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Impact of Levels of Education on Perceived Academic Stress and Mental Wellbeing: An Investigation into Online Mode of Learning during Pandemic

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ARTICLE INFO	ABSTRACT

A sudden outbreak of the current pandemic COVID-19 has switches the learning to online mode which leads to an increase in perceived academic stress and a serious threat to the mental well-being of the students across the globe. The aim of the current study was therefore, to examine the impact of online learning on perceived academic stress and mental well being of the students with moderating effects of levels of education, during the current pandemic. Measures of the constructs were obtained by the online Google form which consists of the Perceptions of Academic Stress Scale (PASS) by Dalia Bedewy and Adel Gabriel (2015) and War-wick- Edinburg Mental Well-being Scale (2008), from a sample of 150 undergraduate students aged 19-25 years studying in different colleges of Bengaluru, India. Mental well -being constituted the criterion variable whilst academic stress and levels of education were treated as predictor variables. Two-way ANOVA were employed. Results show that academic stress is a significant negative predictor of mental wellbeing (r = -.083; p < 0.05), there is a significant difference in the perceived academic stress (df=2; F=2.72; p < 0.05)which increase in hierarchy (Third year & first year MD= -3.7; Third year & second year MD= -3.2) and mental well being (df=2, F= 5.314 p < 0.05) which decreases in hierarchy (Third year & first year MD= -5.8; Third year & second year MD= -5.860) of the students at different educational levels and a combination perceived academic stress and educational levels predicts variance in mental well being of the students(R2=0.052 ; p>0.05). It was concluded that combined academic stress and educational levels have an impact on mental wellbeing of students in online mode of learning during the current pandemic, but this impact is low (only 5.2%).

1. Introduction

Education is considered as the vital part of one's life but in recent times, academic performance and societal demands has become the cause of academic stress in students. Academic stress can be defined as the bodily response to academic-related demands that exceed adaptive capabilities of students [1]. It has been estimated that 10–30% of students experience some degree of academic stress during their academic career [2]. Academic stress is

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found to be associated with several psychological concerns among students. Depression, anxiety, behavioral problems, irritability, etc. are few of the many problems reported by students with high academic stress [3]. Incidences of depression were also found among students especially adolescences as it is linked with inability to concentrate, fear of failure, negative evaluation of future, etc. [4]. Students were also found to be indulging in various risky behaviors such as increased consumption of alcohol and drugs, unprotected sexual activities, physical inactivity, poor eating and sleeping patterns due to academic stress [5,6]. The academic pressure these students face is so severe resulting in five-fold increase in suicide attempts. According to the statistics published by National Crime Records Bureau, India among 8% students who committed suicide is usually due to failing in examinations and academic pressure [7].

Mental well-being is defined by the World Health Organization (2014), as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" [8]. Mental well-being includes our emotional, psychological, and social well-being and affects the way we think, feel, and act. It also helps to determine how we handle stress and workout the coping strategies. In the current scenario of pandemic- COVID-19, from March 25, 2020, in order to restrict mass gatherings and maintain social distancing, countries around the globe had closed schools and educational institutions nationwide resulting in more than 80% of students all over the world to switch to online mode of learning [8]. This transformation from traditional mode of learning to online mode has found to be associated with higher level of academic stress [9,10,11]. Fawaz and Samaha (2020) surveyed 520 undergraduate Lebanese University Student regarding their satisfaction with e‐learning and the prevalence of depression, anxiety, and stress symptomatology during the current pandemic and found that online learning platforms has given rise to depression and anxiety disorders among students [12]. In a survey carried out by the Boar Features on US College students 61% of participants said that their mental health had deteriorated over the past six months as a result of online classes during this pandemic [13]. From April 2020, Indian educational system had also switched to online mode of learning. In October 2020, Y Chandra did a study on 94 Indian college students under online mode of learning and found significant level of perceived academic stress among them [14]. Now nearly two semesters are over with this online mode of education and students seems to be quite adapted to this, the

current study aim to study the impact of academic stress on mental well-being of students with the moderating effects of levels of education in online mode of learning during the current pandemic, COVID-19. The study looked at four specific objectives with four corresponding hypotheses. The first objective was to study the impact of academic stress on mental well-being of students in online learning mode during the current pandemic and the corresponding hypothesis was

H₁: There will be a significant negative impact of academic stress on mental well-being of students in online learning mode during the current pandemic.

The second objective was to study the impact of academic stress with regards to the level of education, and its corresponding hypothesis was

H₂: There will be significant difference in the level of academic stress of students at different levels of educations-first, second and third year of under-graduation in online learning mode during the current pandemic.

The third objective was to study the level of mental well-being with regards to the level of education, and its corresponding hypothesis was

H₃: There will be significant difference in the level of mental well-being of students at different levels of educations-first, second and third year of under-graduation in online learning mode during the current pandemic.

The fourth objective was to study the combined effect of academic stress and levels of education on mental well being of students during the current pandemic, and its corresponding hypothesis was

H₄: A combination of academic stress and levels of education will predict a significant variance in the mental well-being of the students during the current pandemic.

2. Methods

The current study used a quantitative and non-experimental research design which lay emphasis on perceived academic stress and levels of education as predictor variable and mental well being of the students in online classes during the current pandemic as criterion variable. The sample consists of students aged 19-25 yrs, who are enrolled in full time under graduate program taking online classes, in different colleges of Bengaluru, India. The study was undertaken non-random sampling techniques such as convenience and snowball sampling.

An informed consent sheet and the socio-demographic sheet-including the participant's age, gender, location, class and mode of education were prepared [refer Appendix A]. The current study used Perceptions of Academic Stress Scale (PASS) by Dalia Bedewy and Adel Gabriel (2015) [15] (refer Appendix B) and Warwick- Edinburg

Mental Well-being Scale (2008) [16] (refer Appendix C) to access the variables. The data were collected online through Google Forms, a questionnaire was constructed for the purpose which includes the informed consent, socio-demographic sheet followed by both the scales (refer Appendix-A, B & C). The collected data was scored and interpreted based on the norms specified. The data obtained was analyzed by using two-way ANOVA to study the impact of academic stress and levels of education on mental well-being of the students in online mode of learning during the current pandemic, COVID-19.

3. Results

The analysis of the socio-demographic variables indicates that the sample consisted of 150 undergraduate students (50 in each year of graduation), including males (47%) and females (53%) in the age group 19-25 years (M=19.91; SD=1.81), enrolled in various colleges of Bengaluru, India, taking online classes during the current pandemic.

Descriptive Analysis of the total sample (N=150) shows that the mean score of perceived academic stress among students irrespective of their education level is found to be M=56.93; SD= 8.82, which indicates that participants is experiencing above average level of academic stress and the mean score for mental well-being M=48.79; SD=10.62 which indicates that participants mental wellbeing is also average during online mode of education [Refer Table-1]. This shows that students are experiencing substantial level of academic stress during online classes but it is not affecting their mental wellbeing much. After the descriptive statistics were calculated, Pearson product–moment correlation coefficient was carried out between the academic stress and mental wellbeing variables of the students regardless of their education level, to establish the direction and magnitude of association between them. The correlation coefficient between academic stress and mental wellbeing for students was calculated to be r = -.083; p < 0.05 which clearly indicate a negative correlation between them (refer Table 2), which means that increase in the level of academic stress for students taking online classes will lead to decrease in their mental wellbeing. Results shown by the descriptive statistics and Pearson product–moment correlation coefficient seems to provide support for *hypothesis H₁: There will be a significant negative impact of academic stress on mental well-being of students in online learning mode during the current pandemic* proving that academic stress is affecting mental wellbeing of the students negatively in online mode of learning during the current pandemic.

Table 1. showing descriptive Statistics for perceived academic stress and mental wellbeing variables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Academic Stress	150	38	90	56.93	8.821	.453	.198	.705	.394
Mental Wellbeing	150	19	70	48.79	10.620	.011	.198	-.151	.394
Valid N (listwise)	150								

Table 2. showing the results of Pearson product–moment correlation coefficient between the perceived academic stress and mental wellbeing variables

		Academic Stress	Mental Wellbeing
Academic Stress	Pearson Correlation	1	-.083
	Sig. (2-tailed)		.314
	N	150	150
Mental Wellbeing	Pearson Correlation	-.083	1
	Sig. (2-tailed)	.314	
	N	150	150

In order to compare the academic stress among students of different educational levels -first, second and third year of under graduation, one way ANOVA was employed. Results show that for first year UG students (N=50; M=58.38; SD=7. 99); second year UG students (N=50; M=57.80; SD=8.40) and third year UG students (N=50; M=54.60; SD=9.65), df=2, F=2.72 is significant at 0.05 level (refer Table 3& 4). Therefore the hypothesis *H₂: There will be significant difference in the level of academic stress of students at different levels of education-first, second and third year of under-graduation in online learning mode during the current pandemic* is accepted indicating that different education level had an impact on the amount of academic stress experienced by the students in online mode of education during the scenario of current pandemic. Further to know which educational level of UG students are experiencing high level of academic stress multiple comparison is done with one way ANOVA-Tukey and it was found that third year UG students are experiencing more academic stress as compared to first and second year [first year& third year & M_D= 3.7; second year & third year M_D= 3.2][refer Table 4].

In order to compare the mental wellbeing among students of different educational levels-first, second and third year of under graduation, again one way ANOVA was employed. Results shows that for first year UG students (N=50; M=46.88; SD=9.97); second year UG students (N=50; M=46.82; SD= 10.08) and third year UG students (N=50; M= 52.68; SD= 10.89), df=2, F= 5.314 is sig-

nificant at 0.05 level (refer Table 5 & 6). Therefore the hypothesis H_3: *There will be significant difference in the level of mental well-being of students at different levels of educations-first, second and third year of under-graduation in online learning mode during the current pandemic* is accepted which indicates that different education levels had an impact on the mental wellbeing of the students in online mode of education during the current pandemic. Further to know which educational level of UG student's mental wellbeing has been affected the most, multiple comparison is done with one way ANOVA- Tukey and it was found that third year UG students are having low level of mental wellbeing as compared to first and second year [Third year & first year M_D= -5.800; Third year & second year M_D=-5.860][refer Table 6].

Table 3. Showing the results of ANOVA of perceived academic stress among students at different educational levels -first, second and third year of under graduation course during the current pandemic

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	414.413	2	207.207	2.725	.069
Within Groups	11179.780	147	76.053		
Total	11594.193	149			

F=2.72, p>0.005

Table 4. Showing the results of multiple comparisons of perceived academic stress among students at different educational levels -first, second and third year of under graduation course during the current pandemic

(I) UG Year	(J) UG Year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.580	1.744	.941	-3.55	4.71
	3	3.780	1.744	.080	-.35	7.91
2	1	-.580	1.744	.941	-4.71	3.55
	3	3.200	1.744	.162	-.93	7.33
3	1	-3.780	1.744	.080	-7.91	.35
	2	-3.200	1.744	.162	-7.33	.93

Table 5. Showing the results of ANOVA of mental well-being of students at different educational levels -first, second and third year of under graduation course during the current pandemic

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1133.053	2	566.527	5.314	.006
Within Groups	15671.540	147	106.609		
Total	16804.593	149			

F= 5.314, p>0.005

Table 6. Showing the results of multiple comparisons of mental wellbeing of students at different educational levels -first, second and third year of under graduation course during the current pandemic

(I) UG Year	(J) UG Year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.060	2.065	1.000	-4.83	4.95
	3	-5.800*	2.065	.016	-10.69	-.91
2	1	-.060	2.065	1.000	-4.95	4.83
	3	-5.860*	2.065	.014	-10.75	-.97
3	1	5.800*	2.065	.016	.91	10.69
	2	5.860*	2.065	.014	.97	10.75

*. The mean difference is significant at the 0.05 level.

Then multiple regression analysis was performed to establish the combined effect of perceived academic stress and educational levels on mental wellbeing of students in online mode of learning during current pandemic. Multiple regression analysis reflects that both the predictor variables, academic stress and educational levels together predicted 5.2% of the variations in the mental well being of the students (R^2=0.052; p<0.05). The predictor variable academic stress is found to be significant negatively related to the mental wellbeing (β= -.045, t=-.551, p=0.05), which means that for every increase of 1 on the academic stress, mental wellbeing of the students will decrease by 0.045 (refer Table 7). Therefore, H_4: *A combination of academic stress and levels of education will predict significant variance in the mental well-being of the students during the current pandemic* is accepted indicating that a combination of academic stress and educational levels has a negative impact on the mental wellbeing of the students in online mode of learning during current pandemic, but this impact is low (5.2%).

Table 7. Regression analyses of predictor variables-academic stress and educational levels onto mental wellbeing

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	46.279	6.372		7.263	.000
Academic stress	-.054	.098	-.045	-.551	.582
Educational levels	2.798	1.057	.216	2.646	0.009

R^2=.052, F=4.032 ; p<0.05; a. Predictors: (Constant), Academic Stress, UG Year; b. Dependent Variable: Mental Wellbeing

4. Discussion

Since the shifting of the mode of learning to online classes across the globe during the current pandemic COVID-19, several researchers have detected negative associations of academic stress with mental well being

of the students [9,10,11,12,13,14]. This study aims to investigate the effects of perceived academic stress on mental wellbeing of the students in online mode of learning with the moderating effects of educational levels during the current pandemic, COVID-19. In consistent with the previous researches, the empirical findings of the current study also found a significant negative correlation between perceived academic stress with mental wellbeing of the students (r = -.083; p < 0.05). This inverse relationship between perceived academic stress on mental wellbeing of the students can be explained as academic stress can be defined as the body's response to academic-related demands that exceeds adaptive capabilities of students [1] in the current scenario of pandemic as well, students are finding it difficult to adapt with the online mode of learning- increased screen timing, internet and technical glitches, physical inactivity, low sociability, unfamiliarity with technology etc.

The relationship between educational levels with academic stress and mental wellbeing is found to be significant as the educational level is increasing from first to second to third year, the perceived academic stress is found to be increasing in hierarchy (Third year & first year MD= -3.7; Third year & second year MD= -3.2) whereas mental well being was found to be decreasing in hierarchy (Third year & first year MD= -5.800; Third year & second year MD= --5.860). This can be explained as the educational level increases academic demands and societal pressure also increases leading to an increase in academic stress and consequently leading to poor mental wellbeing of the students.

The combined interactional effect of educational levels and academic stress on mental wellbeing of the students is found to be quite low (5.2%) thus, we can say that now after almost a year of online mode of learning students has developed *psychological adaptation*- defined as a functional, cognitive or behavioral traits that benefits an organism in its environment [17]. Indian students has started developing functional, cognitive and behavioral capabilities in response to the ongoing online classes during the current pandemic that is helping them to cope with the academic stress associated with it but as the educational level increases the academic demands also increases leading to the increase in perceived academic stress consequently leading to a decrease in mental well being of the students in hierarchy of the different educational levels.

5. Conclusions

5.1 Limitations and Directions for Future Research

The current study has few limitations; the sample consists of students, who are enrolled in different streams (arts, humanities, science, commerce) of under graduate program , educational streams may exert influence on the level of academic stress and the corresponding mental wellbeing of the students. This should be taken into consideration in future researches, which can be conducted with the same educational stream. All the participants were currently studying in various colleges of Bengaluru, India thus, future studies can be directed to see the impact of variables on students from other cities of India or around the globe as well. A reason that suggests that these problems are not widespread in the study because the findings depicted by the current study are found to be consistent with the previous researches.

5.2 Implications of the Study

The present study contributes to the understanding of the academic stress on mental wellbeing of the students in online mode of learning with the mediating effects of educational levels during the current pandemic, COVID-19. The empirical findings show that the academic stress in online mode of learning in the current pandemic is still above average and is having a significant negative impact onto mental wellbeing of the students. Educational levels are also found to be affecting the academic stress which increases in hierarchy consequently deteriorating the mental well being of the students. Students now, after almost a year in online mode of learning have developed several traits that are helping them to adapt with it effectively but still its negative impact is evident on their mental wellbeing.

References

[1] Wilks SE. Resilience amid academic stress: the moderating impact of social support among social work students. Adv Soc Work. 2008;9(2):106–125. [Google Scholar] [Ref list].

[2] Johnson S. Children's fear in the classroom setting. Sch Psychol Dig. 1979;8:382-396. [Google Scholar] [Ref list].

[3] Deb Sibnath, Strodl Esben & Sun Jiandong. Academic Stress, Parental Pressure, Anxiety and Mental Health among Indian High School students. International Journal of Psychology and Behavioral Sciences. 2015; 5(1): 26-34;
DOI: 10.5923/j.ijpbs.20150501.04.

[4] Busari A. O. Evaluating the Relationship between Gender Age Depression and Academic Performance among Adolescents. Scholarly Journal of Education. 2012;1(1):6-12.

[5] Bennett T. H & Holloway K. R. Drug misuse among university students in the UK Implications for pre-

vention. Substance use & misuse. 2014;49(4);448-455.

[6] King K. A., Vidourek R. A & Singh A. Condoms, Sex, and Sexually Transmitted Diseases: Exploring Sexual Health Issues among Asian-Indian College Students. Sexuality & Culture. 2014;18(3):649-663. CrossRef.

[7] Saha D. Every hour one student commits suicide in India.2017 Hindustan Times. Retrieved from.

[8] "Mental health: strengthening our response". World Health Organization. August 2014. Retrieved 4 May 2014.

[9] Grubic, Nicholas; Badovinac , Shaylea, Johri, Amer M.Student mental health in the midst of the COVID-19 pandemic: A call for further research and immediate solutions. International Journal of Social Psychiatry.May 2,2020 Vol 66, Issue 5, 2020.

[10] Son C, Hegde S, Smith A, Wang X, Sasangohar F.Effects of COVID-19 on College Students' Mental Health in the United States: Interview Survey Study. J Med Internet Res 2020;22(9):e21279. DOI: 10.2196/21279.PMID: 32805704.PMCID: 7473764.

[11] Moawad Ruba Abdelmatloub. Online Learning during the COVID- 19 Pandemic and Academic Stress in University Students. June 2020. Revista Romaneasca pentru Educatie Multidimensionala.12(-1Sup2):100-107. DOI: 10.18662/rrem/12.1sup2/252.

[12] Fawaz, Mirna; Samaha, Ali.E-learning: Depression, anxiety, and stress symptomatology among Lebanese university students during COVID-19 quarantine. Nursing Forum.30 October 2020. https://doi.org/10.1111/nuf.12521.

[13] Martin, Lucy. How will online learning impact student mental health? Nov 6, 2020; The Boar Features https://theboar.org/2020/11/how-will-online-learning-impact-student-mental-health.

[14] Chandra, Yamini. Online education during COVID-19: perception of academic stress and emotional intelligence coping strategies among college students. Journal of Asian Education and Development Studies. October 2020. ISSN: 2046-3162.

[15] Bedewy, Dalia and Gabriel, Adel. Examining perceptions of academic stress and its sources among university students: The Perception of Academic Stress Scale. July 30, 2015. Sage Journals. https://doi.org/10.1177/2055102915596714.

[16] Warwick–Edinburgh Mental Wellbeing Scale (WEM-WBS) NHS Health Scotland, University of Warwick and University of Edinburgh, 2006, all rights reserved.

[17] Barkow, Jerome H., Cosmides, Leda & Tooby, John. (editors)(1992). The Adapted Mind: Evolutionary Psychology and the generation of Culture. Oxford & New York: Oxford University Press, ISBN 978-0-19-510107-2.

Appendix

Appendix A:

a) Socio Demographic Sheet:
Age:
Gender:
Location:
College
Educational Course Enrolled in:
Full time / Part-time
Mode of learning: Online / offline in college

Appendix B: Perceptions of Academic Stress (PASS) scale.

Please rate your perception about the following statements in contributing to academic stresses 1=Strongly disagree 2=disagree 3=Neutral 4=agree 5=Strongly agree

1. Am confident that I will be a successful student

2. Am confident that I will be a successful in my future career

3. I can make academic decisions easily

4. The time allocated to classes and academic work is enough

5. I have enough time to relax after work

Please rate your perception about the following statements contributing to Academic Stresses 1=Strongly agree 2=agree 3=Neutral 4=disagree 5=Strongly disagree

1. My teachers are critical of my academic performance

2. I fear failing courses this year

3. I think that my worry about examinations is weakness of character

4. Teachers have unrealistic expectations of me

5. The size of the curriculum (workload) is excessive

6. I believe that the amount of work assignment is too much

7. Am unable to catch up if getting behind the work

8. The unrealistic expectations of my parents stress me out

9. Competition with my peers for grades is quite intense

10. The examination questions are usually difficult

11. Examination time is short to complete the answers

12. Examination times are very stressful to me out

13. Even if I pass my exams, am worried about getting a job

Perceptions of Academic Stress Scale (PASS) by Dalia Bedewy and Adel Gabriel (2015) is an 18-item scale to measure perceptions of academic stress and its sources. It has been validated and shown to possess good psychometric qualities in studies of participants from multiple countries. More specifically, reliability values such as internal consistency (α =0.7) were acceptable. Item scores are combined into a sum score with higher scores indicating higher levels of perceived academic stress.

Appendix C: Warwick- Edinburg Mental Well-being Scale (2008)

Below are some statements about feelings and thoughts. Please rate your feelings that best describes your experience of each over the last 2 weeks on the below mention scale.

Statements	None of the time	Rare- ly	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5

Statements	None of the time	Rare- ly	Some of the time	Often	All of the time
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

Warwick- Edinburg Mental Well-being Scale (2008) is a 14-item scale to measure mental wellbeing focusing entirely on positive aspects of mental health. It has been validated on a student population and shown to possess good psychometric qualities, specifically, reliability values such as internal consistency (α =0.89) . Item scores are combined into a sum score with higher scores indicating higher levels of mental wellbeing and vice versa.