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

Nanigopal Kapasia a,*, Pintu Paul b, Avijit Roy a,**, Puja Das c, Tanmoy Ghosh c, Pradip Chouhan c

a Department of Geography, Malda College, Malda, 732101, West Bengal, India
b Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University (JNU), New Delhi, 110067, India
c Department of Geography, University of Gour Banga (UGB), Malda, 732103, West Bengal, India

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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
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 (Surehman and Sultothi, 2020). Some studies point 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; Aristonvik 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; Sundarasesan 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                                     | 21 (3.2)    |
| 21–25                                   | 289 (45.8)  |
| >25                                     | 304 (48.2)  |
| 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)   |
| Family type                             |             |
| Nuclear                                 | 259 (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                       |             |
| 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)  |
| Residence                               |             |
| Rural                                   | 474 (75.2)  |
| Urban                                   | 157 (24.9)  |
| Family income (Monthly in INR) (mean/SD)|             |
| <20,000                                 | 234 (13.4)  |
| 20,000 to 50,0000                      | 449 (71.2)  |
| >50,000                                 | 125 (19.7)  |
| Family type                             |             |
| Nuclear                                 | 259 (57)    |
| Joint                                   | 254 (40.3)  |
| Broken                                  | 17 (2.7)    |
| Religion                                |             |
| Hindu                                   | 481 (76.4)  |
| Muslim                                  | 137 (21.8)  |
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| Hindu                                   | 481 (76.4)  |
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| Christian                               | 11 (1.8)    |
| Family type                             |             |
| Nuclear                                 | 259 (57)    |
| Joint                                   | 254 (40.3)  |
| Broken                                  | 17 (2.7)    |

Source: Online survey, July to August 2021.

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

| Levels       | Academic satisfaction (%) | 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.
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 psychotic 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.

### 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.)                 | 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.)                | 1.26* 0.83, 1.92 | 0.87 0.24, 1.46 | 0.71* 0.24, 1.62 |
| Female                     |               |              |               |
| 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.
Declarations

Author contribution statement

Nanigopal Kapasia; Pintu Paul; Avijit Roy: Conceived and designed the experiments; Analyzed and interpreted the data; Wrote the paper.
Puja Das; Tanmoy Ghosh: Performed the experiments; Contributed reagents, materials, analysis tools or data.
Pradip Chouhan: Conceived and designed the experiments; Wrote the paper.

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Data availability statement

The data that has been used is confidential.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

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