Research article

Perceived academic satisfaction level, psychological stress and academic risk among Indian students amidst COVID-19 pandemic

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ABSTRACT

Background: The Covid-19 pandemic has a significant impact on education and mental health outcomes. This study attempts to analyze the factors associated with academic satisfaction level, psychological stress/anxiety, and future academic risk among Indian students of higher education in the wake of the Covid-19 pandemic.
Methods: An online survey was conducted through a structured questionnaire among students of higher education. Multivariate ordered logistic regression models were performed to find out the predictors of perceived academic satisfaction level, psychological stress, and academic risk among the participants.
Results: Among the 630 participants, the majority of the students (73%) had low to moderate levels of academic satisfaction. Over two-thirds of participants (68%) had a high level of stress and nearly two-fifths (38%) of the participants felt very high risk in their academic career. The multivariate logistic regression models show that the likelihood of psychological stress and academic risk was significantly higher among students aged above 25 years, researchers, and those who belong to broken families. Besides, the higher probability of satisfaction level is associated with female students, undergraduates, belonging to economically well-off families, and rural residents.
Conclusion: Our study suggests that the Covid-19 pandemic leads to a range of psychological health problems. Therefore, increase students' satisfaction with online classes and it is essential to preserve the mental health of individuals and to develop psychological interventions that can improve the mental health of students during the Covid-19 pandemic.

1. Introduction

In human history, Covid-19 has made the greatest disruption of the global education system, affecting nearly 1.6 billion learners in more than 200 countries of the world (Pokhrel and Chhetri, 2021). The Covid-19 induced lockdown leads to a difficult period for everyone, especially for the youth because of enforcing to remain indoors, as a result, they would not be able to physically interact with their friends, go to their institutions, visit malls, and pursue pass-times and hobbies that have younger life. Therefore, students experience the manifestation of psychological stress such as sleeplessness, anxiety, headache, frustration, irritation, and inability to concentrate on their studies (Sreeram and Mundada, 2021). The entire educational system has faced enormous challenges worldwide (Dhawan, 2020). As a developing country, the COVID-19 viral outbreak has significant effects on Higher Education

Institutions in India and faces a great challenge in teaching and learning system (Sahoo et al., 2021; Dhanalakshmi et al., 2021; Kapasia et al., 2020). The whole educational system i.e. elementary to tertiary level has collapsed during the lockdown period due to COVID-19 pandemic in India (Mishra et al., 2020). During the pandemic, teachers are also facing substantial difficulties in delivering their lectures to pupils. During learning classes, learners become not only upset but also attempt to suicide due to not interacting with their peers and teachers physically (Yu, 2021; Lathabhavan and Griffiths, 2020).

Despite students having practically oriented courses, they feel weakened for not attending hands-on lab classes (Muthuprasad et al., 2021). In addition, the loss of income in the pandemic, worry about self-health and relatives also causes higher mental health stress that negatively affects attention during online learning (Wathelet et al., 2020). The learners not only worry about their future professional

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careers but are also dissatisfied with their social life and continuously struggle with emotional problems (Elfferich, 2021). Moreover, students are experiencing psychological stress that may lead to dissatisfaction with online learning (Kumalasari and Akmal, 2021). Moreover, students are feeling dissatisfied with online learning because of limited internet access, less attachment with the lecturer, and a lack of guidance (Surahman and Sulthoni, 2020). Some studies pointed out that students learn better and interact more in physical classrooms rather than online mode (Chakraborty et al., 2021). In the online mode of teaching, students are facing a lot of difficulties i.e. internet connectivity, materials downloading problems, issues with installation, login problems, problems with audio and video, and textual materials, difficulties in understanding the topic (Dhawan, 2020).

The level of satisfaction among the learners is a crucial measure for retaining students' motivation in learning and academic performance (Nissa et al., 2021). Several factors contribute to the stress and anxiety among the students amidst the covid-19 pandemic. Sometimes, students feel bored, monotonous, and unengaging in online classes. Personal attention is a serious issue for online learning because students get difficulties with two-way interaction in e-learning (Dhawan, 2020). Students pursuing higher education are more vulnerable to anxiety, depression, substance use, and disorder than the general population (Browning et al., 2021).

Noteworthy, the Covid-19 pandemic has opened an opportunity to lay out the way for digital learning. It makes the teaching process more student centric, more innovative, and more flexible (Dhawan, 2020; Aristovnik et al., 2020; Razami and Ibrahim, 2021; Yu, 2021; Muthuprasad et al., 2021). There was a strong positive correlation between the academic performance of the students and their level of satisfaction with online teaching during the Covid-19 pandemic (Hashemi, 2021). Apart from all these positive impacts, Covid-19 leads to mental stress/anxiety and future career risk of the students especially for those who are facing challenging circumstances during this critical time. Against this backdrop, the present study attempts to trace out the factors associated with perceived academic satisfaction, psychological stress, and future academic risk among students of higher education amidst the Covid-19 pandemic.

2. Materials and methods

2.1. Participants

We considered 630 students of undergraduate and postgraduate courses and as well as Ph.D. researchers studying at various colleges and universities of West Bengal, India.

2.2. Data collection process

An online survey was conducted using a structured questionnaire on perceived academic satisfaction level, psychological stress/anxiety, and future academic risk. There were two sections in the questionnaire—the first section provides general profile/characteristics of the participants and the second section inquired about perceived academic satisfaction, psychological/mental stress/anxiety, and future academic risk of the participants. The questionnaire (created using Google form) was sent to the participants through WhatsApp, Facebook, Telegram, Email, and other social media platforms. Participants were requested to provide their responses from 7 July 2021 to 31 August 2021. We have provided written consent to participants. Finally we collected responses from 630 participants as a sample.

2.3. Outcome variables

We analyzed three outcomes in this study: (a) perceived academic satisfaction, (b) psychological stress and (c) academic risk of the participants. The level of perceived academic satisfaction was assessed by using five questions: *(i) At what extent you feel happy in online classes; (ii) At what*

extent you feel happy to interact with teachers for the clarification of your learning topic at online mode; (iii) Are you feeling lack/bad between physical classes and online classes; (iv) Are you feeling lack/bad for not to attend in library/institution campus; (v) At what extent you feel happy to appear in the examination at online mode. The psychological stress of students was measured from the following question: *whether students feel stressed/anxious about their career, family, and own health, increased cases of Covid-19, and not doing anything useful.* The academic risk was assessed by a single question asking the participants: *to what extent students are feeling risk about academic future due to Covid-19 pandemic.* Responses were recorded on a 4-point Likert scale: 1 = no risk; 2 = little risk; 3 = moderate risk; 4 = high risk. The framing of the questionnaire is based on previous studies on psychological impacts of Covid-19 pandemic on students (Al Omari et al., 2021; Sundarasen et al., 2020).

2.4. Covariates

We considered socio-demographic, economic, social, and health-related factors as covariates pandemic context. These covariates are age, gender (male/female), the current level of education (undergraduate/postgraduate/researchers), residence (rural/urban) and family income, family type (nuclear/joint/broken), any chronically ill person in the family (yes/no), and ever infected by Covid-19 (yes/no).

2.5. Statistical analysis

Descriptive statistics were performed to show the socio-demographic profile of study participants. The multiple ordered logistic regression models were performed to assess the predictors of perceived academic satisfaction, psychological stress/anxiety, and future academic risk. All analysis was conducted using STATA (version: 12.1).

2.6. Ethics statement

The written informed consent was obtained from each respondent before participation in the survey. We had maintained the privacy and confidentiality of responses given by the study participants. A vivid explanation was given to all participants about the purposes and method of the study. The study was approved by the Institutional Ethics Committee of the University of Gour Banga [Reference No. UGB/IEC(Human)/0009–21, dt. 25.11.2021]. The data were analyzed anonymously.

3. Results

3.1. Demographic characteristics of participants

A total of 630 students enrolled in various educational institutions of West Bengal (India) participated in the study. The study participants include both male (54.2%) and female students (45.8%). The mean age of the students is 21 years, ranging from 17 to 35 years. The majority of the participants are pursuing the undergraduate level (53.3%). On the contrary, 14.6% of participants report that they are research scholars. About three-quarters (75.2%) of the participants are from rural areas. The respondents report that their average monthly family income is INR 23417, ranging from INR 3,000 to 60,000. The majority of the respondents have resided in nuclear families. Only one-quarter (24.7%) of the participants have a separate reading room. Over one-fifth of the students (21%) live with a chronically ill person in their family. Nearly half of the respondents (49.3%) reported that one or more people from the family were ever infected with Covid-19 (Table 1).

3.2. Prevalence of academic satisfaction, psychological stress, and academic risk of students

Table 2 shows the prevalence of perceived academic satisfaction level, psychological stress, and perceived academic risk among students

Table 1. Descriptive statistics of the respondents (n = 630).

Variable	N (%)
Age in years (mean/SD)	21 (3.2)
<21	289 (45.8)
21–25	304 (48.2)
>25	38 (6.1)
Gender	
Male	341 (54.2)
Female	289 (45.8)
Current grade of education	
UG	336 (53.3)
PG	202 (32.1)
Researchers	92 (14.6)
Residence	
Rural	474 (75.2)
Urban	157 (24.9)
Family income (Monthly in INR) (mean/SD)	23417 (13.4)
<20,000	449 (71.2)
20,000 to 50,0000	125 (19.7)
>50,0000	57 (9.1)
Family type	
Nuclear	359 (57)
Joint	254 (40.3)
Broken	17 (2.7)
Religion	
Hindu	481 (76.4)
Muslim	137 (21.8)
Christian	11 (1.8)
Caste	
SC	191 (30.3)
ST	26 (4.2)
OBC	206 (32.7)
General	206 (32.7)
Currently staying with	
Alone	33 (5.2)
Family	561 (89.1)
Friend	37 (5.8)
Separate reading room	
No	475 (75.3)
Yes	155 (24.7)
Living with chronically ill person	
No	495 (78.5)
Yes	131 (21.5)
Any family members ever infected with Covid-19	
No	320 (50.7)
Yes	311 (49.3)

Source: Online survey, July to August 2021.

Table 2. Prevalence of academic satisfaction, psychological stress, and academic risk of sample students.

Levels	Academic satisfaction levels		Psychological stress/ anxiety		Academic risk	
	n	%	*n*	%	*n*	%
Low	218	34.5	17	2.7	71	11.2
Moderate	241	38.2	188	29.8	191	30.3
High	143	22.7	157	24.9	130	20.6
Very high	29	4.6	268	42.6	239	37.9

Source: Online survey, July to August 2021.

during the Covid-19 pandemic. Among the 630 participants, the majority of the students (73%) had low to moderate levels of academic satisfaction. Over two-thirds of participants (68%) had a high level of stress and nearly two-fifths (38%) of the participants felt very high risk in their academic career.

3.3. Factors associated with perceived academic satisfaction, psychological stress, and academic risk of the students

Table 3 presents the results of ordered logistic regression models assessing the likelihood of perceived academic satisfaction, psychological stress, and academic risk of the students. The results show that students aged above 25 years were academically less satisfied (OR: 0.67; CI: 0.15, 3.01) during this pandemic situation. Participants' psychological stress and academic risk increased with the increasing age of students. For instance, the likelihood of psychological stress (OR: 4.62; CI: 2.91, 5.32) and academic risk (OR: 1.82; CI: 0.61, 2.19) were found to be greater among students with more than 25 years of age. Female students were more likely to be satisfied with the online mode of education as compared to male students. Students who engaged in research had a higher likelihood of stress (OR: 3.57; CI: 2.37, 4.11) and academic risk (OR: 2.28; CI: 1.67, 2.46) as compared to other students. Students who resided in the broken family were more likely to experience mental stress and academic risk. Family income had a positive association with students' academic satisfaction and had an inverse relationship with psychological stress and academic risk. Concerning the place of residence, students who resided in urban areas were less satisfied (OR: 0.89; CI: 0.55, 1.44) and were experienced a higher likelihood of mental stress (OR: 1.26; CI: 0.77, 1.83) as compared to students who lived in rural areas. Moreover, the probability of mental stress was higher among those students whose family members were ever infected with Covid-19 (OR: 2.74; CI: 1.40, 3.10).

4. Discussion

The Covid-19 pandemic has had a substantial impact on the education of students. The pandemic-induced lockdown leads to adverse effects on the academic performance, mental health, and well-being of students (Mahapatra and Sharma, 2020). Students do not only feel psychological health problems, but it is also applicable for institutional teachers, academicians at the time of online teaching from home due to several work assignments and extended work hours for online classes (Dara and Shunmagunathan, 2020; Santamaria et al., 2021). Hashemi (2021) among Afghan students found that the academic performances of students are worst affected by the Covid-19 pandemic and they were highly dissatisfied with online teaching during the pandemic. The greatest challenges for online classes are technological constraints, distractions, instructor's incompetency, learner's inefficacy, lack of community support, and mental health issues (Muthuprasad et al., 2021). During the pandemic, students pursuing higher education are also dissatisfied with online classes because of limited internet access, lack of lecturer attachment and guidance (Surahman and Sulthoni, 2020).

The findings show significant differences in academic performances between male and female students. This is because most of the female students are deprived of having access to technological tools and applications. In our study female students are more satisfied with online learning and more concerned with their studies, and future education as compared to their male counterparts. This finding confirms the study carried out by Aristovnik (2020). Contrary to this study, many recent studies found that male students are relatively more satisfied with the online teaching-learning process and female students are feeling more stressed about their academic performances in the Covid-19 pandemic (Kostic et al., 2021; Hashemi, 2021). Students' satisfaction with online classes also depends on the socio-economic background of the students. There is a need for cash for purchasing internet packages, information technology literacy, technological application, and devices for online

Table 3. Ordered logistic regression models assessing the likelihood of academic satisfaction, psychological stress, and academic risk of the students.

Variables	Academic satisfaction index		Psychological stress index		Academic risk index	
	OR	95% CI	OR	95% CI	OR	95% CI
Age (years)						
<20 (Ref.)						
21–25	0.91*	0.58, 2.11	1.86	1.11, 2.30	1.12*	0.52, 1.32
>25	0.67**	0.15, 3.01	4.62***	2.91, 5.32	1.82**	0.61, 2.19
Gender						
Male (Ref.)						
Female	1.26*	0.83, 1.92	0.87	0.24, 1.46	0.71*	0.24, 1.62
Education						
Undergraduate (Ref.)						
Postgraduate	0.85	0.48, 1.35	1.34**	0.97, 1.82	1.69***	0.65, 1.77
Researchers	0.40***	0.21, 0.76	3.57*	2.37, 4.11	2.28*	1.67, 2.46
Family type						
Nuclear (Ref.)						
Joint	0.75	0.49, 1.13	0.68	0.33, 1.08	1.17	0.49, 1.52
Broken	0.24***	0.11, 1.82	5.72***	3.40, 8.10	1.88**	0.27, 3.54
Monthly income (Rs.)						
Below 20000 (Ref.)						
20000–50000	1.00	0.59, 1.71	0.86	0.51, 1.45	0.77	0.45, 1.30
Above 50000	1.24*	0.61, 2.52	0.38***	0.33, 1.29	0.52**	0.35, 1.46
Residence						
Rural (Ref.)						
Urban	0.89*	0.55, 1.44	1.26**	0.77, 1.83	1.03	0.64, 1.68
Chronically ill person in the family						
No(Ref.)						
Yes	0.52**	0.16, 1.18	1.35**	0.82, 2.21	1.04	0.70, 1.91
Any family member ever infected with Covid-19						
No (Ref.)						
Yes	0.34***	0.11, 0.80	2.74**	1.40, 3.10	0.86	0.46, 1.58

Note: ***p < 0.01, **p < 0.05, *p < 0.1; OR: Odds ratio; CI: Confidence interval.
Source: Online survey, July to August 2021.

classes (Mok et al., 2021). During the pandemic, people residing in urban areas are facing more problems for outside movement, even for walking to take a breath. Thus, most of the time a day they remain locked at home and feel stressed for studying or doing any other work. In rural areas, due to fewer restrictions, people have more spaces for breathing and the majority work in agricultural fields as usual keeping safe distances.

Many students are concerned about issues related to their future professional careers and studies and experience boredom, anxieties, and frustration (Aristovnik, 2020). The Covid-19 pandemic is not only affecting physical health but also leading to vital psychological disorders. In our study, students involved in higher education such as post-graduation and research are experiencing acute academic stress and they are worried about their future academic career. We find that students with a higher level of education had a greater level of anxiety, depression, and stress. This finding is in line with other studies (Salari et al., 2020). Students aged >25 years felt more psychological stress and students aged >20 years felt a higher risk of the future academic career as compared to younger students (<20 years). A similar finding has been reported in a previous study (Chhetri et al., 2021). Mahapatra and Sharma (2020) found that academic strain reduced learners' academic motivations and engagements that led to dropping out, unemployment, and psychiatric disorder (i.e., depression and anxieties). Paying more attention to mental health and wellness by spending more time relaxing, resting, and exercising during the pandemic can lead to a positive effect on mental health and wellness (Mishra & Kumar, 2021). Besides, academic institutions need to extend their purvey as a provider of education and work to enhance the psychological well-being of students in the pandemic (Mosanya,

2021). The present study finding showed that students whose family members are affected by Covid-19 feel more academic stress and anxieties. This finding is consistent with a recent study (Sundarasen et al., 2020). To reduce mental stress, it is recommended to sleep more time, meditation, engage in co-curricular activities such as reading a storybook, playing, enjoying the song and dance, engage in daily social work, interaction with friends and near ones, traveling, and participation in entertainment facts or events.

5. Conclusion

The present study attempts to explore the level of perceived academic satisfaction and psychological stress, and the risk of future academic career among students of higher education in West Bengal, India. Our study provides several public health implications and suggestions. It is important for the teachers to be more interactive and comprehensive at online services and to collect regular constructive feedback for tracing out students' level of satisfaction with online teaching. It should be extremely important to upgrade the technological infrastructure among all involved stakeholders so that everyone may be accustomed to working systematically and spontaneously with technology. There should be regular workshops for strengthening the emotional environment for the learners aside from educational institutions. It is also necessary to preserve an individual's mental health by developing psychological interventions that may improve the mental health of vulnerable groups amidst the Covid-19 crisis. Moreover, more in-depth research is required for better understanding academic satisfaction levels at online learning and pupils' mental health.

Declarations

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