

The psychological impact of the COVID-19 epidemic on Bangladeshi students

Subrata Banik ^{a*}, Niropam Sarkar Shohog^b, Hridoy Kumer Banik^c, Md. Rakibul Islam^d,
Kaniz Marium Akter^d

Abstract

Bangladesh has been profoundly impacted by the COVID-19 epidemic since March 2020. It affected various age groups, occupations, and communities. Due to lockdowns, social distance, self-isolation or quarantine, medical services crises, job losses, and future uncertainty, most of the people suffered physically and mentally. Especially, long-term shut down of educational institutions and uncertainty in educational activities led the students into psychological distress, even sometimes into psychological disorder. This study aimed to investigate the overall scenario and psychological status of the students during the COVID-19 epidemic. Through a questionnaire survey, 464 responses were collected from university students who were selected by following a snowball sampling method. The questionnaire contained the Generalized Anxiety Disorder (GAD-7) scale. Results indicated that a significant number of the students (76.6%) were experiencing anxiety. Students' anxiety was significantly influenced by their educational level, where delay and uncertainty about earning a bachelor's or master's degree raised anxiety levels. Besides, female students were found more likely to be severely anxious. However, place of residence, changes in family income, lived at during epidemic, got COVID-19, and relative or acquaintance got COVID-19 had no significant effect on their anxiety. This study suggested that universities should prioritize mental health resources with flexible learning environments and foster a sense of community to help students recover and thrive in a post-pandemic world. And the government and educational institutions should work together to address and resolve this regard.

Keywords: COVID-19, Epidemic, Psychological Status, GAD-7, Students, Bangladesh.

Author Affiliation: ^a Department of Management, Mawlana Bhashani Science and Technology University, Tangail, Bangladesh.

^bUH&FPO, Upazila Health Complex, Borhanuddin, Bhola, Bangladesh.

^cAssistant Surgeon, Mohinondo Union Sub Center, Sador, Kishorganj, Bangladesh.

^dDepartment of Management, Mawlana Bhashani Science and Technology University, Tangail, Bangladesh.

Corresponding Author: Subrata Banik. Department of Management, Mawlana Bhashani Science and Technology University, Tangail, Bangladesh.

Email: subratamgt@gmail.com

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1. INTRODUCTION

On March 8, 2020, for the first time, the novel coronavirus (COVID-19) cases were confirmed in Bangladesh and gradually spread throughout the country. When additional three COVID-19 cases, including two children, were found on 16 March 2020, the Education Ministry of Bangladesh closed all educational institutions until 31 March, and later on, the Bangladesh Government declared a national public holiday effective from 26 March to 4 April and extended to 30 May 2020. The mass population mobility caused the novel coronavirus to become a super spreader all over the country. The

consequences pushed the nation to limit all activities from business to household, private to public services, etc., which led the people to stress both financially and mentally. Their lifestyle was changed dramatically within a very short time. General people needed to adapt to frequent changes like lockdowns, social distance, self-isolation or quarantine, medical services, job losses, uncertainty in educational activities, and so on. The increasing number of infections and deaths all over the world has affected people of all ages both physically and psychologically (Faisal et al., 2021). Bangladesh has also experienced 20,51,201

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COVID-19-positive cases and 29,499 deaths due to this epidemic (DGHS, 2024). In addition, multiple variants of novel coronaviruses have been positively acting on the nation and the world as well. The continuous spread of the epidemic, strict isolation measures, and delays in starting schools, colleges, and universities across the country are expected to influence the mental health of the students (Cao et al., 2020).

The unpredictable nature of this epidemic and prolonged closure of educational institutions increased anxiety among students regarding their future academic as well as professional careers (Cao et al., 2020; Ela et al., 2021). UNICEF mentioned that this prolonged closure of educational institutions throughout the epidemic has affected over 40 million Bangladeshi students from pre-primary level to higher education (The Daily Star, 2021). It has an extremely serious impact not only on educational activities but also on students' health, protection, and psychosocial well-being (The Daily Star, 2021). Moreover, online education activities have also been creating extra stress and anxiety among the students due to poor internet connectivity, financial insolvency, poor devices, etc. So, extreme fear of academic delay and psychological distress among the students has arisen as a great public health concern (Hossain et al., 2021) and created suicidal ideation (Tasnim et al., 2020). Due to public health emergencies, the psychological conditions of students have become an urgent issue to be addressed. Therefore, this study has investigated the psychological/mental status/conditions of students during the COVID-19 epidemic for the following purposes: a) to address the overall scenario of the students; b) to find out the mental status during this epidemic; and c) to provide information about mental health to the policymakers of Bangladesh.

2. Literature Review

COVID-19 is the disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It usually spreads between people in close contact (WHO, 2023). Since December 2019, the multivariate nature of this coronavirus has revealed itself as a threat for the whole world (Peng, 2020). In consequence, from household to business, profession to non-profession, all were under its notorious impact economically and socially (Mofijur et al., 2021). Among all the sectors, the education system had been faced with unbearable challenges to mitigate the unexpected situation. Almost all the educational institutions at all levels had to stop their education system and remained stopped for a long time period. In universities, uncertainty in educational progress led students into stress, depression, loneliness, lack of motivation, difficulty focusing on schoolwork, restless sleep, appetite changes, and job loss concerns (Birmingham et al., 2023). Likewise, higher secondary level students had faced anxiety, depression, a pooled

prevalence of stress, post-traumatic stress disorder, and impaired sleep quality, where females were found to have a higher level of anxiety and depression than males (Batra et al., 2021). Even the primary and secondary level students were found with anxiety, depression, negative self-concept, somatization, hostility, etc. (Karaman et al., 2021). It was a serious global health crisis that negatively impacted the youngsters (Alomyan, 2021).

Zhang et al. (2020) tried to find the psychological consequences, such as anxiety, depression, and stress, of the COVID-19 pandemic on teenagers in China. They emphasized resilience and positive coping with trauma-related distress, where negative coping led the students to depression, anxiety, stress symptoms, and trauma-related distress. In the Philippines, Tee et al. (2020) investigated the factors contributing to the psychological impact of the COVID-19 epidemic. They found that female gender, youth age, single status, quarantine, prolonged homestay, poor health status report, unnecessary worry, concerns for family, and discrimination were significantly associated with greater psychological impact of the pandemic and higher levels of stress, anxiety, and depression. Alomyan (2021), in his study, found that distance education during this epidemic in Jordan had negative impacts on both participants' psychology and learning. In Saudi Arabia, Alkhamees et al. (2020) tried to assess the degree of psychological impact during the epidemic, where nearly one-fourth of the participants experienced moderate to severe impact on their psychology. In Spain, Odriozola-González et al. (2020) found that Arts & Humanities and Social Sciences & Law students of the University of Valladolid exhibited higher scores compared to Engineering & Architecture students regarding anxiety, depression, stress, and the impact of events, while staff of the same university showed lower scores in all measures than students.

Passavanti et al. (2021) conducted a study among seven countries (Australia, China, Ecuador, Iran, Italy, Norway, and the United States) where over half of the adult students and workers were found to have high levels of stress, depression, and anxiety, as well as the risks of Post-Traumatic Stress Disorder (PTSD). Roche et al. (2024) also found students with higher levels of stress, depressive symptoms, and anxiety symptoms in the United States. Sukhawathanakul et al. (2024) investigated how COVID-19-related psychological distress affected Canadian post-secondary students' academic achievement. They discovered students' lower academic success due to higher levels of COVID-19 psychological distress. In an Italian university, Villani et al. (2021) found students with anxiety and depression during the lockdown period of the epidemic. In French, university students were found with high levels of hassle, probable anxiety, and depressive symptoms (Le

Vigouroux et al., 2021). This study demonstrated that the most vulnerable students were concerned about their own and their loved ones' health. They believed that lockdown would negatively impact their future employment opportunities. Sundarassen et al. (2020) found that Malaysian university students were suffering from higher levels of anxiety during the peak of the epidemic crisis. In their study, remote online teaching and learning, financial constraints, and an uncertain future about academics and careers were the main stressors for the students. In another study, conducted in multiple nations (Malaysia, Saudi Arabia, Pakistan, Bangladesh, China, India, and Indonesia), Chinna et al. (2021) discovered that one-third of the students experienced anxiety during the COVID-19 epidemic and lockdown. In India, around 61% of college students had experienced anxiety from mild to severe extent (Chouksey & Agrawal, 2021). In Pakistan, a significant portion of college students had anxiety and depression symptoms in addition to poor sleep quality during the COVID-19 epidemic (Noorullah et al., 2023). In Bangladesh, university students were diagnosed with the symptoms of anxiety and depression at a significant level and poor mental health (Faisal et al., 2022). Though an increasing number of studies have addressed the psychological impact of COVID-19 on general students, Bangladesh has limited study on this field. Therefore, this study aims to investigate the psychological/mental status/conditions of students during the COVID-19 epidemic.

3. Methods

3.1. Study population and sample

The target population of this study was undergraduate and postgraduate students from all universities in Bangladesh. The respondents in the target population were sampled by snowball sampling. A self-administered questionnaire was used to collect the data from the respondents. For ensuring confidentiality, all responses were kept anonymous. Finally, 464 responses were included in the final data analysis.

3.2. Rating instruments

As a study instrument, the questionnaire had two parts: the first part contained questions relating to the respondents' demographic information (e.g., university type, education level, gender, age, marital status, residential nature, location of own house, number of sibling(s), monthly expenditure in case residing at own house, monthly expenditure in case residing outside of own house, sources of money for personal expenditure, nature of occupation, family dependence on student's income, father's occupation, mother's occupation, monthly family income, monthly family expenditure, Changes in family income, Lived at own/mess/relative's house, infected by COVID-19,

and relative or acquaintance got COVID-19); and the second part included questions about the 7-item Generalized Anxiety Disorder Scale (GAD-7). The GAD-7 consists of items based on seven main symptoms, where respondents had been asked how frequently they experienced these symptoms during the last two weeks (Toussaint et al., 2020). In this study, a 4-point scale (ranging from 0 = not at all, 1 = several days, 2 = over half the days, 3 = nearly every day) was used to measure respondents' psychological status.

3.3. Data Analysis

Data analysis was done using SPSS Version 23.0. In this study, a descriptive statistic was conducted to explain the respondents' demographics and other selected traits. In order to investigate the important relationships between sample characteristics and anxiety levels during the COVID-19 pandemic, a univariate analysis (a nonparametric test) was used (Abdellatif et al., 2020; Cao et al., 2020). And to confirm the reliability of the items, the Cronbach's alpha value was checked.

4. Results & Discussion

4.1. Demographic analysis:

The sample of this study mostly was from public universities, representing 77.4 percent, while the rest of them were from private universities, representing 22.6 percent (Table 1). The respondents comprised 43.5 percent males and 56.5 percent females. Among the sample of 464 university students, 70.3 percent were from the bachelor level and 29.7 percent from the masters level. Respondents mostly were found in the 21 to 23 year age group (48.5 percent), followed by the 24 to 26 year age group (40.1 percent), 18 to 20 year age group (8.4 percent), and 27 years and above age group (3.0 percent). Among them, the majority of the respondents were unmarried, representing 89.0 percent, while 11.0 percent of respondents were married. The residential nature of the respondents mostly was found in mess (50.0 percent), followed by the own house (24.6 percent), university hall (23.7 percent), and relative's house (1.7 percent).

Table 2 shows the socio-economic condition of the respondents. Of the 464 university students, about 47.8 percent were from urban areas, 43.1 percent from rural areas, and 9.1 percent from metropolitan areas. Among them, 79.97 percent of respondents had 0 to 3 siblings, 18.1 percent had 4 to 6 siblings, and 1.72 percent had 7 and more. The largest group of participants (85.6 percent) did not have any job, while 8.2 percent had a part-time job, 4.3 percent had a full-time job, and 1.9 percent were business/self-employed. Additionally, 6.7 respondents had family dependency on their income, whereas 93.3 percent had no family dependency on their income. The respondents' monthly

Table 1. Respondents' profile

Characteristics		Frequency	Percent
University nature	Public	359	77.4
	Private	105	22.6
Education level	Bachelor	326	70.3
	Master	138	29.7
Gender	Male	202	43.5
	Female	262	56.5
Age	18-20 Years	39	8.4
	21-23 Years	225	48.5
	24-26 Years	186	40.1
	27 Years and above	14	3.0
Marital status	Unmarried	413	89
	Married	51	11
Residential nature	Own house	114	24.6
	Mess	232	50.0
	University hall	110	23.7
	Relative's house	8	1.7

Source: Authors' Calculation through SPSS Analysis

expenditure (in case of residing in their own house) mostly was found below Tk. 3000 (13.1 percent), followed by Tk. 3001-Tk. 6000 (8 percent), Tk. 6001-Tk. 9000 (1.5 percent), Tk. 9001-Tk. 12000 (1.5 percent), and Tk. 12001 and above (0.6 percent). And in case of residing outside of the own house, the respondents' monthly expenditure was found to be below Tk. 3000 (5 percent), Tk. 3001-Tk. 6000 (41.6 percent), Tk. 6001-Tk. 9000 (16.6 percent), Tk. 9001-Tk. 12000 (6 percent), and Tk. 12001 and above (5.4 percent). Most of the money sources for their monthly expenditure came from family (74.1 percent), where 21.6 percent was from their tuition/job, and 4.3 percent was from scholarships.

Moreover, the respondent's parents' occupation was representing their family financial strength, where 39.4 percent of fathers were job-holders, 29.7 percent were businessmen, 12.3 percent were farmers, 11.6 percent were retired, and 1.3 percent were immigrants. And in the case of the respondent's mother's occupation, 80.2 percent were representing housewives, while 17 percent were job holders, 1.1 percent were businesswomen, and 0.9 percent were retired. Finally, the respondents' monthly family income mostly was found below Tk. 20,000 (38.4 percent), followed by Tk. 20,001-Tk. 40,000 (35.6 percent), Tk. 40,001-Tk. 60,000 (18.5 percent), Tk. 60001-Tk. 80000 (4.1 percent), Tk. 80001-Tk. 100000 (2.8 percent), and Tk. 100001 and above (0.6 percent). And the respondents' monthly family expenditure was found to be below Tk. 20000 (47.2 percent), Tk. 20001-Tk. 40000 (39 percent), Tk.

40001-Tk. 60000 (11 percent), Tk. 60001-Tk. 80000 (1.3 percent), Tk. 80001-Tk. 100000 (1.1 percent), and Tk. 100001 and above (0.4 percent).

In Table 3, the respondents' status during the epidemic was shown. In terms of the changes in family income, most of the family had experienced decreased income status, representing 56 percent, while 1.3 percent family income increased. And the rest of the family income remained the same (42.7 percent). Among all respondents, 91.4 percent lived at their own house during the COVID-19 epidemic, while 7.5 percent lived at a mess and 1.1 percent lived at a friend's or relative's house. The largest group of participants (86 percent) were not affected by the COVID-19 virus, whereas only 14 percent were affected by the COVID-19 virus. In cases where a relative or acquaintance got COVID-19, 73.3 percent answered 'no', while 26.7 percent answered 'yes'.

4.2. Reliability Testing

The Cronbach's alpha indicated the reliability of the instrument used in this research. For this a reliability test was conducted that shows a good Cronbach's alpha (0.825), representing high consistency of the items. According to Mertens (2014), alpha value above 0.75 indicates high reliability of the instrument.

4.3. Analysis of Generalized Anxiety Disorder 7-item (GAD-7) Scale:

Here the GAD-7 Scale shows how often participants have been bothered by the 7 (seven) scale problem

Table 2. Socio-economic condition of the respondents

Characteristics		Frequency	Percent
Location of own house	Metropolitan	42	9.1
	Urban	222	47.8
	Rural	200	43.1
Number of sibling(s)	0-3	371	79.97
	4-6	84	18.1
	7 and more	8	1.72
Expenditure, in case residing at own house (monthly)	Below 3000	61	13.1
	3001-6000	37	8.0
	6001-9000	7	1.5
	9001-12000	7	1.5
	12001 and above	3	0.6
Expenditure, in case residing outside of own house (monthly)	Below 3000	23	5.0
	3001-6000	193	41.6
	6001-9000	77	16.6
	9001-12000	28	6.0
	12001 and above	25	5.4
Sources of money for personal expenditure	Family	344	74.1
	Tuition/job	100	21.6
	Other sources (scholarship etc.)	20	4.3
Nature of occupation (if any)	Do not have a job	397	85.6
	Part-time job	38	8.2
	Full-time job	20	4.3
	Business/self-employed	9	1.9
Family dependence on your income	Yes	31	6.7
	No	433	93.3
Father's occupation	Farmer	57	12.3
	Immigrant	6	1.3
	Job	183	39.4
	Business	138	29.7
	Retired	54	11.6
	Dead	25	5.4
Mother's occupation	Housewife	372	80.2
	Job	79	17.0
	Business	5	1.1
	Retired	4	0.9
	Dead	4	0.9
Family income (monthly)	Below 20,000	178	38.4
	20,001-40,000	165	35.6
	40,001-60,000	86	18.5
	60,001-80,000	19	4.1
	80,001-1,00,000	13	2.8
	100001 and above	3	0.6

Family expenditure (monthly)	Below 20,000	219	47.2
	20,001-40,000	181	39.0
	40,001-60,000	51	11.0
	60,001-80,000	6	1.3
	80,001-1,00,000	5	1.1
	100001 and above	2	0.4

Source: Authors' Calculation through SPSS Analysis

Table 3. Respondents' status during the epidemic

Characteristics		Frequency	Percent
Changes in family income	Remained same	198	42.7
	Decreased	260	56
	Increased	6	1.3
Lived at	Own house	424	91.4
	Mess	35	7.5
	Friend/relative's house	5	1.1
Got COVID-19	Yes	65	14
	No	399	86
Relative or acquaintance got COVID-19	Yes	124	26.7
	No	340	73.3

Source: Authors' Calculation through SPSS Analysis

Table 4. Generalized Anxiety Disorder 7-item (GAD-7) Scale

	Mode	Mean
I feel nervous, anxious, or edge during the COVID-19 epidemic (GAD1)	1	1.41
I was not being able to stop or control worrying during the COVID-19 epidemic (GAD2)	1	1.27
I was worrying too much about different things during the COVID-19 epidemic (GAD3)	1	1.54
I got trouble relaxing during the COVID-19 epidemic (GAD4)	1	1.21
During the COVID-19 epidemic, I was being so restless that it was hard for me to sit still (GAD5)	1	1.11
During the COVID-19 epidemic, I was becoming easily annoyed or irritable (GAD6)	1	1.33
During the COVID-19 epidemic, I was feeling afraid as if something awful might happen (GAD7)	1	1.50
If you faced any of the above problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?	1	1.36

statements over their last 2 weeks during the COVID-19 crisis. In Table 4, the mean value (1.41) of the first scale statement shows that most of the participants had felt nervous and anxious for several days to over half the days. During the COVID-19 epidemic, the participants could not control their worrying (mean value 1.27) for several days to over half the days. The largest group of participants (mean value 1.54) were found to be worrying too much about different things in the crisis of COVID-19. They confronted this problem near over half the days of every day. Moreover, the participants

got trouble relaxing (mean value 1.21) for several days during this epidemic. In consequence, they were being so restless (mean value 1.11) for several days that it was hard for them to sit still. Even the participants were becoming easily annoyed or irritable (mean value 1.33) for several days to over half the days. Additionally, most of the participants said that they were feeling afraid (mean value 1.50) near over half the days of every day, as if something awful might happen to them.

Finally, participants answered the general

question about the difficulty they faced to do their work, take care of things at home, or get along with other people in consequence of the above anxiety disorder. Participants mostly were found in somewhat difficult position (50.6 percent) to do their work, take care of things at home, or get along with other people, where 26.1 percent were in very difficult position, 12.1 percent were in not difficult at all, and 11.2 percent were found in extremely difficult position (Table 5).

Table 5. Answers of the General Question

General Question: If you faced any of the above problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?		Frequency	Percent
Valid	Not difficult at all	56	12.1
	Somewhat difficult	235	50.6
	Very difficult	121	26.1
	Extremely difficult	52	11.2
	Total	464	100.0

Table 6. Number of students with different anxiety levels (n = 464)

Anxiety level	Number	Ratio (%)
Normal	109	23.5
Mild	178	38.4
Moderate	121	26.1
Severe	56	12.1

Note: Normal = 0-5, Mild = 6-10, Moderate = 11-15, Severe = 16-21

4.5. Univariate analysis of students' anxiety about the epidemic

The relationship between the demographic variables of students and anxiety is shown in Table 7. Educational level of the students had a significant effect on anxiety, such that delay and uncertainty in the completion of Bachelor's or Master's degree had increased anxiety ($P < .05$), whereas place of residence, changes in family income, lived at during epidemic, got COVID-19, and relative or acquaintance got COVID-19 had no significant effect on anxiety ($P > .05$). Moreover, students in bachelor level (12.88%) and female students (12.98%) were more likely to be severely anxious ($P < .05$).

5. Conclusion

The COVID-19 epidemic had a profound psychological impact on university students worldwide, affecting their mental health, academic performance, and overall well-being. The unprecedented global crisis led to the closure of

4.4. Anxiety levels among university students during the epidemic

Table 6 shows how the mental health of university students was affected to varying degrees during the COVID-19 epidemic. Of the 464 university students, near about one-quarter (23.5 percent) had no symptoms of anxiety, whereas 38.4 percent of students had mild anxiety, 26.1 percent had moderate anxiety, and 12.1 percent had severe anxiety.

universities, the shift to online learning, and significant disruptions to daily life, contributing to heightened levels of stress, anxiety, and uncertainty among students. In this study, about 76.6% of university students have reported feeling anxious due to this COVID-19 outbreak. Students' anxiety was significantly influenced by their educational level, where delay and uncertainty about earning a bachelor's or master's degree raised anxiety levels. Besides, female students were found more likely to be severely anxious. However, place of residence, changes in family income, lived at during epidemic, got COVID-19, and relative or acquaintance got COVID-19 had no significant effect on university students' anxiety. In case of feeling nervous, anxious, worrying, restless, annoyed, irritable, afraid of awful incidents, and relaxation trouble, university students of Bangladesh were found in struggle between several days to over half the days. Students' mental health is significantly affected when they faced the public health emergencies during the epidemic, and they need the support, assistance, and attention of

Table 7. Univariate analysis of students' anxiety about the epidemic

Variables	Total	Anxiety level				r	p
		Normal	Mild	Moderate	Severe		
Education level						-0.108*	0.020
Bachelor	326 (70.3)	66 (20.25)	123 (37.73)	95 (29.14)	42 (12.88)		
Master	138 (29.7)	43 (31.16)	55 (39.86)	26 (18.84)	14 (10.14)		
Gender						0.093*	0.046
Male	202 (43.5)	48 (23.76)	81 (40.10)	51 (25.25)	22 (10.89)		
Female	262 (56.5)	61 (23.28)	97 (37.02)	70 (26.72)	34 (12.98)		
Place of residence						0.045	0.496
Metropolitan	42 (9.1)	8 (19.05)	24 (57.14)	2 (4.76)	8 (19.05)		
Urban	222 (47.8)	59 (26.58)	76 (34.23)	68 (30.63)	19 (8.56)		
Rural	200 (43.1)	42 (21.00)	78 (39.00)	51 (25.50)	29 (14.50)		
Changes in family income						0.041	0.666
Remained same	198 (42.7)	54 (27.27)	76 (38.38)	49 (24.75)	19 (9.60)		
Decreased	260 (56)	52 (20.00)	101 (38.85)	70 (26.92)	37 (14.23)		
Increased	6 (1.3)	3 (50.00)	1 (16.67)	2 (33.33)	0 (0.00)		
Lived at during epidemic						0.012	0.735
Own house	424 (91.4)	102 (24.06)	167 (39.39)	105 (24.76)	50 (11.79)		
Mess	35 (7.5)	5 (14.29)	9 (25.71)	15 (42.86)	6 (17.14)		
Friend/relative's house	5 (1.1)	2 (40.00)	2 (40.00)	1 (20.00)	0 (0.00)		
Got COVID-19						0.013	0.774
Yes	65 (14)	15 (23.08)	31 (47.69)	16 (24.62)	3 (4.61)		
No	399 (86)	94 (23.56)	147 (36.84)	105 (26.32)	53 (13.28)		
Relative or acquaintance got COVID-19						-0.066	0.153
Yes	124 (26.7)	31 (25.00)	66 (53.23)	22 (17.74)	5 (4.03)		
No	340 (73.3)	78 (22.94)	112 (32.94)	99 (29.12)	51 (15.00)		

*. Correlation is significant at the 0.05 level (2-tailed)

society, families, and educational institutions (Cao et al., 2020).

Hence, university students need better mental health support systems within educational institutions.

Moreover, universities will need to prioritize mental health resources, provide flexible learning environments, and foster a sense of community to help students recover and thrive in a post pandemic

world. Additionally, the government should take a crisis management program in this regard. This study suggests that for university students to receive timely, high-quality crisis-oriented psychological treatments, the government and educational institutions should work together to address and resolve this issue.

There are certain limitations to this work that may serve as guides for further research. A small sample size can limit the generalization of its results. Thus, it is suggested that future studies should collect more data for the generalization. The present study also suggests that future studies can take gender as a moderating variable. In addition, future research should examine the role of educational institutions in balancing the students educational and personal lives. Finally, future research should investigate the post-COVID-19 impact on students' psychology.

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