



# Examining the role of perceived stress on learning satisfaction under the influence of academic burnout in the post-COVID world

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## Abstract:

**BACKGROUND:** In the last two years, due to the impact of COVID-19, students were forced to continue their education online because the government imposed restrictions to limit the spread of the virus. However, with the resumption of offline classes, the students seem to be suffering more from stress and isolation as they must face the challenges of the real world, which are quite different from the virtual one to which they have become accustomed. In this study, the effect of stress on students leading to their academic burnout and the influence of burnout on their learning satisfaction was studied.

**MATERIALS AND METHODS:** The data were collected from 343 students of final year postgraduation courses in business management studies in India. The collected data were subject to analysis using PLS-SEM through SmartPLS 4.0 software.

**RESULT:** The results of the study state that the perceived stress significantly increases cynicism, and exhaustion with a coefficient value of 0.481 each and decreases self-efficacy with  $-0.03$ . Additionally, exhaustion acts as a mediator that decreases the effect of perceived stress over learning satisfaction with a positive indirect effect of 0.176.

**CONCLUSION:** The study concludes that not all types of stress are bad for students; hence, increasing perceived stress leads to increased learning satisfaction. Whereas, in the presence of burnout factors, such as exhaustion and cynicism, learning satisfaction decrease. However, self-inefficacy, one of the factors under burnout, doesn't show any effect on learning satisfaction. The present study is widely applicable to industry and academia to deal with burnout to improve students learning satisfaction.

## Keywords:

Burnout, learning satisfaction, stress

## Introduction

Stress is a common phenomenon across the population in today's time various studies have conceptualized burnout as a by-product of badly managed stress.<sup>[1]</sup> In the last few years due to the spread of the COVID-19 virus, students were forced to attend online classes, and this started a new discussion about the effectiveness of offline classes. But with the gradual reopening of the world post-fourth wave led by a rather

weak omicron variant after February 2020, the threat of COVID seems to be waning. The discussion of online versus offline took a U-turn when reports started coming up that students were losing their learning efficacy and that the good old chalk and duster classes were better.<sup>[2]</sup> But the reopening of the educational institute brought back its side effects on the students: the stress of being present in a classroom, writing exams, and facing the real world. Reports suggest that students worldwide faced issues like erratic sleep patterns, fear of meeting

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strangers, and anxiety about moving out again, causing stress among them.<sup>[3]</sup> This study is one such attempt to understand the challenges faced by students, especially those in their last year of college life. They are under stress not only of facing the world but also of performing, causing academic burnout among students and a loss of interest in studies. The role of students learning satisfaction in this entire equation was also tried to be sorted out. It is a field born out of a social problem and has grown toward a more coherent set of theoretical models and empirical studies.<sup>[4]</sup> Although COVID is not over yet and the world seems to be suffering at present also, there are no more restrictions in a place like those were when it started in January 2020. In the last few years, many studies have been conducted on online teaching or emergency remote learning, and its impact on the student,<sup>[5,6]</sup> but none have discussed stress and burnout among students post-COVID-19, that is, the time when all the COVID-related restrictions like compulsory social distancing and masking were removed and this adds to the novelty of our study. The present study investigates the relationship between stress, burnout, and learning satisfaction based on the conceptual and empirical framework discussed in the coming sections.

Studies conducted in countries like Brazil,<sup>[7]</sup> Italy,<sup>[8]</sup> China,<sup>[9]</sup> and Spain<sup>[10]</sup> have unanimously suggested that there is high stress among university students, finding a high level of tiredness associated with low dispositional responsiveness,<sup>[9]</sup> and a feeling of low resilience.<sup>[6]</sup> These factors may cause an adverse impact on students leading them into a situation that may overload them and lead to burnout syndrome.<sup>[11]</sup> The term “burnout” was initially used to describe a feeling of exhaustion observed among mental health professionals<sup>[12]</sup> but its wider influence among others like bank employees, teachers, and students is widely studied.<sup>[13]</sup> Burnout comprises three dimensions:

Exhaustion is the feeling of being overstretched and depleted of mental, emotional, and bodily resources.<sup>[14]</sup> An exhausted student may display behaviors that can increase absenteeism, lack of motivation for required work, and even an early dropout.<sup>[15]</sup> Many college students who seek counseling may feel exhausted or suffer some of its effects.<sup>[16]</sup> Feelings of being overextended, “... tired or used up, unable to face a day’s work, completely unenthusiastic,” are all examples of emotional weariness.<sup>[17]</sup> In this study, we have contested that the pressure to attend lectures, write examinations, and be evaluated in physical mode is putting tremendous stress on the students making them feel exhausted. Based on the above conjecture we propose the following hypothesis:

H1: Perceived stress has a significant impact on students leading them to feel exhausted.

Cynicism is generally defined as a negative, callous, and detached attitude toward others.<sup>[18]</sup> Earlier research on student cynicism underlined that medical students had a high level of skepticism as they have a high level of involvement with their subject.<sup>[19]</sup> There is also the argument that the discrepancy between students’ expectations of their institutions and their impressions of reality contributes to their skepticism.<sup>[20]</sup> In this study, we have contested that the increasing expectation of students from themselves as well as from the institutes influenced by the job market scenario has put stress on the students making them cynical towards their life and future goals. Based on the above conjecture we propose the following hypothesis:

H2: Perceived stress significantly impacts students, leading them to be cynics.

Self-efficacy is a belief in one’s capacity to arrange and carry out courses of action required to generate the specific attainment of the goal.<sup>[21]</sup> Zimmerman postulated that people who have strong self-efficacy appear to put up more effort and persevere through difficulties or setbacks.<sup>[22]</sup> It is contended in this study that students who are high on perceived stress will have low efficacy or higher inefficacy. Based on the above conjecture we propose the following hypothesis:

H3: Perceived stress has a significant impact on students leading them to have a lowered self-efficacy.

Learning satisfaction not only motivates students to work hard on their studies but also encourages teachers to do high-quality teaching if they were aware of what caused stress among students and how the students approach their studies. There are studies that have shown the direct effect of stress on students learning and performance impacting them positively as well as negatively.<sup>[23]</sup> Previous studies have already shown that burnout directly and significantly influences learning satisfaction.<sup>[24]</sup> All these factors combined or individually may lead to an adverse effect on the learning satisfaction of the students. Based on the above assumptions we propose the following hypothesis:

H4: Cynicism has a significant impact on students leading them to have lower learning satisfaction.

H5: Self-inefficacy has a significant impact on students leading them to have lower learning satisfaction.

H6: Exhaustion has a significant impact on students leading them to have lower learning satisfaction.

H7: Perceived stress has a significant impact on students’ learning satisfaction.

Conceptual development [Figure 1] and the following section illustrate the job demand-resource (JD-R) theory propounded by Demerouti<sup>[25]</sup> and its adaptation in the context of our research. According to this model, stress drives burnout and thus impacts the performance of employees in an organization. Although students are not considered employees, the kind of academic activities that they undertake are like work from a psychological point of view.<sup>[26]</sup> Based on this assumption, the current study attempts to fit with the JD-R theory, wherein we use the same concept on an educational institution instead of an organization. Utilizing JD-R, it has been hypothesized that the student’s perceived stress would drive changes in each of the burnout dimensions, ultimately influencing learning satisfaction.

Based on the above-identified literature and theory, the study aims to answer the following research questions:

How does perceived stress affect the students, leading them to exhaustion?

How does perceived stress affect the students, leading them to cynicism?

How does perceived stress affect the students, leading them to lowered self-efficacy?

Do factors of exhaustion, cynicism, and lowered self-efficacy have an impact on the learning satisfaction of the students?

## Materials and Methods

### Study design and setting

To provide empirical insight into the effect of perceived stress on student learning satisfaction, this study adopted a quantitative approach by using a descriptive research design.

### Study participants and sampling

The study participants were postgraduate students who were approached to fill out the survey form between May

2022 and September 2022 across various colleges in India. A total of 343 students participated which were chosen based on the judgment sampling technique.

### Data collection and techniques

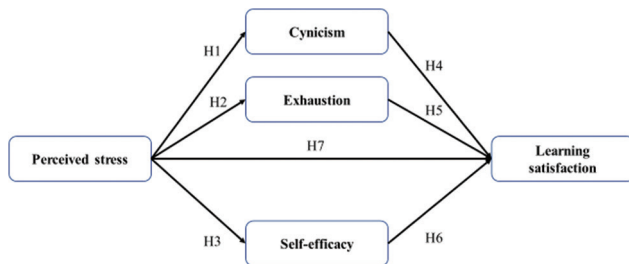
The data were collected using a self-administered questionnaire survey which was shared through Google Forms on WhatsApp and mail and with the participants. Data were collected from students across India to ensure the diversity and inclusion of the population. The Maslach Burnout Student Inventory survey scale was used to measure burnout factors such as cynicism, exhaustion, and efficacy.<sup>[27]</sup> Perceived stress was also measured based on the scale developed by Cohen,<sup>[28]</sup> the original scale consisted of 14 items later compared to 10 based on the factor analysis result. Hence, this study used the 10-item scale to measure perceived stress. Subsequently, a scale suggested by Topala and Tomozii<sup>[29]</sup> was used to measure learning satisfaction. Psychometric data properties, a characteristic of the data collected with a given psychometric measurement instrument, can easily be evaluated by structural equation modeling (SEM) following the theoretical framework described in this paper.<sup>[30]</sup> Finally, the collected data was systematically arranged, and data properties such as reliability and validity were established before processing for final analysis. The value of Cronbach’s alpha was found to be greater than 0.70 for all the constructs, which establishes reliability. Additionally, convergent validity was also established by calculating the factor loadings and composite reliability (CR) and average variance extracted (AVE). Both CR and AVE values were found within the threshold limit of 0.70 and 0.50. Lastly, discriminant validity (DV) was also calculated by using the Fornell-Larcker criteria. The analysis was done using PLS-SEM through smart PLS 4.0 software.

## Results and Analysis

### Confirmatory factor analysis, reliability, and validity analysis

A two-step approach was used to test the hypothesis model empirically.<sup>[31]</sup> First, confirmatory factor analysis was performed to check the scale validity and measurement quality,<sup>[32]</sup> followed by SEM for hypothesis test results [Figure 2].<sup>[32]</sup>

Construct reliability was assessed by using Cronbach’s alpha. Each of Cronbach’s alpha values surpassed the minimum threshold of > 0.70, thereby representing adequate scale reliability. Convergent validity was tested by analyzing factor loadings and AVE. Item loadings of each variable surpassed 0.50 [Table 1], demonstrating an acceptable convergent validity.<sup>[33]</sup> An adequate level of convergent validity was further demonstrated by the AVE value, which was above 0.50 for each



**Figure 1:** Conceptual framework depicting the association between perceived stress and learning satisfaction mediated by burnout, cynicism, exhaustion, and self-efficacy. Source: Author’s own

variable, and CR for each construct was above 0.60.<sup>[33]</sup> DV is confirmed when AVE values are greater than the squared correlation estimates of any pair of constructs.<sup>[32]</sup> The AVEs of all constructs used in this study exceed their respective squared correlations for each construct pair [Table 2], thus reflecting an acceptable DV.

The results of the hypothesis testing are shown in Tables 3 and 4. The value of the path coefficients demonstrated that perceived stress significantly influences cynicism and exhaustion with coefficient values of 0.481 and 0.481 at a 1 percent significance level. In contrast, the perceived risk doesn't significantly affect self-efficacy. Therefore, hypotheses H1 and H2 were accepted, but H3 was rejected. Additionally, the specific indirect effect of perceived stress on learning satisfaction was analyzed and demonstrated in Table 4. The effect

of perceived stress on learning satisfaction was reduced in the presence of cynicism and exhaustion ( $\beta = 0.065$  and  $0.174$  at 1%). Self-efficacy doesn't mediate between perceived stress and learning satisfaction ( $\beta = -0.005$ ).

### Ethical consideration

All ethical principles are considered in this article. The participants were informed of the purpose of the research. They were also assured of the confidentiality of their information. Written consent has been obtained from the study group.

### Discussion

The present research aimed at analyzing the impact of perceived stress on students' learning satisfaction under the influence of burnout. After two years of COVID

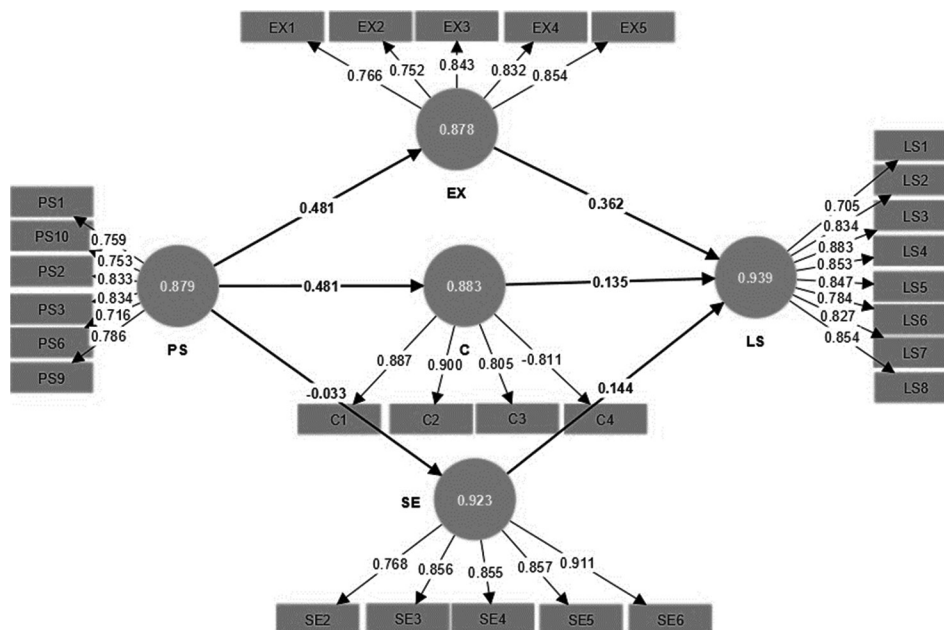


Figure 2: PLS-SEM structural model of hypothesis testing

Table 1: Constructs reliability and validity

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted
Cynicism	0.855	0.883	0.743	0.725
Exhaustion	0.869	0.878	0.905	0.657
Learning satisfaction	0.932	0.939	0.944	0.681
Perceived stress	0.872	0.879	0.904	0.609
Self-efficacy	0.905	0.923	0.929	0.724

Table 2: Discriminant validity according to Fornell-Larcker criteria

Constructs	Cynicism	Exhaustion	Learning satisfaction	Perceived stress	Self-efficacy
Cynicism	0.852				
Exhaustion	0.724	0.810			
Learning satisfaction	0.397	0.476	0.825		
Perceived stress	0.481	0.481	0.362	0.781	
Self-efficacy	0.002	0.120	0.188	-0.033	0.851

**Table 3: Path coefficients**

Constructs	Hypothesis	Coefficient	Result
Perceived stress → cynicism	H1	0.481	Accepted
Perceived stress → exhaustion	H2	0.481	Accepted
Perceived stress → self-efficacy	H3	-0.033	Rejected
Cynicism → learning satisfaction	H4	0.135	Accepted
Exhaustion → learning satisfaction	H5	0.362	Accepted
Self-efficacy → learning satisfaction	H6	0.144	Accepted
Perceived stress → learning satisfaction	H7	0.234	Accepted

**Table 4: Specific indirect effects**

	Specific indirect effects
PS -> SE -> LS	-0.005
PS -> C -> LS	0.065
PS -> EX -> LS	0.174

PS=perceived stress; SE=self-efficacy; C=cynicism; EX=exhaustion; LS=learning satisfaction

restrictions, students were skeptical about their exposure to a real learning environment, feeling exhausted and lacking self-confidence.<sup>[34]</sup> Hence, the impact of these prevailing factors and their effect on learning satisfaction are studied in this research. The study shows that in the absence of burnout, perceived stress increases students' learning satisfaction. This is because stress is moderated largely by the university environment, as being present in the university physically, meeting colleagues, and socializing can significantly impact students, studies also stated that universities enable better relationships with peers,<sup>[35]</sup> leading to less student stress and few adjustment problems.<sup>[36]</sup> These findings from the previous studies subsidize the perceived stress; hence, despite increasing perceived stress, learning satisfaction increases. Further, perceived stress increases burnout. These findings align with previous studies.<sup>[37,38]</sup> Students experience high-stress levels due to their concerns about the future, and academic pressure, which accounted for 76.2% and 71.6% of burnout and perceived stress respectively, and years of completion of the program mostly contributed to perceived stress and burnout.<sup>[38]</sup> The pattern of the findings in this research is quite like that of earlier ones, which shows a positive effect of perceived stress on healthcare professionals leading to them feeling exhausted and cynical.<sup>[39]</sup> However, in the case of self-efficacy, which should be decreasing as per the previous research, it is not showing any effect, the possible reason for which is discussed in the section in the later part. The study indicated that burnout partially mediated the effect of perceived stress on learning satisfaction. So, when stress leads to burnout, it decreases learning satisfaction.

In the case of direct effect, perceived stress significantly enhances cynicism, meaning students under stress tend to be more cynical towards life. Perceived stress significantly enhances exhaustion, meaning students who are under stress tend to feel more exhausted; the

findings of the current study confirm the previous findings that perceived stress doesn't show any effect on self-efficacy.<sup>[40,41]</sup> The possible explanation could be the pandemic scenario which impacted everyone in the world on a similar scale beyond one's control as a result, it has an insignificant influence on an individual's self-efficacy and the same logic, which may make the role of self-efficacy insignificant between perceived stress and learning stress. As explained, self-efficacy is a more individual-centric phenomenon that emphasizes the importance of the individual and the individual's perceptions of his/her capabilities as key determinants of successful outcomes.<sup>[42]</sup> Here, we can conclude that the pandemic scenario pre and post-impacted the students leading them to feel stressed with the things going around in the world influencing them and making them feel exhausted and cynical but when it comes to self-efficacy, they have not lost the self-belief in their capabilities and were waiting for the pandemic to get over and face the challenges of the real world.

Similarly, the direct influence of exhaustion, cynicism, and self-efficacy positively impacts learning satisfaction. The possible reason for this can be the feeling amongst students who got tired of sitting in their homes and taking the lectures online and wanted to make up for the lost time (two years of COVID) and get on with a world post-COVID and learn and perform as much as they can. Although few studies have shown the positive effect of stress on performance and decision-making, nothing more can be concluded for the burnout factors.<sup>[43,44]</sup> In many societies and countries, there is a culture that has long propounded that the more struggles in life (here stress and burnout), the more success (here learning) one will have in the future, this can also be a partial reason for the result. As evident from the events during the COVID-19 crisis, the home and classroom distinction became negligible. In this extreme scenario, various personal concerns (loss of a dear one, loss of permanent employment by one or both parents, etc.) beyond the classroom were mixed with equally important academic concerns and may have increased stress.

**Limitations and recommendations**

The study reveals insight into the behavior pattern of students, especially those from management backgrounds

who are in their penultimate year of postgraduation and are waiting for their placements. However, studying the students from more practical-based courses like engineering and technology, pharma, and sciences could reveal more as the areas are more practical. The researchers used a single informant methodology for data collection. A future study can also be used to understand the teacher's perspective on stress and burnout. A mixed-method study to understand the detailed nuances of the relationship between the variables will also add to the insights. Additional research is also needed to determine the long-term impact of these factors on student achievement in a real-life scenario.

### Recommendations

The study has the following recommendations:

1. Educational institutes should focus on the overall well-being of students, especially after the COVID pandemic, this is something that is missing.
2. Counseling facilities should be provided to students who require special help to cope with the challenges of the new world.
3. Mentoring students should be provided by faculties who can help them in overcoming the challenges of both the academic and professional world with a feeling of empathy.

### Conclusion

This study has wide applications to academia and industry. Theoretically, this research adds to the existing body of knowledge to address the role of burnout on students' learning satisfaction, especially after COVID-19. Universities and institutions better understand the stress level of the students, which helps them better design coping strategies by creating learning in a fun environment to deal with burnout. Post-COVID, students encountered enormous challenges while coping with lengthy classes, assignment submissions, evaluations, and various corporate events. Students feel stressed while coping with these events, which may lead to burnout. Therefore, institutions and universities may plan their curriculum by keeping these challenges in mind.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

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