



# IMPACT OF ONLINE EDUCATION ON STUDENT MOTIVATION AND STRESS

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**Abstract:** Globally speaking, the last three years has had a significant impact on students' abilities to learn. In an emergency, online and remote learning have replaced regular classroom instruction for both students and teachers. The transition of their practices from a focus on face-to-face learning to an online learning environment mediated by various forms of technology presents significant obstacles. This study focuses on understanding the comfort level of the students in different types of online learning along with understanding the relationship between stress and motivation. Motivation can positively affect productivity and performance while stress may negatively influence the productivity and competitiveness. The quantitative analysis with a sample size of N=60 have been conducted to eventually understand the correlation between motivation and stress during online classes using Pearson's correlation method.

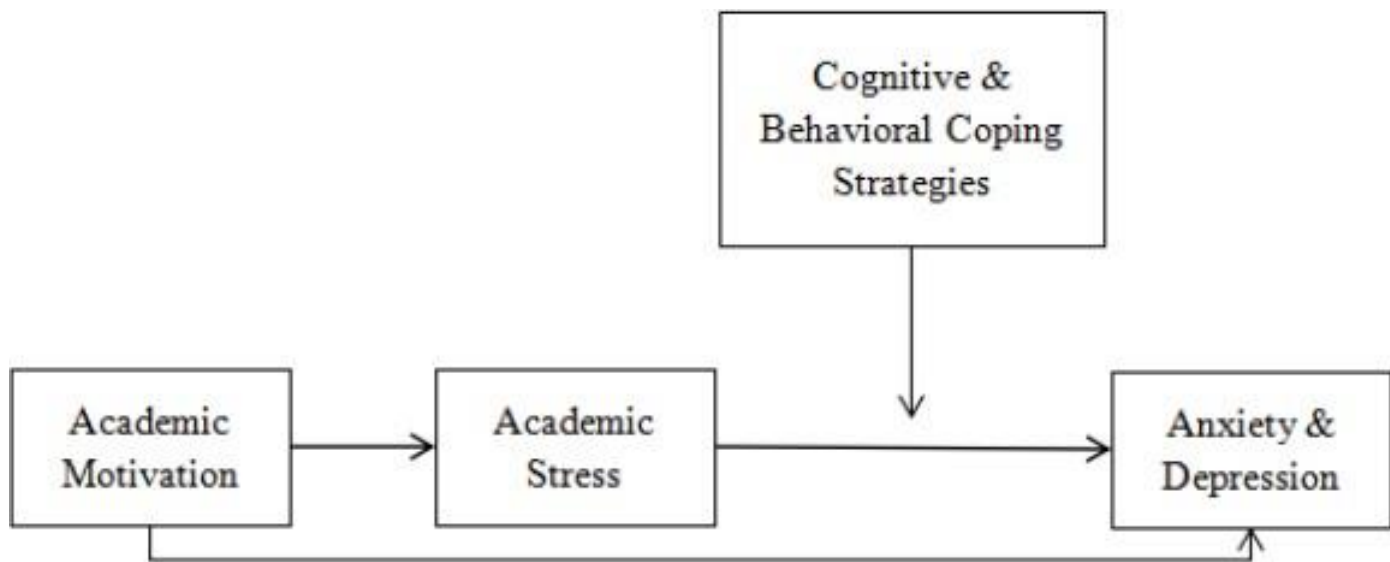
**Index Terms** - Motivation, stress, teaching-learning methodologies, traditional learning, online learning, correlation

## INTRODUCTION

In today's world, stress forms an integral part of our life. There are several external factors which act as a stress catalyzer. The quick and unanticipated transformation that COVID-19 brought to online teaching and learning has probably had an impact on most, if not all, facets of students' lives globally. According to Livingston (2018), educators have significant hurdles in adapting their instruction outside of their teaching philosophies in order to satisfy the demands of a varied student population. The COVID-19 requirements for instructors to drastically alter their classroom environment, educational practices, and class delivery compounded these difficulties, having a substantial negative impact on the learning experience of the students. (Katie Hill, 2020)

To contribute to this investigation of this change, this study focuses on the impact of sudden shift to online education on motivation and stress level of the students. Seemingly overnight, instructors moved their instructional and assessment practices to remote online delivery. It becomes rather important to understand the motivation level of the students for two reasons; first, it seems at least for the near future, more courses will continue to be delivered remotely even though instructors and students may desire to return to face-to-face instruction (Lia M. Daniels, 2021). Second, the assessment practices are not considered credible and that kind of creates a stress in the mind of the student about the importance of the course in the post-pandemic world.

Positive outcomes including low stress, high contentment, and mental well-being are associated with academic motivation. Although the connections between motivational orientation, stress, and satisfaction are well known, little attention has been paid to the specifics of these connections. (Marshall, 2022)



**FIGURE 1: MODERATED MEDIATION MODEL**

In the figure above, academic motivation influences the process of cognitive appraisal which in turn determines how much stress is perceived. Coping strategies influences the effectiveness to cope with the perceived stress. Specifically, an indirect effect from academic motivation through academic stress to symptoms of anxiety and depression was expected. Cognitive and behavioral coping strategies are expected to moderate the relationship between academic stress and symptoms of anxiety and depression.

## NEED OF THE STUDY

With the sudden change across the globe, a certain level of uncertainty was created in the minds of the educators, institutions as well as the students. How to use the modern technology to facilitate the smooth functioning of educational institutes became the prime concern for most of the stakeholders. Amidst all these hustle bustle, the stress level increased. The study tends to find out what lead to the increase in stress levels and what relation does it have with motivation. Students, who were intrinsically motivated pre-pandemic, were they able to maintain their sanity and perform consistently during the pandemic or did they feel more stressed due to the uncertainty. The purpose of this study was to further examine how student perceptions of their degree completion and future job prospects during the pandemic impact their well-being.

## RESEARCH METHODOLOGY

The two important variables for the analysis taken here are motivation and stress. As we know, motivation is positively related to performance so we wanted to understand how far students were intrinsically motivated to perform better when extrinsic factors were absent. The student also aims to find out the impact of pandemic on stress (both physical and mental). Through Pearson's correlation analysis the two variables were then put to test to establish a relationship. **The following are the objectives of this study:**

- To find out how far the students are comfortable with the synchronous mode of learning in online education.
- To understand whether the demographic profile of the students is showing any variation with the teaching methodologies and stress level.
- To establish the relationship between the motivation level of the students and their stress level through Pearson correlation analysis.
- To give further suggestions and recommendations.

### 3.1 Population and Sample

60 selected candidates were given the structured questionnaire followed by quantitative analysis using SPSS. The researcher has adopted simple random sampling technique. The sampling unit was chosen randomly from students in both technical and non-technical colleges.

### 3.2 Data and Sources of Data

The research adopted a combination of different methods to collect the data. They are listed below:

**Library Research:** This study has undertaken the through literature review of different research papers, journals, book chapters.

**Questionnaire:** Selected students of both genders belonging to different age group, different branch of study was asked to fill the structured questionnaire with close ended questions.

Data were also collected from different websites for obtaining necessary information.

### 3.3 Theoretical framework

Though educators have been using machines and tools in the teaching-learning process throughout history, e-learning in the literal sense of the term is a new concept. One of first instances of online teaching can be traced back to 1960, at the University of Illinois, USA. As technology progressed, University of Toronto started offering the first-ever online course in 1984. Five years later, University of Phoenix started offering both bachelor's and master's degrees through online platforms. This made learning accessible to people across the globe. In India, this idea was conceptualized in 1985, by the then Prime Minister and IGNOU was launched with an aim to provide open and distance education. Digital technology in India has been evolving over the last few years, changing the way of learning concepts in school. With the COVID 19 outbreak, online education has been structured in a way to combine conventional learning with communication and information technology. The unplanned change that literally resulted in a revision of the entire process led to many unanticipated changes both among the educators and learners. While technology makes life more convenient and accessible, it may sometimes have its drawbacks, particularly in India where many students struggle to go online. This in turn causes problems with attendance and engagement in online sessions, which makes it difficult to adjust to using online educational channels. (Nambiar, 2020)

Many researchers have conducted exploratory research where it was found that factors like learner-instructor interaction in classroom, feeling of remoteness and its relation to student motivation, flexibility of the course structure and instructor knowledge and facilitation are positively influencing students' perceived learning outcome and satisfaction (Hasnan Baber, 2020). To cope with the stress and its associated factors students used emotional intelligence to distance themselves from negative thoughts and overcoming boredom (Chandra, Y. 2020). The nature and type of study also significantly influence the stress and motivation level of the students. In one such study, it was found that, there are certain specific activities that students feel less motivated to do in Distance Learning. Though DL gave a more efficient learning method, more time to study, yet the challenges during DL posed by the external factors like unstable internet, financial burden, time management and difficulty to focus overshadowed the benefits that DL (Amir, L.R., Tanti, I., Maharani, 2020). Along with the factors mentioned above, some negative impacts like lack of adequate infrastructure for some students, less effective teacher-student interaction, impossibility of performing practical applications, lack of socialization, lack of learning motivation, degradation of physical and mental health were also reported Radu, M. C., Schnakovszky, C., Herghelegiu, E., Ciubotariu, V. A., & Cristea, I. (2020). These factors were multiplied mostly because the transition from offline to online was not gradual but discreet. The students were caught between the physical and mental health factors leading to a significant increase in anxiety, depression, post-traumatic stress disorder, psychological distress and stress were reported in the general population during the pandemic in China, Spain, Italy, Iran, the US, Turkey, Nepal, and Denmark. Risk factors associated with distress measures include female gender, younger age group ( $\leq 40$  years), presence of chronic/psychiatric illnesses, unemployment, student status, and frequent exposure to social media/news concerning pandemic Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M., Gill, H., Phan, L., ... & McIntyre, R. S. (2020). It is to understand the impact of economic, social, and educational factors which are significant in online education that this paper was conceptualized. The relation of all these factors on student motivation and stress and also to draw a correlation between these two, is the main aim of this research.

### 3.4 Statistical tools

This section elaborates the findings along with the analysis of the quantitative data.

#### 3.4.1 Data Presentation and Analysis

**TABLE 1: Demographic data of the respondents**

| Demographic Variables     | Category      | Percent |
|---------------------------|---------------|---------|
| Gender                    | Male          | 73.3    |
|                           | Female        | 26.7    |
| Education Level           | UG            | 93.3    |
|                           | PG            | 6.7     |
| College/University Timing | Morning       | 41.7    |
|                           | Day           | 58.3    |
| Branch of Study           | Technical     | 95      |
|                           | Non-Technical | 5       |

The above table shows the percentage of demographic data as analyzed from a sample size of 60 respondents. Male being 73.3% while female respondents were less in number, i.e. 26.7%. Most of the respondents belonged to the undergraduate level of education with 93.3% of the respondents. If we consider the timing of the college/university, the respondents were uniformly divided between morning and day, with 41.7% and 58.3%, respectively. Most of the respondents belonged to the technical branch of education with 95% and non-technical respondents were only 5%.

**TABLE 2: Questionnaire survey on 5-point Likert Scale**

(1-Strongly Disagree, 2- Disagree, 3- Undecided, 4- Agree, 5- Strongly Agree)

| Variables   | Scale | Frequency | Percentage |
|---|-------|-----------|------------|
| Online education is helping me to learn the coursework  | 1     | 1         | 1.7        |
|   | 2     | 1         | 1.7        |
|   | 3     | 18        | 30         |
|   | 4     | 19        | 31.7       |
|   | 5     | 21        | 35         |
| The use of teaching-aids helps in understanding   | 1     | 4         | 6.7        |
|   | 2     | 0         | 0          |
|   | 3     | 6         | 10         |
|   | 4     | 22        | 36.7       |
|   | 5     | 28        | 46.7       |
| Technical/network problems takes up time  | 1     | 8         | 13.3       |
|   | 2     | 10        | 16.7       |
|   | 3     | 13        | 21.7       |
|   | 4     | 21        | 35         |
|   | 5     | 8         | 13.3       |
| The assimilation of knowledge is quicker in online education  | 1     | 10        | 16.7       |
|   | 2     | 10        | 16.7       |
|   | 3     | 17        | 28.3       |
|   | 4     | 10        | 16.7       |
|   | 5     | 13        | 21.7       |
| Doubt-clearing and interaction is difficult in online mode  | 1     | 6         | 10         |
|   | 2     | 15        | 25         |
|   | 3     | 11        | 18.3       |
|   | 4     | 10        | 16.7       |
|   | 5     | 18        | 30         |
| Learning at my own pace is easier is online than offline  | 1     | 8         | 13.3       |
|   | 2     | 13        | 21.7       |
|   | 3     | 4         | 6.7        |
|   | 4     | 21        | 35         |
|   | 5     | 14        | 23.3       |
| Online learning is motivating than conventional learning  | 1     | 7         | 11.7       |
|   | 2     | 20        | 33.3       |
|   | 3     | 11        | 18.3       |
|   | 4     | 10        | 16.7       |
|   | 5     | 12        | 20         |
| Objectivity and fairness of evaluation is reduced in online learning and the phenomenon of random scoring appears | 1     | 6         | 10         |
|   | 2     | 0         | 0          |
|   | 3     | 12        | 20         |
|   | 4     | 27        | 45         |
|   | 5     | 15        | 25         |
| Physical stress is more in online learning  | 1     | 4         | 6.7        |
|   | 2     | 2         | 3.3        |
|   | 3     | 7         | 11.7       |
|   | 4     | 30        | 50         |
|   | 5     | 17        | 28.3       |
| Variables   | Scale | Frequency | Percentage |



|   |   |    |      |
|---|---|----|------|
| The stress level is more in synchronous online classes                          | 1 | 5  | 8.3  |
|   | 2 | 4  | 6.7  |
|   | 3 | 9  | 15   |
|   | 4 | 24 | 40   |
|   | 5 | 18 | 30   |
| Apprehension about the credibility and job prospects in online learning is real | 1 | 2  | 3.3  |
|   | 2 | 0  | 0    |
|   | 3 | 12 | 20   |
|   | 4 | 23 | 38.3 |
|   | 5 | 23 | 38.3 |
| Online classes lead to stress and disruption in personal and academic life      | 1 | 2  | 3.3  |
|   | 2 | 4  | 6.7  |
|   | 3 | 2  | 3.3  |
|   | 4 | 23 | 38.3 |
|   | 5 | 29 | 48.3 |

In order to assess the variables a 5-point Likert scale is used. The questions were asked from general to specific. While factors like learning in online classes, favorable impact of teaching-aids and learning at own pace show the positive side of online learning, factors like technical issues, doubt clearance and stress factors due to apprehensions of the credibility of the online learning, disruption in personal and academic life due to physical strain and motivational issues shows the negative side of online learning. Many educational institutions opened campus wellness programs to deal with the stress, especially during the pandemic. Participants in campus wellness initiatives saw reduced pandemic impact. It was determined that first-year university students' mood and wellness behaviors were moderately but persistently impacted by COVID and related educational/governmental mitigation initiatives. Colleges need to get ready to deal with the pandemic's ongoing effects on mental health. (Copeland, W. E., McGinnis, E., Bai, Y., Adams, Z., Nardone, H., Devadanam, V., ... & Hudziak, J. J., 2021).

**TABLE 3: Behavioral symptoms of stress noticed by the respondents during prolonged online learning**

|                  | 1                                      | 2                        | 3                                | 4  | 5                                    | 6   | 7        | 8  | 9          |
|------------------|--|--------------------------|----------------------------------|--|--------------------------------------|---|----------|--|------------|
| <b>Factors</b>   | Decreased efficiency and effectiveness | Difficulty communicating | Too sensitive towards any humour | Irritability, outbursts of anger, frequent arguments | Inability to rest, relax or let down | Change in eating habits leading to weight loss (Anorexia) | Insomnia | Increased use of tobacco, alcohol, drugs, sleeping pills | Insecurity |
| <b>Frequency</b> | 36                                     | 31                       | 14                               | 28   | 30                                   | 13  | 14       | 1  | 22         |

Many research that were previously conducted has validated the prevalence of stressors among college students. The top three concerns were academic performance, pressure to succeed, and post-graduation plans. Demographically, the most stressed, anxious, and depressed students were transfers, upperclassmen, and those living off-campus (Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S., 2015). While living in a setting that is not supportive of self-care, college students are striving to achieve as well as they can academically and socially. The three foundations of young adult mental health—eating properly, being physically active, and getting adequate sleep—are typically very low on the priority lists of college students. According to the findings of the survey, most of the respondents are facing the early signs of anxiety and depression. Though the behavioral changes were majorly noticed during the period of confinement during pandemic, yet it is clear from the data that if we are to rely on online mode of education, the signs of stress will surely lead to major health problems.

### 3.4.1.1 CORRELATION BETWEEN MOTIVATION AND STRESS LEVEL IN ONLINE CLASS

The objective of this paper is to find out the relationship between motivation level of the students and their stress level through Pearson correlation analysis. This method has been used to identify whether a linear relationship exists between two quantitative variables.

Theoretically, motivation is positively related to satisfaction and stress is negatively related to satisfaction. So, we can assume that motivation and stress should also be negatively related. According to Herzberg (1987) motivation is determined by motivators and hygiene factors. Motivators lead to satisfaction; absence of hygiene factors lead to dissatisfaction.

**TABLE 4: Correlation between motivation and stress during online learning**

| Correlations                            |                     |         |         |
|---|---------------------|---------|---------|
|   |                     | V14     | V19     |
| Online learning is motivating           | Pearson Correlation | 1       | -.528** |
|   | Sig. (2-tailed)     |         | .000    |
|   | N                   | 60      | 60      |
| Stress level is more in online learning | Pearson Correlation | -.528** | 1       |
|   | Sig. (2-tailed)     | .000    |         |
|   | N                   | 60      | 60      |

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

For the purpose of finding the relationship between stress and motivation, here, two questions were considered. These two variables are “online learning is motivating” and “stress level is more in online learning”. When these two variables are put to test, a negative correlation is seen. The online learning is having a significant negative correlation with the stress level of the respondent. So, based on the theory stated earlier, we can say that if people have a high level of motivation, they experience lesser stress. So, motivation is an antidote to stress. Similarly in case of stressful situations, people may experience low motivation.

#### IV. RESULTS AND DISCUSSION

The primary purpose of this study was to understand the behavior of students’ motivation and stress level during online learning. The impact of Covid-19 pandemic has been sudden and the change that has been brought in post the outbreak of the pandemic has been more of a mitigation technique than a long-term sustainable one. Earlier studies have primarily focused on the students’ perceived learning outcomes and its influence on students’ satisfaction Hasnan Baber (2020). There were still other studies that focused on the direct impact of the pandemic on students, educators, and institutions through analysis of the perception of academic stress during online sessions and the coping mechanism using emotional intelligence adopted by them Chandra, Y. (2020).

The correlation between stress and motivation has never been attempted before. Greater stress coupled with lower grades negatively impacts students’ motivation while higher motivation among students during online sessions can have a positive impact on decreasing the stressors and improving grades.

Though most of the respondents are in favor of online mode of education due to ease of learning, less travel time yet there are few subjects which requires face-to-face contact with the instructor. The online learning has facilitated the respondents with the availability of learning resources from not just a single platform but multiple platforms. However, the students lack the conducive environment, classroom interaction and competitive surroundings in online learning. This helps the student to stay focused and retain their motivation level. On the other hand, the stressors are on the rise. Assignments, workload, unfavorable situations, and apprehensions are constantly affecting their morale and contributing to dissatisfaction. Therefore, it is vital and essential for researchers to reflect on and enhance the existing practices of online learning and teaching through proper designs and evidence-based methodologies at this moment. This project was to understand the comfort level of the students during online learning and draw a relationship between motivation and stress factors associated with the same. Based on the findings we can validate that there is an urgent need to understand the requirement of the students along with an alternate approach which will be student-centric.

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