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Impact of Socio-Psychological Issues Among University Students During Lockdown in Karachi, Pakistan

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Abstract

The rapid COVID-19 spread is instigating a tremendous amount of concern and anxiety among the people of Pakistan. Students from Pakistan's four most prestigious universities were surveyed for the cross-sectional web-based study. An online questionnaire was distributed (Generalized Anxiety Disorder (GAD) 7-item scale, depression (9-item PHQ (patient health questionnaire)), as well as discomfort sources (14-items) via Google forms. Total 100 replies (with an age of 21.7 years' average and a range of 3.5 years, and a 70.5% female representation) were received. According to our findings, moderate-severe anxiety and sadness (a score of 10) were found in 34% and 46% of students, respectively. Population over the age of 31 had a much lower level of depression than those under the age of 30.

In comparison to females, males were found to have considerably lesser levels of depression and anxiety. Established anxiety was found to be more prevalent among those who had a close family member, acquaintance, or friend who had a mental illness. COVID-19 pandemic's negative consequences on daily living followed by the rapid spread of the disease were the primary sources of distress. Students' mental health is negatively impacted by COVID-19. They use active coping, spiritual/ religious coping, self-distraction, and acceptance as the most typical coping methods. During the pandemic, it is suggested that pupils' mental health is not ignored.

Keywords: *COVID-19, Anxiety, Depression, University Students, Karachi, Pakistan*

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1. Introduction

In December, the coronavirus outbreak began as an unknown cause of pneumonia 2019 December in China's state of Wuhan that quickly moved fast to neighboring nations (Zhang et al., 2020). The World Health Organisation (WHO) on January 30, 2020, identified the COVID-19 epidemic as its sixth International Public Health Emergency (PHEIC) and COVID-19 as an epidemic on March 11, 2020 (Caso & Federico, 2020). Almost 1,436,198 cases of novel coronavirus were reported on April 09, 2020, with 85,522 deaths with a CFR (case fatality rate) of 5.95% (Tezer & Demirdağ, 2020). COVID-19 poses a severe global danger, according to the WHO. The number of occurrences, fatalities and affected countries was expected to rise in days and weeks. In Pakistan, the

first case of coronavirus was registered in Karachi (a city holding 204.65 million populations) on February 26, 2020 (Akhtar et al., 2021). COVID-19 virus has extended throughout the country and has developed into an epidemic. On April 10, 2020, Pakistan had 4601 confirmed COVID-19 cases, 727 patients had improved, and 66 patients had passed away within 45 days after the spread (Abid et al., 2020).

The epidemic's severity differs from country to country, with France, Spain, and Italy having the highest fatality rates. Reports said that the EU accounts for 40% of the total cases around the globe and 79.5% of international fatalities due to toCOVID-19 (Helmy et al., 2020). WHO regional statistics mentioned that the EMRO (Eastern Mediterranean Region) comes at fourth place in the world in verified COVID-19 cases, following Europe, the Western Pacific, and the Americas with an overall 3592 mortalities and 66,000 patients (Gao et al., 2020). Iran presents the most instances to the EMRO, accounting for 88% of all cases, compared to 3.7% in Saudi Arabia. In the EMRO region, 98% of COVID-19-related deaths were documented in Iran (Mansuri, 2020).

In Pakistan, the current increase in COVID-19 cases could be due to the relaxation of the lockdown around Eid-al-Fitr (a religious feast at the end of Ramadan Holy Month) (Noreen et al., 2020). The instances have been increasing at an exponential rate since Eid-al-Fitr. Unfortunately, Pakistan lacks the resources and policies needed to avoid the spread of the coronavirus in public health (testing, tracing, and isolation) and healthcare (medicine, ventilators, and hospital beds). As a result, the WHO advised urgent, intermittent, two-week lockdown periods, fearing that the number of patients could reach 800,000 by the end of July (Anjum & Wel, 2020).

2 Literature Review

The Pakistan Ministry of Health has taken respective steps to prevent the virus spread among the population, including thermal syndrome screening in entry points, quarantine for border crossing travelers with Iran and Afghanistan, that consist of restriction of journeys including the suspension of all international flights, and the imposition of a strict national lockdown as a risk mitigation action (Noreen et al., 2020). These precautions slowed the spread of illness across the community.

Pakistan Health Care Commission immediately started a public health surveillance program to monitor disease spreading trends at the national and global levels (Atif & Malik, 2020). They also established new and upgraded laboratories to increase testing capacity to get the actual status of COVID-19 spread in the population. They set different response centers to collect information and gave a helpline number “1166” for any query about COVID-19 (Haq et al., 2021). Along with this, PHC (Punjab Health Commission) NCOC (National Command and Control Centre) also made different strategies, such as implementing lockdown. After some time, NCOC adopted “TTT” (track, trace, and test) strategy to track infected persons. With this strategy, the government relaxed and implemented smart lockdown to only highly infected areas (Iqtadar et al., 2020).

Pakistan's borders are shared by China and Iran, with the former serving as the epicenter and the latter seeing an exponential surge in the cases count over the last ten days (Khan et al., 2020). Both China and Iran have trade and travel agreements with Pakistan. Pakistan is at higher risk of the virus spreading further from Iran and China as more people travel by air, land, and sea to the nation. A comprehensive response strategy must be developed to limit the current outbreak and prevent it from spreading further. Since Pakistan already has imported the virus, the government calls for rigorous early detection measures for potential cases to prevent the onset of the present pandemic and its further transmission. The Khunjerab border (a land way to China) is closed because of

heavy snowfall (Ali, 2020). Pakistan has temporarily ceased trade and travel with Iran due to the portability of the increased spread of the virus. At the same time, the Chaman and Taftan borders (with Afghanistan) are being closely scrutinized (Chamman's border is temporarily closed, while Taftan's border is periodically exited). Travel to Iraq, Iran, and Saudi Arabia will be banned.

There are around 41 flights each week between three Pakistani cities (Lahore, Karachi, and Islamabad) and two Chinese cities (Urumqi and Beijing). The risk that the virus will spread into Pakistan is substantial and requires excellent planning, tight measures to early detection, and monitoring to avoid future expansion of the infection. Pakistan is currently in a containment situation. The present capacity to respond to this outbreak, including available surveillance systems and entry points (POEs), must be improved. It's critical to include the public and raise awareness (Pakistan, 2020).

COVID-19 originated as an epidemic in China's city of Wuhan, in which a large number of patients with pneumonia of unclear origin were diagnosed. (Li et al., 2020). Between December 2019 and the starting months of 2020, sickness spread across the country and worldwide (Huang et al., 2020). One hundred sixty-nine countries in nearly all continents were affected by the novel coronavirus disease, which was acknowledged as a pandemic by the WHO on March 11, 2020. After WHO proclaimed the COVID-19, a global public health emergency was professed under the IHR (International Health Regulations) (Organization, 2020b).

Within three months, this extremely contagious sickness spread to nearly every country on the planet. More than 35 million populations have been disease-ridden, and more than a million have died due to COVID-19, which has been found in 235 nations at the time of this writing (Winnail, 2020). Many more people are becoming infected, even in countries where earlier outbreaks were successfully contained. Governments around the world have implemented quarantines, lockdowns, social isolation, and restrictions on movement to stem the spread of this fatal disease. The countries' mitigation actions have led to massive financial losses and adverse psychological effects(Matias, Dominski& Marks, 2020).COVID-19 pandemic, like other public health events, affects an individual's psychological health in the long and immediate term(Liang et al., 2020).

On March 11, 2020, the WHO formally proclaimed COVID-19, which was instigated due to the SARS-Cov-2 pandemic (Domínguez-Gill et al., 2020). To "flatten the curve," countries all around the world had to take many preventative measures to reduce infection rates. On March 21th, 2020, Pakistan implemented a similar total lockdown after the first few instances (WHO, 2020). Schools and universities have begun using internet video conferencing tools like Zoom for education to lessen the impact of a lockdown. As a result of the lockdown, all public places were closed, including parks, movie theaters, gyms, and restaurants. Students' mental health suffered due to following official guidelines for self-quarantine. Anxiety and depressive symptoms were more prevalent in several (Ron & Cuéllar-Flores, 2020). Perceived human psychic time flow aids their survival in an ever-changing world(Zakay, 2014).

The lockdown caused individuals to lose track of time, causing them to be confused about what day of the week it was. The increasing boredom caused more time dilation during restrictions and quarantine(Cellini et al., 2020). Yu et al. (2020) proved that staying at home all day might disturb sleep habits and cause stress. As a result of this increased stress, sleeplessness would ensue. Despite this paradox, people slept and woke up at times later but experienced a lesser quality of sleep (Cellini et al., 2020).

COVID-19 information has been disseminated all over social media in light of the current lockdown. But it has also become a go-to for folks desperate for human contact due to the outbreak—the "psychological need" developed into a habit with negative consequences for an individual's mental health. According to a Chinese study, study participants who were often exposed to social media throughoutCOVID-19 the epidemic had complex rates of depression and anxiety combined (CDA) (Singh, Dixit& Joshi, 2020).

It was not just the physical health of the community that COVID-19 threatened but the social, psychological, and emotional health of the population as well(Banerjee, 2020). Mental and psychological health refers to a person's ability to deal with life's challenges (Herrman, Saxena& Moodie, 2005). Mental and emotional health is affected by many circumstances, including uncertainty of sickness, social disconnection, self-isolation, and quarantine (Mukhtar, 2020). People in China were asked about anxiety, cognitive change, sadness, phobias, avoidance, obsessive attitudes well, and the loss of social functioning in a national survey done on January 31, 2020. A score of 23.65 (15.45) was recorded on the COVID-19 Peri-traumatic Distress Index (CPDI). Approximately a third of those surveyed had mental and emotional issues (Qiu et al., 2020). Meng et al. (2020)in China examined the mental influence of COVID 19 among older people and found that senior citizens of all ages suffer from depression and anxiety.

Since February 2020, the first case was reported in Pakistan, and the nation has been on high alert to date (Alleman et al., 2020). The government and health specialists have recommended preventive actions to stop the extent of the virus. Later on, the measures were stepped up as the number of cases, and local transmissions increased. Closed shops and mosques were closed, people were restricted from leaving their homes, and people were forced to quarantine in their homes to stop the spread of infection due to the government's stringent measures. There was jeopardy of mental and psychological health issues due to these preventative measures (Mukhtar, 2020). Psychological problems such as increased worry and panic and shifts in attitudes to assure safety were found in research in March 2020in Karachi, Pakistan (Balkhi et al., 2020).

A civilization-altering outbreak of a large-scale infectious disease (ID) has occurred regularly in the past. For many people, the lack of information concerning these IDs can lead to various mental health issues. Stigma – an illogical reaction to the sickness – develops due to the dread, worry, and hysteria that people experience. HIV/AIDS stigmatization, SARS, H1N1, and Ebola stigmatization are recent examples in this area (Seedhouse, 2020). Emerging diseases such as the present COVID-19 pandemic can cause tremendous psychological suffering, especially when the condition is new, extremely contagious, and lethal, as does COVID-19 (Wang et al., 2020). The highest incidence of coronavirus was informed on February 26, 2020, in Pakistan. A complete lockdown was implemented on March 23, 2020, to prevent the spread of coronavirus efficiently. On May 09, 2020, a broad lockdown was changed into a "smart lockdown" due to the order to shut down all educational institutions and significant marketplaces, and public locations (Iqbal &Younas, 2021). Many elements contribute to university students' psychological health, including coronavirus's rapid expansion across the country and the media's exaggerated depiction of the disorder. The epidemic's psychological effects have affected people, healthcare staff, and schools (Chew et al., 2020).

The epidemic of COVID-19 has been linked to several psychiatric issues, and these may persist even after the outbreak ends. Because of this, it is critical to quantify the weight of mental problems and pinpoint high-risk teams in the community that requires mental help in the course of the pandemic(Khan et al., 2020).In the system

of the corvid-19 virus, a survey was executed at Karachi University, Pakistan, to examine the coronavirus pandemic's mental impacts among students. A nationwide, scientifically sound, and better strategy for wide-ranging mental crisis handling can be developed using the findings of this study. The current work was carried out to understand better the mental influence of coronavirus on university students of Pakistan and their handling mechanisms.

3; Methods

3.1 Study Design

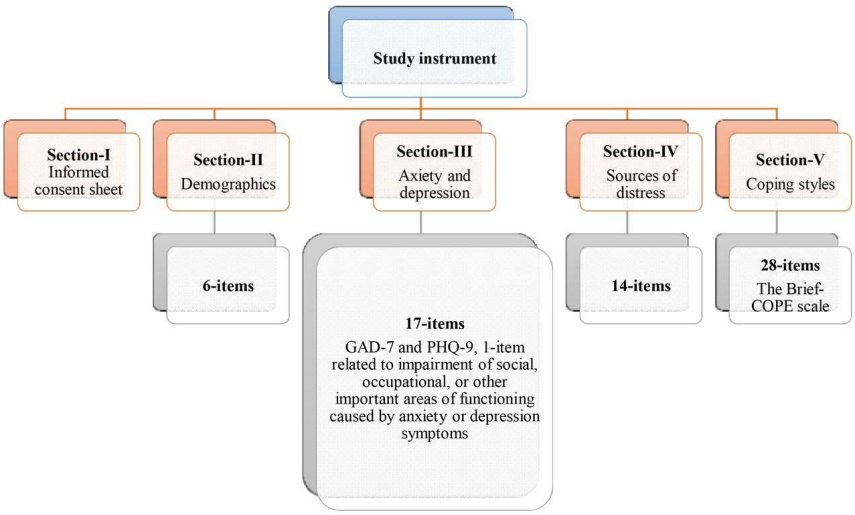
A cross-sectional web-based survey was conducted among Karachi University students in July and August 2021. Individuals who were not University students, including those who had previously graduated and refused to participate in the current study, were all excluded. The study's sampling method is stratified random sampling. The description of the study findings was qualitative and narrative.

3.2 Ethical Consideration

The current research protocol was evaluated and accepted by the Research Ethics Committee of the University of Karachi, Pakistan. Every study informant signed an informed consent form.

3.3 Data Collection Tool

During the ongoing coronavirus epidemic, Google forms were utilized to distribute an online survey questionnaire to students to measure depression, sources of distress, anxiety, and coping techniques. An expert board assessed survey questionnaire content before being accepted for data collection after proposed improvements were made. In addition, ten university students were used to test the questionnaire (6 females and three males, age 20-30 years). All of the items and response alternatives were easy to understand for all participants. The final study did not include the data of these subjects. The final questionnaire comprised five sections, as indicated in Figure 1. An informed consent form was included in Section I. Those who agreed completed the following sections.



GAD - generalized anxiety disorder; PHQ- patient health questionnaire

Figure 7. Sections of Survey Questionnaire (Self-Made)

3.4 Outcome Measures

The generalized anxiety scale (GAD-7) was utilized to measure anxiety in this study (Spitzer et al., 2006). A 0 to 21 score can be achieved by completing seven separate tasks, each of which receives a score between 0 and 3. The cut-off results for severe moderate and mild anxiety are 15, 5-9, and 10-14, respectively. The GAD-7 has 89%sensitivity and 82% specificity with a cut-off score of 10. Even more importantly, it is relatively accurate in diagnosing three more prevalent anxiety disorders: social phobia (70% specificity and 81% sensitivity), panic disorder (specificity 81% and sensitivity 74%), and post-traumatic stress disorder (70% specificity and 81% sensitivity) (sensitivity 66% along with specificity 81%). Study participants were screened for depression utilizing the Patient Health Questionnaire (PHQ-9). It is a widely utilized device in both clinical and academic settings. An overall 0-27 score is achieved by using 9-items; every item is scored 0 (never) to 3 (almost every day). Minimum, mild, moderate, moderately severe, and severe depression are classified as PHQ-9 scores of 4, 5-9, 10-14, 15-19, and 20 (Kroenke et al., 2001). A 14-item scale created as of prior research reporting anxiety in university students in the course of the SARS pandemic was used to quantify the causes of discomfort from the current coronavirus endemic (Wong et al., 2007). Three-point Likert scales were used to measure how much the respondents agreed or disagreed with each item. Four scales were used to categorize the items, each with a possible score of -4 to 4: the worry of the health of self, and loved ones, virus spread, family, effects on daily life, and dissatisfaction with government initiatives (possible score -3 to 3).

3.5 Statistical Analysis

The lead investigator's web-based database (Google Drive) was transferred to an Excel sheet with the responses. The data gathered was brought into SPSS v.22 for evaluation after proper coding and data cleaning. The standard deviation (SD) and mean were utilized to represent continuous data, while percentages and frequency were worked on to represent characteristic data. For categorical data, the Chi-square test was conducted, and for continuous data, the analysis of variance and independent t-test was utilized where applicable. A statistical significance level of less than 0.5% was utilized.

4.0 Results

4.1 Characteristics of the Study Sample

One hundred replies were analyzed in this experiment. Findings from the data analysis and evaluation exposed that most of those who participated in the survey (70.5%) were women from Sindh province (93.4%). At a rate of 22%, respondents reported having a family member, acquaintance, or friend who was affected with coronavirus.

Table 1

Anxiety and Depression Assessment Based on Demographics of Respondents

Demographics	**Subgroups**	**N (%)**	**Anxiety Score**	**Depression Score**
Age	≤ 20 y	(40.7%)	7.38 ± 5.57	9.82 ± 6.95
	> 20-25 y	(50.6%)	7.56 ± 5.72	9.35 ± 7.02
	> 25-30 y	(5.8%)	7.94 ± 5.72	8.64 ± 7.41
	≥ 31 y	(2.8%)	6.53 ± 5.55	6.50 ± 6.18*
Gender	Male	(29.5%)	6.62 ± 5.70	8.73 ± 6.84
	Female	(70.5%)	7.84 ± 5.60	9.71 ± 7.06
Province	Sindh	(93.4%)	7.42 ± 5.63	9.35 ± 6.93
Having a family member, acquaintance, or friend who was affected with coronavirus				
		22%		

4.3 Anxiety and Depression

As a general rule, the anxiety and sadness scores were 7.48 ± 5.65 and 9.42 ± 7.01, respectively. Generalized Anxiety Disorder Scale -7 (GAD-7), a tool that is used to identify, screen, and evaluate the harshness of anxiety complaints, for example, panic disorders, post-traumatic pressure disorders, and social fears. We evaluated the generalized anxiety disorder symptoms in the respondents and found a mean. Students with moderate to severe anxiety (a score of 10) made up less than a third of the class. There were 30.5% of the students who had mild, 24.5% of the students who had moderate depression, and 13.6% of the students who had severe depression. There was a substantial difference in depression scores between respondents aged 31 and over and those under 30 years old. On the other hand, Male responders were found to have lesser levels of anxiety and sadness compared to their female counterparts. A statistically note worthy difference was also identified in anxiety levels among individuals who stated having a family member, friend, relative, or acquaintance who had suffered from the condition.

Table 2

Anxiety and Depression

Anxiety Score	7.48 ± 5.65
Depression Score	9.42 ± 7.01
Anxiety and Depression	**Percentage (Frequency)**
Mild	30.5%
Moderate	24.5%
Severe	13.6%

People's daily lives were negatively impacted by the spread of COVID-19 and their discontent with the government's efforts to tackle the disease. The overwhelming majority of responders (70.9 %) indicated worry concerning their family members and acquaintances becoming infected with the flu 41 % of those polled were terrified of catching the disease at any time, and 35.9 % said that they occasionally felt as though they were infected, according to a survey.

Table 3

Different Sources of Distress:

Sources of Distress	Percentage (Frequency)
Worry concerning family members and acquaintances becoming infected with the flu	70.9%
Terrified of catching the disease at any time	41%
Occasionally felt infected	35.9%

5; Discussion

Since the influenza pandemic of 1918, COVID-19 has been the most catastrophic and difficult public health crisis to date. More than 4.2 million infections and 292046 deaths worldwide as of May 14, 2020 (WHO, 2020). All nations have felt pain and suffering as a result of this. People of all ages are experiencing significant anxiety, dread, and discontent as an outcome of the disease. University students are no exception in Pakistan, where all educational institutions have been ordered to close owing to the virus (Order No. SO (I&C-I) 1- 2/2020). According to our research, this is the first study to investigate university students' reactions to the COVID-19 and their coping mechanisms. It is regarded as a "yellow flag" when GAD-7 and PHQ-9 scores fall below ten on the GAD-7 and PHQ-9, respectively. At the same time, it is considered a "red flag" when GAD-7 and PHQ-9 scores fall above fifteen (people in whom active treatment is possibly necessary). This research indicated that nearly34% and 45% of respondents, respectively, had GAD-7 and PHQ-9 scores of at least ten on both measures, indicating moderate to severe anxiety and depression. Our findings are at odds with Cao et al.(2020), who instituted that 21.3% of Chinese college pupils had mild anxiety; however, the current research determined that only 24.5% had moderate stress and just 13.6% had severe anxiety. 21.8% of our study participants had a family member, friend, or acquaintance who had been identified with infection, compared to less than 1% in the prior study. This can describe the increased prevalence of depression and anxiety in our work. According to research concerning their psychological effects, students' mental health was negatively impacted by the SARS and MERS coronavirus outbreaks (Al-Rabiaah et al., 2020).48%, 11.6%, and 6.5% of those asked about the influence of depressive or/and Anxiety signs on their life quality reported some, very, or considerable difficulty in conducting job, taking care of their homes, or interacting with them others. Students' mental well-being during COVID-19 necessitates collaboration between academic institutions and the government, as recommended by the WHO(Organization, 2020).

6 Recommendations

Keeping one's mental health in top condition is more critical than ever (WHO, 2020); therefore, it is recommended that:

- Pay attention to what the authorities have to say.
- Make sure to stick to a normal, vigorous daily routine (maintain personal hygiene, wake up and sleep around at same period each day, consume healthy food, assign working time and resting time, exercise daily, and allocate time for carrying out tasks that an individual enjoys). Efforts should be made to restrict the amount of time spent reading or watching the news that makes one feel uncomfortable or worried. At

specified times of the day, if necessary, the most current information should be sought out. If an individual wants to keep their stress levels down, they need to stay in touch with their loved ones via phone and the internet.

- Refrain from abusing alcohol and other substances to handle adverse feelings, including anxiety, social isolation, and boredom. A healthy balance between online and outside activities should be maintained. Social media should be utilized to spread stories of hope and optimism and correct any misinformation about COVID-19 that one comes across with helping those in need.
- It is also recommended that people at traditional institutions and positions address issues of mental health experienced during pandemics and conduct campaigns to de-stigmatize mental health for university students. Leaders from educational and health sectors should assist in normalizing the communal trauma that many individuals, both not infected and infected with coronavirus, can experience as the country starts to recover. This is because psychological and mental health problems influence all students and individuals, indirectly or directly via friends, family members, colleagues, or others.
- The role and capability of the local workforce to manage psychological and mental health problems should be increased, and students should be referred to possible services. For this purpose, first responders, health professionals, and social needs providers should execute screening of students' mental health and deliver suitable referrals. Tasks including consulting with professionals, primary care visits, or interactions with first responders are better prospects for rapid psychological health referrals and screening for students.

7 Limitations

Several limitations must be acknowledged in light of the results of this investigation. In the first place, this survey was done with pupils from four prestigious universities and colleges. As this was a web-based survey, selective participation and coverage mistakes are possible. Our questionnaire was self-administered, which meant that there was a danger that self-

reported data could be biased (introspective ability, response bias, and sample bias). The Brief-COPE has two key components, "approach coping" and "avoidant coping," according to (Eisenberg et al., 2012). These two subscales were left out since they did not exclusively load on the previously listed criteria. Lastly, no clinical examination was performed to diagnose depression and anxiety disorders following DSM-V standards. However, according to our findings, coronavirus had a substantial mental impact on Pakistani university students during its height.

8 Conclusion

As a massive virus outbreak in the twenty-first century, the Coronavirus disease 2019 (COVID-19) pandemic has posed unimaginable risks to mental health around the world. While patients and healthcare workers receive psychological support, the general public's mental health also requires significant attention. This systematic review aims to compile existing literature on the effects of COVID-19 on psychological outcomes in the general population and the risk factors associated with it. Covid -19 proved to be a crucial time for different people's lives. Many aspects of the global, public, and private economies have been drastically altered due to the rapidly changing

situation. Declines in tourism, aviation, agriculture, and the finance industry have been reported due to the COVID-19 outbreak, as massive reductions in both supply and demand aspects of the economy were mandated by governments around the world.

Regarding anxiety and depression, 34% of people stated that they had moderate to severe symptoms as the COVID-19 epidemic has had a substantial influence on Pakistani university students' mental health. Many pupils use religious and acceptance coping as their primary means of dealing with their stress. Mental and psychological health should not be overlooked in the time of epidemics; according to our research, local state Universities and the government should work together to implement the WHO's recommendations for improving their students' mental and psychological health.

Pakistan is a developing country where people are more vulnerable to mental health due to poor facilities and a lack of proper guidance about mental health. Nonetheless, the present study was among the pioneer researches in Pakistan to focus on the impact of the COVID-19 pandemic on the psychological well-being of the general Pakistani population, with respondents from all regions of the country participating. Finally, policymakers can use our findings to develop psychological interventions that can reduce the psychosocial impact of COVID-19 while also assisting the most vulnerable groups at a higher risk of experiencing poor well-being as a result of this pandemic. Because COVID-19 affects all countries and measures of social distancing are more or less similar globally, these findings may also apply to other countries with similar socioeconomic profiles.

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