willingly studying nursing (n=132, %=55.7). they measured the academic stress of undergraduate nursing students, finding that about half of the students (53.2%) attended important nursing colleges. This may mean that employment is guaranteed for Iraqi nursing graduates⁽¹⁴⁾.

The bivariate correlation analysis demonstrates that there is no significant relationship between academic-related stress and the age of undergraduate nursing students (p=0.097). Al-Ziyadi, et, al. (2019) chi-square analysis was used to see if there is an association between academic stress of nursing students and their age, to measure academic stress among undergraduate nursing students, a non-significant association with a value of (p = 0.21) was revealed⁽⁷⁾. The current discovery of the relationship between stress and students' age indicates that stress is not affected by age, because the students' ages are relatively similar, and they all refer to a young stage⁽¹⁵⁾.

The contingency coefficient analysis exhibits that there is no significant difference between academic-related stress and gender variable of undergraduate nursing students (p=0.816). Rahardjo (2014) reported a significant difference in participants' responses to academic stress in terms of gender specifically, the t-test indicated that female participants were more likely to experience a higher level of academic stress, compared to their male colleagues (t = 3.744, p = 0.001)⁽¹⁶⁾, this result is the results of the Study of Academic Stress on College Students: The Role of Self-Esteem and Psychological Well-being. But the results of the current study indicate that there is no relationship between gender and academic stress,

which explains that males and females experience the same impact as a result of the spread of the epidemic ⁽¹⁷⁾.

Bivariate correlation analysis indicates that there is a significant (inverse) difference between academic-related stress and the class level of undergraduate nursing students at p -value = 0.001, respectively. Bayram, et, al. (2008) about academic stress, the prevalence of depression, anxiety, and stress among a group of undergraduate medical students at public universities shows that first- and second-year students have higher depression, anxiety, and stress scores than third- and fourth-year students and fifth-year students (p -value = 0.003) ⁽¹⁸⁾. Students in their later years of education This could be due to many distinctive stresses faced with students, such as anxiety, unfamiliarity with academic procedures and requirements, management skills, the process of making new friends, and increased expectations from family and faculty ⁽¹⁹⁾.

The contingency coefficient analysis demonstrates that there is no significant difference between academic-related stress and residency of undergraduate nursing students (p =0.318). Bayram, et al., (2008) also on the prevalence and economic variables that correlate with depression, anxiousness, and stress in a group of university students Sobel tests revealed that the impact of the study year and residency on the connection among research specialty and research year had no significant total moderating and academic stress (research year 0.857; P -value 0.05 for academic stress) and residency (study year 1.576; P -value 0.05 for academic stress) ⁽¹⁸⁾. The residential areas may not play a significant role in the level of academic stress (Park et al., 2018). The responses of students regarding the academic stress scale refer that their parents are worried about their academic performance and academic results that may be a common worry for all parents of various residential areas ⁽²⁰⁾.

Contingency coefficient analysis reveals a significant (positive) difference between academic stress and marital status of undergraduate nursing students at p -value = 0.001. The current finding can be explained by the fact that unmarried students care more about their academic status than married students who may have family obligations (Hamsa et al., 2016). This finding was supported by Levkovich, et al., (2020), which found significant differences in stress about marital status, most of them were married (63%), and about 85% reported that they had no health problems or stress ⁽²¹⁾.

The bivariate correlation analysis presents that there is a significant difference (reverse) between academic-related stress and the monthly income of undergraduate nursing students at p -value= 0.022. The relationship between the economic level and academic tension among students may be a result of the conditions that the country went through as a result of the health ban, which affected most businesses and professions, especially self-employment which made families live in a state of austerity and a low standard of living, which had the effect of increasing academic tension during the Corona pandemic ⁽²²⁾. Gavurova, et al., (2020) also found supportive evidence for the current study that reports a significant difference in stress about socioeconomic status during the COVID-19 pandemic ⁽²³⁾. The contingency coefficient analysis reveals that there is no significant relationship difference academic-related stress and willingness to study nursing among undergraduate nursing students (p =0.557). This may indicate that most nursing students are willingly engaged in the nursing study ⁽⁷⁾.

CONCLUSION

The finding concludes that undergraduate nursing students experiencing a moderate level of academic stress. The students are more stressed about their academic future evidenced by a moderate level of stress reported among scale items. This may affect nursing students' academic performance, and the result can affect the quality of nursing care after graduation. This hypothesis needs studies to be proven.

RECOMMENDATION

The necessity of conducting educational sessions and workshops for the students and their families to teach them more important strategies to reduce stress in addition to measures that can protect them from getting virus infection, replication of study with a large sample and more various factors that may be associated with academic stress and finding the relationship between these factors.

REFERENCES:

1. Hallin, K. (2014). Nursing students at a university—a study about learning style preferences. *Nurse Education Today*, 34(12), 1443-1449.
2. Bataineh, M. Z. (2013). Academic stress among undergraduate students: the case of education faculty at King Saud University. *International interdisciplinary journal of education*, 1(1033), 1-7.
3. Petko, D. J. (2017). Mindfulness-based Stress Reduction (MBSR) in Reducing Stress in Nursing Students: An Integrative Review and Toolkit.
4. Magnavita, N., & Chiorri, C. (2018). Academic stress and active learning of nursing students: A cross-sectional study. *Nurse Education Today*, 68, 128–133.
5. Zhao, F., Lei, X., He, W., Gu, Y., & Li, D. (2015). The study of perceived stress, coping strategy, and self-efficacy of C Chinese undergraduate nursing students in clinical practice. *International Journal of Nursing Practice*, 21(4), 401–409.
6. Hasan, N., & Bao, Y. (2020). Impact of “e-Learning crack-up” perception on psychological distress among college students during COVID-19 pandemic: A mediating role of “fear of academic year loss”. *Children and Youth Services Review*, 118, 105355.
7. Al-Zeyadi, S., & Mohammed, S. H. (2019). Measures Academic Stress among Undergraduate Nursing Students. *Indian Journal of Forensic Medicine & Toxicology*, 13(4).
8. O’Callaghan, P. (2014). The relationship of stress to gender, age, academic motivation, student expectations and self-esteem among students.
9. Aljuboori, A. F., Fashakh, A. M., & Bayat, O. (2020). The impacts of social media on university students in Iraq. *Egyptian Informatics Journal*, 21(3), 139–144.
10. Lindau, S. T., Schumm, L. P., Laumann, E. O., Levinson, W., O’Muirheartaigh, C. A., & Waite, L. J. (2007). A study of sexuality and health among older adults in the United States. *New England Journal of Medicine*, 357(8), 762–774.
11. Omer, T. A., Suliman, W. A., & Moola, S. (2016). Roles and responsibilities of nurse preceptors: Perception of preceptors and precepts’. *Nurse Education in Practice*, 16(1), 54–59.
12. Totan, T., Atalay, Z., Deniz, M., & Kıyar, F. (2014). The importance of rural, township, and urban life in the interaction between social and emotional learning and social behaviors. *Educational Sciences: Theory & Practice*.
13. Wang, L., Wang, S., Zhou, Y., Liu, W., Hou, Y., Zhu, J., & Wang, F. (2018). Mapping population density in China between 1990 and 2010 using remote sensing. *Remote Sensing of Environment*, 210, 269–281.
14. Mohammed Q. (2016). Academic-related stress and responses of nursing college students in Baghdad City, *IOSR Journal of Nursing Health Science*; 5(2): 63-69.
15. Boyas, J., Wind, L. H., & Kang, S.-Y. (2012). exploring the relationship between employment-based social capital, job stress, burnout, and intent to leave among child protection workers: An age-based path analysis model. *Children and Youth Services Review*, 34(1), 50–62.
16. Rahardjo, W. (2014). Academic stress on college students: The role of self-esteem and psychological well-being. *International Seminar on Global Education*, 11.
17. American Psychological Association (2010). *Stress and Gender*.

<https://www.apa.org/news/press/releases/stress/2010/gender-stres>.

18. Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety, and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology*, 43(8), 667–672.
19. Saravanan, C., & Wilks, R. (2014). Medical students' experience of and reaction to stress: the role of depression and anxiety. *The Scientific World Journal*, 2014.
20. Choi, H.-J., & Lee, E.-J. (2012). Mediation effects of self-efficacy between academic stress and college adjustment in first year nursing students. *Journal of Korean Academy of Fundamentals of Nursing*, 19(2), 261–268.
21. Levkovich I and Shinan-Altman (2020). Impact of the COVID-19 pandemic on stress and emotional reactions in Israel: a mixed-method study. *International Health*; 0:1-9.
22. Meo, S. A., Abukhalaf, A. A., Alomar, A. A., Sattar, K., & Klonoff, D. C. (2020). COVID-19 pandemic: impact of quarantine on medical students' mental wellbeing and learning behaviors. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), S43.
23. Gavurova B, Inankova V, and Rigelsky M (2020). Relationships between Perceived Stress, Depression and Alcohol Use Disorders in University Students during the COVID-19 Pandemic: A Socio-Economic Dimension, *Int. J. Environ Res Public Health*; 17(23): 8853.