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Students' and Institutional Concerns in Crisis of COVID-19: Evidence from Education Sector of Pakistan

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ABSTRACT

This study evaluated the impact of COVID-19 on psychological, physical, and financial health concerns of students and examined their academic and institutional concerns through adherence to COVID-19 preventions. The target population was students of under graduation, graduation, and post-graduation who are currently enrolled in Pakistani Universities. Data is cross sectional as it was collected from September 2020 to November 2020. SEM is used to measure the hypothesized model. The findings reveal that the model is fit, and all the variables are significant and positively correlated. The indirect relationship between variables is also significant and all variables are partially mediated. The COVID-19 pandemic has had a substantial impact on the financial, mental, and physical well-being of students. Adhering to proper COVID-19 preventive measures can help alleviate the students' academic and institutional concerns. Our results show that students are facing higher levels of stress, financial difficulties, and believe their education has been affected if they do not abide by the Standard Operating Procedures (SOPs) related to COVID-19. The majority of students are comfortable with technology-based educational adaptations and support the use of masks, social distancing, and frequent hand sanitization.

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1. Introduction

A strange virus disease, spread in 2019 that affect the respiratory system of the human, has been the deadliest, dangerous, and devastating among all the pandemic of the history. This viral disease was first identified in a significant number of patients admitted into hospitals, initially suspected patients of pneumonia of an anonymous cause in Wuhan, Hubei province, China, in December 2019 (Lu, Stratton, & Tang, 2020; Zhu et al., 2020). Later, this virus has been recognized as the severe acute respiratory syndrome corona virus (SARS- CoV-2) (Rothan & Byrareddy, 2020). According to the Coronavirus Disease Situation Report 129, World Health organization (WHO) named this disease as novel corona virus disease 19 (COVID-19) on 11th February 2020.

According to the 21st Coronavirus Disease (COVID-19) Situation Report, as the number of coronavirus cases began to increase globally, the World Health Organization declared the COVID-19 outbreak as a pandemic on March 11, 2020. This has posed a major challenge for medical researchers and health care organizations. The surge in COVID-19 cases has put immense pressure on the government, the general public, students, health care providers, and

others. The pandemic has caused a massive mental burden on individuals worldwide, along with the risk of death from its spread (Deng & Peng, 2020), and Pakistan is not exempt from these problems (Saqlain, Munir, Ahmed, Tahir, & Kamran, 2020). The education sector in Pakistan, like many others, has been severely impacted. In response to directives from the Pakistani government, the Higher Education Commission (HEC) provided guidelines for online learning, rescheduling exams, and offering continuous online support to students until the COVID-19 situation is resolved (Ali, 2020). The COVID-19 pandemic has undoubtedly had a major effect on learners, teachers, and academic institutions globally, just as it has on various aspects of daily life (Mailizar, Abdulsalam, & Suci, 2020). The pandemic forced educational institutions worldwide to close their doors to allow students to practice social distancing (Toquero, 2020). It is expected that students' mental health will be impacted by the rapid spread of the virus, stringent confinement measures, and delays in reopening schools across the region (Cao et al., 2020). Psychological reports indicate that the pandemic has had a major impact on children, the general public, elderly adults, medical personnel, and patients (Zhang, Wang, Rauch, & Wei, 2020).

The COVID-19 pandemic led educators to reconsider traditional in-person teaching methods and explore online classes as a viable alternative to keep students safe from infection until they could return to in-person learning. As the end of the epidemic is uncertain, schools all over the world are using existing technological resources to provide online education to students in various fields (Kaur, 2020). Like past pandemics, individuals and healthcare workers have reported experiencing mental distress such as depression, anxiety, fear, panic, stress, trauma, and adjustment disorders (Ahorsu et al., 2020; Frank, Fatke, Frank, Förstl, & Hölzle, 2020; Jahanshahi, Dinani, Madavani, Li, & Zhang, 2020; Montemurro, 2020; Sakib et al., 2020).

In COVID-19 crisis no empirical study currently exists in the literature that examines students' concerns related to physical, mental, and financial health as well as their academic and institutional concerns in presence of COVID 19 Preventions as per the directions of WHO. Therefore, this study evaluated the impact of COVID-19 on psychological, physical, and financial health concerns of students and examined their academic and institutional concerns through adherence to COVID-19 preventions.

The findings should be beneficial to the educational field, since they attempt to alleviate pupil worries while maintaining educational consistency. Furthermore, the results should be used to enhance community health and catastrophe preparedness in the future.

2. Review of the Literature

In recent years, the COVID-19 pandemic had a severe effect on events around the globe, it's not only effected the socialization but also had major impact on crisis of economy and education system. All economic or non-economic activities immediately scale down in the fear of wide spread of Covid-19 pandemic and many sectors faced devastating effect of this virus. Education system also faced the sever effect of corona virus. The pandemic caused all the institute to shut down their curricular or non-curricular activities in their campuses so the students could follow the SOPs of Covid-19 specifically social distancing measures (Toquero, 2020).

Furthermore, covid-19 pandemic shifts conventional classroom learning to e-learning. During covid-19 lockdown, lecturers and students had the worst e-learning experience as the lack of IT structure in the education system. E-learning not only isolated the students at home but also isolated them in front of their screens because they had no e-learning experience earlier.It has a major impact on their mental health as well as their physical health.E-learning can be effective in technologically advanced countries (Basilaia & Kvavadze, 2020). And Pakistan has poor digital IT infrastructure which is ineffective for students learning that ultimately caused depression among students and effect their mental health.

The solution to lessen the impact of COVID-19 is to strictly adherence the Covid-19 prevention or follow SOPs developed by WHO. However, in COVID-19 crisis no empirical study currently exists in the literature that examines students concerns as well as their academic and institutional concerns in presence of COVID 19 preventions as per the directions of WHO. This

study evaluated the impact of COVID-19 on psychological, physical, and financial health concerns of students and examined their academic and institutional concerns through adherence to COVID-19 preventions.

In the COVID-19 epidemic, countrywide statistics show an increase in the predominance of distress, anxiousness, and sadness in the individuals, as well as an increase in the incidence of depression and anxiety signs in the general population (Fisher et al., 2020; Statistics, 2020).

Work and health are inextricably linked. The health perks of good work are well documented across the globe. There is abundant proof of the health advantages of great work across the world (Waddell & Burton, 2006). The adverse health effects of getting fired are well documented, particularly in individuals whose jobs are affected by viral pandemic (Crowe & Butterworth, 2016; Taylor, Agho, Stevens, & Raphael, 2008; Zhang et al., 2020).

Work loss undermines social ties and depletes financial means, both of which are key health indicators (Menec, Newall, Mackenzie, Shooshtari, & Nowicki, 2020; Price, Choi, & Vinokur, 2002). Housing, power, and food security, as well as the capability to receive treatment, are all influenced by economic means (Weida, Phojanakong, Patel, & Chilton, 2020). Social engagement can help people cope with anxiety; however, alienation has been linked to an increased peril of stress, depression, and anxiety (Grey et al., 2020).

COVID-19 is the most significant educational issue that global education systems have ever confronted. Most states have mandated that almost all schools discontinue face-to-face teaching for their pupils, urging them to move to virtual classes and online teaching almost immediately (Daniel, 2020). As a result of the proliferation of COVID-19 throughout Pakistan, the administration has instructed academic institutions to halt their usual academic operations to ensure the protection of their pupils. Furthermore, the state confronts an extraordinary issue in reconfiguring its scholastic schedule because it undergoes almost a month of partial to entire shutdown and outright closure of academic institutions (Mukhtar, 2020). Because of the inadequate performance of the network and connection problems, the most of pupils suffered greatly. According to earlier research, "the International Association of Universities is carefully tracking issues and reactions to the Covid19 scenario in higher education and around the world" (Bergman & Feser, 2020; Crawford et al., 2020). COVID-19 has had a worldwide impact on both younger and older individuals (Shuja, Aqeel, Khan, & Abbas, 2020).

3. Conceptual Framework and Hypotheses Development

3.1. Direct hypotheses

H1: In COVID-19 situation, students' physical health significantly associated with Adherence to COVID-19 preventions

H2: In COVID-19 situation, students' mental health significantly associated with adherence to COVID-19 preventions.

H3: In COVID-19 situation, students' financial health significantly associated with adherence to COVID-19 preventions.

H4: In COVID-19 situation, students' Adherence to COVID-19 Preventions mitigate the institutional concerns.

H5: In COVID-19 situation, students' Adherence to COVID-19 Preventions mitigate the Academic concerns.

3.2. Indirect Hypotheses

H6: Adherence to COVID-19 prevention mediate the relationship between physical health and Institutional concerns.

H7: Adherence to COVID-19 prevention mediate the relationship between mental health and Institutional concerns.

H8: Adherence to COVID-19 prevention mediate the relationship between financial health and Institutional concerns.

H9: Adherence to COVID-19 prevention mediate the relationship between physical health and Academic concerns.

H10: Adherence to COVID-19 prevention mediate the relationship between mental health and Academic concerns.

H11: Adherence to COVID-19 prevention mediate the relationship between financial health and Academic concerns.

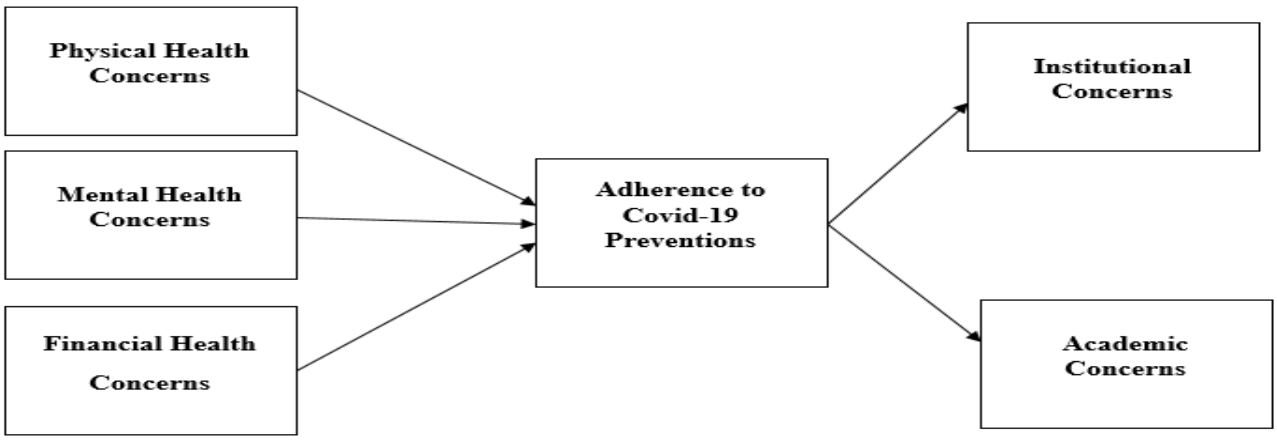

Figure: 1 Conceptual Framework

Figure 1 displays the conceptual framework of the study. The framework consists of three independent variables: Physical health concerns (PH), Mental health concerns (MH), and Financial health concerns (FH). Adherence to COVID-19 prevention acts as a mediating variable, and the two dependent variables are Institutional concerns (IC) and Academic concerns (AC).

4. Research Methodology

The current research utilized a quantitative approach through administering an online survey to students that explored their experiences with COVID-19. The survey included questions regarding the students' demographics, levels of concern regarding COVID-19, adherence to preventive measures, and both academic and institutional concerns. The study population comprised of undergraduate, graduate, and post-graduate students enrolled in universities in Pakistan. The study was conducted with a cross-sectional time frame, collecting data from September 2020 to November 2020. The study settings were non-contrived. SEM is used to measure the hypothesized model. Due to the unknown population, a nonprobability sampling technique, convenience sampling technique was used. Data is of primary nature as it is collected through a questionnaire.

"No validated survey could be found in the literature; the College of Dental Medicine (CODM) leadership developed a survey as part of the CODM quality improvement program to evaluate the pandemic's effect on students and to assess the CODM's pandemic-related educational strategies and responses.

Survey items focused on 6 general domains: (1) adherence to COVID-19 preventions, (2) institutional concerns/responses, (3) student academic concerns, (4) student physical health concerns, (5) student mental health concerns, and (6) student financial health concerns. Survey items were then independently reviewed by a 5-member interdisciplinary team consisting of public administration professional, health psychologist, assessment professional, nursing faculty, and doctoral student. Suggestions and comments by the team to improve clarity, content, and validity were incorporated into a revised survey. The interdisciplinary team reviewed the revised survey to reconfirm face validity and to make sure questions aligned with survey aims" (Hung et al., 2021).

In this study, a five-point same Likert scale was used after minimal changes according to the nature of current study.

5. Results

The data is analyzed through the SPSS and AMOS software. The total respondent was 298. The data is male dominant as 260 (87.2%) were male and 38 (12.8%) were female. Most of the respondent were young and fall in the age slab of 20-29 (49.3%). Data is gathered mostly from the private institutes 118 (60.4%) with the experience 3-5 years.

Table: 1 Correlation matrix

Variables	PH	MH	FH	ACP	AC	IC
PH	1					
MH	.558**	1				
FH	.541**	.449**	1			
ACP	.568**	.587**	.727**	1		
AC	.478**	.535**	.547**	.583**	1	
IC	.332**	.462**	.352**	.492**	.579**	1

Note: ** "Correlation is significant at the 0.01 level (2-tailed)"

Table 1 shows that physical health is positively related to mental health ($r = .558$, $p < .01$), financial health ($r = .541$, $p < .01$), adhere to Covid-19 prevention ($r = .568$, $p < .01$), academic concerns ($r = .478$, $p < .01$), and institutional concerns ($r = .332$, $p < .01$). Mental health has a positive correlation with financial health ($r = .449$, $p < .01$), adherence to Covid-19 preventions ($r = .587$, $p < .01$), academic concerns ($r = .535$, $p < .01$), and institutional concerns ($r = .462$, $p < .01$). Financial health is positively associated with adherence to Covid-19 preventions ($r = .727$, $p < .01$), academic concerns ($r = .547$, $p < .01$), and institutional concerns ($r = .352$, $p < .01$). Adherence to Covid-19 preventions has a positive relationship with academic concerns ($r = .583$, $p < .01$) and institutional concerns ($r = .492$, $p < .01$). Finally, academic concerns have a positive correlation with institutional concerns ($r = .579$, $p < .01$).

Table: 2 Reliability Analysis

Variable of interest	Cronbach's Alpha(α)
PH	.844
MH	.891
FH	.904
ACP	.791
AC	.798
IC	.791

The above table values are according to (Cronbach, 1951), who says that all the table values must be greater than 0.70. the values are clearly shown in above table.

Table:3 Descriptive and Normality analysis

Variables of Interest	Mean	Standard Deviation	Skewness value	Kurtosis value
PH	4.0365	.772	-1.067	.705
MH	3.9335	.769	-.564	-.507
FH	3.8265	.783	-.539	-.190
ACP	3.9451	.766	-.858	.231
AC	3.6792	.793	-.404	-.630
IC	3.7154	.777	-.457	-.353

The above table shows descriptive statistics of the study. All the values of the skewness and Kurtosis are within the defined threshold as discussed by Byrne and Van de Vijver (2010) and the values are ±1 and ±3 respectively.

5.1. KMO and Bartlett's Test of Sphericity

Malhotra (2020) said that for data suitability we use the factor analysis test. But at the initial level before further processing KMO and Bartlett's measure test is used. This test is used for the data sufficiency if the values exist in the defined ranges then data is suitable for the further analysis.

Table: 4 KMO and Bartlett's Test

Test Name		Results
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.783
Bartlett's Test of Sphericity	Approx. Chi-Square	6191.680
	Df.	703
	Sig.	.000

5.2. Structural Equation Modeling

SEM is a technique which is applied to test the observational error by computing the latent variables. In this technique the multiple regression is used. This technique is also used for the suitability of the data and the data significance relationship between the variables. In AMOS we applied this technique with the help of bootstrapping. Testa (2001) said that SEM is a multivariate technique for determining the proposed model. The other researcher Anderson and Gerbing (1982) said that the SEM theory testing technique is not a theory development technique. Therefore, in this study, I used the SEM because my purpose is to test the theory not theory development. In SEM there are two types of model measurement and structural model (Anderson & Gerbing, 1982). The values of the current study model show in table 4. All the values of the threshold are mentioned in the table 5.

Table: 5 Model Summary

Measure	Estimate	Threshold	Interpretation
CMIN	1026.724		
DF	510		
CMIN/DF	2.013	Between 1 and 3	Excellent
CFI	0.901	›0.95	Acceptable
SRMR	0.068	‹0.08	Excellent
RMSEA	0.062	‹0.06	Acceptable
PCIose	0.001	›0.05	Acceptable

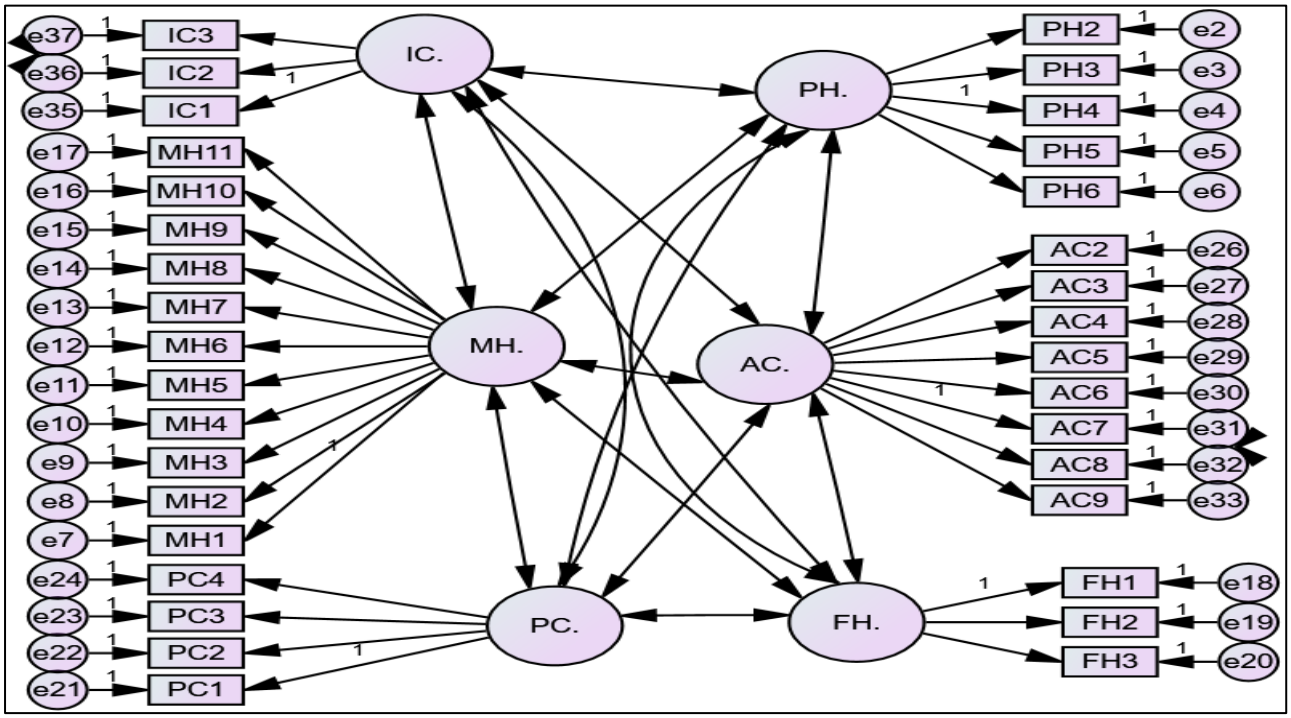

Figure 2: Measurement Model

5.3. Hypothesis Testing

In the current study, path analysis is used for hypothesis testing. The values are estimated through the significance level at $p<0.05$. Bootstrapping is used for the path analysis.

Table: 6 Direct Relationship

Estimate				S.E.	P	Hypothesis
COM_PC	<---	COM_PH	.123	.049	***	Accepted
COM_PC	<---	COM_MH	.278	.046	***	Accepted
COM_PC	<---	COM_FH	.524	.045	***	Accepted
COM_IC	<---	COM_PC	.360	.085	***	Accepted
COM_AC	<---	COM_PC	.227	.078	.004	Accepted

All the variables have direct positive relationship among each other.

5.4. Mediation Analysis

In the present study, the mediation analysis was conducted using bootstrapping. Bootstrapping is a statistical method that involves generating a distribution of samples from the original data set to estimate standard errors and confidence intervals. This approach has been extensively studied by researchers such as (Byrne & Van de Vijver, 2010). This method is well suited for mediation analysis because it provides a comprehensive examination of the mediation process, even when sample sizes are not large or data is not normally distributed. Advantages of using bootstrapping for mediation analysis include the ability to perform the analysis without needing a large sample size or normal data distribution. This makes it possible to conduct mediation analysis in SEM without having to meet these typical assumptions. The purpose of the bootstrapping procedure in this study is to identify the nature of the mediation effect, which can be full, partial, or non-existent. This is done by calculating the direct effect without mediation, direct effect with mediation, indirect effect, and total effect of the proposed model through the use of bootstrapping. The analysis is performed using Bollen& Stine bootstraps, with a sample size of 2000 and a 95% bias-corrected confidence interval.

Table: 7

Hypothesis	Dβ W/O Med.	Dβ with Med.	Iβ	Med.Type
PH PC IC	β=0.332 p=0.000	β=0.078 p=0.138	β=0.254 p=0.001	Full Mediation
MH PC IC	β=0.462 p=0.000	β=0.264 p=0.001	β=0.198 p=0.001	Partial Mediation
FH PC IC	β=0.352 p=0.000	β=0.012 p=0.890	β=0.364 p=0.001	Full Mediation
PH PC AC	β=0.478 p=0.000	β=0.216 p=0.001	β=0.262 p=0.001	Partial Mediation
MH PC AC	β=0.535 p=0.000	β=0.294 p=0.001	β=0.241 p=0.001	Partial Mediation
FH PC AC	β=0.547 p=0.000	β=0.260 p=0.001	β=0.287 p=0.001	Partial Mediation

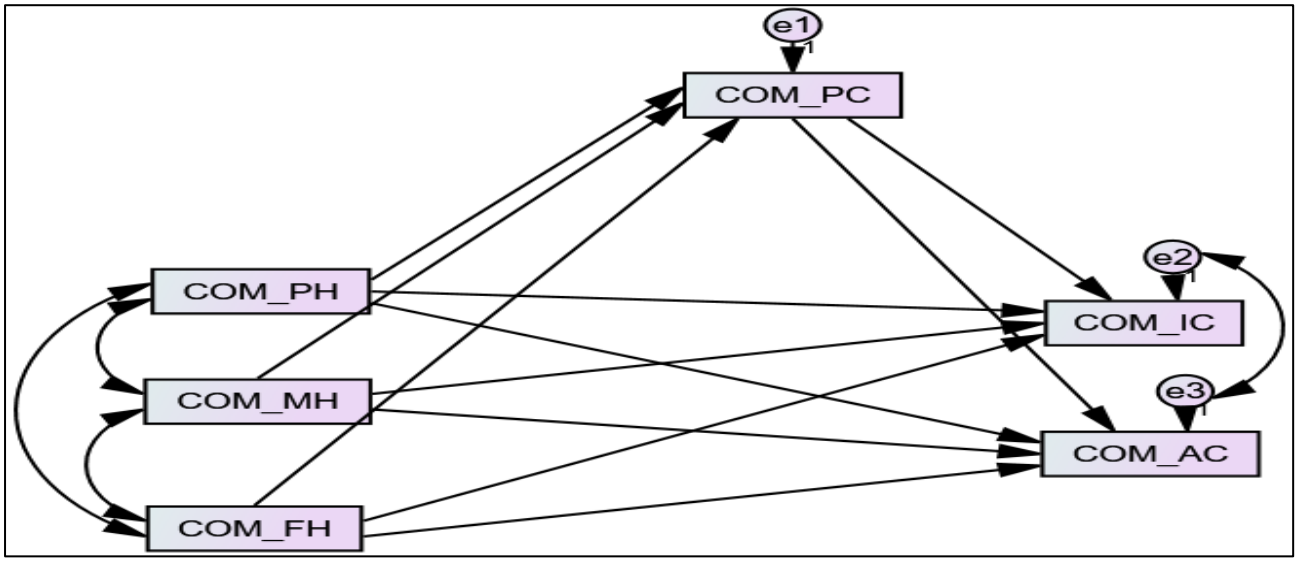

Figure: 3 Structural Model

6. Conclusion

The COVID-19 pandemic has had a significant impact on the financial, mental, and physical health of students. It has also contributed to increased academic and institutional concerns. The results suggest that students are experiencing increased levels of stress and financial difficulties, as well as decreased educational progress if they do not comply with COVID-19 Standard Operating Procedures (SOPs). Most students are comfortable with technology adaptations in their curriculum and support the use of masks, social distancing, and sanitizers.

The findings of this study have practical implications for institutions, as it highlights the importance of implementing proper COVID-19 SOPs to reduce students' concerns and stress

levels related to their financial, mental, and physical health, while still ensuring the continuity of education. Additionally, the results can inform future disaster planning and improve students' overall health.

From a theoretical perspective, this study adds to the existing literature on COVID-19 and higher education by examining the role of physical, mental, and financial health, as well as institutional and academic concerns, among students in Pakistani universities. The study highlights the importance of COVID-19 SOPs and provides new insights into this field of study. However, the study also has some limitations, such as the potential for bias due to self-reported data collected from students and the limited generalizability of the results due to the use of convenience sampling during the lockdown. These limitations should be addressed in future studies.

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