

## Mental Health of Students and their Academic Performance during COVID-19 Pandemic in Tamil Nadu

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(Received: 23 April 2023; Revised: 06 May 2023; Accepted: 26 May 2023; Published: 05 July 2023)

(Published by Research Trend)

**ABSTRACT:** Mental health of students was at great concern due to the immense impact of COVID-19 pandemic and it caused all the educational institution to go through online mode. University Grants Commission (UGC) insisted Higher Educational Institutes to take online learning during lockdown period. Students were not prepared for this situation. Attending online classes continuously eight hours per day resulted in affecting physical health of students but it was noted that mental health of students also got affected. This worsened condition of mental health has a great effect on their academic performance. This study conducted among undergraduate students from Tamil Nadu Agricultural University (TNAU). Mental health of students was measured in terms of psychological state of students during COVID-19 pandemic and their opinion towards online education. Academic performance was measured in terms of Grade Point Average (GPA) secured by students when they undergone online education. Multiple linear regression analysis was performed to know the effect of mental health of students on their academic performance during COVID-19 pandemic. The result revealed that psychological state of students during COVID-19 pandemic has negative and significant effect on academic performance of students. The students who are all having high level of stress during COVID-19 pandemic had secured low GPA in examinations. The possible reason might be the isolation from friends, relatives and neighbors. Many of the students' family members have been affected through COVID-19. This might have affected the students mentally and leads to the low level of academic performance. It was difficult to know the mental health of students because most of the students didn't aware about the worsening condition of mental health due to the online classes during COVID-19 pandemic situation.

**Keywords:** Psychological state, Opinion of students, COVID-19 pandemic, online education.

### INTRODUCTION

A study was conducted among 2031 college students in Texas, USA. It was found that the psychological state of students during COVID-19 pandemic had positive and significant relationship with academic performance of students. Increased difficulty due to the precipitous transition and increased concerns over grades affected mental health of students (Wang *et al.*, 2022). Psychological state of students in Wuhan, China was affected during COVID-19 pandemic It affected their academic life too due to anxiety and depression (Liu *et al.*, 2022). A study was conducted among 828 health care students in turkey found that sleep, negative news about COVID-19, income status, presence of social support affected mental health of students (Nehir and Gungor 2021). A study was conducted among 355 dental students in brazil found that mental health of the students got affected due to the fact that clinical students are in contact with patients for extended

periods during dental treatment (Yildirim and Atlas 2021).

A study was conducted among 108 students in Hungary and reported that students are having favorable opinion towards online education. Satisfaction level of learners towards learning platform and flexible learning environment leads to favorable attitude of students (Ismaili, 2021). A study was conducted among 20,697 high school students in Iran found that students felt enthusiastic about learning through online and they had favorable attitude of learning through online (Mirahmadizadeh *et al.*, 2020). A study was conducted among 312 college students in Indonesia. This study reported that students having favorable attitude of online learning because e-learning activities are very flexible because they can be accessed and conduct without being hindered by time and place (Maison *et al.*, 2021).

A study was conducted among 1835 college students in China. This study reported that academic performances of students have been improved in online learning

(Clark *et al.*, 2021). In a study among 108 college students in Philippines found that online learning resulted poor academic performance due to stress & low satisfaction among students (Oducado and Estoque 2021). A study was conducted among 110 college students in USA. This study reported that academic performance of students got reduced in online learning because motivation of students decreased during online classes (Boardman *et al.*, 2021). Considering all this in view, a question arises whether mental health of students affected their academic performance during COVID-19 pandemic ? This was considered as a research question. The specific objective was framed, “To identify the effect of mental health of students on their academic performance during COVID-19 pandemic”

## MATERIALS AND METHODS

This study was conducted among 275 Undergraduate students from two degree programs viz., B.Sc. (Hons) Agriculture & B.Sc. (Hons) Horticulture from four campuses in Tamil Nadu Agricultural University (TNAU) which was shown in Table 1. The students

were selected through proportionate random sampling technique from respective campuses. The response was collected from students through well structured interview schedule.

Mental health of students comprises their psychological state during COVID-19 pandemic and their opinion towards online education. To study the psychological state of students during Covid-19 pandemic, a five point likert scale developed by Zurlo *et al.* (2020) was used with slight modification which was shown in table 2. A five point likert scale developed by Jyothi and Vijayabhinandana (2021) was used with slight modification to measure the opinion of undergraduate students towards online education which was shown in table 3. Academic performance of students was measured in terms of Grade Point Average (GPA) obtained by the students when they undergone online education. Multiple linear regression analysis was carried out to identify the effect of mental health of students on their academic performance during COVID-19 pandemic.

**Table 1: List of colleges selected for study in Tamil Nadu Agricultural University.**

Colleges Selected	Degree Programme
Agricultural College and Research Institute, Madurai	B.Sc. (Hons) Agriculture
Agricultural College and Research Institute, Coimbatore	
Horticultural College and Research Institute, Periyakulam	B.Sc. (Hons) Horticulture

**Table 2: Psychological state of students during COVID-19 pandemic.**

Sr. No.	Statements	NoS	SS	MS	VS	ES
1.	How do you perceive the risk of contagion during this period of COVID-19 pandemic?					
2.	How do you perceive the condition of social isolation imposed during this period of COVID-19 pandemic?					
3.	How do you perceive the relationships with your relatives during this period of COVID-19 pandemic?					
4.	How do you perceive the relationships with your university colleagues during this period of COVID-19 pandemic?					
5.	How do you perceive the relationships with your university professors during this period of COVID-19 pandemic?					
6.	How do you perceive your academic studying experience during this period of COVID-19 pandemic?					

(NoS – Not at all stressful; VS – Very stressful; SS – Somewhat stressful; ES – Extremely stressful; MS – Moderately stressful)

**Table 3: Opinion of undergraduate students towards online education.**

Sr. No.	Statements	SA	A	UD	DA	SDA
1.	I feel I listen to online classes comfortably					
2.	I feel online learning lacks in practical skills					
3.	I feel online learning saves time as I need not travel to classroom					
4.	I find online learning is boredom					
5.	I believe online learning helps in exploring more about the subject					
6.	I think flipped classroom approach would be better					
7.	I feel I am disconnected with my class mates in online learning					
8.	I find online learning includes increased workloads					
9.	I believe online learning enhanced the quality of teaching					
10.	I find lower retention rate for online learning					
11.	I think I am not getting enough time for brainstorming in online classes					
12.	I find the online learning made learning easy					
13.	I find in online learning it is difficult to manage study time at home					
14.	I feel online learning is stressful					
15.	I think online learning made me technically strong					

(SA – Strongly Agree; A – Agree; UD – Undecided; DA – Disagree; SDA – Strongly Disagree)

## RESULTS AND DISCUSSION

This section includes contribution of mental health of the students towards academic performance of the students during COVID-19 pandemic. Psychological state of students during COVID-19 pandemic was referred to the mental conditions of students while they undergone online classes during COVID-19 pandemic. From Table 4, it was found that more than half of the students (58.18%) had medium level of stress followed by nearly one fourth of students (24.36%) had high level of stress and remaining 17.46 per cent of students had low level of stress during online classes.

**Table 4: Psychological state of students during COVID-19 pandemic.**

Sr. No.	Category	Frequency	Percentage
1.	Low stress (<12)	48	17.46
2.	Medium stress (13-19)	160	58.18
3.	High stress (>20)	67	24.36
	Total	275	100.00

**Table 5: Opinion of undergraduate students during COVID-19 pandemic.**

Sr. No.	Category	Frequency	Percentage
1.	Less favorable (<34)	52	18.90
2.	Moderately favorable (35-47)	174	63.30
3.	Highly favorable (>48)	49	17.80
	Total	275	100.00

The opinion of any person towards his occupation largely decides his type of involvement on a continued basis. This was applicable to students too and it was relevant for the present study. It was referred to the opinion of students towards online education during COVID-19 pandemic. From table 5, it was found that more than three fifth of the students (63.30%) had moderately favorable opinion followed by 18.90 per

**Table 7: Contribution of mental health of students towards their academic performance.**

Sr. No.	Variables	Regression coefficient	Standard Error	t-value	p-value
X <sub>1</sub>	Psychological state of students during COVID-19 pandemic	- 0.643**	0.008	13.775	<0.001
X <sub>2</sub>	Opinion of undergraduate students towards online education	0.008 <sup>NS</sup>	0.005	0.162	0.872

\*\*-Significant at one per cent level; NS-Non Significant

R-value	:	0.642	F-value	:	95.502
R-Square value	:	0.413	p-value	:	<0.001

From Table 7, it was seen that F-value of fitted regression was found to be 95.902, which was significant at less than one per cent level of probability. The multiple correlation coefficient (R-value) was 0.642, indicating a positive contribution between the mental health of students and their academic performance during COVID-19 pandemic. The coefficient of determination (R-square) value of 0.413 indicated that mental health of students explained

cent of students had less favorable opinion towards online education and remaining 17.80 per cent of students had highly favorable opinion towards online education. The possible reason might be students felt that workload was more in online classes. Attending online classes continuously eight hours a day brought tiredness among students and they lack in motivation of learning through online mode.

**Table 6: Academic performance (GPA) of students in online education.**

Sr. No.	Category	Frequency	Percentage
1.	Low (<7.4 GPA)	46	16.70
2.	Medium (7.5 GPA-8.3 GPA)	169	61.50
3.	High (>8.4 GPA)	52	18.90
	Total	275	100.00

Academic performance referred to grade point average (GPA) obtained by the students when they undergone online education. From table 6, it was found that more than three fifth of the students (61.70%) obtained medium level of GPA because examination was carried out through online mode using online examination platform (Exam from home) and only objective type questions were used for evaluation. Nearly one fifth of the students (18.90%) obtained high level of GPA and remaining 16.70 per cent of the students obtained low level of GPA while they undergone online education. The possible reason might be examination was conducted through online mode and only Multiple Choice Questions (MCQ) was asked. Hence majority of the students got medium level of GPA when they undergone online education.

**Contribution of mental health of students towards their academic performance during COVID-19 pandemic.** Multiple linear regression has been carried out to know the effect of mental health of students on their academic performance during COVID-19 pandemic and the results are presented in the Table 7.

about 41.30 per cent of variation in the academic performance of students during COVID-19 pandemic. The predicted equation for the cause and effect relationship was fitted as given below

$$Y = 5.996^{**} - 0.643^{**} (X_1) + 0.008^{NS} (X_2)$$

From this equation, it was evident that psychological state of students during COVID-19 pandemic (X<sub>1</sub>) has negative and significant effect on academic performance of students at one per cent level of

probability. A decrease in one unit of psychological state of students will result in increase of academic performance of students by 0.643 units. The students who are all having high level of stress during COVID-19 pandemic had secured low GPA in examinations. The possible reason might be the isolation from friends, relatives and neighbors. Many of the students' family members have been affected through COVID-19. This might have affected the students mentally and leads to the low level of academic performance. This finding is line with another study, which reported that COVID-19 pandemic impacted mental health of students and it resulted in their academic performance also (Jiang, 2020).

Another study conducted among college students in Pakistan and UK also supported this finding, students had lack of motivation due to stress and it negatively impacted their academic performance (Abdur Rehman *et al.*, 2021).

## CONCLUSIONS

Mental health of students was measured in terms of psychological state of students during COVID-19 pandemic and their opinion towards online education. Academic performance was measured in terms of Grade Point Average (GPA) secured by students when they undergone online education. Multiple linear regression analysis was performed to know the effect of mental health of students on their academic performance during COVID-19 pandemic. From this study, it was evident that psychological state of students during COVID-19 pandemic has negative and significant effect on academic performance of students when they undergone online education. Students need to be trained before they enter into online mode of education. Counseling sessions need to be provided to concern about academic and psychological problems students going through during online education.

## FUTURE SCOPE

Online education became inevitable, hence mental health of students need to be concerned before making them to adopt learning through online mode. This study will help researchers in knowing the students' psychological state and their opinion towards online learning and how it affected their academic performances.

**Acknowledgement.** Authors are thankful to Tamil Nadu Agricultural University (TNAU) for allowing conducting this research and we thank students for their friendly co-operation.

**Conflict of Interest.** None.

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**How to cite this article:** Mohammed Ghouse L., C. Karthikeyan and R. Pangayar Selvi (2023). Mental Health of Students and their Academic Performance during COVID-19 Pandemic in Tamil Nadu. *Biological Forum – An International Journal*, 15(7): 147-150.