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Perceptions of Public University Students Towards Online Classes During COVID-19 Pandemic in Bangladesh

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The disease outbreak COVID-19 pandemic impacted public health and safety and the educational systems worldwide. For fear of the further spread of diseases, most educational institutions, including Bangladesh, have postponed their face-to-face teaching. Therefore, this study explores public university student's perceptions towards online classes during the COVID-19 pandemic in Bangladesh. Data had collected among students of Islamic University, Kushtia, Bangladesh, through an online survey. The study followed a quantitative approach, where the survey technique was used as an instrument of data collection. Results showed that most students faced difficulty participating in virtual classes and could not communicate with their friends correctly during online classes. Thus, they faced challenges in online schooling, and the majority of the students preferred conventional types of learning to virtual classes and did not understand the content of virtual classes easily. The study also explored that most students did not feel comfortable in online classes. Still, considering the present pandemic situation, they decided to participate in online classes to continue schooling. Besides, the study discovered that female students showed a better view than male students regarding online classes, and urban students have more positive appreciation than rural students. Furthermore, laptop or personal computer users showed more positive perceptions towards online education than mobile users. Moreover, Broadband/Wi-Fi users have more positive perceptions than mobile network users. These findings would be an essential guideline for governments, policymakers, technology developers, and university authorities for making better policy choices in the future.

Keywords: perceptions, public university students, online classes, COVID-19, Bangladesh

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INTRODUCTION

The planet is going through the most critical times in its history because of the widespread COVID-19 coronavirus pandemic (Dubey et al., 2020). The coronavirus diseases (COVID-19) emerged in the Chinese city named Wuhan in December 2019 and intensified worldwide. As the virus is very infectious, the world's communities are very concerned about the long-term effects of this disease

(Rahman et al., 2020). The world health organization (WHO) declared coronavirus as a global pandemic in March 2020 because of its global spread quickly (Bozkurt and Sharma, 2020). The widespread COVID-19 pandemic has affected not only human health but also the education system. Most of the educational institutions postponed their face-to-face classes for fear of further spreading the diseases. Students remained worried about their studies due to the closure of academic activities. Countries worldwide adopt different strategies to ensure education institutes are continuing classes for the students despite the pandemic. As educational institutions are closed, they concentrate on taking virtual classes and exams (Agarwal and Kaushik, 2020). As universities deal with many students, they give importance to online classes so that the virus cannot transmit among the students while face to face class arrangement's (Liguori and Winkler, 2020). However, in such a critical situation like a pandemic, the classes need to be continued advancing their studies. Many countries worldwide emphasize the online education method because it is an alternative instead of the traditional learning. Calhoun et al. (2020) demonstrated that K-12 schools in Washington State, United States started e-Learning education on March 17, 2020, and the University of Washington stopped all types of traditional direct classes because of COVID-19.

An example of the academic closure of schools, colleges, universities, and other educational institutes caused by the pandemic has been observed globally in countries and cities such as the United States, Canada, Washington, Australia, Germany, India, China, Japan, and many more (Auger et al., 2020; Tang et al., 2021; Abdollahi et al., 2020; Isumi et al., 2020; Patra et al., 2020; König et al., 2020; Calhoun et al., 2020). However, this global trend of confinement measures implemented by the government and other authorities had taken to halt the further spread of diseases and keep students safe from possible health and disease infection risks in schools and universities (de Bruin et al., 2020; Gallaway et al., 2020; Iwata et al., 2020). The 21st century is widely dependent on modern technology, and various educational institutions adopt this technology in the advancement of higher education. With modern communication technology development, Australia has already transferred higher education to online learning long ago (Stone, 2019). Georgia typically follows the traditional education system where students are used to taking part in face-to-face classes. Due to coronavirus's worldwide spread, Georgia suspended the conventional education system and recommended universities and colleges shift into online learning from traditional learning (Basilaia et al., 2020; Basilaia and Kvavadze, 2020). Like other Asian countries, India and China have also taken several techniques for continuing higher education. These countries give importance to online learning. Teachers and students of both countries started to participate in online learning through android phones and computer screens for continuing educational programs (Bao, 2020; Kapasia et al., 2020). The first COVID-19 patient was detected on March 8, 2020 in Bangladesh (Islam et al., 2020). COVID-19 can be a possible threat to Bangladesh on account of its population density. Considering all the growing health and social concerns and ensuring public health and social safety, the Government of Bangladesh (GoB) imposed public holidays for all the educational institutions, public and private organizations, industries, offices from March 26, 2020 (Shammi et al., 2020). According to the government decision, direct educational activities are stopped in Bangladesh due to the dreadful effect of the COVID-19 pandemic. Thinking of the present situation, the University Grants Commission (UGC) of Bangladesh allows public and private universities to take online classes for continuing educational activities (Alamgir, 2020).

Undoubtedly, online learning is a good initiative for carrying on teaching and educational programs during this pandemic (Kim, 2020). Nevertheless, at the same time, students and teachers have to face some problems in adjusting online classes (Kim, 2020). As the online learning method is very new in our education system and we are not acquainted with the process, both students and teachers have to face difficulties during online classes (Gopal et al., 2021). Developing countries like Bangladesh still follow traditional face-to-face classes while teachers delivering their lectures, students and teachers using virtual technology to run educational activities for the first time (Ramij and Sultana, 2020; Al-Amin et al., 2021). Both teachers and students face many challenges to adopting the new online class and exam systems (Al-Amin et al., 2021). The majority of the students come to universities for studying from rural areas. After declaring public holidays, students went back to their home, and now they have to participate in online classes and exams from remote regions (Ramij and Sultana, 2020). Most of the students use smartphones and laptops to participate in online courses and other educational activities (Ramij and Sultana, 2020; Al-Amin et al., 2021). Internet cost is very high in Bangladesh, and most rural areas do not have high-speed internet connections like broadband internet service (Al-Amin et al., 2021). Therefore, students rely on cellphone companies' internet service, which is very costly, and they struggle to buy expensive internet packages due to financial obstacles (Rahman, 2019). Sometimes they cannot get a proper internet connection due to poor networks that hamper online learning (Al-Amin et al., 2021), and they have to search for suitable places for appropriate internet connection.

The study examines a student's perspectives on online education in public universities during the COVID-19 pandemic in Bangladesh. An online survey was conducted among randomly selected students of Islamic University, Kushtia, Bangladesh. The study followed a quantitative approach, where the survey technique was used for data collection. Starting by discussing several demographic features of the students, the paper critically addresses the challenges and barriers that students face in urban and rural settings while pursuing online schooling during the coronavirus pandemic. We have also critically discussed our findings along with the findings of some other similar studies conducted globally.

METHODS

This section discusses the place where the study had undertaken and also explained the methodology we had used.

Study Site

Islamic University is one of the reputed and oldest public universities in Bangladesh, located in the country's southwestern part. The institution is placed in the middle of two districts named Kushtia and Jhenaidah. It is situated 24 km south of Kushtia city and 22 km north of Jhenaidah City. The university is renowned as the leading international center for theological, general, applied and engineering studies. This study area was selected based on the following factors:

a) Campus location.
b) An arrangement of theological, general, applied and engineering studies.
c) The proportion of national and international students.
d) Postgraduate study and teaching credibility.

Procedure

The Islamic University website showed that a total of 15,456 students are currently studying in the university. At first, the current study's required sample size was determined using the formula $n = N/(1 + Nd^2)$ (Islam. 2007), wherein this study N = 15,456; d = 0.05, and n is the size of the sample needed i.e., the estimated sample size was 390.

Consequently, it was feasible to obtain the complete list of 227 current students of the social welfare department of Islamic University. Then, all the 227 students were numbered 1, 2, . . . , 227. After that, 50 random numbers were generated using software R between 1 and 227. Then students belonging to those generated 50 random numbers were selected from the list of 227 students. Then these randomly selected fifty students were asked to give a list of twenty more honors and master's level students they knew from the university other than the department of social welfare. By this approach, we received a list of additional 1,000 students from other departments. Of the 1,000 students listed by those 50 students, 358 students were randomly chosen by generating random numbers. We have 408 students randomly chosen (358 students from 1,000 students and the previous 50 students). These randomly selected 408 students were involved in the online survey. Then, a previously developed Google form consisting of twenty survey questions (**Supplementary Material**[1]) was sent to them through different social networking sites, and they were requested to fill-up the form.

Nevertheless, unfortunately, only 304 of them responded. Since the whole research sampling strategy was a planned one. So we could not extend the sample size since only the randomly selected individuals could respond in our sampling plan. As the students were selected randomly and the different department's administration was not involved in the study in any manner, thus there was no control over the survey across various departments. So, there was no chance to influence the results.

Among twenty questions, eight questions were regarding demographic characteristics such as age, sex, residence, device and network, university name, and educational qualifications. Four of these eight questions had asked for a comparison of the results. The rest four questions were to verify whether the respondents are meeting the target population's characteristics. A similar study carried out by Borstorff and Lowe (2007) made the base of the last 12 questions for investigating the student's perception about the online classes. The questionnaires were developed in English. However, the Google survey form had developed in English, keeping in mind that the respondents were proficient in the English language since the selected students are university students and their medium of study is also English.

Measurement

Twelve Likert scale items were employed to measure the perceptions toward online classes In addition, a five-point Likert scale ranging from 1) Strongly disagree to 5) Strongly agree was used to assess online class perceptions. The twelve items were obtained from the study of Borstorff and Lowe (2007).

Statistical Analysis

The Google form (online link/form[2]) was sent to the 408 students with a request to participate, and 314 responses were collected after the timeline, where only 304 responses were found with complete data. After that, the reliability analysis was undertaken with the twelve Likert scale items to measure online class perception. At the same time, descriptive statistics of the twelve Likert scale items had also calculated. Finally, an independent sample t-test was applied to glimpse if there is a remarkable dissimilarity in perception regarding the student's background information. All statistical tests had been one-sided, and p-values < 0.05 had been regarded as significant. The data had been analyzed by using software R version 4.0.2 and SPSS 25.

RESULTS

This section discusses the key findings of the study.

Demographic Characters

Among 304 participants, 66.1% were male, 33.9% were female, 10.5% were graduate students, and 89.5% were undergraduate students; 65.5% were from rural, and 34.5% were from urban areas. The respondents were aged between 17 and 25 years, and most of the respondents were aged 21 (29.28%). In the sample, 92.1% of the respondents mostly used mobile to join online classes, and 7.9% used laptops or personal computers. Furthermore, 78.9% of the respondents used the mobile network to join online courses, and 21.1% of the respondents used the broadband connection. A comprehensive presentation of the demographic characteristics is done in **Table 1**.

[1]Supplementary Material. Link to the supplementary material: https://www.frontiersin.org/articles/10.3389/feduc.2021.703723/full#supplementary-material

[2]Google Form. Link to the form: https://docs.google.com/forms/d/e/1FAIpQLSeNE480vdQ-jkQpm_nQa05QNQl8w-rqHtcA8k7d1xIczFpI0A/viewform

TABLE 1 | Demographic attributes of the students.

Variables	Percentage
Gender	
Male	66.10%
Female	33.90%
Residence	
Rural	65.50%
Urban	34.50%
Age (Year)	
17	0.32%
18	3.28%
19	7.57%
20	26.65%
21	29.28%
22	21.38%
23	8.88%
24	1.65%
25	0.99%
Level of educational qualification	
Undergraduate students	89.50%
Graduate students	10.50%
Device used	
Mobile	92.10%
Laptop/PC	7.90%
Network used	
Mobile network	78.90%
Broadband connection	21.10%

Reliability Analysis of the Likert Scale Items

Reliability analysis was conducted among the 12 Likert scale items to measure perception toward online classes to know how much internal variability among the 12 items is genuinely reliable. Chris Dewberry (2004) found that the standard approach level of the alpha coefficient is 0.70. Likert scale items are unlikely to calculate the same construct if the alpha value is less than 0.70. Cronbach's alpha computed from the 12 items used to measure perception towards online classes was found to be 0.892. Therefore, Cronbach's alpha indicates that the 12 items can measure the same construct, and the present study reflects the student's perception of online classes. The module can be used to evaluate the views of student's about online schooling during the COVID-19 pandemic.

Descriptive Statistics of the Likert Scale Items

Table 2 shows the results obtained from the online survey. The first item (P1) of the survey questions addressed the difficulties of students accessing online classes. 39.8% of the students disagree that they do not face any trouble accessing online classes. The second item (P2) showed student's communication problems with teachers during online classes. 35.5% of the respondents disagree that they had no problems communicating with teachers, while 31.6% agree and 12.8% strongly disagree. Regarding communication with classmates (P3), 42.8% of the students disagree with the statement that they had no difficulties communicating with classmates' while 26% agree, and 12.5% strongly disagree. Finally, most students (30.9%) agree that they feel equally challenged (P4) in online classes as they thought in traditional classes, though 29.6% disagree with that.

The fifth item (P5) measured student's attitudes toward their learning and class contents. 22.4% of the students agree that they think they learn equally in online classes, sitting in traditional classes, while most students (41.7%) disagree. 39.1% of the students disagree that the lecture contents are clearly understood (P6), while 25.7% agree, and 19.1% are undecided. Only 30.3% of the students agree that they can take class notes (P7) like they used to take in traditional classes, while 43.1% disagree. Furthermore, 33.6% agree that online assignments were helpful (P8), and 31.9% disagree.

47% of students think that the opportunity of participating in online classes is beneficial in the middle of a pandemic (P10), while 14.5% disagree and 16.8% are undecided. Most students (47.3%) disagree that they have more flexibility in online classes (P9) than traditional classes. Moreover, most students agree (43.8%) that they will participate (P11) in all the online classes. They agreed (49.3%) recommend their friends to participate in online classes (P12), although some disagreements (12.2%) exist and some are undecided (24.3%). Each Likert scale item's mean score is also calculated which refers to the student's strength of agreement or disagreement with the items.

Perceptions Difference Regarding Demographic Characteristics

Table 3 shows the perceptual difference among different demographic characteristics. The attitude score of each respondent was measured by summing over the scores obtained from the twelve Likert scale items. To understand whether there is a significant difference in perception score regarding student's demographic information one-sided independent sample *t*-test had performed, assuming unequal population variance. The mean perception score of males and females is 33.53 and 36.42 in the sample. The *p*-value associated with the variable gender is 0.004 since the *p*-value is less than 0.05. Therefore, it can be stated that the mean perception score of female students is significantly higher than the mean perception score of male students.

Concerning variable residence, the *p*-value correlated with it is 0.04. Hence, the test says that the students staying in urban areas have a significantly higher mean perception score than the students staying in rural areas, as the *p*-value is less than 0.05. Also, the test between the type of student's device to access online classes and perception scores suggests that the students using laptops/PC in accessing online classes have a significantly higher mean perception score than the students using mobile phones in attending online classes. Also, between the student's variable network to take part in online classes and perception scores, the *p*-value associated is 0.008, suggesting that the students using the broadband connection in attending online classes have significantly high mean perception scores than the students using mobile network in attending online classes.

DISCUSSION

This study investigated the university student's perceptions of online schooling and their difference in their gender, residence,

TABLE 2 | Descriptive statistics of the twelve Likert scale items.

Query	Strongly disagree (%)	Disagree (%)	Undecided (%)	Agree (%)	Strongly agree (%)	Mean
I do not face any trouble in accessing online classes. (P1)	15.5	39.8	13.7	28	3	2.69
I had no problems communicating with my teacher when I have questions or concerns during an online class. (P2)	12.8	35.5	15.8	31.6	4.34	2.79
I never had any difficulties communicating with my classmates during online classes. (P3)	12.5	42.8	16.4	26	2.3	2.63
I feel that I am challenged in an online class environment as I am usually challenged in a traditional classroom. (P4)	8.9	29.6	24.3	30.9	6.3	2.96
I think I learn just as much in an online class as I would sit in a traditional class. (P5)	15.5	41.7	16.8	22.4	3.6	2.57
The contents of the lecture are clearly understood in the online classes. (P6)	11.8	39.1	19.1	25.7	4.3	2.71
I can take class notes in online classes like I used to take in traditional classes. (P7)	10.5	43.1	12.8	30.3	3.3	2.73
Online assignments helped me understand the course contents. (P8)	10.5	31.9	20.1	33.6	3.9	2.88
I have more flexibility in online classes than in traditional classes. (P9)	19.1	47.3	15.8	15.5	2.3	2.35
The opportunity of participating in online classes is beneficial in this pandemic. (P10)	5.9	14.5	16.8	47	15.8	3.52
I will participate in all the online classes. (P11)	7.6	19.7	20.7	43.8	8.2	3.25
I will recommend my friends to participate in online classes. (P12)	4.3	12.2	24.3	49.3	9.9	3.48

Strongly Disagree = 1, Disagree = 2, Undecided = 3, Agree = 4, strongly agree = 5

TABLE 3 | *t*-test result specifying the connection between perception score and demographics.

Variable	Perception score	Test statistic value (t)	*p*-value (one tail)
	Mean		
1. Gender			
Male (201)	33.53	−2.67	0.004
Female (103)	36.42		
2. Residence			
Rural (199)	33.88	−1.73	0.04
Urban (105)	35.69		
3. Device used			
Mobile (280)	34.22	−1.87	0.03
Laptop/PC (24)	37.83		
4. Network used			
Mobile network (240)	33.79	−2.45	0.008
Broadband connection (64)	37.20		

the device used, and types of network used in accessing online education. The study had conducted among the students of Islamic University, Kushtia, Bangladesh. As we know, the Bangladeshi educational system follows the traditional face-to-face learning method (Uzzaman et al., 2020; Rahman et al., 2021). However, all educational activities are operating online during this COVID-19 pandemic (Rahman et al., 2021). Therefore, the study demonstrated the perceptions and problems of online classes in the view of public university students.

The research finding reveals that most students face difficulty accessing online classes and communicating with teachers and classmates during online classes (**Table 2**). However, these findings had supported by some previous studies carried outside of Bangladesh, such as Kapasia et al. (2020) in India, Subedi et al. (2020) in Nepal. Students also faced problems accessing online classes due to the low speed of the internet in rural Bangladesh (**Table 2**). Sometimes, they disconnected from online class due to electricity and faced challenges communicating with teachers and classmates, and the argument had supported by similar studies in Nepal (Subedi et al., 2020). On the other hand, Blizak et al. (2020) mentioned that students faced difficulty participating in online classes due to the lack of gadgets. We also noticed similar problems among Bangladeshi students in accessing suitable devices to access online schooling. In addition, students had to do substantial home assignments that need much time to do and created obstacles in attending online classes (Online Student Survey, 2020).

The online learning system is a very uncommon and newer approach in developing countries like Bangladesh (Gopal et al., 2021). According to this study's findings, most students say that they are not equally challenged in an online class and do not learn equally in online classes as they would be sitting in traditional

classes. Most students say that class contents were not clearly understood and could not take class notes during the class time regarding class contents and class notes. Most of them also found online assignments not helpful (**Table 2**). These results are stable with several previous studies conducted in other part of the world, including Saudi Arabia, Jordan and India, (Alawamleh et al., 2020; Bisht et al., 2020; Khalil et al., 2020).

Moreover, most students face difficulty understanding class contents, lectures, and sometimes getting proper study materials in an online learning system. Participants also said that online classes could not create a natural classroom environment. Students missed appropriate interaction with classmates and instructor (Online Student Survey, 2020), which had also claimed in several previous studies (Bisht et al., 2020; Khalil et al., 2020). On the contrary, Alawamleh et al. (2020) and Blizak et al. (2020) found that most students preferred traditional direct classes in the classroom instead of virtual classes. In addition, those studies found that participants did not discern comfort in virtual classes, and participants argued that conventional classes are better than online classes. Our study also found similar claims among Bangladeshi students (Online Student Survey, 2020).

We know that there is no alternative to online classes to conduct the e-learning process. Neverthless, as a developing country, Bangladesh faces some issues while conducting online classes (Al-Amin et al., 2021). Still, online classes are very fruitful for students in a pandemic situation (Dhawan, 2020). Our study's findings sketched that most students think that the opportunity to participate in online classes is beneficial instead of some drawbacks. They will also participate in all the online classes and recommend their friends to participate in online classes (Online Student Survey, 2020). This finding is similar to that from other studies conducted globally. For instance, Subedi et al. (2020) investigated that online classes are time-consuming; but at the same time anybody can take part in online classes at any time, which saves time and minimizes the risk of infection and disease transmission. Another study claimed that students feel comfortable and flexible in online learning and can save more time and get enough time for homework (Khalil et al., 2020). The finding is also dependable with another study conducted by Kim et al. (2005) before pandemic. Kim et al. (2005) mentioned that most students positive opinions about online classes and online classes were very flexible. They would motivate their friends and peer groups in participating in online classes (Kim et al., 2005).

In terms of perception scores, the study noticed that female students had a more positive perception of virtual class than male students (Online Student Survey, 2020). Our finding is quite similar to a previous study conducted by Bisht et al. (2020), revealing that female students quickly adopted online learning and felt more flexible in e-learning education and thought online assignments were easier than male students. Some other factors may be associated with this surprising result (Bisht et al., 2020). Our current study indicates that regarding residence, students residing in urban places have a more positive perception towards online classes than rural areas, which also matches with the study findings of Bisht et al. (2020). Bisht et al. (2020) found that rural areas students are getting less access to the internet, which is the possible reason for less positive perception of the rural students than urban students. Our finding is similar to some previous studies as well. For example, Demuyakor (2020) observed that the slow speed and high cost of internet package create disturbance in online learning. Most developing countries do not have modern facilities in the network system, and in rural areas, mobile networks and internet systems are very miserable. Due to a lack of high speed internet and cellular network in rural regions, most learners cannot continue their virtual classes.

Additionally, rural students do not have the proper capacity to buy mobile and laptop for online education, and most of the students have vital financial problems. Sometimes they cannot take part in online classes due to the lack of gadget and rickety signals of the internet and insufficiency of wireless internet connection (Demuyakor, 2020; Xue et al., 2020). On the contrary, Agung et al. (2020) explained that internet connection and electricity supply are volatile in the village area, and students have to pay the additional cost for internet connection. Therefore, they are very anxious about their current situation. In our study, we also found similar results.

The online class is the only medium to continue education in the middle of this pandemic situation (Mishra et al., 2020). However, overall we found that few students benefit from online classes, and most of them face some troubles. In addition, online schooling has created discrimination between rural and urban students, between laptop/PC users and mobile phone users, between broadband users and mobile network users. So our study suggests that we need to build a plan so for the students to get befitted through online classes and take necessary steps to reduce the discrimination created by online classes. In this regard, Agung et al. (2020) identified that cell phone user student's face space and speed-related problems due to small RAM size of the device, and sometimes they cannot install useful applications and software on the mobile phone due to limited space. In the authors' opinion, laptops/PC screens are more appropriate than the cell phone screen that helps clear viewing (Agung et al., 2020). It can be considered a plausible explanation of the result obtained regarding the various types of device used in online classes.

Our study results also indicate that students using broadband connections have a more positive perception towards online classes than the students using mobile networks to attend online learning (**Table 2**). A mobile network refers to a 3G or 4G network, and broadband connection means Wi-Fi or such type of connection. According to Agung et al. (2020), a broadband or Wi-Fi internet connection is more rapid than 3G/4G mobile network connection. The scenario is similar in Bangladesh. That may be why students using the broadband connection in attending online classes have a more positive perception of online classes. However, our study undergoes some limitations. We only looked at the public university student's attitudes toward online classes at one university in Bangladesh. The study also did not explain the other factors that might influence exercising online classes, such as student's

psycho-social conditions during this pandemic, the student's financial needs, the internet, and electricity problem, also did not discuss which way the students can handle the situation but indirectly discussed those problems which need to be solved.

CONCLUSION

Historically, Bangladesh's education system follows conventional face-to-face or in-class schooling in almost all education institutions, including schools, colleges, and universities. Nevertheless, after the declaration of closure of educational institutions since the emergence of the COVID-19 pandemic, the government has focussed on online-based schooling in Bangladesh's educational institutions. Therefore, both the teachers and students are trying hard to get accustomed to this newly introduced practice. Although they have become familiar with the technique, many factors are still raising challenges for successfully utilizing this online schooling technique. However, the online class is still the only medium to continue education in the middle of this pandemic situation when the government has imposed school closure, and countrywide lockdown started.

Through this study, we tried to explore the perceptions of public university students towards the online schooling process. However, we have received a mixed result. Although few students are getting benefitted from online classes, most of them face some troubles. For instance, online schooling has created discrimination between rural and urban students, between laptop/PC users and mobile phone users, between WI-FI users and mobile network users. Thus, a sustainable learning and teaching medium is affected.

Moreover, students cannot interact with the teachers and their classmates during online classes. The group work opportunities among students are also restricted. The availability of high-speed broadband or cellular internet connection is rare outside the city areas; thus, students in rural areas are continuously facing trouble getting a stable internet connection. Therefore, their participation in online schooling is often affected. Rural areas also face issues with electricity connection which is an additional burden. Moreover, students often do not have electronic gadgets to participate in online classes effectively. Nonetheless, we revealed that female students had more positive attitudes toward virtual classes than male students.

In this pandemic situation, online schooling is the only means of communication for continuing education. Overall, few students are getting benefitted from online schooling, and most of them face some troubles. Online teaching has created discrimination between rural and urban students, between laptop/PC users and mobile phone users, between WIFI users and mobile network users. So our study suggests that government should build a comprehensive plan so for the students to get befitted through online classes and take necessary steps to reduce the discrimination created by the online schooling system.

As there is no alternative option to reduce the risks of disease transmission among the students during the pandemic situation, the government should take deliberate actions to overcome the challenges that students face nowadays. It is highly appreciated that the government has started broadcasting classes for the school-going students through television and radio, but some improvement in the action plan is still possible. There is no concrete guideline or policy available to help educational institutions take sustainable actions during the pandemic to keep the education services going on. Thus, we suggest the decision-makers prepare appropriate policies to deal with such challenging situations, particularly in providing schooling to students. We also recommend that the government build a robust plan for the student get benefited through online classes and take necessary steps to shrink discrimination created by online classes. The outcomes of this study might be helpful for national policymakers for future intervention planning in educational institutes.

LIMITATION

This study's primary restraint was that the survey was operated by only a small portion of participants in Islamic University, Kushtia, Bangladesh. The study only explored public university student's perceptions towards online classes during the COVID-19 pandemic in one single University in Bangladesh.

Our estimated sample size for this research was 390. For the desired number of responses, we forwarded an online survey form to 408 students. However, regrettably, only 304 of them responded. In order to increase the response rate that is to reach the target 390 responses, we had to pick randomly from another group of students, which would eventually violate our whole goal and may create biases. So, that is why to go according to the plan; the sample size had not extended. We analyzed only the obtained responses of 304 students. So the sample size remained at 304.

We also did not explore the other factors that may influence online schooling, such as student's psycho-social and socioeconomic conditions during this pandemic, access to electricity and other relevant provisions We also did not explain how to resolve the problems and how students can cope.

ETHICAL ISSUE

Before gathering data from the students, the research objectives were told to the respondent. We also guaranteed the confidentiality of their information. The respondents were also informed that participation in this study is a voluntary contribution. He/she can quickly opt-out of the research, and this decision will not affect the students. Besides, any questions, which will help to identify the participant, were not asked.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

SS conceptualized the study; SS and PD carried the literature review, coordinated data collection; PD analyzed the data using SPSS; SS and PD drafted the article. MR revised the article. MR and MZ supervised analysis and commented on the improvement of the article. MR and MZ reviewed the manuscript and approved it.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/feduc.2021.703723/full#supplementary-material

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