Psychological impact of online learning among private university students in Bangladesh during COVID-19 pandemic

Submitted By

Sajib Paul
17146064

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Bachelor of Pharmacy (Hons.)

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Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

Student's Full Name & Signature:

15.08.2021

Sajib Paul
17146064

Approval

The thesis/project titled “Psychological impact of online learning among private university students in Bangladesh” submitted by Sajib Paul (ID-17146064) of Spring, 2017 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Bachelor of Pharmacy on 30.08.2021.

Examining Committee:

Supervisor:
(Member)

Dr. Afrina Afrose
Assistant Professor, Department of Pharmacy
Brac University

Program Coordinator:
(Member)

Dr. Hasina Yasmin
Professor and Deputy Chair,
Department of Pharmacy
Brac University

Departmental Head:
(Chair)

Professor Dr. Eva Rahman Kabir
Chairperson, Department of Pharmacy
Brac University

Ethics Statement

No harm to any animal was done on this survey. All the responses were collected from individuals with their full consent and willingness.

Abstract

In this study, the psychological impact of online learning among private university students has been investigated. Besides, the significant relationship between mental state and anxiety level have been assessed. The online survey was conducted 8 months later of shifting education to online. 93.2% of students (N=521) found online learning more stressful than traditional education. Tension about tuition fees and higher anxiety worsen anyone's mental state (p-value is 0.016<0.05). Moreover, higher anxiety level decreases the level of interest among students (p-value= -0.3). 82.4% of students get anxious due to poor internet connectivity. Along with psychological distress the study found students faced physical problems such as eye problems (72.36%), hearing difficulties (49.3%) and high blood pressure (40.3%). An increased rate (39.58%) of self-medication has been found. This study recommends the policy makers to bring some changes in online learning to make education more imperative for health.

Keywords: Psychological impact; online learning; traditional education; psychological distress.

Dedication

Dedicated to my mother who is the most important person in my life.

Acknowledgement

The mercy and blessings bestowed by the most gracious and merciful Almighty Allah is the reason of our strength and courage and who has guided me to continue this far and complete my studies with full diligence. I pray and hope to reflect my potential in this project in a positive way.

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List of Acronyms

WHO	World Health Organization
SPSS	Statistical Package for the Social Sciences
DASS	Depression, anxiety and stress scale
USA	United States of America
BP	Blood pressure
COVID-19	Coronavirus diseases of 2019

Chapter 1: Introduction

1.1 Background

Humans are said to be the creatures of habit. We feel comfortable to lead life smoothly. If there is any disruption in the normal flow of life, we often become anxious and hopeless. Moreover, in any emergency situation such as pandemic, epidemic etc. normal flow of human life is hampered. As a result, the mental health of the affected group becomes worse. During the coronavirus outbreak many people have lost their dear and near ones around the world. Many people have become jobless. Many companies have gone bankrupt. As a result, there is economic breakdown all over the world. The economic condition in undeveloped and developing countries is the worst. Moreover, the newer variants of coronavirus are throwing us all in the dark of fear every day. The number of deaths of COVID-19 patients are increasing around the world. The World Health Organization recommended washing hands frequently, maintaining personal distance, to avoid crowds for preventing coronavirus transmission (Unger & Meiran,2020). As a result, many countries went on lockdown and imposed many restrictions on movement within and outside the country. Since many countries have gone on lockdown, people of many countries are working from home. Besides, most of the countries have shut down educational institutions to prevent the transmission of the diseases. As a result, many countries have shifted their education from face-to-face to online (Unger & Meiran,2020). Recorded video classes were telecast for school students in Bangladesh. Moreover, private universities in Bangladesh are continuing their activities on various platforms. However, this transition of education system is new for both teachers and students in our country.

1.2 Research gap

Being students of a developing country, it has become a challenge to attend online classes for the university students of Bangladesh. Moreover, students are also struggling to cope with this

new platform of learning (Aboagye et al.,2020). Although few studies suggest increased anxiety among undergraduate students of different countries in this ongoing pandemic, limited studies have been done on the impact of online learning in a developing country like Bangladesh. As a result, the psychological impact of online learning in Bangladesh is still unknown. Moreover, which factors are associated with poor mental health due to online learning are also unknown. Besides, the satisfaction of the students about online learning in Bangladesh is not determined by any study yet.

On the other hand, it is very important to conduct a study to know the psychological impact of online learning because we might need to continue online learning for a long period of time until the pandemic is over. So, we have investigated the psychological impact of online learning among private students of Bangladesh. We have precisely determined the factors which are responsible for increasing anxiety and anger among students. Our study also will tell if there is any significant relationship between anxiety and other associated variables. Lastly, the study will suggest some recommendations given by the participants to make online learning compatible with their mental health.

1.3 Objectives

The main objective of the study is to investigate the psychological impact of online learning. Furthermore, the study aims to find out the factors that increase anxiety among the private university students of Bangladesh.

Objective 1: To determine the psychological impact of online learning

Objective 2: To determine the factors associated with increased anxiety

Objective 3: To determine the correlation between anxiety and participant's interest in online learning

1.4 Significance of the study

Mental health is no less equal than physical health. Every educational institution values their student's well-being. Improving the quality of online learning has become a necessity during this pandemic. Therefore, effective interventions need to be done by the policy makers to re-design online learning so that the outcome of online learning becomes fruitful. It will also increase the participation of students in online learning at a satisfactory level. Furthermore, university authorities may take necessary steps to arrange counselling for the vulnerable students

Chapter 2: Literature Review

2.1 Online learning and COVID-19

According to the World Health Organization the first case of coronavirus disease abbreviated as COVID-19 was reported from Wuhan, China, on 31 December 2019. On Sunday,8th March,2020 three patients were tested positive with coronavirus infection as the very first cases in Bangladesh. Due to the rapid transmission of coronavirus, an announcement was given by WHO on 18th March, 2020 addressing the dangerous situation as pandemic. Educational institutions were shut down in different countries to minimize the transmission rate of the virus. On 17th March, 2020 all schools, colleges and universities were shut down according to the direction of the Bangladesh government following the COVID-19 outbreak. Moreover, many countries went on lock down all over the world within a few months. As a result, online learning became the alternative to face-to-face learning. Like many countries in the world, educational institutions in India shifted to online learning (Nambiar, 2020). Due to the COVID-19 pandemic Chinese universities also adopted online learning. E-learning is a necessity among students during this pandemic (Hasan & Bao,2020). But for both students and teachers it was a challenge to adopt e-learning smoothly. Therefore, it was very important to adopt new teaching methods to increase the quality of distance learning (Dhawan, 2020). In this regard, Google services could be very helpful in online education being an alternative to traditional classroom (Basilaia et al.,2020). In Bangladesh mostly private universities continued educational activities online using Google classroom, Zoom, WhatsApp, Discord and many other platforms at the very stage. Later on, video classes were broadcast on television for the school students. However, e-learning was fully accomplished in Hong Kong in 2002 and 2008 to combat SARS and H1N1 incidents. During the COVID-19 since the education system was shifted online in the United States most of the students highly confirmed the increase of anxiety level and the worsening of mental state (Unger & Meiran, 2020). But the psychological impact

of online learning among university students in Bangladesh is still unknown. As the universities have been conducting online education for so long the actual psychological impact should be investigated.

2.2 Psychological impact of online learning

Online learning is a new platform for both the students and teachers. We are all facing challenges to adopt e-learning. Students have negative impacts of online education although it is the best alternative to traditional education at present (Rohman et al.,2020). Anxiety, depression, and frustration were found previously before the pandemic. Since we are going through very hard times due to the pandemic the psychological impact of e-learning is unknown in Bangladesh. Anxiety is found in many students taking part in online learning (Unger & Meiran,2020). WHO (2020) confirmed the increase of anxiety and stress among all walks of people around the world during the COVID-19 pandemic. Many studies found harmful mental impact during previous pandemics like SARS (Pragholapati,2020). Students become more anxious in online education compared to conventional education which is run using different teaching procedures in the classes of different types of educational institutions (Basilaia et al., 2020). Although many effective technological tools are there for making online education effective, the effects of online learning may vary from students to students (Anderson, 2005). Many studies found harmful mental impact during previous pandemics like SARS (Pragholapati,2020). The students who are closer to COVID-19 face more fear and anxiety (Pragholapati,2020). During COVID-19 pandemic it was found by a study that anxiety, fear, depression was notably increased among Chinese students in China (Ahmed et al., 2020) where the same situation was found in Bangladesh shown by a recent study. Besides, the mental state is worse in the age group of 21–30-year-old who are mostly students at different colleges and universities of Bangladesh (Ahmed et al,2020). Although all walks of people face many mental problems, the students participating in e-learning face a worse situation as they need to take

the extra burden of studies. The negative mental impacts can be related to creating physiological problems as well. High anxiety and stress were increased among the students in the USA (Unger & Meiran, 2020). Hence, the real psychological impacts should come to light for the well-being of the students. Considering the impacts, the policy makers would be able to think about designing the framework of online education in Bangladesh.

2.3 Factors associated with anxiety and stress

Many studies found different factors associated with higher anxiety and distress among students who took part in online learning. In many developing countries the internet connection is not stable. As a result, interrupted and poor internet connectivity works as a hindrance in emerging e-learning (Tagoe,2012). Live class on different online platforms cannot be done due to poor internet connection. Moreover, students lose interest in e-learning. Thus, poor internet connectivity is considered a challenge for the students of developing countries (Aboagye,2020). Students participating in e-learning may have poor or no internet connection at the time of oral presentation and submitting their answer script. For these reasons students have to be tensed throughout the whole duration of a timed assessment. But the actual impact of poor internet connectivity as a factor in increasing anxiety is still unknown in Bangladesh. Studies revealed that technophobia is closely related with higher anxiety (Gordon et al.,2003). Having a computer was found to be an essential factor in e-learning (Tagoe,2012). Lack of devices such as smartphones or personal computers might be a factor for being anxious among the university students of Bangladesh. Unavailability of a computer also was found as an important factor associated with anxiety (Rosen et al.,1995). Moreover, one study determined the influence of computer skill in perceiving online education (Jashapara et al.,2006). Lack of experience of using a computer can create computer anxiety and this anxiety leads students to be highly anxious in e-learning (Upadhyaya & Mallik,2013). Disruption of normal flow of education and study plan is one of the prominent reasons for the increase of fear and anxiety in

Bangladeshi students where economic states also associated for paying tuition fees who are studying at private institutions (Islam et al., 2020). Many researchers determined some demographic factors as well. In this regard, in the exhibition of anxiety, there is an association of gender where females are more anxious and stressed at online learning (Nayan et al.,2017). In addition, one recent study confirmed the increased anxiety level among undergraduate students who were under 35 (Huang & Zhao, 2020). But the anxiety level of undergraduate students during this pandemic is still unknown. However, there might be some other associated factors such as timed assessment, oral assessment and tuition directly associated with higher anxiety and stress among university students in developing countries like Bangladesh. Unfortunately, the association of other factors are still unknown.

2.4 Problems faced by the participants due to online learning

Students doing online activities for a long time may face various psychological and physical problems. Nobody was adjusted to use devices for a long period of time like now. Moreover, students need to do a lot of screen-based activities to complete their semesters. As a result, many students may face various problems in Bangladesh which are unknown to all. Undoubtedly the problems should be investigated to make online learning effective for all in Bangladesh.

2.4.1 Eye problem

Both teachers and students involved in online learning have to use computers or laptops for a long time regularly. Unfortunately, people who use computers for a prolonged time on a regular basis may face various eye syndrome (Noreen et al.,2016). Furthermore, computer vision syndromes are found among regular computer users (Logaraj et al., 2014). Thus, it is very clear that students participating in online learning may face eye syndromes which are unknown but important to be determined.

2.4.2 Headache

Headache is a very common syndrome for long time computer users (Noreen et al.,2016). Regular use of headphones is another reason for suffering from headaches. As a result, it should be investigated if the students in Bangladesh face this problem or not.

2.4.3 Hearing difficulties

Online learning students use headphones or speakers with a view to getting audible and clear sound of the classes. Unfortunately hearing difficulties are seen among the headphone's users (Stam et al., 2014). Students may lose the power of hearing gradually which would be very harmful for every individual.

2.4.4 Back pain

Students participating in live classes on various online platforms need to be seated in front of the camera to ensure their presence in the class. A student suggests that sitting in the straight up posture for a long time may cause back pain (Logaraj et al.,2014). However, individuals having low back pain may have to face worse conditions. The prevalence of back pain due to online learning needs to be investigated.

2.4.5 Frustration

Psychological distress can be a result of prolonged use of computers. Moreover, students often get frustrated if their marks from different assessments fail to meet their expectations. In addition, failure of attending any online activities may cause frustration. Students in online learning get frustrated for various reasons (Artino et al., 2012).

2.4.6 High blood pressure

Higher anxiety and back pain may cause high blood pressure. A study determined the association of high blood pressure with higher anxiety level and pain (Tanabe et al.,2016). Moreover, a student may get hypertensive due to online activities. Undetermined hypertension can be one of the reasons for high BP (Tanabe et al.,2016).

2.4.7 Dizziness

Studies revealed that participation in online learning causes psychological distress (Artino et al.,2012). Psychological distress, poor interest in online activities can cause dizziness among students. Moreover, many students may find online learning monotonous. As a result, dizziness can be a problem faced by students. However, the prevalence of dizziness among the university students in Bangladesh is still unknown.

2.4.8 Sleeping problem

Students complete their assignments, quizzes etc. using mobiles and computers in online learning. A study revealed that 77% of adolescents involved in screen-based activity for a long-time face sleeping problems (Hale et al.,2015). Change of sleeping patterns can be found among the students doing online activities.

2.4.9 Increased anger

High anxiety levels can increase anger. Similarly increased anger may be associated with worsening relationships with friends and family members (Rohman et al.,2020). However, the association of increased anger with students of Bangladesh during this pandemic is still unknown. Moreover, the association of higher anxiety levels with relationships with family members also needs to be determined.

2.5 Steps taken by students to get recovery

Usually, people suffering from different physical or psychological problems consult a physician or psychiatrist. The practice of self-medication also has been practiced for a long time. On the other hand, many people at the very beginning of their disease stage do nothing. However, the medication pattern among university students in Bangladesh is unknown. The steps taken by the students need to be investigated.

2.5.1 Consultation with physicians and psychiatrists

The prevalence of psychological distress and physical problems will lead individuals to consult the psychiatrist and physicians depending on the severity of the diseases. Since, during pandemic people suffer more from psychological distress, the rate of counseling might be increased. A study emphasized the contribution of psychiatrists to help people who are suffering from psychological distress during COVID-19 pandemic (Luykx.,2021). The study also highlighted the importance of meeting a psychiatrist to mitigate extreme anxiety and anger. As a result, the rate of meeting psychiatrists might have increased nowadays in our country which is unknown to all. On the other hand, students having different physical problems such as high blood pressure, eye syndrome, dizziness, back pain must consult physicians. Due to lock down and quarantine, the practice of telemedicine for consulting physicians also gets increased. Therefore, a study ensured that the practice of telemedicine has been increased around the world in COVID-19 pandemic (Pinar et al.,2020).

2.5.2 Self-medication

The rate of taking self-medication has been increased during the on-going COVID-19 pandemic (Malik et al.,2020). People have started taking self-medication as they have less access to effective treatment going to the hospitals nowadays (Mudenda et al.,2020). Being quarantined is another reason for taking self-medication.

2.6 Recommendations to make online education more compatible with your mental health

Internet connectivity must be improved by the operators to run e-learning smoothly (Aboagye.,2020). Computers, laptops and smartphones should be distributed to the needy students (Aboagye.,2020). Government should distribute those devices among poor students. Workshop should be conducted to mitigate computer anxiety among students (Chien.,2008). Maintaining good communication with teachers is important to remove examination anxiety (Ajmal et al.,2019). Teachers should encourage students to attend classes regularly (Soni.,2020). Moreover, the quality of E-learning should be developed (Soni.,2020).

Chapter 3 Methodology

3.1 Research design

The study is performed to collect online-based data on private university students in Bangladesh. The population of the study is 10 million. 95% confidence level and the confidence interval 4.37 were used to determine the required sample size. The required sample size is 521. 521 undergraduate and postgraduate students of different private universities (age group between 16-40 years old) participated in the online survey. The research was solely done to investigate the impact of online learning and the association of the factors. A pilot study was done before starting the survey of the total sample.

3.2 Data collection

A structured and well-reviewed questionnaire was prepared by using Google Form and the link was disseminated to the appropriate students using various online social media such as Messenger, Facebook, WhatsApp and Emails. The questionnaire was prepared using the DASS-21 scale. The full consent regarding the survey was taken from the participants prior to responding. Nobody was forced to participate in the survey. Total 550 students responded and some responses were excluded due to irreverent data. Finally, 521 responses were taken for the analysis. The survey was conducted from 1st January to 20th January of 2021.

3.3 Data analysis

Descriptive analysis was done to understand the demographics of the participants. Multiple regression was done to determine the association between dependent and independent variables. The significant relationships between different variables and factors were done using Pearson Correlation. Simple percentage distribution was done to assess the prevalence of the physical and psychological problems. All the analyses were done using IBM SPSS 27.

Chapter 4: Results and Discussion

4.1 Participant's characteristics

From 521 participants (Table 1) there were 11.7% participants between 16-20 years, and 87.3% were between 21-25 years, 1% of total participants were between 26-30 years old (Table 1).

Table 1: *The percentage and the frequency of the participants of the different age groups*

Age group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-20 years	61	11.7	11.7	11.7
	21-25 years	455	87.3	87.3	99.0
	26-30 years	5	1.0	1.0	100.0
	Total	521	100.0	100.0	

Out of 521 participants 272 participants were female and 249 participants were male (Table 2).

Table 2: The percentage and the frequency of the male and the female participants

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	272	52.2	52.2	52.2
	Male	249	47.8	47.8	100.0
	Total	521	100.0	100.0	

4.2 Association between the dependent variable (mental state) and the independent variables (tuition fee and level of anxiety)

Multiple regression was used to determine the association between the dependent variable (mental state) and the independent variables (tuition fee and level of anxiety) to predict the

mental state. It was found that mental state is affected by tuition fee and anxiety. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. First, boxplots indicated that each variable in the regression was normally distributed, and free from univariate outliers. Second, an inspection of the normal probability plot of standardized residuals and the scatterplot of standardized residuals against standardized predicted values indicated that the assumptions of normality, linearity (Figure 1), and homoscedasticity of residuals were met. The determined p-value is 0.016<0.05. As a result, the data predict that there is a strong association between the dependent variable (mental state) and the independent variables (tuition fee and anxiety).

Table 3: *The significant association between the dependent variable (mental state) and the independent variables (anxiety and tuition fees)*

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.998	2	4.999	4.196	.016[b]
	Residual	617.092	518	1.191		
	Total	627.090	520			

a. Dependent Variable: Mental state

b. Predictors: (Constant), tuition fee, Anxiety level

Table 4: *The significant correlations between the dependent variable (mental state) and the independent variables (anxiety and tuition fees*

Correlations

		Mental state	Anxiety level	tuition fee
Pearson Correlation	Mental state	1.000	.108	.070
	Anxiety level	.108	1.000	.043
	tuition fee	.070	.043	1.000
Sig. (1-tailed)	Mental state	.	.007	.055
	Anxiety level	.007	.	.166
	tuition fee	.055	.166	.
N	Mental state	521	521	521
	Anxiety level	521	521	521
	tuition fee	521	521	521

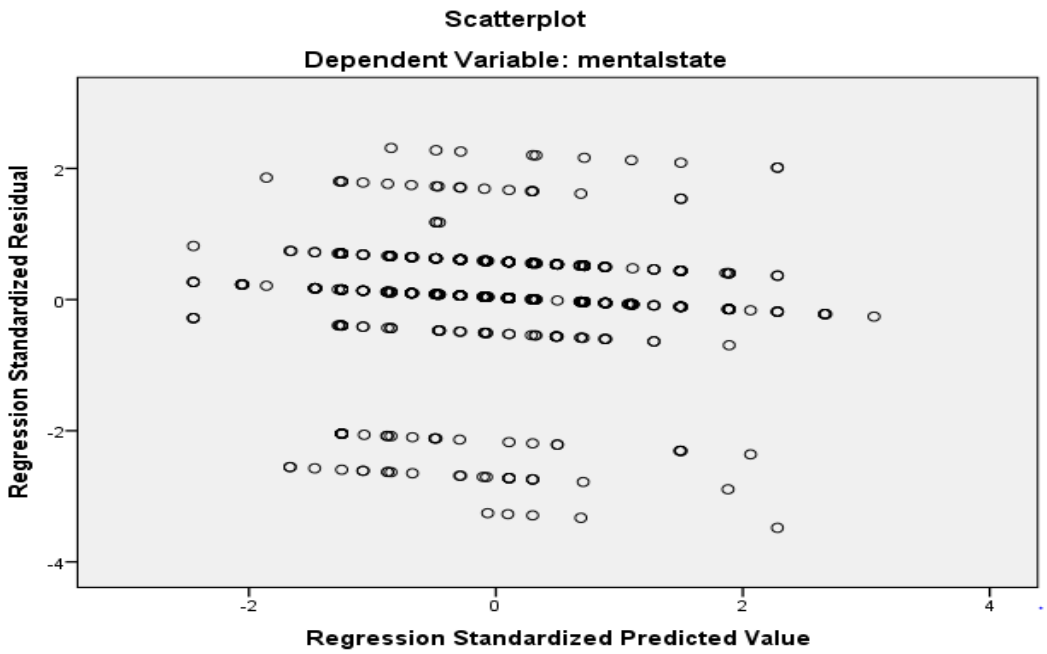

Figure 1: The scatterplot of the dependent variable

4.3 Determination of the significant relationships of various variables

4.3.1 Determination of the significant relationship between anxiety and tuition fee using Pearson Correlation

To assess the size and direction of the linear relationship between the level of anxiety and tuition fee, a bivariate Pearson's product-moment correlation coefficient (r) was calculated. The bivariate correlation between these two variables was positive and robust, r (521) =0.31, p<.001 (Table :5). The p-value suggests that there is a moderately positive significant relationship between the level of anxiety and tuition fee. Before calculating r, the assumptions of normality, linearity, and homoscedasticity were assessed and found to be supported. The participants who were tensed for paying tuition fees had experienced a higher level of anxiety.

Table 5: *The Significant correlation between the level of anxiety and tuition fee*

Correlations

		Anxiety	Tuition_fee
Anxiety	Pearson Correlation	1	.322**
	Sig. (2-tailed)		.000
	N	521	521
Tuition_fee	Pearson Correlation	.322**	1
	Sig. (2-tailed)	.000	
	N	521	521

**. Correlation is significant at the 0.01 level (2-tailed).

4.3.2 Determination of the significant relationship between level of anxiety and relationship with family members using Pearson Correlation

The p-value was calculated (Table 6) using Pearson Correlation between two independent variables, which were level of anxiety and the relationship of participants with family members.

Table 6: *The significant correlation between the level of anxiety and the relationship with family members*

Correlations

		Level of anxiety	Relationship with family members
Level of anxiety	Pearson Correlation	1.00	.25**
	Sig. (2-tailed)		.00
	N	521.00	521.00
Relationship with family members	Pearson Correlation	.25**	1.00
	Sig. (2-tailed)	.00	
	N	521.00	521.00

**. Correlation is significant at the 0.01 level (2-tailed).

The p-value is 0.25, $p<0.01$, which violates the null hypothesis and suggests a relatively positive significant relationship between the mentioned independent variables. Thus, the statistics predict that participants suffering from higher anxiety had a bad to relatively worse relationship with their family members due to participating in online education.

Table 7: *The significant correlation between the level of anxiety and the level of satisfaction*

Correlations

		Level of anxiety	Level of satisfaction
Level of anxiety	Pearson Correlation	1	-.304**
	Sig. (2-tailed)		.000
	N	521	521
Level of satisfaction	Pearson Correlation	-.304**	1
	Sig. (2-tailed)	.000	
	N	521	521

**. Correlation is significant at the 0.01 level (2-tailed).

4.3.3 Determination of the significant relationship using Pearson Correlation

The p-value was calculated (Table 7) to determine the relationship between the level of anxiety and the level of satisfaction of the participants using Pearson Correlation. Hence the p-value = -0.3, violates the null hypothesis and estimates that there is a negative and moderate relationship between the mentioned variables. As a result, the data predict that when the anxiety level rises among students participating in online education, their satisfaction level decreases. Thus, the level of satisfaction is inversely proportional to the level of anxiety. Similarly, another negative and moderately significant relationship was determined between the level of anxiety and level of interest (Table 8).

Table 8: *The significant correlation between the level of anxiety and the level of interest*

Correlations

		Level of anxiety	Level of interest
Level of anxiety	Pearson Correlation	1	-.313**
	Sig. (2-tailed)		.000
	N	521	521
Level of interest	Pearson Correlation	-.313**	1
	Sig. (2-tailed)	.000	
	N	521	521

**. Correlation is significant at the 0.01 level (2-tailed).

4.4 Factors that lead to an increase in anxiety level

Participants reported that poor internet connectivity was the main reason to get nervous and anxious about any online activities. Moreover, typing speed using a laptop and computer was not the same for all participants. As a result, participants with slow typing speed felt more nervous about completing online examinations on time. Besides, timed assessment, unavailability of devices, poor operating skills were also associated with the increase of anxiety and nervousness among many of the participants (Figure 2).

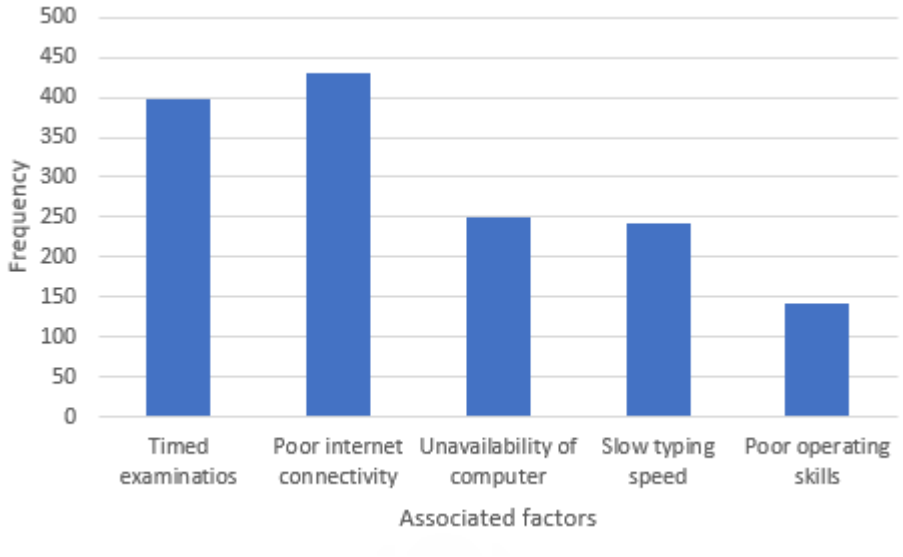

Figure 2: Histogram of the factors associated with anxiety

4.5 Participants faced problems due to online education

377 participants faced eye problems out of 521 participants, where 257 participants faced hearing difficulties. Moreover, 364 participants got frustrated due to online education. Besides, 47.21% of participants reported increased anger where 256 participants felt dizziness, and 56.63% of participants had sleeping problems such as insomnia, changes in sleeping patterns, etc. On the contrary, 19 participants out of 521 had faced no problem at all (Figure 3).

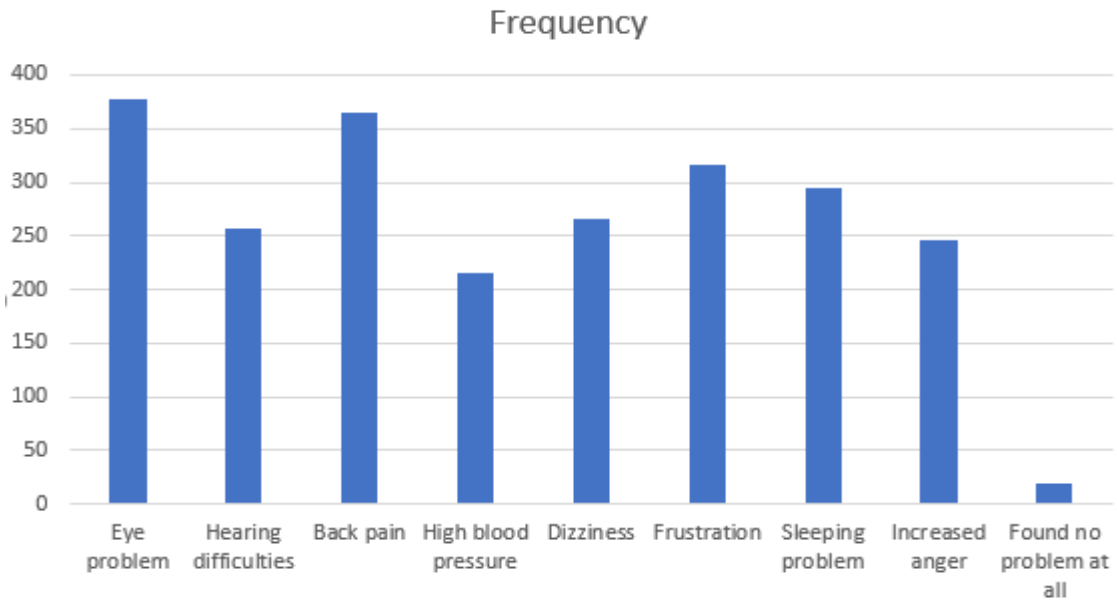

Figure 3: Histogram of the problems

4.6 Steps taken to get recovery from the physiological and psychological problems

39.58 % of participants took self-medication which reflects that a high number of people nowadays are taking self-medication. Besides, 19.48% of participants consulted physicians and 14.2% of participants consulted psychiatrists. On the other hand, 26.74% of participants did notice to come round (Figure 4).

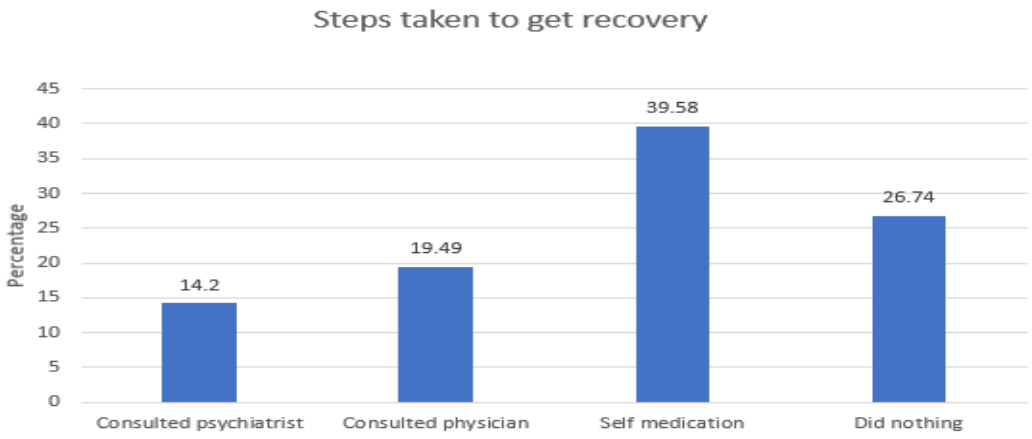

Figure 4: Histogram of the steps taken by participants

4.7 Previous findings and the association of the factors

According to the data, online education gives a negative psychological impact (Unger et al.,2020). Students suffer from various psychological distress such increased anger, stress, depression and anxiety. The data also suggest the association of some factors (timed assessment, poor internet connectivity, poor operating skill, etc.) to increase anxiety, fear, and depression among students. Students lose interest in online learning when the anxiety increases. Poor internet connectivity has been found as one of the most important reasons for being anxious (Aboagye.,202). After participating in online education many students have to consult psychiatrists and physicians to get rid of the problems. However, most of the students take self-medication at home (Malik et al.,2020).

4.8 Limitations

1) 521 sample size was used for the study. A larger sample size may increase the accuracy of the findings.

2) Conducting an online survey with big sample size is comparatively a slower process than face-to-face interview. As a result, it took a month to get the expected responds. But it would be better completing the survey withing one or two weeks.

3) Conducting a survey in the same place and same time give more accurate result. But it was not possible to maintain due to an online survey.

4.9 Recommendations

1) The number of both female and male participants should be equal.

2) There should be equal participants from all age groups to get appropriate findings.

3) The other information can be used for future analysis.

Chapter 5: Conclusion

5.1 Conclusion

Previously many studies found the negative impact of online education on student psychology (Unger & Meiran,2020). Our study also found the same. Students have increased anger, anxiety and depression. As a result, there is a transition in mental state from good to worse. Previous studies found an association of many factors in increasing anxiety such as unavailability of computers, lack of computer skill, and poor internet connectivity (Upadhyaya & Malik,2013). However, along with all those factors our study has found timed assessment as an important factor to increase anxiety. Moreover, being private university students, most of them remain tensed about paying tuition fees. The negative mental effects decrease the level of interest in online learning. As a result, students frequently remain absent in online classes. However, many students dropped their semesters initially. Many students took fewer courses as well. Previous studies found relationships of the students going to be worse and our study found the same. Students face many physical problems including eye problems, hearing difficulties, back pain, high blood pressure etc. A change in sleeping pattern was found among the vulnerable students. Moreover, students get frustrated when they fail in completing an online examination timely. However, a small group of students found no problem at all. Previous data suggested keeping a good relationship with teachers decreases the level of examination anxiety (Rohman et al.,2020). In addition, in my study students recommended to reduce class time during pandemic, to ensure break time between classes, to reduce syllabus and to reduce total number of assessments. The students also highly recommended teachers to teach more compassionately.

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Appendix

A survey form

Project name: Observation of the impact of online learning among the private university students during Covid-19 pandemic in Bangladesh.

Name: Sajib Paul ID - 17146064 University - Brac University

Participants: Current private university students

Project Supervisor: Dr.Afrina Afrose, PhD, Assistant Professor, Department of Pharmacy, Brac University.

*Required

Disclaimer: All the data for this survey will be used for research purposes only. The subject's name and identity will not be disclosed in any research publication. I acknowledge that I have been asked to participate in a survey regarding social media usage. This survey is conducted by Sajib Paul. I understood the disclaimer and agreed to participate willingly. *

*Necessary

Give your email address *

Name of participant *

1.What is your age group *

- 16–20 years
- 21–30 years
- 31-40 years

2. What would you say your gender is *

- Male
- Female
- other

3. How is your health in general? Would you say it is *

- Very good
- Good
- Fair
- Bad
- Very bad

4.How satisfied have you been with online education? Please choose a number below *

0 Not satisfied

1

2

3

4

5

6

7

8

9

10 Extremely satisfied

5. Do you find online education more stressful than traditional education? *

- Yes
- No

6.To what extent do you feel mental anxiety due to online tasks (quiz, assignments, midterm, final examination)? *

0 No anxiety

1

2

3

4

5

6

7

8

9

10 Extreme anxiety

7.What does/do make you mentally more anxious and stressful? You can select multiple *

- Timed examinations
- Poor internet connectivity
- Unavailability of laptop/computer
- Slow typing speed
- Poor operating skill of devices (mobile/computer/laptops/scanner)

8.Did you do any of these due to mental pressure? You can select multiple *

- Did not attend classes frequently
- Did not attend quizzes
- Did not submit assignments

- Dropped semester
- Took fewer number of courses

9.To what extent do you find online education interesting? *

0 Not interesting at all

1

2

3

4

5

6

7

8

10 Very interesting

10.What are the problems you have found due to taking part in online education? You can choose multiple *

- Eye problem
- Hearing difficulties
- Back pain
- High blood pressure
- Dizziness
- Frustration
- Sleeping problem
- Increased anger

- Found no problem at all
- Add more

11.What have you done to get recovery from the above-mentioned problems? *

- Consulted psychiatrist
- Consulted physician
- Self-medication
- Did nothing

12.To what extent do you think your relationship with family members and friends has become worse due to the pressure of online education? *

0 Same as before

1

2

3

4

5

6

7

8

9

10 Extremely worse

13.Do you feel any tension for paying your tuition fees that impacts on your mental health? *

- Yes
- No

14.What are your recommendations to make online education more compatible with your mental health? *

- Ensuring reduced class time
- Ensuring appropriate break time between classes
- Teachers being more compassionate with students
- Reducing syllabus
- Teaching in a more engaging and attractive manner
- Reducing total number of quizzes, assignment
- Add more

.