

# Impact Of Perceived Stress On Academic Performance Among College Students During Covid-19 Outbreak

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## ABSTRACT

The Progress of the Human race depends on education which is a valuable asset to the human race. Education contributes to the development of an individual in every aspect like character, discipline, interest, intelligence, and healthy livelihood which in turn reflects in the overall development of the society as well as the nation. The covid-19 outbreak became a pandemic and substantially affects the education field and its routine work. It made the education system to adapt the technology aspect and students along with teachers started to relay on electronic gadgets for teaching-learning process. Spending prolonged time in front of the laptop, mobile or other electronic gadgets in an isolated manner will cause stress and anxiety among the students. This may impact their academic performance. This study aims to measure the perceived stress among college students and its impact on their academic performance. The Perceived Stress Scale PSS-10 (1988) standardized by Sheldon Cohen and Williamson was used to collect data for this study. Students' academic performances were obtained from their percentage of marks in the semester examination. A stratified random sampling technique was used to select 168 students as samples for the study. The result shows that about 77% of students were having Moderate perceived stress levels and 7% of students had a high level of perceived stress further it has been noted that perceived stress and academic achievement were negatively correlated.

**Keywords:** Academic achievement, College students, Stress, COVID-19 pandemic, Perceived stress,

## INTRODUCTION:

**“Stress is the trash of modern life-We all generate it but if you don’t dispose of it properly it will pile up and overtake your life” - Danzae Pace**

The rapid spread of the COVID-19 outbreak infected people with acute infectious pneumonia all over the world(Radwan et al., 2021). To control the spreading of the virus and protect people from getting infected the government shuts down the nation in all aspects and closed all the educational institutions including schools and colleges in Tamil Nadu, India. The pandemic

harmed day to day life of people and affected every field including the education system. The lockdown due to the pandemic changes the communication pattern that existed so far between a teacher and the student. The pandemic outbreak disturbed the traditional education system; teachers and students were asked to use the online platforms and technology for the teaching-learning process and assessment purpose also. Trucano (2012) stated that “zeal for the use of computers and other Information Communication Technology (ICT) in education is irrefutable and widespread (Ramganesha & Paulraj, 2016). Even though, the prolonged usage

of electronic gadgets and online platforms along with isolation and absence of physical presence with friends due to COVID-19 leads to stress among the student community.

Stress can be defined as a particular relationship between the person and the environment that is appraised by the person as challenging or exceeding his/her resources and endangering his/her wellbeing'. Stress is a pressing issue in everyone's life. It is related to a stumbling block in the fulfilling of demands. It could be caused to frustration, conflict, or pressure, but it is felt as psychological and bodily strain (Atkinson et. al., 1988). According to Cannon (1932), stress can be defined as the process through which the body reaches an aroused state known as the fight-or-flight reaction in response to a perceived threat (Sharma, 2011). "Stress is people's reaction to excessive demands or other sorts of demand placed on them." It appears when they are concerned about their ability to deal "(Rubenstein, 1999). On the other side, there is positive perceived stress, which motivates us to act. The pleasant type of stress is known as "eustress," and it is related with positive feelings and healthy conduct. This type of stress is crucial for individuals since we frequently need to perceive stress in order to act and improve with our activities (Bruce, 2009). There is a saying that even an elixir becomes danger when it exceeds the limit like that a mild or low level of stress may give some favour in cognitive tasks but when the stress became high it may lead to anxiety along with depression.

While considering the stress among students the traditional view is that the college students endure more pressure and more serious physical and mental health problems when compared with other student groups like school students said by GaoW, PingS, Liu X (Yang et al., 2021). Many university students have a severe difficulty with the impression of high levels of stress (Nandamuri & Ch, 2011). When students begin

their academic careers, they are given more liberty and must deal with new experiences as well as adapt to a new educational environment. They are also confronted with a foreign way of life and an unfamiliar social milieu (Elias, Ping & Abdullah, 2011). The university acknowledges the rise in stress among students on the campus as a serious issue (Misra & Castillo, 2004; Sax, 1997).

## **NEED FOR THE STUDY**

Pandemic has heavily affected normal life. Everyone's normal routine has been lost. Every sector has been badly damaged. Among them, the educational sector has also been extremely affected. Though educational institutes have been closed, the educational system was never shut down; however, it was restructured. To maintain continuity, education has migrated towards online education, and education has moved towards the doorsteps of the learners.

Although these significant actions and efforts are highly commendable and necessary, there are also reasons to worry that drawn-out school suspension, home confinement, and distance learning may have adverse effects on college students' physical and mental health (Yang et al., 2021). As a result of academic duties, financial restrictions, and a lack of time management skills, university students may experience considerable levels of stress. When stress is perceived negatively or becomes excessive, it can harm students' health and academic performance (Jha et al., 2012). Stress has the potential to impair learning and memory. Although an optimal level of stress can improve learning ability (Kaplan & Sadock, 2000), too much stress can lead to physical and mental health problems (Niemi & Vainiomaki, 1999; Laio et al., 2007), lower self-esteem (Bressler & Bressler, 2007; Linn & Zeppa, 1984; Silver & Glicker, 1990), and negatively impact student academic achievement (Choi et al., 2007; Elliot et al., 2005; Hofer, 2007; Robbins et al., 2006; Trautwein et

al., 2006; Was et al., 2006). (Rafidah et al., 2009).

According to Dusselier, Dunn, Wang, Shelley & Whalen, (2005); Misra & McKean, (2000) the stressful life events of the college students leads to reduced academic performance and also affects the quality of health among the college students (Khan et al., 2013). Therefore stress may have some impact on the academic achievement of the students, therefore, the researcher assumes there is a relationship between the level of perceived stress among college students and their academic performance. The present study attempts to measure the perceived stress level and its impact on academic performance of college students who are attending online classes. Hence, the present study.

#### **OBJECTIVES:**

- To find out the level of perceived stress among college students who were attending online classes.
- To find out the academic performance among college students who were attending online classes.
- To find out whether there is any significant difference between perceived stress among male and female students.
- To find out whether there is any significant difference between academic performance among male and female students.
- To find out whether there is any significant difference between perceived stress among college students who were attending online classes from rural and urban areas.
- To find out whether there is any significant difference between academic performance among college students who were attending online classes from rural and urban areas.
- To find out whether there is any significant difference between perceived

stress among college students whose parents are literate and illiterate.

- To find out whether there is any significant difference between academic performance among college students whose parents are literate and illiterate.
- To find out the correlation between perceived stress and academic performance among college students who were attending online classes.

#### **HYPOTHESIS:**

- The college students who were attending online classes had a below-average level of perceived stress.
- The college students who were attending online classes had a below-average level of academic performance.
- There is no significant difference in the perceived stress among college students who were attending online classes concerning their gender, place of residence, and the educational level of their parents
- There is no significant difference in the academic performance among college students who were attending online classes for their gender, place of residence, and the educational level of their parents
- There is no positive correlation between perceived stress and academic performance among college students who were attending online classes.

#### **MATERIALS AND METHODS:**

##### **POPULATION:**

A population is the number of all the organisms of the same group or species, which live in a particular geographical area and have the capacity of interbreeding. In this study, college students attending online classes due to the covid-

19 outbreak in Dindigul district, Tamil Nadu, India have been taken as the population.

### **SAMPLE:**

The investigator used the simple random sampling technique for selecting the samples from the population. The present study consists of 168 college students from various arts and science colleges in the Dindigul district of Tamil Nadu, India.

### **DELIMITATION:**

- The present study is concentrating only on Arts and Science college students who are attending online classes during the covid-19 outbreak. Even though there are many other professional course students.
- The present study concentrates only on the Dindigul district of Tamil Nadu, India.

### **DESCRIPTION OF TOOL:**

In this present study, the investigator used an online questionnaire that was distributed to college students. Google Forms was created and used for this survey and the link was shared via Whatsapp Groups. The online questionnaire consisted of two Sections.

1. Section A is the Student's profile (developed by the researcher). This section consists of the Socio-demographic characteristics of the students.  
In addition to that, the student's academic performance was obtained from their Percentage of marks in the last semester's Examination which is commonly used to measure academic performance in universities.
2. Section B was the Perceived stress scale (Cohen and Williamson, 1988)  
The PSS-10 is a self-reported scale to measure the global level of perceived

stress. It was standardized by Sheldon Cohen and Williamson in 1988. It consists of 10 questions that seek the respondent's feelings and thoughts during a certain time frame. PSS-10 measures an individual's appraisal of their life as stressful.

Internal reliability (Cronbach's alpha coefficient) for PSS-10 was 0.78 in the Harris poll samples, and 0.91 in both the 2006 and 2009 e Nation samples.

This scale includes two factors (Golden-Kreutz et al., 2004; Robert et al., 2006; Demir, 2009; Barbosa-Leiker et al., 2013)

The factor I (Perceived Helplessness) is made of negatively phrased items (Items 1,2,3,6,9 &10).

Factor II (Perceived Efficacy) is made of Positively phrased items (Items 4,5, 7, 8).

It is designed to tap how

- Unpredictable
- Uncontrollable and
- Overloading respondents find their lives.

### **SCORING PROCEDURE:**

The Scoring procedure for this study is very simple.

1. PSS questionnaire was scored according to the following manner. It consists of a Five-point Likert scale that captures responses ranging from Never to Very Often with the scores of 0, 1, 2, and 3&4 for negative items and vice versa for positive items. Getting high scores indicates a higher level of perceived stress

### **STATISTICAL TREATMENT:**

The statistical treatments employed in the study were listed below.

- I. "t" test for significant difference between the means of large independent samples.
- II. Pearson's product-moment correlation "r".

## RESULTS AND DISCUSSIONS

### RESULTS:

#### HYPOTHESIS 1

The college students who were attending online classes had a below-average level of perceived stress.

Table 1 shows that about 77% of students were having a moderate level of perceived stress and 7% and 15% of students were having a high and low level of stress during this COVID-19 Outbreak. Figure 1 shows the graphical representation.

Hence Hypothesis 1 is rejected.

#### HYPOTHESIS 2

The college students who were attending online classes had a below-average level of academic performance.

The empirical average score of academic performance among college students who were attending online classes is found to be 77.39881, while the theoretical average is 50. Thus, the college students who were attending online classes had above-average levels of academic performance.

Hence Hypothesis 2 is rejected.

#### HYPOTHESIS 3

Table 2 shows that the obtained 't' value 1.017 is less than the table value 1.96 at 0.05 level of significance. This shows that there is no significant difference between the perceived stress among male and female students.

Therefore the framed Null hypothesis has been accepted.

Table 2 shows that the obtained 't' value 2.232 is greater than the table value 1.96 at 0.05 level of significance. This shows that there is a significant difference between the perceived stress among the students from rural and urban areas. Further, it has been noted that students from rural areas have more levels of perceived stress than those students from urban areas. This shows that the framed Null hypothesis has been rejected.

In table 2 the obtained 't' value 1.395 is less than the table value 1.96 at 0.05 level of significance. This shows that there is no significant difference between the perceived stress among the students whose parents were literate and illiterate. Therefore the framed Null hypothesis has been accepted.

#### HYPOTHESIS 4

Table 3 shows that obtained 't' value 3.354 is greater than the table value 1.96 at 0.05 level of significance. This shows that there is a significant difference between the academic performance among male and female students. Further, it has been noted that females are having a high level of academic performance than male students. Therefore the framed null hypothesis has been rejected.

Table 3 shows that the obtained 't' value 0.694 is lesser than the table value 1.96 at 0.05 level of significance. This shows that there is no significant difference between the academic performance among the students from rural and urban areas. This shows that the framed Null hypothesis has been accepted.

In table 3 obtained 't' value 0.015 is lesser than the table value 1.96 at 0.05 level of significance. This shows that there is no significant difference between the academic performance among the students whose parents were literate and illiterate.

This shows that the framed Null hypothesis has been accepted

### **HYPOTHESIS 5**

There is no positive correlation between perceived stress and academic performance among the college students who were attending online classes.

The obtained 'r-value is -0.07261, the table value is 0.15. Hence there is a negative correlation between perceived stress and academic performance among the college students who were attending online classes.

Hence Hypothesis 5 is accepted.

### **DISCUSSIONS AND IMPLICATIONS:**

The results show that 77% of college students who were attending online classes had a moderate level of stress and 7% of students were having a high level of stress which needs more attention and importance has to be given in order to reduce their level of perceived stress. The results indicates that among the independent variables like Gender, Place of residence and Educational level of parents only the variable Place of residence has significant influence in the perceived stress level. The result shows that there is a significant difference between the perceived stress level among the college students from rural area and urban area at 0.05 significant level. The result implies that in general students from rural area had high level of perceived stress than their counterparts from urban area. The possible explanation to this situation is probably students from rural area were having less exposure to the electronic communication gadgets, which became part and partial of education system during the pandemic period and less awareness about the covid-19 situation which might increase their stress level.

In addition the result shows that there is a significant difference between the academic

performances of college students based on their gender at 0.05 significant level. Further it shows that females were having high academic performance than their counterpart male students.

However there is a negative correlation between the perceived stress and academic performance, which shows that increases in perceived stress level will decrease the academic performance of the college students. The sudden pandemic situation brought lots of changes in the lifestyle of people especially the way of teaching and learning got many changes which both the students and the teachers felt difficult to fit in. Students became anxious and stressed both physically and mentally due to the pandemic situation and its effect.

The male students are having less academic performance than the female students therefore male students should be motivated to improve their academic performance. The rural students are having a high level of perceived stress during this covid-19 outbreak than the urban students. Proper motivation and activities should be provided for the rural students in order to reduce their stress levels.

### **CONCLUSION**

The study has conducted to address the level of perceived stress among the college students during the covid-19 pandemic and its relationship with academic performance. Further to compare perceived stress and academic performance among students on the basis of their gender, place of residence and educational level of their parents. A sample of 168 students, were taken from various colleges of Dindigul district, Tamil Nadu. The result shows that there is a negative correlation between perceived stress and academic performance among college students, and there is a significant difference between male and female students in their academic performance and further there is a significant difference between students from rural and urban

places in their perceived stress. Therefore it can be concluded from the study that increase in perceived stress will decrease the academic performance of the college students, further it can be concluded that 77% of students were having moderate level of stress and 7% having high level of stress which has to be taken care by the educational institutions. Therefore the educational institutions should take necessary steps to monitor the stress level of students and conduct stress management programmes and online counselling programmes so that students won't get stressed much and their academic performance won't get affected.

#### REFERENCE:

1. AlAteeq, D. A., Aljhani, S., & AlEesa, D. (2020). Perceived stress among students in virtual classrooms during the COVID-19 outbreak in KSA. *Journal of Taibah University Medical Sciences*, 15(5), 398–403.  
<https://doi.org/10.1016/J.JTUMED.2020.07.004>
2. Atkinson, J., Berne, E., & Woodworth, R. S. (1988). *Dictionary of psychology* (4th ed. rev., Special Indian Edition). Delhi, India: Goyal Saab.
3. Chakraborty, P., Mittal, | Prabhat, Manu, |, Gupta, S., Yadav, S., & Arora, A. (2020). Opinion of students on online education during the COVID-19 pandemic. <https://doi.org/10.1002/hbe2.240>
4. Dusselier, L., Dunn, B., Wang, Y., Shelley, M. C., & Whalen, D. F. (2005). Personal, health, academic, and environmental predictors of stress for residence hall students. *Journal of American College Health*, 54: 15-24.
5. Elias, H., Ping, W.S, Abdullah, M.C. (2011). Stress and Academic Achievement among Undergraduate Students in Universiti Putra Malaysia. *Procedia - Social and Behavioral Sciences* 29, 646 – 655.
6. Jena, P. K. (2020). Impact of Pandemic COVID-19 on Education in India. *International Journal of Current Research (IJCR)*, July.  
<https://doi.org/10.31235/osf.io/2kasu>
7. Jha, S. K., Kudachi, P. S., & Goudar, S. S. (2012). Perceived Stress And Academic Performance Among Medical Students – A Cross Sectional Study. *International Journal of Basic and Applied Physiology*, 1(1), 123–126.
8. Kaplan, H. I. & Sadock, B. J. (2000). *Learning Theory: Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry*. Philadelphia: Lippincott Williams and Wilkins,
9. Khan, M. J., Altaf, S., & Kausar, H. (2013). Effect of perceived academic stress on students' performance. *FWU Journal of Social Sciences*, 7(2), 146–151.
10. Lee, S., Hahn, C., Rhee, M., Oh, J. E., Song, J., Chen, Y., Lu, G., Perdana, & Fallis, A. . (2012). Relationship between Perceived Stress and Depression in College Students. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.  
<http://dx.doi.org/10.1016/j.tws.2012.02.007>
11. Misra, R. & McKean, M. (2000). College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American Journal of Health Studies*, 16 (1): 41 – 52.
12. Mohammad Abdulghani, H., Abdulghani, H. M., AlKanhil, A. A., Mahmoud, E. S., Ponnampereuma, G. G., & Alfaris, E. A. (n.d.). Stress and Its Effects on Medical Students: A Cross-sectional Study at a College of Medicine in Saudi Arabia.
13. Mukhtar, K., Javed, K., Arooj, M., Sethi, A., & Assistant Professor, M. (n.d.). Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era

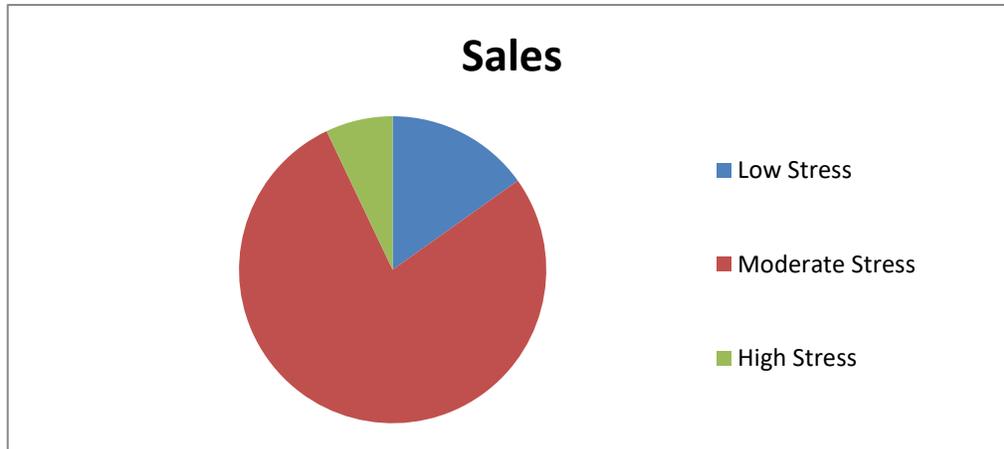
- <https://doi.org/10.12669/pjms.36.COVID19-S4.2785>
14. Nandamuri, P. P., & Ch, G. (2011). Sources of Academic Stress, A Study on Management Students. *Journal of Management and Science*, 1, 31-42.
  15. Niemi, P. M. & Vainiomaki, P. T. (1999). Medical Students' Academic Distress, Coping and Achievement Strategies during the Pre-Clinical Years. *Teaching and Learning in Medicine*, Vol. 11, 125-134.
  16. Radwan, E., Radwan, A., Radwan, W., & Pandey, D. (2021). Perceived Stress among School Students in Distance Learning During the COVID-19 Pandemic in the Gaza Strip, Palestine. *Augmented Human Research*, 6(1).  
<https://doi.org/10.1007/s41133-021-00050-6>
  17. Rafidah, K., Azizah, A., Norzaidi, M. D., Chong, S. C., Salwani, M. I., & Noraini, I. (2009). The Impact of Perceived Stress and Stress Factors on Academic Performance of Pre-Diploma Science Students: A Malaysian Study. 2(June), 13–26.
  18. Ramganes, E., & Paulraj, I. J. M. (2016). Effectiveness of Technology Enabled Psycho-NLP on the Performance of High School Students in Spoken English. *Asian Journal of Social Science Studies*, 1(2), 37.  
<https://doi.org/10.20849/ajsss.v1i2.54>
  19. Sharma, H. K. (2011). Stress and relaxation in relation to personality. *SAGE Open*, 1(2), 1–7.  
<https://doi.org/10.1177/2158244011418533>
  20. Yang, C. I., Chen, A., & Chen, Y. (2021). College students' stress and health in the COVID-19 pandemic: The role of academic workload, separation from school, and fears of contagion.  
<https://doi.org/10.1371/journal.pone.0246676>

### Tables & Figures:

**Table: 1 Stress level among college students during covid-19**

TOTAL MEAN SCORE	LEVEL OF STRESS	% of students
0-13	Low stress	15%
14-25	Moderate stress	77%
26-40	High stress	7%

**Fig:1–Graphical representation of stress level among college students during covid-19 outbreak**



**Table:2 Mean, SD, and 't' – scores on**

**Perceived stress of college students**

Dependent Variable	Variables		N	mean	Standard deviation	't' value	S
Perceived Stress	Gender	Male	65	17.6462	5.80794	1.017	NS
		Female	103	18.5340	4.99768		
	Place of Residence	Rural	119	18.7731	5.25686	2.232	S
		Urban	49	16.7755	5.28072		
	Educational Level of Parents	Literate	100	17.7300	5.56478	1.395	NS
		Illiterate	68	18.8676	4.91694		

**Table: 3 Mean, SD, and 't' –scores on Academic performance of college students**

Dependent Variable	Independent Variables		N	mean	Standard deviation	't' value	S
Academic Performance	Gender	Male	65	74.2308	10.96838	3.354	S
		Female	103	79.3981	7.33958		
	Place of Residence	Rural	119	77.1008	9.63521	0.694	NS
		Urban	49	78.1224	8.25033		
	Educational Level of Parents	Literate	100	77.3900	9.17165	0.015	NS
		Illiterate	68	77.4118	9.40821		