

Original Paper

Impact of Using Internet during Covid-19 Lockdown on University Students: A Study of Bangladesh Perspectives

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Abstract

Introduction: Government of Bangladesh declared lock down several times in the educational institutions for the purpose of retains the rapid speed of COVID-19. During the lockdown period students stayed in home and totally depended on internet for spending times, contract friends, attained in online classes etc. The purpose of the study is to measure the impact of long- time internet usage that brought various complications among the students in their physical and mental health during COVID-19 lockdown period. **Methods:** A structured online based questionnaire link was sent using Google forms and distributed to students via what's app and Facebook Messenger and 360 respondents were filled up the questionnaire in the period of June 2021-August 2021 COVID-19. The distribution of respondent demographic variables was investigated using descriptive statistical methods; Pearson's chi-square tests have been applied. **Result:** About 40.8% of students' perception was that COVID-19 lockdown had changed their internet usage habits a little more than the normal time. The measures of the duration of time of internet usages there was a significant change. The respondents usage increased rapidly on 5-6 hours (42.05%) and 10 hours + (32.8%) whereas it was 30.3 % and only 6.9% respectively in before the lock down. The usages of internet hampered the students in their studies, night's sleep, food habits, loneliness, frustration and depression during the lock down situation. **Conclusion:** The concern authority should take necessary steps to reduce the habit of internet usage the COVID-19 situation and motivate the students for concentrating on their studies and minimize the excessive use of the internet.

Keywords

COVID-19, lockdown, depression, frustration, loneliness

1. Introduction

There was not a single country in world which was free from affected several times of the COVID-19 pandemic and has to face lockdown by the authority of the concern. The impact of lockdown situation harms regular movement of every sector of the affected country including education sector. Bangladesh is a developing country with a lower-middle-income economy and one of the most densely populated countries in the world that are severely affected by the COVID-19 pandemic. After first COVID confirmed in March 8, the government imposes a lockdown on the whole country in several times that is started from March 17, 2020 of educational institutions that order is issued in March 16, 2020 by education ministry (betterwork, n.d.). All educational institutions were closed and would stay closed until further notice due to unfavorable impact of COVID-19. In this long lockdown situation, students remained at home for a long time period and the teaching-learning activities were running mainly based on internet (Kapasia et al., 2020). During lockdown, the impact of long-time internet usages had brought various complications to the students such as reluctance of studies, disturbing of night sleep, unwillingness to take meal timely, loneliness, frustration etc. The main objective of this study is to assess impacts of the internet on psychological behavior of university students during COVID-19 lockdown according to their provided opinions. To clarify the concepts regarding the undertaken study, the following research works have been considered to review:

In this study they only observed that depression and anxiety vary according to different variables such as gender, physical exercise, living with family, living place. They also tried to find out the main reasons behind depression and anxiety among university students during the COVID-19 (Islam et al., 2020). The conducted study was performed by investigation students' and teachers' perceptions on prolonged lockdown and academic uncertainties in Bangladesh during the COVID-19 pandemic. It delayed to obtain graduation degree resulting them mental stress and dissatisfaction (Ela et al., 2021). They conducted a study on the effects of COVID-19 on a big university students' mental health in the USA. The epidemic caused of increasing stressed and anxious of 71% pupils; 91 percent reported negative impacts of the pandemic fear and worry about their own and their loved ones' health; 89% difficulty concentrating; 86% disruptions to sleeping patterns; 86% decreased social interactions due to physical distancing and 82% increased concerns about academic performance. The researchers focused to formulate policy immediately for removing mental problems and improving mental health care of the affected students (Son et al., 2020). This study was done on the impact of internet use during COVID lockdown. They identified, internet is a useful network which helps people working operational activities, professional activities, meeting, running business, educational institution and other activities smoothly during the COVID-19 where backbone of economic of all nation of the world has shatter down in the earlier stage. Internet also makes closer relatives, family members and friends with the help of social distance by making digital closeness (Subudhi & Palai, 2020). This study investigated the potential influence of internet use on students' academic, personal, and social lives during the COVID-19. The researchers denoted that 56% student's uses for educational purposes on an

average 0-4 hours stay in internet and improving their academic performance, quality of life significantly. On the other hand, 44% students were usage internet for recreation and social networking. Their addiction in social networking negatively impact on performances and social life. Overall internet usage plays a vital role for improving academic as well as social quality life (Fatema et al., 2020). They conducted a study on internet addiction among university students during the Covid-19 lockdown. There is a significant correlation of internet addiction with income status, monotony, faculty study. According to the findings, boredom was a significant factors that influencing internet addiction. Students became vulnerable to internet addiction when schools were closed, travel was restricted, engagements were curtailed, allowances and stipends were seized (Olawade et al., 2020). During the COVID-19 epidemic, they found an increase in internet usage extremely among Chinese children and teenagers. It was also identified that age, gender, depression, and stress as the possible risk factors of internet addiction (Dong et al., 2020). It is found from above mentioned reviewed research works, there is none any comprehensive works regarding the present study.

2. Objectives of the Study

The main objective of the study is to find out the impact of the internet on the university students during the COVID-19 lockdown situation in the selected area of Bangladesh. The specific objectives are as follows:

- a) To find out the segments of students behaviors those are affected during the COVID-19 lockdown due to internet usages;
- b) To assess the psychological impacts of the internet on the students during COVID-19 lockdown and
- c) To provide suggestions and recommendations for sound psychological behaviors of the students habituated by excessive intern usages during CVID-19 lockdown.

3. Methods

For the purpose of conducting research, Jahangirnagar University, Dhaka was selected. The respondents are the students of 34 departments under six faculties along with four institutions. A total number of students are approximately 15,000 and teachers are 500in the university. Among the students, a structured online based questionnaire link was sent using Google forms and distributed to the students via what's app and Facebook Messenger and 360 respondents were filled up the questionnaire in the period of June 2021-August 2021. Demographic characteristics, COVID-19 related information, and internet using related information have been collected from 360 individuals by conducting a web-based self-reported cross-sectional survey. How internet use in lockdown was affected students' psychological behaviors is considered as the main outcome of the study. The distribution of respondent demographic variables was investigated using descriptive statistical methods and Pearson's chi-square tests to find out association between each of dependent variables and categorical variables.

4. Analysis and Findings

Table 1. Demographic Information of the Respondents

Categorical data	Items	Frequency	Percent
Age	Age (16- 20)	4	1.1
	Age (21- 25)	262	72.8
	Age (26- 30)	94	26.1
Sex	Male	232	64.4
	Female	128	35.6
Education status	Honor's/Master's	360	100
Marital Status	Married	48	13.3
	Unmarried	312	86.7
Religion	Islam	322	89.4
	Hindu	35	9.7
	Buddhist	1	0.3
	Christian	1	0.3
	Others	1	0.3

Source: Compiled from field survey

Table No. 1 reveals the demographic information of the respondents to carry out their study. It is noted that maximum 72.8% students' age are between 21 to 25 years; 64.04% are the male; 86.7% are unmarried and 89.4% are the Muslim.

4.1 Measurement of Used Devices Measures during Lock Down

X1= Measurement of devices used of respondents during lock down period

H₀= There is no significant variations of devices used during the lockdown period in COVID-19.

H₁= There is a significant variations of devices used during the lockdown period in COVID-19

Table 2. Usage of Devices Impact Measurement during Lock Down

Variables	Device in Use	Yes	Percentage	No	Percentage	Calculated Chi
X1	Smart Phone	354	98.3	6	1.7	439.9*
	Laptop	213	59.2	147	40.8	
	Desktop	78	21.7	282	78.3	

Source: Compiled from field survey, * significant at 5% level, table value of chi-square (χ^2) with degree of freedom 2 =5.99

The Table 2 measures the output of usage of devices variations during lock down where 98.3%, 59.2% and 21.7% respondents used smart phone, laptop and desktop respectively. Here we consider the null

hypothesis that there is no significant variation of devices used during the lockdown period in COVID-19 and alternative hypothesis, there significant variation of devices used during the lockdown period in COVID-19. The table value of χ^2 for 2 degree of freedom at 5% significant level is 5.99. The calculated value of χ^2 is (439.9) which is much greater than the table value. So, the null hypothesis is rejected and alternative hypothesis is accepted. Thus, we conclude that there is a significant variation of devices used during the lock down period as provided by the selected respondents.

4.2 Measures of Variations of Internet Used Time of Respondents during the Lock Down Period

X₂= Duration time (hours) of Internet usage of respondents during lock down period

H₀= There is no significant variations of internet used time during the lockdown period during COVID-19.

H₁= There is a significant variations of internet used time during the lockdown period during COVID-19.

Table 3. Duration Time (Hours) of Internet Usage of Respondents during Lock Down Period

Variables	Hours	Before Lock down	Percent	During Lock down	Percent	Calculated Chi
X₂	0-1 hour/day	52	14.4	9	2.5	132.97*
	2-4 hours/day	174	48.3	80	22.2	
	5-6 hours/day	109	30.3	153	42.5	
	10+ hours/day	25	6.9	118	32.8	
	Total	360	100	360	100	

Source: Compiled from field survey, * significant at 5% level, table value of chi-square (χ^2) with degree of freedom 3 =7.81

The Table 3 measures the duration of time of internet usage before lock down and during the lock down. During the lock down period in COVID-19 situations, respondents usage time increased rapidly on 5-6 hours (42.05%) and 10 hours + (32.8%) whereas it was 30.3 % and only 6.9% respectively in before the lock down. The table value of χ^2 with 3 degree of freedom at 5% significant level is 7.81. The calculated value (132.97) of χ^2 is much greater than the table value. So, the null hypothesis is rejected. We conclude that the internet use hours of the respondents in COVID period are different significantly among the respondents. Thus, we conclude that there is a significant impact of COVID-19 on internet usage during the lock down period as provided by the selected respondents.

4.3 Purpose of Internet Usage during the Lockdown Period

X₃= Purpose of Usage

H₀=There is no significant impact for the purpose of internet usage during COVID-19 on the lockdown period.

H₁=There is a significant impact for the purpose of internet usage during COVID-19 on the lockdown period.

Table 4. Purpose of Usage

Variable	Purpose of use	Yes		No		Calculated Chi
		Respondents	Percentage	Respondents	Percentage	
X3	Newspaper	191	53.1	98	27.2	172.2*
	Online class	294	81.7	35	9.7	
	Entertainment	321	89.2	16	4.4	
	Social media	342	95	11	3.1	

Source: Compiled from field survey; *significant at 5% level, table value of chi-square (χ^2) with degree of freedom 3 = 7.81

Table 4 shows the purposes of usage internet during the lock down situation. Table value of χ^2 for 3 degree of freedom at 5% significant level is 7.81. The calculated value (172.2) of χ^2 is much greater than the table value. So, the null hypothesis is rejected. We conclude that the purpose of internet usage significantly differ among the respondents. It is noted that 89.2% of the respondents use internet for the purpose of entertainment.

4.4 COVID-19 Lockdown Internet was Effective for You & Changes Your Internet Usage Habits

X4= Effectiveness of internet usages during lockdown.

X5= COVID-19 lockdown change your Internet usage habits

H₀=There is no significant impact on effectiveness of internet usages and change of habits during COVID-19 on the lockdown period.

H₁=There is a significant impact on effectiveness of internet usages and change of habits during COVID-19 on the lockdown period.

Table 5. Impact on Effectiveness of Internet Usages and Change of Habits

Variables	Effective items	Frequency	Percent	Calculated Chi
X4	Absolutely not	17	4.7	139.14*
	Very few	50	13.9	
	Same as before	52	14.4	
	A little more	147	40.8	
	Much more	94	26.1	
	Total	360	100	
X5	Absolutely not	32	8.9	78.81*
	Very few	88	24.4	
	Same as before	91	25.3	
	A little more	116	32.2	
	Much more	33	9.2	
	Total	360	100	

Source: Calculated from field survey, *significant at 5% level, table value of chi-square (χ^2) with degree of freedom (4) = 9.49

Table 5 measures the change of habits and effectiveness of internet usage of the respondents. The calculated value of χ^2 for 4 degree of freedom at 5% significant level is 139.14 for X4 and 78.81 for X5 each of these is much greater than the table value of χ^2 (9.49). So, the null hypothesis is rejected and alternative hypothesis is accepted. We conclude that there is a significant impact on effectiveness of internet usages and change of habits during COVID-19 on the lockdown period.

4.5 Internet has Affected Daily Life of the Respondents

X6= Internet usages during lockdown affected daily life activities

H₀= There is no significant impact of internet had affected respondents daily life during COVID-19 lockdown period.

H₁= There is a significant impact of internet had affected respondents daily life during COVID-19 lockdown period

Table 6. Internet Usages during Lockdown Affected Daily Life Activities

Variables	Effective items	Frequency	Percent	Calculated Chi
X6	Positive	90	25	11.31*
	Negative	133	36.9	
	Neutral	137	38.1	
	Total	360	100	

Source: Calculated from primary data, *significant at 5% level, table value of chi-square (χ^2) with degree of freedom 2 = 5.99

Table 6 depicted the affectedness of the respondents on the daily life for using internet during lockdown. The table value of χ^2 for 2 degree of freedom at 5% significant level is 5.99. The calculated value (11.31) of χ^2 is little greater than the table value indicating the rejection of null hypothesis. So we conclude that the daily life of the respondents affected during lockdown internet usage. 25% of the respondents told that their daily life changed positively whereas 36.90% of the respondents argued that COVID-19 changed their daily life negatively.

4.6 Problems of Internet Usages during COVID-19 Lockdown

X7 = Usages of internet in lockdown caused reluctance in your studies.

X8= Impact of internet usages in lockdown disturbed your night's sleep.

X9= Lockdown caused the Internet to make you reluctant to eat or drink.

X10= Felt lonely using the internet in lockdown.

X11= Feelings that you are becoming increasingly frustrated within lockdown.

X12= Using the internet in lockdown caused depression in your life.

H₀= There is no significant impact of internet creating problem like reluctance studies(X7), disturb night sleep(X8), reluctance of taking meal(X9), loneliness(X10), frustration(X11) and depression(X12) during COVID-19 lockdown period.

H₁= There is a significant impact of internet creating problem like reluctance studies(X7), disturb night sleep(X8), reluctance of taking meal(X9), loneliness(X10), frustration(X11) and depression(X12) during COVID-19 lockdown period.

Table 7. Problems of Internet Usages Related to Studies, Night's Sleep, Eat or Drink Loneliness, Frustration and Depression

Variables	Effective Categorical items	Frequency	Percent	Calculated Chi
X7	Always	96	26.7	111.22*
	Occasionally	211	58.6	
	Never	53	14.7	
	Total	360	100	
X8	Always	110	30.6	110.6*
	Occasionally	206	57.2	
	Never	44	12.2	
	Total	360	100	
X9	Always	36	10	97.8*
	Occasionally	138	38.3	
	Never	186	51.7	
	Total	360	100	
X10	Always	45	12.5	85.82*
	Occasionally	188	52.2	
	Never	127	35.3	
	Total	360	100	
X11	Always	52	14.4	101.15*
	Occasionally	205	56.9	
	Never	103	28.6	
	Total	360	100	
X12	Always	42	11.7	97.65*
	Occasionally	195	54.2	
	Never	123	34.2	
	Total	360	100	

Source: Calculated from primary data,*significant at 5% level, table value of chi-square (χ^2) with degree of freedom 2 =5.99

The Table 7 revealed that the calculated value of χ^2 for X7, X8, X9, X10, X11 and X12 is 111.22, 110.6, 97.8, 85.82, 101.15 and 97.65 respectively with 2 degree of freedom at 5% significant level where as the table value is 5.99 for each. The calculated value of χ^2 is much greater than the table value for each case which is indicated the rejection of null hypothesis. So it is concluded that usage of internet hampered the students in all cases of above mentioned variables during the lock down situation.

4.7 Technological and Medical Problems of Internet Usage during COVID-19 Lockdown

X13= online learning activities disrupted due to an internet service error.

X14= Internet in lockdown created distance between you and your family.

X15= Able to distance yourself from your friends using the internet in lockdown.

X16= Feeling in the lockdown that your life is useless without internet access.

X17= See a doctor due to either eye or brain problems.

H_0 = There is no significant impact of internet creating problem like disturbed internet services(X13), family distance (X14), distance from friends (X15) , internet access (X16) and eye or brain problem (X17) during COVID-19 lockdown period.

H_1 = There is a significant impact of internet creating problem like disturbed internet services(X13), family distance (X14), distance from friends (X15) , internet access (X16) and eye or brain problem (X17) during COVID-19 lockdown period.

Table 8. Technological and Medical Problems of Internet Usage during COVID-19 Lockdown

		Frequency	Percent	Calculated Chi
X13	Yes	239	66.4	38.68*
	No	121	33.6	
	Total	360	100	
X14	Yes	98	27.2	74.71*
	No	262	72.8	
	Total	360	100	
X15	Yes	112	31.1	51.38*
	No	248	68.9	
	Total	360	100	
X16	Yes	256	71.1	64.18*
	No	104	28.9	
	Total	360	100	
X17	Yes	66	18.3	144.4*
	No	294	81.7	
	Total	360	100	

Source: Calculated from primary data provided by the respondents, *significant at 5% level, table value of chi-square (χ^2) with degree of freedom 1 =3.84

This table is the depiction of the results of the related variables regarding technological and medical problems of internet usages during COVID-19 lockdown. The calculated value of χ^2 for X13, X14, X15, X16 and X17 are found that 38.68, 74.71, 51.38, 64.18 and 144.4 respectively with 1 degree of freedom at 5% significant level containing the critical value of χ^2 by 3.84. The calculated value of χ^2 is greater than the table value. So, the null hypothesis is rejected. It can be concluded that there is a significant impact of internet creating problem like disturbed internet services (X13), family distance (X14), distance from friends (X15), internet access (X16) and eye or brain problem (X17) during COVID-19 lockdown period.

5. Major Findings

- i) It is noted that 72.8% students' age are between 21 to 25 years; 64.04% are male; 86.7% are unmarried and 89.4% are the Muslim as the greater portion of the respondents for the study under review.
- ii) The usage of devices like smart phone, laptop and desktop were 98.3%, 59.2% and 21.7 % respondents used respectively during lock down. The study also found out that there are statistically significant variations of devices used during the lockdown period in COVID-19.
- iii) The measures of the duration of time of internet usages of the respondents increased rapidly on 5-6 hours (42.05%) and 10 hours + (32.8%) where as it was 30.3 % and only 6.9% respectively in before the lock down. Also the increase of internet used duration is statistically significant compare to before lock down.
- iv) It is noted that 89% of the respondents use internet for the purpose of entertainment. The purposes of internet usage significantly differ among the respondents.
- v) There is a significant impact on effectiveness of internet usages and change of habits of the respondents during COVID-19 on the lockdown period.
- vi) The affectedness of the respondents on the daily life for using internet during lockdown has been changed significantly.
- vii) The usages of internet hampered the students in studies, night's sleep, food habits, loneliness, frustration and depression during the lock down situation.
- viii) There is a significant impact of internet creating problems like disturbed internet services, family distance, distance from friends, internet access and health problem during COVID-19 lockdown period.

6. Conclusion, Suggestions and Recommendations

The aim of the work is to find out the impacts of long lockdown situations, when students remained at home for a long time period and the teaching-learning activities were running mainly based on internet. During lockdown, the impact of long-time internet usages had brought various complications to the students such as reluctance of studies; disturbing of night sleep; unwillingness to take meal timely; loneliness, frustration etc. To overcome the unusual habits of the university students created from unavailable situations of lockdown, the following suggestions and recommendations have been furnished:

- i) The affected students should be identified according to the age, gender, marital status and religions for the better applications of required counseling.
- ii) Restrictions should be imposed in halls, residences and class rooms for the proper applications of devices so that the students are interested in academic accomplishments, physical exercise and others co-curricular activities.
- iii) The increased of internet used duration habits that created during lockdown should be minimized so that the students are interested in academic accomplishments, physical exercise and others co-curricular activities.
- iv) An initiative should be taken to improve the family bonding of the students so that they are able to build up with the characteristics of compassion and enthusiasts to do appropriate works as an ideal social valued persons.
- v) They have to make a clear understanding about the addiction to excessive use of internet and its maltreatment that causes to hamper the students' in studies, night's sleep, food habits, loneliness, frustration and depression during the lock down situation.
- vi) The students should be used internet in decent cites avoiding evil cites so that they are able to free from like disturbed internet services, family distance, distance from friends, and health problem during COVID-19 lockdown period.
- vii) Counseling cells should be form in this regards for each of the departments, halls and students associations under the guidance by the high powered advisory committee of the top most management of the University.

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