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Exploring the nexus between financial strain, wellbeing, and life satisfaction among Bangladeshi university students during the COVID-19 pandemic in 2021: A cross-sectional study

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Abstract:

BACKGROUND: Financial stress among university students is pervasive and profoundly affects their mental wellbeing. This study aims to examine the wellbeing and life satisfaction of university students during the COVID-19 pandemic and the impact of their financial circumstances.

MATERIALS AND METHODS: A cross-sectional online survey was conducted in 2021 on 1125 university students in a secondary city of Bangladesh using a structured questionnaire covering sociodemographic characteristics, financial circumstances, the World Health Organization Well-Being Index (WHO-5), and the Satisfaction with Life Scale. Descriptive analysis, Chi-square tests, canonical correlation analysis, t-tests, analysis of variance, and Duncan tests were employed to analyze the data.

RESULTS: The survey revealed that the majority of students were aged 18–23, predominantly male, and came from educated families. Financial strain was evident, with nearly half relying solely on family support and a significant portion contributing jointly with family. Significant financial instability was found, with many students experiencing job loss and income reduction, leading to moderate life satisfaction and lower levels of wellbeing. Students relying on scholarships reported the highest wellbeing and life satisfaction, while those with less than 1 month of savings exhibited the lowest scores.

CONCLUSION: The study highlights the urgent need for holistic interventions to support university students in Bangladesh facing mental health and financial stress due to COVID-19. Health policymakers and nursing managers should establish comprehensive mental health support systems, including counseling and financial literacy programs, while collaborating with local organizations for emergency financial assistance to foster a healthier student population.

Keywords:

COVID-19 pandemic, financial stress, mental health, quality of life, student health

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Introduction

On March 8, 2020, Bangladesh confirmed its first COVID-19 case, prompting a statewide lockdown that began on March 26 and was extended many times until May 30, 2020. The initial responses to the outbreak of the pandemic were to promote social distancing to stop community transmission and increase complexity in human lives.[1] As a part of restricting social gatherings, the government also canceled on-campus physical activities in all public and private universities on March 17, 2020.[2] Universities tried to

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shift to online platforms to maintain the continuation of academic activities since the decision came along. However, as advanced technology and resources were scarce, it became increasingly difficult to ensure that every student participated equally in the online learning process. In addition, there was a lack of preparedness to participate in online classes among the students in Bangladesh. The main challenges are a lack of consistent Internet access and electricity.[3] This was expected because many university students in Bangladesh came from low-income households.[4] The shift to online learning during the pandemic, experienced not only in Bangladesh but also globally, significantly impacted families, as seen in an Iranian study where virtual education disrupted parental roles and family cohesion.[5]

Financial pressure has been a severe concern for students, even putting them at risk of dropping out of universities.[6] The pandemic situation, however, made the situation worse for the students. University students experienced financial instability as an impact of COVID-19 circumstances and reported a high level of anxiety and depression.[7] A study in Bangladesh demonstrated a similar result; around 15% of the university students experienced moderately severe depression, and 18.1% reported that they suffered from severe anxiety during the COVID-19 pandemic.[8] Increased financial concern can lead them to poor physical and mental health.[9] Students who have to worry about their financial situation are less likely to experience mental wellbeing.[10]

Wellbeing refers to the combined state of feeling fine and doing well, such as experiencing happiness, contentment, working productively, and also coping with normal stress, disappointment, and failure in life.[11] The term "life satisfaction" denotes the satisfaction level of a person regarding health, family, and leisure time.[12] The COVID-19 pandemic caused extensive mental health and lifestyle changes, particularly among students, due to increased exposure and associated stressors.[13]

This study addresses the overlooked impact of financial strain on university students' wellbeing and life satisfaction during the COVID-19 pandemic, particularly in Sylhet, a secondary city in Bangladesh. While past research has examined the pandemic's psychological effects, little attention has been paid to how financial challenges compounded these issues, especially for students in low-income regions. The study's innovation lies in its unique focus on Sylhet and its combined analysis of financial strain and mental health. The research aims to provide crucial data for policymakers to address these challenges in future crises, with the general purpose of offering evidence-based recommendations to mitigate financial stress and improve student welfare and educational policies.

Materials and Methods

Study design and setting

This study employed a cross-sectional design to explore the nexus between financial strain, wellbeing, and life satisfaction among university students in Bangladesh during the COVID-19 pandemic. The research was conducted at Shahjalal University of Science and Technology (SUST) in Sylhet, Bangladesh, from March 25 to May 16, 2021.

Study participants and sampling

We used simple random sampling to collect 1125 responses among approximately 10,000 current students at SUST. SUST comprises six different schools. Each school incorporates one or more departments. The university has 27 departments in aggregate. Nevertheless, nine affiliated medical, dental, and nursing colleges under the school of medical sciences were beyond the scope of this study. The school of applied sciences and technology with the highest number of departments has the most responses (33.5%), and the school of management and business administration, consisting of only one department, has the least responses (2.9%).[14] While conducting the survey, every student at the undergraduate level was enrolled in the second semester of their corresponding year. That means, all the responses were composed of the students enrolled in the second, fourth, sixth, and eighth semesters. Students enrolled in both the first and second semesters of their master's degree also participated in the survey. It was ensured that we received at least five responses from all semesters of each department. Five students were selected at random from all the responses as winners, and each of them received 1000 BDT each as encouragement.

Data collection tool and technique

The survey was intended to take 10 minutes to complete and was pilot-tested with ten students to ensure understanding and readability. This survey was consisting of four dimensions, which were sociodemographic characteristics, financial circumstances, the World Health Organization Well-Being Index (WHO-5), and the Satisfaction with Life Scale (SWLS). Sociodemographic characteristics integrated general parameters like gender (male or female), age, religion, division of permanent residence, and living place (urban or rural). To determine the financial impact, we provided questions like "managing participants' financial needs," "monthly gross income," "reduction in monthly income," debt, savings, food insecurity, the impact of the financial situation on academic life, and concern about losing a job.

The WHO-5 Well-being Index (WHO-5) is a self-reported wellbeing indicator. It comprises five items (e.g. "Over

the last 2 weeks, I feel calm and relaxed.") that are assessed on a 6-point Likert scale. A high score indicates that you are in a good state of wellbeing.[15] The SWLS, a five-item scale (e.g. "So far I have gotten the important things I want in life." and "If I could live my life over, I would change almost nothing."), was used to assess respondents' perception of life satisfaction.[16] On a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), measurements were evaluated.

Ethical consideration

The study was conducted in accordance with ethical standards for research involving human subjects. Students who participated in the survey were asked for their consent. Participants who entered their university registration number as a sign of consent were included in this study.

Data analysis

We performed descriptive analysis to assess sociodemographic and financial backgrounds. Chi-square tests were used to assess the association between different measures of financial circumstances. The Cronbach's Alpha reliability coefficient was calculated for the WHO-5 Well-being Index and SWLS; then factor analysis was performed to reveal the factorial structure of these two scales. We conducted a canonical correlation analysis (CCA) to investigate the relationship between the aforementioned two indices. Finally, t-tests, analysis of variance (ANOVA), and Duncan tests were performed.[17]

CCA is a robust statistical tool used to explore the relationships between two distinct sets of variables, with the goal of maximizing the correlation between their respective linear combinations.[18,19] In this particular investigation, the WHO-5 Well-being Index represents one set of variables, assessing aspects such as feeling cheerful, calm, active, and interested in life. On the other hand, the SWLS stands for another set of variables, evaluating life satisfaction based on respondents' perceptions of their ideal life, life conditions, and satisfaction levels. The utilization of CCA in this study was motivated by the expectation that it would unveil the underlying connections between these two sets of variables and shed light on how they collectively contribute to the overall wellbeing and life satisfaction of university students. Moreover, it aimed to explain the complex dynamics influenced by financial constraints and other relevant factors amid the challenging backdrop of the COVID-19 pandemic.

Results

Sociodemographic background

The collected survey data indicate that most students at SUST are young, with 91.5% between 18 and 23 years old. The university has a higher proportion of male students (71.5%) compared to female students (28.5%). The average height of the students is 65.48 inches (±3.52), and their average weight is 61.93 kg (±12.23). Islam is the most represented religion among the students (83.5%), while a substantial minority identified as Hindu and other religions (16.5%). Generally, students come from educated families, with 75.7% of fathers and 67.2% of mothers having an educational status of secondary level or above. Additionally, 17.3% of fathers and 26% of mothers completed only primary level education, and 6.9% of fathers and 6.8% of mothers received no institutional education at all. The fathers of SUST students have a diverse range of occupations, with 46% working in jobs or providing services and 14.8% engaged in various agricultural tasks. The majority of mothers are homemakers (82.7%). The differences in backgrounds according to different schools are demonstrated in Table 1.

Differences in living arrangements and family situations are also observed. More than 50% of the students lived in

Table 1: Gender, age, and semester according to different schools

Variables		Domain of study						Total
		Agriculture and Mineral Sciences	Applied Sciences and Technology	Life Science	Management and Business Administration	Physical Sciences	Social Sciences	
What is your gender?	Female	17 (26.6%)	77 (20.4%)	31 (33.3%)	9 (27.3%)	51 (19.5%)	136 (45.9%)	321 (28.5%)
	Male	47 (73.4%)	300 (79.6%)	62 (66.7%)	24 (72.7%)	211 (80.5%)	160 (54.1%)	804 (71.5%)
What is your age? (Binned)	<20	8 (12.5%)	35 (9.3%)	8 (8.6%)	2 (6.1%)	17 (6.5%)	15 (5.1%)	85 (7.6%)
	20 - 21	36 (56.3%)	182 (48.3%)	55 (59.1%)	15 (45.5%)	122 (46.6%)	135 (45.8%)	584 (48.5%)
	22 - 23	17 (26.6%)	126 (33.4%)	26 (28.0%)	(13 39.4%)	96 (36.6%)	121 (41.0%)	399 (35.5%)
	≥24	3 (4.7%)	34 (9.0%)	4 (4.3%)	3 (9.1%)	27 (10.3%)	24 (8.1%)	95 (8.5%)
In which semester do you study?	1/2	29 (45.3%)	135 (35.8%)	34 (36.6%)	8 (24.2%)	66 (25.2%)	96 (32.4%)	368 (32.7%)
	2/2	22 (34.4%)	79 (21.0%)	31 (33.3%)	8 (24.2%)	73 (27.9%)	55 (18.6%)	268 (23.8%)
	3/2	3 (4.7%)	76 (20.2%)	12 (12.9%)	7 (21.2%)	43 (16.4%)	72 (24.3%)	213 (18.9%)
	4/2	10 (15.6%)	81 (21.5%)	15 (16.1%)	7 (21.2%)	69 (26.3%)	66 (22.3%)	248 (22.0%)
	5/1	0 (0.0%)	4 (1.1%)	1 (1.1%)	0 (0.0%)	1 (0.4%)	2 (0.7%)	8 (0.7%)
	5/2	0 (0.0%)	2 (0.5%)	0 (0.0%)	3 (9.1%)	10 (3.8%)	5 (1.7%)	20 (1.8%)

rural areas with their families (55.8%) when the university campus was closed due to the COVID-19 outbreak. Among the eight administrative divisions of the country, around one-third of students lived in Dhaka Division during the off-campus days. More than half of the students (60.4%) had four or five members in their family, while some of the families (2.8%) had more than ten members. Among the family members, 28.2% had at least one member who was 65 or older. 13.7% of students reported that they had at least one frontline worker for COVID-19 in their families, including health workers and doctors.

Financial circumstances

Overview of financial support

Approximately half of the students (49.6%) reported that their families fully managed their financial needs, while 36.7% indicated that both they and their families jointly contributed to meeting these needs. Only a small minority (0.5%) depended entirely on scholarships.

Savings and financial resilience

Regarding financial resilience, 30.1% of students anticipated that their savings or those of their financial supporters would sustain them for less than 1 month. Additionally, 24% expected their savings to last for 1 to 3 months, while 20% believed they could rely on savings for more than a year.

Employment and income losses

Before the COVID-19 pandemic, a majority (59.1%) of students were engaged in jobs such as private tutoring or online freelancing. However, 41.6% of these students lost their jobs due to the pandemic, with male students being more significantly affected ($\chi^2 = 21.804$, df = 2, $P < 0.001$).

Income levels and financial stability

A significant portion of students (40.9%) reported a monthly gross income for themselves and/or their financial supporters of 0–20,000 BDT, while 30.1% had an income of 20,000–40,000 BDT, and 16.9% had 40,000–60,000 BDT. Those with the lowest income (0–20,000 BDT) could sustain themselves for less than 1 month on savings, whereas those with the highest income (over 80,000 BDT) anticipated their savings would last more than a year ($\chi^2 = 184.54$, df = 16, $P < 0.001$).

Impact of the COVID-19 pandemic

The pandemic led to a reported reduction in monthly gross income for 72.8% of the students. Specifically, 29.5% experienced a 10–30% reduction, 17.7% faced a 30–50% reduction, and 13% saw a 1–10% decrease. Students who lost their jobs ($\chi^2 = 62.569$, df = 2, $P < 0.001$) had the lowest monthly gross income (0–20,000 BDT) ($\chi^2 = 77.13$, df = 4, $P < 0.001$), or those whose fathers were employed in nonagricultural sectors ($\chi^2 = 86.95$, df = 3, $P < 0.001$) were more likely to experience income reductions.

Debt and financial hardship

Nearly half of the students (46.2%) reported having no debt, while 26.7% had a manageable amount of debt, 19.1% had some debt, and 8.1% had a significant amount of debt. Job loss during the pandemic was significantly associated with increased debt ($\chi^2 = 22.994$, df = 2, $P < 0.001$), as was a reduction in monthly income ($\chi^2 = 31.192$, df = 1, $P < 0.001$).

Living conditions and nutritional challenges

The financial crisis negatively impacted the living conditions (i.e., people with whom they lived during the off-campus days of the pandemic) for 41.1% of the students. Those with debt ($\chi^2 = 47.245$, df = 1, $P < 0.001$), those with job loss ($\chi^2 = 46.425$, df = 2, $P < 0.001$), and those living in rural areas during the pandemic ($\chi^2 = 85.79$, df = 1, $P < 0.001$) were more likely to report deteriorating living situations. Financial constraints also led 39.2% of students to often or sometimes be unable to afford nutritious meals, a situation exacerbated by debt ($\chi^2 = 38.781$, df = 1, $P < 0.001$).

Academic financial challenges

Regarding academic expenses, 34.9% of students managed to pay their academic fees on time, 31.6% paid late, and 30.9% struggled to meet these expenses. A small minority (2.6%) expressed concerns about potentially having to withdraw from their academic pursuits due to financial difficulties.

Validity and reliability analyses

To evaluate the validity and reliability of the Well-being Index (WHO-5) and the SWLS used in this study, we conducted factor analysis and calculated Cronbach's Alpha for each scale.

Well-being Index (WHO-5)

The Well-being Index demonstrated high internal consistency, with a Cronbach's Alpha reliability coefficient of 0.891. Factor analysis was utilized to assess the scale's validity, revealing a single-factor structure that accounted for 69.92% of the total variance. The scale was validated by a Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy of 0.865, and the Bartlett's test of sphericity yielded a Chi-square value of 3183.893 (df = 10, $P < 0.001$). These results confirm that the Well-being Index operates effectively as a single-factor construct.

Satisfaction with Life Scale (SWLS)

The SWLS also exhibited good internal consistency, as indicated by a Cronbach's Alpha reliability coefficient of 0.796. Factor analysis confirmed the validity of the SWLS, showing that it too has a single-factor structure. This factor structure explains 56.18% of the total variance. The scale's validity was further supported by a KMO measure of 0.804 and a Bartlett's test of sphericity with

a Chi-square value of 1790.391 (df = 10, $P < 0.001$). These findings substantiate that the SWLS is a reliable and valid measure, functioning as a single-factor construct.

Relationship between WHO-5 wellbeing index and satisfaction with life scale

The mean score of the WHO-5 wellbeing index is 1.79, with a standard deviation of 1.11. Conversely, the mean score of the SWLS is 3.99, with a standard deviation of 1.32.

A CCA has been performed to investigate the relationship between the WHO-5 wellbeing index and the SWLS. Each set has five variables, resulting in the production of five canonical variates. The canonical correlations between the sets of variables for the five dimensions are 0.518, 0.131, 0.078, 0.059, and 0.003. However, the test of dimensionality for the CCA indicates that only the first two canonical variates are significant at the 5% level of significance, with *P* values of <0.001 and 0.017, respectively.

Table 2 presents the test of canonical dimensions, showing that the first dimension has a canonical correlation of 0.518 and is significant with a *P* value of <0.001. The second dimension has a canonical correlation of 0.131 and is also significant with a *P* value of 0.017. The remaining dimensions are not statistically significant.

Table 3 demonstrates the canonical loadings for the first two dimensions of the WHO-5 Well-being Index and SWLS variables. For the WHO-5 wellbeing index, the most influential variable for dimension 1 is "Over the last 2 weeks, my daily life is filled with things that interest me" with a loading of -0.86. Dimension 2 is mostly influenced by "Over the last 2 weeks, I feel calm and relaxed" with a loading of -0.53. For the SWLS, the most dominant variable for dimension 1 is "The conditions of my life are excellent" with a loading of -0.94, and for dimension 2, it is "In most ways, my life is close to my ideal" with a loading of 0.65.

Role of financial circumstances on wellbeing and life satisfaction

The study examined the influence of financial circumstances on the wellbeing and life satisfaction of participants, as assessed by the Well-being (WHO-5) and Life Satisfaction (SWLS-5) scales. Table 4 summarizes the results obtained from ANOVA, F-tests, t-tests, and Duncan's multiple tests including mean scores and standard deviations across various financial variables.

The analysis revealed statistically significant differences in both wellbeing and life satisfaction scores across all examined financial variables. To explore deeper into these findings, Duncan tests were conducted to compare homogeneous groups based on different financial circumstances, aiding in a comprehensive understanding of their impact on wellbeing and life satisfaction.

For instance, regarding the types of financial supporters, participants receiving support from various sources (from category 1 to category 6) exhibited similar levels of wellbeing. Likewise, no significant differences in life satisfaction were observed i) from those supported by their family (category 1) to those supported by themselves and their relatives (category 5) and ii) from those supported by their relatives (category 2) to those supported by scholarships (category 6).

Likewise, the findings further highlighted significant associations between wellbeing and life satisfaction with the duration participants could rely on savings (with more than 6 months capacity of surviving), employment status before and after COVID-19, monthly gross income levels (with more than 40,000 per month), reductions in income due to the pandemic, debt status, declining living environment, ability to afford nutritious meals, and financial challenges related to academic pursuits.

Discussion

The primary aim of this study is to explore the wellbeing and life satisfaction of university students in Sylhet, Bangladesh, during the COVID-19 pandemic, with a focus on how financial circumstances shaped these experiences. Through this investigation, the study seeks to identify major stressors affecting students' mental health and to provide evidence-based recommendations for mitigating the negative effects of financial strain on education.

The investigation conducted in this study utilized the World Health Organization Well-Being Index (WHO-5) and the SWLS to gauge the wellbeing and life satisfaction

Table 2: Test of Canonical Dimensions

Dimension	Canonical Correlation	Eigenvalue	Wilks Statistic	*F*	df1	df2	*P*
1	0.518	.367	.712	15.88	25	4143.54	<0.001
2	0.131	.018	.973	1.89	16	3410.07	0.017
3	0.078	.006	.991	1.19	9	2718.64	0.299
4	0.059	.003	.997	0.97	4	2236	0.422
5	0.003	.000	1.000	0.01	1	1119	0.926

Table 3: Canonical Loadings

	Canonical Loadings	
	Dimension 1	Dimension 2
WHO-5 wellbeing index		
Over the past 2 weeks, I feel cheerful and in good spirits.	-0.84	-0.19
Over the past 2 weeks, I feel calm and relaxed.	-0.83	-0.53
Over the past 2 weeks, I feel active and vigorous.	-0.84	0.16
Over the past 2 weeks, I wake up feeling fresh and rested.	-0.77	0.22
Over the past 2 weeks, my daily life is filled with things that interest me.	-0.86	0.14
Satisfaction with life scale		
In most ways, my life is close to my ideal.	-0.64	0.65
The conditions of my life are excellent.	-0.94	-0.24
I am satisfied with my life.	-0.84	0.02
So far, I have gotten the important things I want in life.	-0.65	0.36
If I could my life over, I would change almost nothing.	-0.43	0.12

of university students. The high reliability and validity of these measures within the context of this study suggest their effectiveness in assessing the wellbeing and life satisfaction of Bangladeshi students. Notably, similar findings regarding the one-factor structure and validity of the WHO-5 and SWLS have been reported in various international studies,[20-24] reinforcing their utility across different cultural contexts.

The analysis revealed that participants' perception of life satisfaction hovered around a moderate level, consistent with findings from comparable studies.[25] The outbreak of the COVID-19 pandemic and its subsequent economic repercussions have significantly impacted global economies, which, in turn, affect individual perceptions of life satisfaction.[26,27] Individual life satisfaction is influenced by large-scale public finance.[28] The observed wellbeing state was low, and the decline in it among participants aligns with international trends, reflecting concerns over job security, income reduction, and financial strain exacerbated by the pandemic.[29-31]

Further analyses revealed significant associations between financial circumstances and both wellbeing and life satisfaction. Participants' financial supporters, duration of savings, employment status before and after the pandemic, monthly gross income levels, income reduction due to the pandemic, debt status, living environment changes, ability to afford nutritious meals, and academic financial challenges all played crucial roles in shaping their wellbeing and life satisfaction. Notably, participants facing financial hardships, such as job loss, reduced income, excessive debt, and deteriorating living conditions, reported lower levels of wellbeing and life satisfaction, echoing previous findings on the impact of socioeconomic status on mental health.[32,33]

The relationship between the WHO-5 and SWLS scales further elucidated the interplay between financial circumstances and subjective wellbeing. CCAs indicated significant associations between the two scales, with financial factors strongly influencing participants' life satisfaction. Particularly, participants with lower income levels, reduced savings, job loss, debt, and financial challenges reported lower agreement with items reflecting life satisfaction. These findings underscore the profound influence of financial stability on individuals' overall wellbeing and satisfaction with life.

These results underscore the intricate relationship between financial circumstances and subjective wellbeing, providing insight into the varied ways in which economic factors influence individuals' perceptions of their quality of life. Such insights are invaluable for planning targeted interventions aimed at enhancing overall wellbeing and life satisfaction in populations facing financial adversity.

This study differs from other research for several reasons. It stands out by focusing on financial strain among university students in Sylhet, a secondary city in Bangladesh, rather than more urbanized regions. It highlights unique challenges, including poor Internet access, job loss, and limited technological preparedness. Unlike other studies, it emphasizes students' reliance on precarious incomes, such as tutoring, and the impact of debt and nutritional issues on wellbeing. The research also employs CCA to explore the relationship between financial strain, wellbeing, and life satisfaction, offering deeper insights into pandemic-specific financial and mental health impacts in low-resource settings.

Conclusion

The study highlights moderate life satisfaction and lower levels of wellbeing among university students in Bangladesh due to the COVID-19 pandemic and financial strain. Urgent, holistic interventions are essential to address these challenges. Health policymakers and nursing managers must establish comprehensive mental health support systems, including accessible counseling and financial literacy programs. Collaborations with local organizations can provide emergency financial assistance, fostering a supportive environment that enhances students' mental wellbeing and resilience, ultimately promoting better health, longevity, and overall life satisfaction. Furthermore, improving university infrastructure and providing staff with training to identify mental health concerns are crucial. These initiatives aim to reduce inequalities and boost the overall wellbeing of students.

Table 4: Impact of financial circumstances on WHO-5 and SWLS

Variables	Well-Being (WHO-5)		Life Satisfaction (SWLS-5)	
	Mean	SD	Mean	SD
Types of financial supporters-				
My family[1]	1.8692	1.1517	4.0717	1.30758
My relative(s)[2]	1.3000	0.6128	3.1800	.80802
Myself[3]	1.4347	0.9625	3.7884	1.37775
Myself and my family[4]	1.8102	1.082	3.9918	1.29474
Myself and my relative(s)[5]	1.5765	1.0721	3.5176	1.55251
Other (like scholarship)[6]	1.3667	1.0539	4.1667	1.52534
	F=3.817, *P*=.002		*F*=2.223, *P*=0.05	
	Duncan: 1-6		Duncan: 1-5, 2-6	
Months to live off of your/ your financial supporter's savings?				
Less than 1 month[1]	1.6065	1.02007	3.8106	1.28713
1–3 months[2]	1.6822	1.04254	3.9104	1.34826
4–6 months[3]	1.8303	1.03450	3.8910	1.28884
More than 6 months[4]	1.9247	1.13189	4.2137	1.23660
More than a year[5]	2.0756	1.27314	4.3049	1.32369
	F=7.438, *P*<.001		*F*=6.419, *P*<.001	
	Duncan: 1-3, 3-4, 4-5		Duncan: 1-3, 4-5	
Having any job (like house tuition, online outsourcing etc.) before the COVID-19?				
No	1.9665	1.18370	4.0961	1.31035
Yes	1.6656	1.03774	3.9269	1.31608
	t=4.513, *P*<.001		*t*=2.123, *P*=0.034	
If yes, have you lost the job?				
No	1.9756	1.11182	4.3066	1.21446
Yes	1.535	.9771	3.7671	1.3256
	t=5.092, *P*<.001		*t*=4.91, *P*<.001	
Monthly gross income level of you and/or your financial supporter (including all earning members) -				
0 - 20,0001	1.5539	1.02685	3.8135	1.32115
20,000 - 40,0002	1.8301	1.07612	3.9145	1.31505
40,000 - 60,0003	2.0379	1.08625	4.2463	1.21296
60,000 - 80,0004	2.1306	1.28531	4.4833	1.29169
More than 80,0005	2.1312	1.34198	4.4500	1.24483
	F=11.304, *P*<.001		*F*=8.873, *P*<.001	
	Duncan: 1, 2-3, 3-5		Duncan: 1-2, 3-5	
Has this monthly income been reduced due to COVID-19 pandemic?				
No				
Yes	1.9935	1.13367	4.2026	1.19342
	1.7121	1.09074	3.9189	1.35129
	t=3.809, *P*<.001		*t*=3.231, *P*=.001	
If yes, what is the percentage?				
1 - 10%[1]	1.9102	1.19127	4.0754	1.31820
10 - 30%[2]	1.7548	1.03171	3.9801	1.29128
30 - 50%[3]	1.7246	1.05589	3.9337	1.40059
more or equal to 50%[4]	1.3008	1.06806	3.5107	1.41231
	F=9.321, *P*<.001		*F*=6.143, *P*=<0.001	
	Duncan: 1-2, 2-3, 4		Duncan: 1-3, 4	
Current debt status-				
About the right amount to debt[1]	1.8100	1.05806	3.9847	1.29000
Do not have any debt[2]	1.8804	1.16702	4.1619	1.27063
Have a bit too much debt[3]	1.6505	1.04530	3.8364	1.33257
Have a far too much debt[4]	1.5187	1.01805	3.4615	1.43935
	F=4.162, *P*=.006		*F*=9.006, *P*<.001	
	Duncan: 1-3, 3-4		Duncan: 1-2, 1&3, 4	

Contd...

Table 4: Contd...

Variables	Well-Being (WHO-5)		Life Satisfaction (SWLS-5)	
	Mean	SD	Mean	SD
Has your living environment been declined due to any financial crisis?				
No	1.9460	1.13560	4.1170	1.26975
Yes	1.5628	1.03005	3.8225	1.36190
	t=5.783, *P*<.001		*t*=3.715, *P*<.001	
Are you often/sometimes unable to eat nutritious meals for lack of money?				
No	1.9573	1.14354	4.1582	1.28992
Yes	1.5270	1.00001	3.7447	1.31744
	T=5.467, *P*<.001		*T*=5.205, *P*<.001	
Describe financial situation for academic life-				
Appeared / appearing to the risk of withdrawal from academic life[1]	1.4759	1.15933	3.3862	1.25006
Paid / will pay in delay[2]	1.7572	1.00966	3.8918	1.29877
Paid / will pay on time[3]	2.0840	1.19658	4.3364	1.23053
Struggled / will struggle to pay[4]	1.5132	1.01740	3.7690	1.35109
	F=18.093, *P*<.001		*F*=15.625, *P*<.001	
	Duncan: 1-2&4, 3		Duncan: 1, 2&4, 3	

Limitations and recommendations

The study acknowledges limitations, including reliance on online surveys, which may introduce biases, and the inability to establish causality despite finding significant statistical relationships. It recommends further research across diverse demographics to better understand the pandemic's mental health impact on university students.

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Conflicts of interest

There are no conflicts of interest.

References

1. Rahman K, Vandoni M, Cheval B, Asaduzzaman M, Hasan MN, Rahman ST. Exploring two pandemics in academic arena: Physical activity and sedentary behaviors profile of university students in Bangladesh. Eur J Invest Health Psychol Educ 2021;11:358-71.
2. Correspondent S. Coronavirus Scare: All Educational Institutions Closed till March 31, in The Daily Star. Dhaka. 2020.
3. Al-Amin M, Al Zubayer A, Deb B, Hasan M. Status of tertiary level online class in Bangladesh: Students' response on preparedness, participation and classroom activities. Heliyon 2021;7:e05943.
4. Quddus, M. Access to higher education in Bangladesh: The case of Dhaka University. International Higher Education; 1999.
5. Raesi R, Ramshini F, Zandieh MA, Roudi AP, Abbasi Z, Haddadi R. Examining family cohesion during the virtual education of students in the course of the COVID-19 pandemic. Arch Adv Biosci 2023;14:1-9.
6. Britt SL, Ammerman DA, Barrett SF, Jones S. Student loans, financial stress, and college student retention. J Stud Financ Aid 2017;47:25-37.
7. Jones HE, Manze M, Ngo V, Lamberson P, Freudenberg N. The impact of the COVID-19 pandemic on college students' health and financial stability in New York City: Findings from a population-based sample of City University of New York (CUNY) students. J Urban Health 2021;98:187-96.
8. Islam MA, Barna SD, Raihan H, Khan MNA, Hossain MT. Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey. PLoS One 2020;15:e0238162.
9. Jessop DC, Herberts C, Solomon L. The impact of financial circumstances on student health. Br J Health Psychol 2005;10:421-39.
10. Benson-Egglenton J. The financial circumstances associated with high and low wellbeing in undergraduate students: A case study of an English Russell Group institution. J Furth High Educ 2019;43:901-13.
11. Huppert FA. Psychological well-being: Evidence regarding its causes and consequences. Appl Psychol 2009;1:137-64.
12. Schnettler B, Miranda-Zapata E, Grunert KG, Lobos G, Denegri M, Hueche C, *et al*. Life satisfaction of university students in relation to family and food in a developing country. Front Psychol 2017;8:287482.
13. Askarpour H, Domari AA Jafarnejad A, Fard SNH, Hashemi M, Faryabi R, *et al*. Evaluation of health-promoting lifestyles in Iranian students during the COVID-19 epidemic: An observational study. Open Public Health J 2023;16.
14. Shahjalal University of Science and Technology. 2022. Available from: https://www.sust.edu/academics/schools#about-school1.
15. World Health Organization. Wellbeing measures in primary health care/the DepCare Project: Report on a WHO meeting: Stockholm, Sweden, 12–13 February 1998. World Health Organization. Regional Office for Europe. 1998.
16. Diener E, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. J Pers Assess 1985;49:71-5.
17. Montgomery DC. Design and Analysis of Experiments. John Wiley and Sons; 2017.
18. Johnson RA, Wichern DW. Applied Multivariate Statistical Analysis. Pearson Prentice Hall; 2002.
19. Chowdhury M, Rahman K, Ali R, Sultana T, Rana M. Effects of admission criteria on the students performance in bachelor's programs: A systematic review from Bangladesh. J Bus Soc Sci 2009;1:52-73.
20. Dadfar M, Safarabad NM, Farid AAA, Shirzy MN, Abarghouie FGP. Reliability, validity, and factorial structure of the World Health Organization-5 Well-Being Index (WHO-5) in Iranian psychiatric outpatients. Trends Psychiatry Psychother 2018;40:79-84.

21. Heun R, Barkow K, Jessen F, Heun R. Validity of the five-item WHO well-being index (WHO-5) in an elderly population. Eur Arch Psychiatry Clin Neurosci 2001;251:27-31.
22. Krieger T, Zimmermann J, Huffziger S, Ubl B, Diener C, Kuehner C, *et al*. Measuring depression with a well-being index: Further evidence for the validity of the WHO well-being index (WHO-5) as a measure of the severity of depression. J Affect Disord 2014;156:240-4.
23. Zanon C, Bardagi MP, Layous K, Hutz CS. Validation of the satisfaction with life scale to Brazilians: Evidences of measurement noninvariance across Brazil and US. Soc Indicators Res 2014;119:443-53.
24. López-Ortega M, Torres-Castro S, Rosas-Carrasco O. Psychometric properties of the satisfaction with life scale (SWLS): Secondary analysis of the Mexican Health and Aging Study. Health Qual Life Outcomes 2016;14:170.
25. Yurcu G, Akinci Z, Kasalak MA. The effects of tourism students' personality traits on leisure motivation and social well-being. J Glob Bus Insights 2017;2:10-26.
26. Bagchi B, Chatterjee S, Ghosh R, Dandapat D. Impact of COVID-19 on Global Economy. Coronavirus Outbreak and the Great Lockdown: Impact on Oil Prices and Major Stock Markets Across the Globe. Springer; 2020. p. 15-26.
27. Xiao JJ, Tang C, Shim S. Acting for happiness: Financial behavior and life satisfaction of college students. Soc Indic Res 2009;92:53-68.
28. Kiya K. Life satisfaction and public finance: Empirical analysis using US micro data. Available at: SSRN 2126357, 2012. doi: 10.2139/ssrn.2126357.
29. Özmen S, Özkan O, Özer Ö, Yanardağ MZ. Investigation of COVID-19 fear, well-being and life satisfaction in Turkish society. Soc work Public Health 2021;36:164-77.
30. Binder C. Coronavirus fears and macroeconomic expectations. Rev Econ Stat 2020;102:721-30.
31. Vieira KM, otrich ACG, Bressan AA, Klein LL. Loss of financial well-being in the COVID-19 pandemic: Does job stability make a difference? J Behav Exp Finance 2021;31:100554.
32. Amit N, Ismail R, Zumrah AR, Mohd Nizah MA, Tengku Muda TEA, Tat Meng EC, *et al*. Relationship between debt and depression, anxiety, stress, or suicide ideation in Asia: A systematic review. Front Psychol 2020;11:530077.
33. Urmi UF, Rahman, K, Uddin MJ, Hasan MN. The prevalence of active commuting to school and the factors influencing mode choice: A study of university students in a secondary city of Bangladesh. Sustainability 2022;14:16949.