

Attitudes and Effects of the COVID-19 Pandemic on University Students in Bangladesh

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Abstract

The sudden and rapid spread of the pandemic worldwide and the consequential precautionary lockdown disrupted and affected the education system globally. Understanding the knowledge pattern, attitude, and practices of young adults towards the pandemic will undoubtedly help attenuate the impacts of the adversity. The purpose of this research is to determine the level of knowledge and attitudes towards the pandemic situation. It also evaluates the impacts of the COVID-19 outbreak on the business administration students in Bangladesh. The study employed a cross-sectional survey research design, where respondents were chosen randomly. The researcher shared the questionnaire via the social media networks of different universities and adopted SPSS for the exploratory factor analysis and AMOS for the confirmatory and second-order factor analysis. The study confirmed and modeled four significant impacts: general living standard, travel, movement, and post-pandemic impacts. The study has numerous managerial implications for the policymaker to improve the negative impacts and restore balance to the students' neo-normal situation.

Keywords: Attitude, Lockdown, COVID-19, University Students, Post-pandemic effects, Bangladesh.

1. Introduction

The first case of the coronavirus (COVID-19) was detected in Wuhan, China, at the end of December 2019; subsequently, the disease—triggered by SARS-CoV-2—rapidly rose to become a global epidemic in early 2020 (Cucinotta & Vanelli, 2020). At the end of January 2020, it was declared an international public health catastrophe to caution the international communities of the threat posed by the virus, and on March 11, 2020, the disease was proclaimed a global pandemic by the World Health Organization (WHO) (Cucinotta & Vanelli, 2020). The spread of the novel coronavirus has undoubtedly greatly affected the public health and global economy (Nguyen et al., 2020). As of July 3, 2020, the COVID-19 had reached 213 nations worldwide (Cucinotta & Vanelli, 2020). To date, the

research community has defined the experimental progression of the COVID-19 pandemic and has also been striving to develop an antiviral drug to halt the rapid spread of the virus globally (Bhuiyan et al., 2020; Dong et al., 2020). Unfortunately, the number of confirmed cases and fatalities rate of COVID-19 is very high and has already surpassed the SARS epidemic of 2003 (Bhuiyan et al., 2020; Rashid, 2020). The consequences of the COVID-19 outbreak have greatly affected the public health sector and the economic and social aspects (Bhuiyan et al., 2020); and educational institutions around the world (Muthuprasad et al., 2020). In the meantime, underdeveloped and emerging countries like Bangladesh are arguably facing more difficulties than the developed nations, like many businesses comprising small and medium-sized enterprises (SMEs) have been interrupted and rendered insolvent due to the epidemic (Fernandes, 2020).

The first three confirmed cases of COVID-19 in Bangladesh were tested at the Institute of Epidemiology, Disease Control and Research (IEDCR)¹ in Dhaka on March 8, 2020. As of September 29, there were 362,043 confirmed cases

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¹, a Bangladesh government research institute under the Ministry of Health, mainly accountable for investigating epidemiological and contagious disease in Bangladesh as well as disease control.

of COVID-19, with 5,219 deaths and 273,698 recoveries (IEDCR, 2020). Consequently, the people's republic of Bangladesh announced a ten-day shutdown effective from March 26 to April 4, 2020, and later extended in phases till May 30, 2020, in a bid to combat the rapid transmission of the outbreak nationwide. The COVID-19 outbreak caused financial burdens for the low and middle-income families who are also battling severe foods and health crises due to the nationwide lockdown (Banna, 2020). To further flatten the coronavirus curve, the government also closed all educational institutions on March 16, putting a halt to all class activities to date (Shawon, 2020).

To date, numerous studies have explored the knowledge, attitude, and practices of young adults towards COVID-19 in Bangladesh's context (Banik et al., 2020; Farhana & Mannan, 2020; Ferdous et al., 2020; Hossain et al., 2020). However, very few studies have explored the knowledge, perceptions and behaviors of Bangladeshi university students amid the COVID-19 (Wadood et al., 2020). Thus, researchers are motivated to study the perceptions and behaviors (work/study, movement and travel) of Bangladeshi university students during the peak of the pandemic. It was also intended to help policymakers develop appropriate preventive approaches, specifically aimed at vulnerable communities in Bangladesh, to alleviate the burden of COVID-19.

2. Past Studies

The pandemic and the resulting lockdown disrupted and affected the global education system (Vu et al., 2020), with far-reaching consequences on learners, teachers and educational organizations (Mailizar et al., 2020). As a result, students have endured major educational delay due to the suspension of academic activities triggered by the pandemic. More recently, Wadood et al. (Wadood et al., 2020) studied the knowledge and perception of COVID-19 among 305 Rajshahi University students in Bangladesh. The researchers indicated that the student's understanding of COVID-19 was insufficient, and their attitudes towards the impact of COVID-19 were also unsatisfactory. In another study conducted in India (Modi et al., 2020), it was found that healthcare workers and students are well-informed about the coronavirus disease.

Furthermore, in comparison with Indian students, experts and non-medical staffs, the Bangladeshi students lack a proper understanding of COVID-19 (Wadood et al., 2020). This may be attributed to the closure of educational institutions, resulting in the cessation of face-to-face learning

and interruption of academic programs (Jacob et al., 2020). Besides, delays in the reopening of higher educational institutions will further affect their psychological condition and academic development (Chandasiri, 2020).

3. Research Design and Participants

This is a cross-sectional study using an exponential non-discriminative snowball survey methodology (Goodman, 1961). The study surveyed the Bangladeshi population during August 2020, which was conducted using social media networks of different universities. There were two reasons for using such survey methods. First was the difficulty in locating respondents (Johnson, 2014). Since the Universities were closed during the lockdown situation, it was impossible to collect data physically with other probability techniques. The second reason was the sensitiveness of the respondents' identity (QuestionPro, 2020). During COVID 19 situations, people were hesitant to disclose their information regarding health's and their daily lives as they felt this might be sensitive information for their day-to-day living amid the pandemic situation. The questionnaire content difficulties like financial, food, mental, or physical difficulties the respondents face, including their socio-economic relevant queries.

According to the snowball sampling referral technique, the researchers first selected the primary subjects (class teachers) and based on their chain-referral, the other referral (students) was picked up using online platforms. In the WhatsApp, Facebook accounts, the Questionnaire was posted, and the Questionnaire is completed utilizing the Google Doc template. The respondents independently completed the surveys within an average time of 10–15 minutes. Ethical research requirements were met by presenting project information to the participant and obtaining their approval. Based on the purposeful sampling process, the target universities have been selected. About 352 participants had been selected randomly for the inquiry. These participants include university (non-medical and business administration) students from affected or unaffected areas with the outbreak and voluntarily interested in filling up the form. Thus, the total students of business administration in the universities of Bangladesh were our population.

The current study adopted the G*power program priori test to ascertain the sample size adequacy. As set out in Cohen's proposal (Vidaver-Cohen, 1998), the suggested samples were 129 for 4 independent constructions or predictors ($F2=.15$

for effect size, $\alpha=.05$ for error type one, and $\beta=0.20$ for error type two). Barclay et al. (Barclay et al., 1995) suggest thumb rules for sampling as 10, multiplied by the highest number of formative

indicators applied. Thus, this study needs 130 respondents for its 13 items for Structural Equation Modeling Approach. Yet, to mitigate potential complications from a tiny sample size, we collected 352 respondents.

Table 1. Sample Distribution of the Study

Name of the University	Types of University	Sample
Northern University of Bangladesh	Private	127
Ahsanullah University of Science and technology	Private	85
Sonargon University	Private	70
Jagannath University	Public	70
Grand Total		352

Although the study includes the four Bangladeshi universities that operate in the capital city, their students cover different parts of Bangladesh. These universities are both public and private and were selected based on the criteria for business education and online classes (Table 1). Many universities, particularly the public ones, could not offer online education during the survey period. The study adopted convenience sampling to choose institutions based on the criterion and the convenience of the researcher

3.1 Research Instruments

We have closed-ended questions in our survey to test the objectives of the study. Three prime questions asked were: (i) how has the COVID-19 pandemic influenced your life? (ii) What habits have you developed or avoided during the COVID-19 outbreak? (iii) Do you have a post-crisis plan of action? Answers suggest that the most likely factors affecting students' lives can be grouped into three: work/study, movement and travel. The spread of news about the high risk of COVID-19 complications among the population has dramatically modified their everyday habits. For example, online lectures via the internet (such as Zoom, Microsoft Teams, or Hangout by Google) had to be used, and as a result, their intentions and travel plans were temporarily abandoned. The conceptual structure of potential risk factors (Deng & Ritchie, 2018) and the study of Van Nguyen et al. (Nguyen et al., 2020) were also complemented in the design of our survey.

This instrument comprised 34 items, out of which 21 assessed the respondent's perception of COVID-19 pandemic based on a five-point Likert scale: 1= absolutely disagreed; 2= quite disagreed; 3= neutral; 4= quite agreed; 5= absolutely agreed. All the research questions had to be responded to, as there was no shortage of details. The survey questionnaire was based on three components: the understanding of general effects of the disease outbreak, the impact on work and travel and finally,

the post-pandemic choices and plans.

3.2 Data Analysis

Data analyses were done in four stages, following the pre-defined rules stated in different SEM literature. The Exploratory Factor Analysis (EFA) analysis was performed at the initial stage. In this regard, we used SPSS version 21 to conduct Principles Component Analysis (PCA). The measurement model was tested using the measures like Cronbach's alpha, Eigenvalue, Average Variance Explained (AVE), discriminant validity, the construct reliability and composite Reliability. The Confirmatory Factor Analysis (CFA) was conducted in the second stage using IBM AMOS software Version 21 following data reductions in EFA. The necessary re-specifications were made for the suggested model in line with its conceptual and statistical parameters (change indices, estimating errors and standard measurement errors), showing useful fit indexes. The second-order construct was further introduced, and in the second stage, it was evaluated for the exactness of the same fit indexes. Finally, the analysis of structural equation and path coefficients was conducted on the third level. The structure of the factor was determined. This modeling equation was re-evaluated in the second stage with similar fit indices.

4 Empirical Results

4.1 Socioeconomic and Demographic Characteristics

Among 352 participants, about 67% and 33% are male and female respectively. About 72.4% of the participants are within the age group of 18-25 years, while 24.1% aged between 26 and 35 years. The educational background of the participants indicates that about three-fourth (73 %) of the total participants are undergraduates students, while the remaining (27%) are postgraduates, suggesting that the entire participants are educated (Table 2).

Table 2. Demographic Information of the Respondents

Variable	Description	Frequency	Percentage (%)
Gender	Male	236	67
	Female	116	33
Age	18 - 25 years	255	72.4
	26-35 years	85	24.1
	36-45 years	8	2.3
	Above 45 years	4	1.1
Educational Qualifications	Undergraduate	257	73
	Post Graduate	95	27
Job Holder	Yes	88	25
	No	264	75
Monthly income in BDT Million	None	229	65.1
	Lower than 10, 000	49	13.9
	From 11,000 to 20,000	37	10.5
	From 21,000 to 30,000	20	5.7
	From 31,000 to 40,000	10	2.8
	Above 40,000	7	2

Note: Sample size =352, Source: Author's 2020

Most (75%) of the respondents are unemployed, leaving the majority (65.1 %) with no monthly income, and approximately a quarter earnings below BDT 20,000 million per month. In brief, our respondents can be characterized as mostly young, well-educated and unemployed men. However, the education of the unemployed is sponsored by their parents.

4.2 Knowledge and Attitude Towards COVID-19 Effects

In response to the question (Figure 1), "Are you familiar with the COVID-19," most of the respondents (67.81%) replied in affirmative, while the rest responded negatively. This is justifiable, as this type of outbreak is usually witnessed every century and documented in history books, which are readily available to graduate students who mostly constitute our respondents. About half of the respondents are familiar with the current pandemic since January 2020, followed by 23.58% and 23.30% since February and March 2020 respectively. This means that most students are acquainted with the pandemic from the onset when Wuhan, China, was affected heavily. This awareness came to them via social media (60.80%) posts. Another 23.86% of the respondents were informed through online blogs or forums, while others (7.39%) were enlighten by their relatives or friends abroad.

Nearly 80% of the respondents experienced apparent fear, while others remained calm. This is in line with the outcome of other researchers (Hossain et al., 2020) who also found that most

(86%) of the respondents (86%) remained at home during the pandemic. Many felt that the COVID-19 offered a rare opportunity to spend more time with their family, which is usually unavailable in a normal situation due to study pressure. Only one-eighth of the respondents could return home during the lockdown, as majority stayed in their relative's house, dormitory, rented apartments, particularly in Dhaka city. Two-thirds of the respondents admitted that they suffered severe financial difficulties, followed by health-related problems, such as mental stress and physical disease. Only 3.98% of the respondents reported that they struggled with the problem of the food supply. Despite the pronouncement of lockdown, only a few respondents experienced food supply challenges. On the question asked "where the respondents had stayed during the lockdown, most of them were admitted that they were in their local (mostly village) residence, where the severity of lockdown was lesser as opposed to the capital city. Many villages did not experience many difficulties in terms of food supply and distribution.

4.3 Exploratory Factor Analysis

Eigenvalues reflect the value of the characteristic of data, which shows the commonality of all data and that component. The obtained Eigenvalue of each factor was more than one for the 13 COVID-19 influence measures. The EFA has used in conjunction with the PCA within the limitation that the Eigenvalue of each component is higher than 1. By measuring the correlation matrix, we assessed the appropriateness of the data to the

factor analysis; thus, the outcome showed a good correlation among the measurements. Kaiser-Meyer-Olkin (KMO) test, which measures the sample's adequacy, suggests that values over 0.5 are quite good. The value of the Kaiser-Meyer-Olkin

was 0.890, which is considered satisfactory by Kaiser. Bartlett's sphericity test exhibited shallow insignificance (0.000), confirming the factorial validity of the correlation matrix.

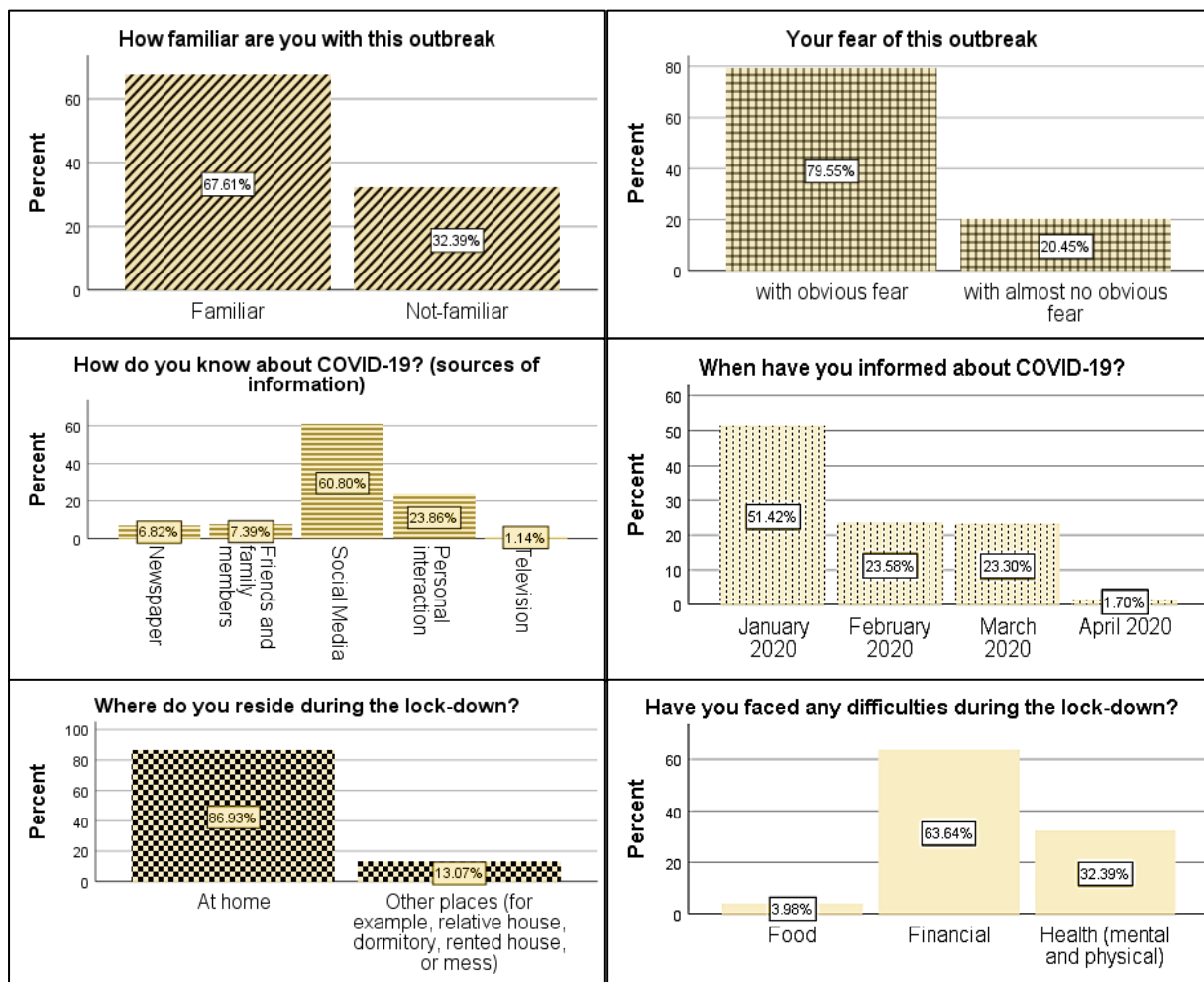


Figure 1. Knowledge and Attitudes towards COVID-19

Table 3. Psychometric Features and Estimates of the Model for COVID-19 Effects

Dimensions	Item acronym	Mean	SD	Factor loadings	Eigenvalue	Cronbach's alpha
General Impact (GI) During COVID-19	G11	4.52	.936	.782	2.297	.709
	G12	4.34	.986	.822		
	G13	4.13	.969	.721		
	G15	4.50	.993	.790		
Travel Plan (TRA)	T1	4.29	1.066	.791	1.597	.517
	T2	4.24	1.108	.850		
Movement (MOV)	M5	4.50	.964	.790	2.324	.715
	M4	4.55	.932	.701		
	M3	4.42	.966	.720		
	M2	4.08	1.041	.850		
Post COVID-19 impact (GIAC)	AC3	3.72	1.214	.821	2.924	.737
	AC2	3.86	1.137	.833		
	AC1	3.62	1.282	.793		

Source: Author's 2020

As shown in Table 3, the PCA shows four components, which describes the collective variance of 70.01%. After reducing the data to four factors, Varimax was rotated, and the rotating components with their elements and factor loads are shown in Table 2. Greater factor loads show that the entire items only load to one factor. Each of the four variables is labelled correctly according to the features of its composition steps.

For each factor, the coefficient alpha was calculated for internal consistency. As presented in Table 2, Cronbach's coefficient alpha (α) for all variables, ranging from 0.709 to 0.737 exceeded the minimum acceptable value of 0.70 (Nunnally, 1978). The only exception is the travel factor, which is 0.517 but still acceptable, considering the alpha co-efficient, including entire factors. The outcomes of EFA and PCA method in evaluating the four COVID-19 impact showed that all measurements were loaded to a single factor with Eigenvalue higher than just one ($KMO = 0.890$, $\pi_2 = 2380.95$, $df = 171$ $p < 0.000$). The values varied between 0.510

and 0.691 in all four factors.

4.4 Confirmatory Factor Analysis (First Order)

A confirmatory factor analysis (CFA) further validates the EFA outcomes of the four dimensions of COVID-19 effect (Figure 2). Apart from examining the model fitness using the relative/standard Chi-square (χ^2/df ; $df =$ degrees of freedom), which should be less than five (Hu & Bentler, 1999), more literary indexes such as CFI, NFI, GFI, AGFI AND RMSEA were also considered (J. F. Hair et al., 2010). The AGFI value exceeds 0.80, indicating appropriate data fitness (Gefen et al., 2003). A comparative fit index (CFI) and goodness of fit (GFI) values higher than 0.90 imply a reasonable data adaptation and an appropriate model fit is indicated by a normed fit index (NFI) of 0.90 or higher (Bentler, 1992). Other suggestions favored value as low as 0.80 as the threshold (Hooper et al., 2008). The root average approximation error (RMSEA) equivalent to or smaller than 0.08 signifies suitable model fit (Hu & Bentler, 1999).

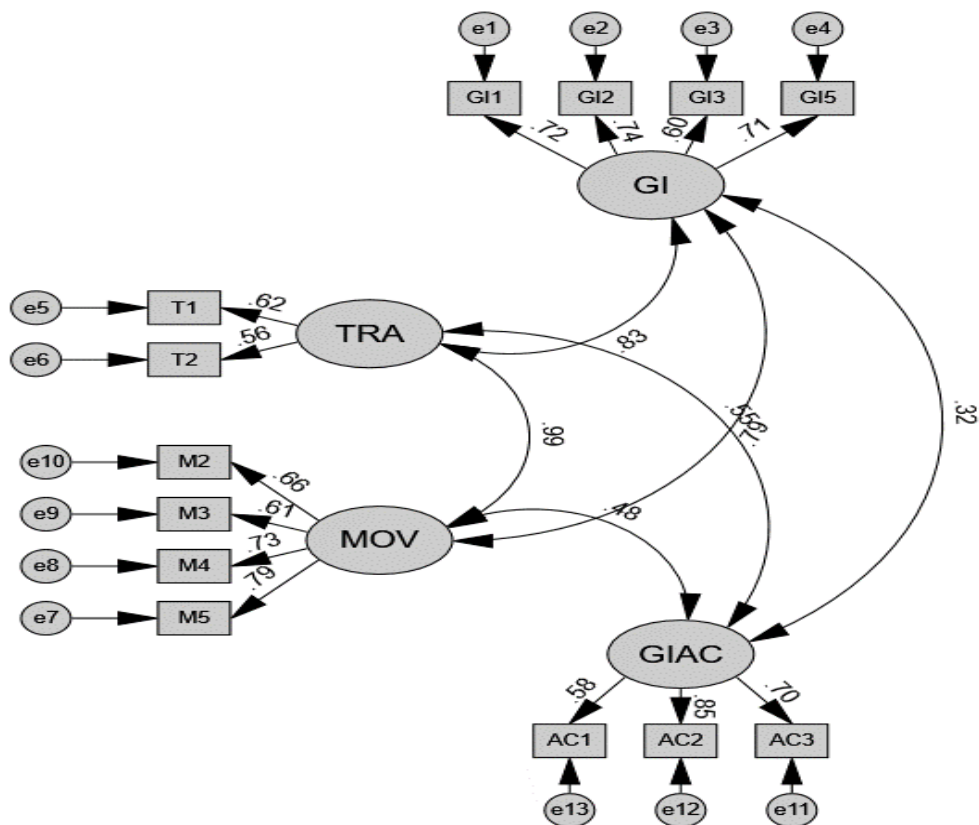


Figure 2. The CFA Model of the Impact of COVID-19

For this analysis (Table 5), the model compatibility indices were $\chi^2/df = 1.607$ ($\chi^2 = 94.8$,

$df = 59$), $CFI = 0.977$, $GFI = 0.961$, $NFI = 0.942$, $AGFI = 0.941$ and $RMSEA = 0.042$. The SRMR value of

0.0357 is less than 0.05, indicating appropriateness (Hu & Bentler, 1999). The results regarding model fit indices suggest that the model is suitable for describing the COVID-19 impacts.

Regression weights (standardized) and critical ratio (CR) parameters have been used to validate the model according to the model fit indices. The psychometric properties of the model were also assessed via convergent validity, discriminative validity and composite reliability. Factors' reliability and convergent validity were estimated using the CR and the extracted average variance (AVE), in accordance with the recommended methodology (J. Hair et al., 1998). In general, the subsequent parameters were used to test confirmatory factor analysis models. (1) Standardized regression weights must be larger than 0.50 between measures (indicators) and structures (Hair et al., 2010). (2) The values of the critical ratio must be

higher than ± 1.96 (J. Hair et al., 1998), and (3) the minimum threshold average variance explained by parameters must be higher than 0.5 and above 0.7 for CR (Hair, 2006)

Regardless, values above 0.6 are indeed considered appropriate for CR (Bagozzi & Yi, 1988). Table 4 displays the regression estimates, including psychometric attributes of the regression. Entire standardized regression variables, which proxied the indicators are higher than 0.6, most of which are near or beyond 0.70 (Table 5). The unstandardized weights of regression are significant from the CR test (CR $[\pm 1.96, p < 0.05]$). The CR with all buildings is greater than the 0.70 criterion, while the AVE of fundamental factors is higher than the 0.50 threshold. Since the standardized weight of the GI4 and M1 is less than 0.50, the items were eliminated, and the model runs again.

Table 4. Model Parameter and Psychometric Features of the Model for COVID-19 Effects

Constructs	Items	SRW	CR	P (Sig. level)	CR	AVE
General Impact During COVID-19	GI1	.717	12.000	***		
	GI2	.736				
	GI3	.605	10.239	***	.861	.608
	GI5	.709	11.875	***		
Travel Plan	T1	.619				
	T2	.564	9.006	***	.805	.674
Movement	M5	.793				
	M4	.732	13.714	***		
	M3	.608	11.162	***	.851	.589
	M2	.660	12.237	***		
Impact After COVID-19	AC3	.704	10.586	***		
	AC2	.853			.857	.666
	AC1	.577	9.323	***		

*** indicates significant at 1% level of significance

Convergent validity tests the degree to which the metrics reflect the expected latent variable. The convergent validity of latent variables utilized in the model is indicated by standardized outer loading beyond 0.50, CRs greater than 1.96 and AVE near or above 0.50. Fornell and Larcker (Fornell & Larcker, 1981) introduced a tool to test the validity of two or more (factors) discriminant variables. Accordingly, AVE must be higher than its exchanged variance in each variable. The square of the association between two variables is considered distributed variance. Table 5 demonstrates the discriminative validity of the factors. It shows that the AVE is more significant for each factor than its corresponding inter-construction squares, suggesting that the variable used in the design exhibits a large degree of discriminative validity. This indicates that the calculated elements are more dominant than the

other latent structures following the latent structure. In short, the impact model of COVID-19 has revealed that its data is fitting, accurate, converging and discriminating.

4.5 Testing the Second-Order CFA Measurement Model

In line with the discussions of superordinate formation (Edwards, 2001) (a reflective second-order system (Jarvis et al., 2003), the effect of COVID-19 was designed and implemented in a second-order construct, which is expressed by four first-order constructs. This analysis suggests the critical influence of COVID-19 as four factors with 13 items. As a result, an impact assessment model of the higher-order COVID-19-measuring instrument and a primary order-assessing model with four aspects were evaluated (Byrne, 2013).

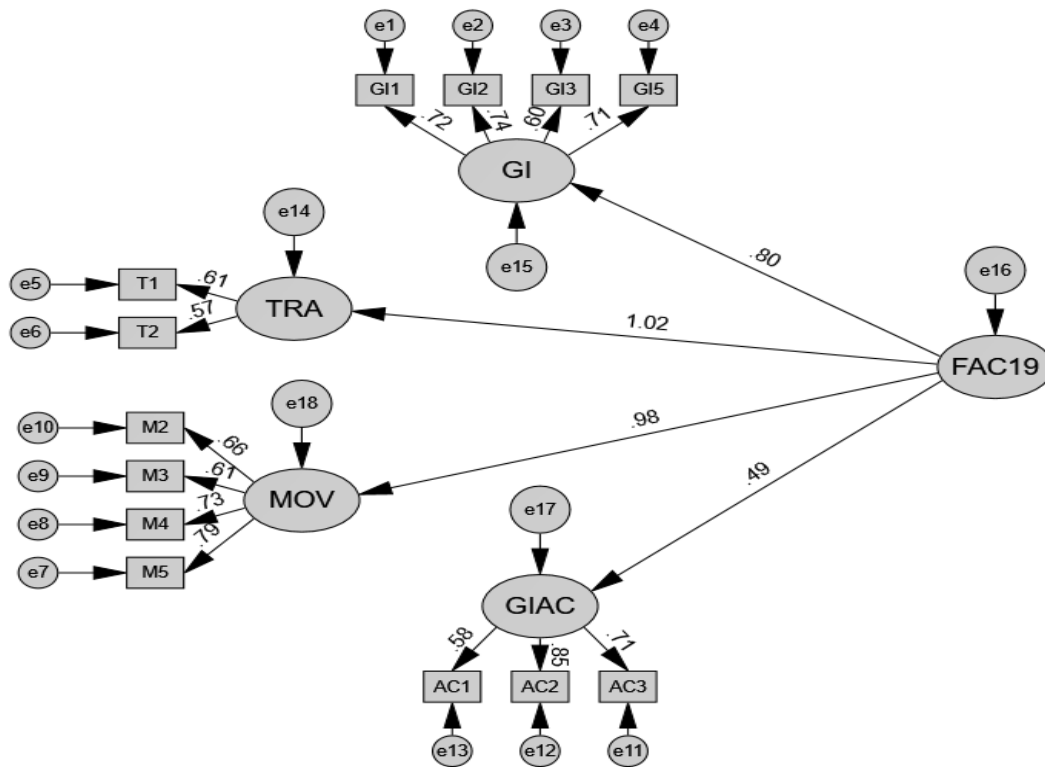


Figure 3. Second-Order CFA of COVID-19 Impacts

Results (Table 5) display appropriate goodness-of-fit indices (CMIN=98.8, DF=61, CFI=0.976, SRMR=0.380, RMSEA=0.042) (Hu & Bentler, 1999). Furthermore, the three first-order constructs equipped well on the second-order construct (Figure 3). The findings obtained demonstrate a

second-order form for COVID-19 effects. As the second-order approach contains merely one latent construct (impact of COVID-19), the correlation matrix could not have been articulated, and therefore, no discriminating validity problem exists.

Table 5. Results of the Measurement Model and the Second-Order Factor

Fit indices	CMIN	DF	P-value	χ^2/df	NFI	GFI	CFI	AGFI	SRMR	RMSEA
Measurement values for CFA	94.8	59	0.002	1.607	0.942	0.961	0.977	0.941	.0357	0.042
Second Order CFA	98.8	61	0.002	1.619	0.940	0.960	0.976	0.940	0.380	0.042

Notes: GFI, goodness-of-fit index; p-value, significance level, AGFI, adjusted goodness-of-fit index; RMSEA, root mean square error of approximation; CFI, comparative fit index; NFI, normed fit index; and **SRMR, standardized root mean squared residual of goodness of fit index** are statistically significant at 0.05 level. Cut-off criteria: $\chi^2/df < 3$; GFI > 0.9; SRMR < 0.08; RMSEA < 0.08; CFI > 0.90; NFI > 0.90; AGFI > 0.090.

5 Discussion

The study empirically tested the attitude and impact of COVID 19 pandemic on students' lives in Bangladesh. The exploratory and confirmative factor analyses supported a one-factor model with four components that exhibit good psychometric attributes in the research setting. Internal consistency was sufficient for the full scale.

The survey reveals that most respondents are acquainted with the epidemic from the onset. This

result is unlikely to the study of Cvetković et al. (2020), who found a knowledge gap among respondents regarding Serbia's COVID situation. This became possible due to the technological advancement in present Bangladesh development. Students are very much attached to all the latest media and can instantly witness the world progress via these media. According to the study, the respondents obtained the devastation look of pandemic via social media. This is similar to the

finding of Farhana & Mannan's (2020) study, where they found that 72% of respondents got information from social media in Bangladesh. It is found that a few respondents were terrified from the death toll worldwide, including Bangladesh (Wadood et al., 2020).

Students were asked regarding their living location during the pandemic, and it was reported that most of the students were at their home who shift their location at the very beginning of the lockdown when it was relatively relaxed and transportation was available that time. Since their universities were shut down physically, they felt comfortable to go back to their home for various reasons. They felt they might be the victim of food and financial crisis. Although two-thirds of the respondents acknowledged they had significant financial problems due to the lockdown than the food supply problem, they were mostly in rural areas. They faced financial problems for their dependence on the family that survived acute penniless condition with the loss of jobs or works which support the study of Wadood et al., (2020). Another reason was the movement freedom. During the lockdown, the capital city was much restricted in case of movement than the rural areas due to the dilemma seen in the government administration in controlling people's movement literally.

Although they could move somewhat in their residency, their family members and consciousness restricted them. The study result explored that the highest factor for which students stopped moving too much during COVID is that they felt unsafe riding public buses and unsafe going public places. As the chance of contamination increased in the crowd places, students' avoidance tendencies were evident. Regarding the effect of COVID 19 even after the pandemic, the study confirmed that the effect would last in many respects. The respondents will be fearful of facial interactions and collaboration. Besides, they will be hesitant to fly or travel with a friend. Therefore proved bitterer during the pandemic, people's fear would last longer. This will carry forward in various aspects of their daily lives. Thus, the relaxation campaign or therapy should be continued for a long time after COVID is dysfunctional to eliminate such traumatic memories.

6 Research Implication

Although the government was prompt to impose the shutdown, they fail to avail people with an aid package, as the majority struggle to survive during the lockdown. Besides, the delivery of

support varies in size and intensity, particularly in the education sector, where the disparity between the public and private universities became apparent. This is contrary to the objective of government, which aims to achieve universality in the education sector.

The students of private universities are taking their classes online using smart devices and laptops. The online class system that private universities adopted instantly was made possible due to the universities' online classes before the pandemic. In this regard, most public universities were unable to run online classes due to their students' socioeconomic conditions and the lack of orientation of these universities' online class. In association with the Ministry of Finance, the Ministry of Higher Education should identify those students deprived of modern technologies and supply them with smart devices, either for free or on a subsidized installment. This will facilitate the inclusion of marginal people into mainstream development and result in the early adoption of new technologies to prepare for the coming industrial revolution.

The Ministry of Education's support for online classes aids the students to control mental stress and panic. Therefore, similar support should be reproduced for public university students. The private university authority should realize that their students suffer from an acute financial problem, as indicated in this study. Hence, they should revise their tuition fees during the pandemic to assist them in continuing their education. Besides, the government could also provide universities with a credit facility with low interest in sustaining their activities and supporting their students.

It is high time that policymakers from both the government and universities should access their preparedness for the gradual commencement of actual educational activities. Since the pandemic may extend beyond the arrival of approved vaccines, they should concentrate on enforcing social distancing and other possible precautionary measures against health hazards of the COVID-19 pandemic and its aftermaths.

7 Conclusion

This study aims to analyze the effect of COVID-19 on the different conditions of Bangladeshi business graduates. The research concludes that the pandemic's specific effects are in the form of general household restraints, work or travel restrictions, movement limitations and post-pandemic risk phobia. Among the various impacts observed in this study, the movement restriction

dominates. These findings are novel concerning the outbreak and can proffer essential measures to enhance psychological well-being and quality of life during pandemic-like situations. The current investigation fills the existing void on the estimation of COVID-19 impact by including the COVID-19 effects with the four factors performed on the 13-item scale. This scale empirically analyzed the effect of these four variables. Therefore, this comprehensive COVID-19 impact evaluation will enrich the current literature on phenomena calculation and extend its management horizon.

8 Limitations and Future Study

There are some shortcomings to this research. Although this brief version of the survey rapidly assesses the perception of the disease and proves useful for experiments involving large sample sizes, it must be tested and proven in several other cultures where other diseases have already been shown to be true. The research is carried out to a few educational institutions at a single geographical location. Since most university students came from rural communities, the participants of this study may not be reflective of other students living elsewhere, like urban areas. In addition, only the viewpoints of the business students were taken, which could be further extended in the future study to the students of other disciplines to gain real insights.

Although self-reporting scales are widely used in research, related "social desirability biases" may have arisen during data collection. The research is cross-sectional, which fail to control certain variables that could have influenced the participant response. For instance, this access to media, the number of local cases in the participant's city, the time of surveying, past pandemic studies, preparation levels, and the available social and family support, community, and religious belief. Future studies may present additional details to the understanding of COVID-19 in the connection of the studied parameters. Future studies may also apply an experimental setup to detect exact consequences.

Acknowledgment

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Conflicts of Interest

The authors declare no conflict of interest.

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Appendix

Table A1: Survey Instruments

General Impacts	
GI1	Covid-19 heavily influenced work/study practices
GI2	Covid-19 influenced significantly traveling practices
GI3	Work/study practices during the Covid-19 disease outbreak
GI4	Work/study burdens decreased
GI5	Covid-19 significantly impacted travel plans
Impact on Movement	
M1	During the Covid-19 pandemic, you think about limiting group travel (shared transportation and meals).
M2	Stop traveling to areas affected by the pandemic of Covid-19.
M3	You worry about the pandemic not going to work/university.
M4	It is unsafe to go to public areas during the pandemic.
M5	It is unsafe to fly by public buses amid the disease outbreak.
Impact on Travel	
T1	During the pandemic, you choose to fly with friends and family
T2	If traveling in the disease outbreak, you choose tourist spots nearby to your living space
After COVID effects	
AC1	You want to fly with your family and friends post Covid-19 period.
AC2	You will maintain to limit facial interactions and collaboration post-Covid-19 disease outbreak.
AC3	You always have questions about movement with trains and buses post Covid-19.
AC4	Since the Covid 19 disease outbreak, it is unsafe to go to crowded areas
AC5	You think that post Covid-19 disease outbreak you are stopping group travel (shared transport and meals)
AC6	You also choose to visit places near the living space Post Covid-19