



Socioeconomic Domains in Times of COVID-19

Sarfaraz Ahmed Bhutto, PhD Scholar, Institute of Commerce, Faculty of Management Science Shah Abdul Latif University Khairpur, Sindh, Pakistan, Sarfaraz_ahmed0333@yahoo.com

Jai Kishan, Lecturer, Department of Business Administration, Shaikh Ayaz University Shikarpur Sindh, Pakistan, jai.kishan@salu.edu.pk

Dr. Ikhtiar Ali Ghumro, Director, Institute of Commerce, Faculty of Management Sciences, Shah Abdul Latif University Khairpur, Sindh, Pakistan, ikhtiar.ghumro@salu.edu.pk

Zulfiqar Ali Rajper, Assistant Professor, Department of Commerce, Shaikh Ayaz University Shikarpur Sindh, Pakistan, zulfiqar.rajper@salu.edu.pk

Abstract- The pandemics in modern history has posed several problems for human beings. The new COVID-19 pandemic has also indulged in generating damaging impact on the world's aggregate economy, health and education. The extended lockdowns contributed to changes in working conditions among the institutions. Institutions of education have also moved their classes to online system. Considering aggregate population of countries affected by this whole episode, bring drastically psychological issues among people. In various parts of society, problems which already have unrevealing prevalence due to unfairness are illustrated at higher levels. In this context, the current study explores the role of the socio-economic classes in the prevalence of COVID-19 anxiety among students from various Pakistani universities. The findings show that students with lower socio-economic backgrounds have greater concern about COVID-19 than students with lower, lower-middle, and upper-middle socio-economic backgrounds. The study suggests the setting up of university institutions to help students deal with the issue of anxiety.

Keywords: Socioeconomic, COVID-19, Universities, Students, Pakistan

I. INTRODUCTION

The coronavirus (COVID-19) pandemic has enthralled the whole world. It has led countrywide lockdowns around the globe and people have been forcefully socially distanced and separated to combat this unseen enemy of humanity. These anti-social restrictions have caused a rise in mental health issues in populations (Huang & Zhao, 2020). The normal functioning of institutions including educational institution has been halted and online activities are in progress (Reville, 2020). The new norms set by this pandemic are causing severe mental health threats to humanity (Holmes *et al.*, 2020). The evidence around the globe is growing in this regard. As Huang and Zhao (2020) studied Chinese population during COVID-19 pandemic. They found 35.1 percent population having a generalized anxiety disorder and 20.1 percent having depressive symptoms. The indications were common across different sections of society such as students, teachers, healthcare workers and institution workers.

In educational institutions coronavirus pandemic has dire consequences (Martínez, 2020). Billions of students are out of their schools, and they have to rely on online teaching and learning (Martínez, 2020). These transitions from traditional learning to online learning has caused serious concerns in students, parents and health Practitioners (Fessell&Cherniss, 2020; Hiremath *et al.*, 2020; Huang & Zhao, 2020). The students of backward areas and disadvantaged backgrounds are very concerned about this transition (Ali, 2020). Online educational activities are also a financial burden for the poor students and families that caused more adversities, worries and concerns to them (Martínez, 2020; Reville, 2020). The social distancing, isolations and lockdowns have caused an alarming increase in anxiety and depression in populations of lockdown nations, and the people aged 21-40 appear more vulnerable to psychological and mental health problems (Ahmed *et al.*, 2020). In this regard, the anxiety is very important because it leads to various other mental and physical health issues and affects the socio-economic productivity of the masses. American Psychological Association (2020) has described anxiety as an emotional state which encompasses feelings of strain, and consistent distressing thoughts resulting in physical changes such as a change in blood pressure

and disturbed digestive system. This anxiety has become paramount among mental and psychological issues of COVID-19 pandemic.

Students being in special circumstances and facing a transition from traditional classroom learning to online learning are feeling anxiety. This situation has dire implications for their academic performance (Alkhalaf, 2018). According to Alkhalaf (2018), anxiety can be more in early year students at an institution than the late-year students. The anxiety how is measured and what has considered have close relationships with academic performance (Seipp, 1991).

Objectives of Study

The objectives of the study were:

1. To screen out the university students for possible severe dysfunctional coronavirus anxiety.
2. To establish the role of students' socioeconomic classes in the prediction of their coronavirus anxiety during the closure of educational institutions and lockdown from 25th April 2020, to 06th May 2020.

Following are the hypotheses of the study:

1. There will be no dysfunctional coronavirus anxiety among university students.
2. The students' socioeconomic classes will not significantly predict students 'coronavirus anxiety.

II. LITERATURE REVIEW

The literature in this regard identified many factors contributing to anxiety. Likewise, it is found that socioeconomic background of the students determine the use of learning strategies in students (Ali & Abou, 2019; Ali *et al.*, 2019). Equally, the socioeconomic background is an important contributing factor to the anxiety as well. In the same way, anxiety is found to be higher in students of low socioeconomic backgrounds. Mental health issues such as anxiety and negative moods, stress and depression are higher significantly in low socioeconomic class students. The socioeconomic class of the students, therefore, can be taken as a predictor of anxiety (Wahed & Hassan, 2017). The vulnerability to anxiety thus varies in different communities within nations. The people living in the poor and collectivists social setup have more probability of feeling high anxiety. Inequality in wealth and level of independence lead to inequality in the prevalence of mental health problem among nations (Steptoe *et al.*, 2007). Different indicators of socioeconomic backgrounds predicted different mental health problem, and therefore low socioeconomic background students might have multiple mental health disorders (Reiss *et al.*, 2019). The high educational background of the parents is associated with a lower risk of developing mental health problems. The more educated parents provide useful knowledge to their children to deal with stressful life, that results in less mental health issues (Reiss *et al.*, 2019). The correlation between socioeconomic background and mental health problems is very strong and negative (Hudson, 2005). Similarly, the study of Heshmat *et al.* (2016) indicated that negative mental health indicators such as depression, and anxiety, confusion and physical fights were more common in low socioeconomic class students. These children, therefore, should be the focus of the policies to avoid psychiatric problems which may linger throughout life. The current coronavirus pandemic has resulted in corona anxiety and different phobias. The coronavirus anxiety may be functional and dysfunctional and it is useful to diagnose coronavirus anxiety to help out those with high coronavirus anxiety (Sherman, 2020). The first COVID-19 patient in Pakistan was detected on 26th February 2020 (Gul, 2020; Waris *et al.*, 2020), and The first COVID-19 death was reported on 20th March 2020. Keeping in view, the severity of the situation, the provincial governments in Pakistan lockdown cities and markets until 14 April 2020 (The States man, 2020). All types of public transportations and public movements were prohibited, and provinces banned public and domestic gatherings. Schools and universities were closed for an unknown period. In this situation, people of the low-income background become jobless and the Pakistani government have to announce packages for the disadvantaged sections the society (Rana, 2020). Universities announced to go for online classes in a country where internet facilities are very poor. These steps raised concerns and worries among students about their examinations and educational grades (Ali, 2020).

The current study is designed to discover the role of students' socioeconomic classes in the prediction of their coronavirus anxiety. The epidemiologists and expert on virus disease have consensus that mental anxiety weakens immunity to fight against coronavirus. Stankovska *et al.* (2020) revealed that the development of mental health is crucial to curtailing the outbreak of coronavirus. The problem under focus is, therefore, to measure the COVID-19 anxiety among university students and its relationship to students' socioeconomic backgrounds.

III. RESEARCH METHODOLOGY

The survey research design has been employed to collect data from the university students of Pakistan. The convenient sampling has been employed and the subjects participated voluntarily in the study. An online survey is conducted to collect information from university students having a diverse background. Overall 659 students responded to the survey questions. The respondent students are from arts and languages, management science, education, computer science, Islamic learning and science faculties. The Sherman (2020) coronavirus anxiety scale has been used to collect information from students. This scale is a uni-factor measure consisting of five items. It seeks information on dizzy, sleep, frozenness, and appetite loss and stomach disturbance conditions in the context of the current study. This scale has appropriate construct and discriminating validity as reported by Sherman (2020). The scale is recommended to use as a screening instrument to screen probable cases of populations for dysfunctional anxiety. A mean score of equal to or greater than 09 indicates the presence of dysfunctional anxiety in an individual. There are different indicators used to calculate the socioeconomic background. The most common indicators are education, profession and income (Australian Bureau of Statistics, 2011). However, income becomes meaningless in many situations (Payne, 2013). Consequently, this study was limited only to the use of parents' profession and education as indicators of socioeconomic class calculation. The numbering or scoring of parents' profession and education is according to Kuppaswamy scale which distinctly defines socioeconomic classes (Shaikh & Pathak, 2017).

IV. DATA ANALYSIS & INTERPRETATION OF RESULTS

The current study employs linear regression analysis to test the hypothesis. The four socioeconomic classes have been taken as dummy variables. The upper-lower, lower-middle and uppermiddle socioeconomic classes were entered into regression analysis as a dummy variable whereas lower socioeconomic class has been taken as a reference category. The lower socioeconomic classes serve as a comparison tool to explain the increase or decrease of coronavirus anxiety in students in connection to their socioeconomic classes. Table 01 indicates the COVID-19 anxiety levels across different socioeconomic classes of the students. The mean COVID-19 anxiety overall and in an individual socioeconomic class is far below than 09. This indicates that there are no symptoms of COVID-19 dysfunctional anxiety (Sherman, 2020). Hence, the researchers fail to reject the null hypothesis that there will be no dysfunctional coronavirus anxiety among university students.

Table-1: Levels of Anxiety

Socioeconomic Class	Frequency	Per cent	Mean	S.D.
Lower Class	300	45.5	4.07	4.56
Upper Lower Class	215	32.6	2.96	3.72
Lower Middle Class	133	20.2	2.92	4.09
Upper Middle class	11	1.7	3.55	4.70
Total	659	100.0	3.47	4.24

Table 02 shows the Pearson correlation coefficient values for the relationship of COVID-19 anxiety with students' socioeconomic backgrounds. All relationship values are significant except the relationship value of the upper middle socioeconomic class to COVID-19 anxiety.

Table-2: Correlation

<u>Pearson Correlation</u>	<u>COVID-19 Anxiety</u>	<u>Significance</u>
COVID-19 Anxiety	1.000	0.00
Lower Class	.131	0.00
Upper Lower Class	-.084	.016
Lower Middle Class	-.065	.047
Upper Middle class	.002	.475

The hypothesis that socioeconomic classes of students do not significantly predict students' COVID-19 anxiety is tested. The researchers are successful in rejecting the null hypothesis that socio-economic classes do not significantly predict students' COVID-19 anxiety is rejected ($F(3, 655) = 3.875, p = .009$). Table 03 and Table 04 indicate that the assumed model significantly explained 1.3 per cent variance in students' coronavirus anxiety. It is inferred that socioeconomic classes can predict significantly prevalence of coronavirus anxiety in students.

Table 3: Summary Statistics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
132a		0.017	0.013	4.21191

a. Predictors: (Constant), upper-lower, lower-middle and upper-middle socioeconomic class

Table 4: Model Predict

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	206.221	3	68.740	3.875	.009
Residual	11619.827	655	17.740		
Total	11826.049	658			

a. Dependent Variable: COVID-19 Anxiety

b. Predictors: (Constant), upper-lower, lower-middle and upper-middle socioeconomic class

Table 05 depicts that constant of the model has a 4.073. The coronavirus anxiety beta slope of students from upper lower socioeconomic classes is also significant ($-1.115, p = 0.003$). Likewise, the regression slope of coronavirus anxiety for students of a lower-middle socioeconomic class is significant ($1.156, p = 0.009$). However, the regression beta slope of uppermiddle-class for the prediction of coronavirus anxiety is insignificant ($-0.528, p = 0.683$). Notably, the number of respondents who fall in upper-middle socioeconomic class was only 11. In this way, it is inferred that dummy variables of different socioeconomic classes of respondents in the sample can significantly predict respondents' coronavirus anxiety.

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	4.073	.243		16.751.000
Upper Lower Socioeconomic Class	-	.376	-.123	-2.963.003
Lower Middle Socioeconomic Class	-	.439	-.110	-2.635.009
Upper Middle Socioeconomic Class	1.156			

Class					
Upper Middle Socioeconomic class	-0.528	1.293	-0.016	-0.408	.683

The assumed regression model is as below:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$ $Y =$ corona virus anxiety $a =$ constant (Reference category: Lower socioeconomic class)
 $b_1 =$ Beta slope upper lower socioeconomic class

$b_2 =$ Beta slope lower middle socioeconomic class $b_3 =$ Beta slope upper middle socioeconomic class The predicted coronavirus anxiety score of students from lower socioeconomic class will be:

$$= a + b_1X_1 + b_2X_2 + b_3X_3$$

$$Y = 4.073 - 1.115(0) - 1.156(0) - 0.528(0)$$

$$Y = 4.073 - 0 - 0 - 0$$

$$Y = 4.073$$

The predicted coronavirus anxiety among students of upper lower socioeconomic classes is as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$Y = 4.073 - 1.115(0) - 1.156(0) - 0.528(0)$$

$$Y = 4.073 - 1.115 - 0 - 0$$

$$Y = 2.958$$

The occurrence of predicted coronavirus anxiety in students of lower middle socioeconomic class will be as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$Y = 4.073 - 1.115(0) - 1.156(1) - 0.528(0)$$

$$Y = 4.073 - 0 - 1.156 - 0$$

$$Y = 2.917$$

The beta slope for upper middle socioeconomic class was insignificant. However, the calculated predicted insignificant level of coronavirus anxiety in this socioeconomic class might be as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$Y = 4.073 - 1.115(0) - 1.156(1) - 0.528(1)$$

$$Y = 4.073 - 0 - 0 - 0.528$$

$$Y = 3.545 \text{ (Insignificant)}$$

The following diagram (Figure No. 1) shows the regression slopes' positions with regard to prediction of coronavirus anxiety in university students.

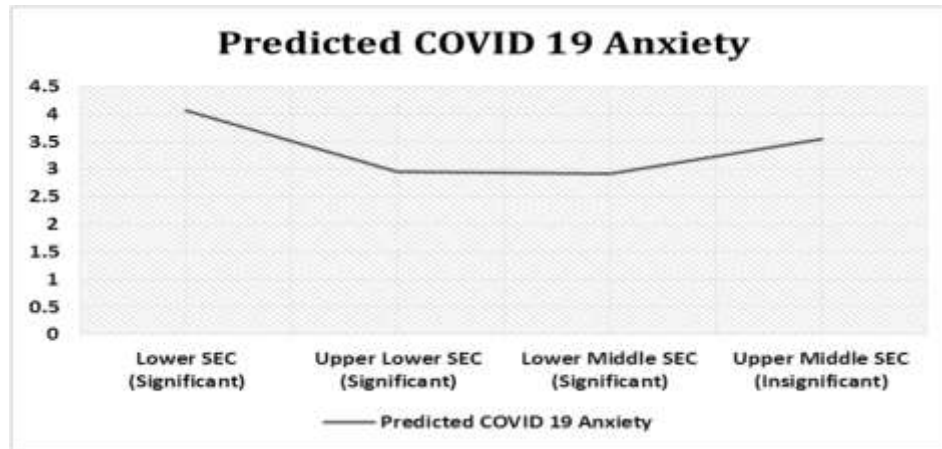


Figure 1: Predicted COVID 19 Anxiety by Students' SECs

V. DISCUSSION & CONCLUSION

The results of this study show that the overall mean coronavirus anxiety of all students in the sample, and the specific mean coronavirus anxiety of each socioeconomic class is less than 09. This means that coronavirus anxiety during the data collection period from 25th, April 2020 to 6th May 2020 was functional. It indicates that coronavirus anxiety is not severe in the sample (Sherman, 2020). However, the coronavirus anxiety is significantly high in low socioeconomic class students. Possibly, the students' of low socioeconomic class may be more worried about the financial resources of the family. It may be due to a fact that there is a huge loss of jobs among labourers (Rana, 2020), and students of a low socioeconomic class belong to labourers and daily worker families (Shaikh & Pathak, 2017). The presence of higher coronavirus anxiety in students of lower socioeconomic class is not only because of corona pandemic. It is because of socioeconomic inequalities. The socioeconomic inequalities in society are the cause of distress and anxiousness throughout life in individuals of low-income families (Green & Benzeval, 2013). The presence of higher anxiety in students of a lower socioeconomic class is reported in other studies as well. The low socioeconomic class students have more generalised anxiety and mental health issues than the students of higher socioeconomic classes (Hudson, 2005; Ochi *et al.*, 2014; Reiss *et al.*, 2019).

VI. RECOMMENDATIONS

The current study highlights the need for psychiatric interventions at universities to help students of low socioeconomic domains in public sector universities. These interventions should enable disadvantaged socioeconomic background students to handle the challenges and hardships of life positively. Currently, Pakistani universities lack such facilities and centers. There is a need to establish student consultancy centers in the universities to help students to deal with their mental health issues. Moreover, the government need to address the social and economic disparities in the country through effective fiscal measures.

REFERENCES

1. Ahmed, M. Z., Ahmed, O., Aibao, Z., Hanbin, S., Siyu, L., & Ahmad, A. (2020). Epidemic of COVID-19 in China and associated Psychological Problems. *Asian Journal of Psychiatry*, 51, 102092. doi:<https://doi.org/10.1016/j.ajp.2020.102092>
2. Ali, N. (2020, 02 April 2020). Students disappointed with online teaching system amid COVID-19. *The Daily Times e-paper*. Retrieved from <https://dailytimes.com.pk/587446/studentsdisappointed-with-online-teaching-system-amid-covid-19/>
3. Ali, R., & Abou, B. (2019). The Probability to Memorize and Understand Textbook Information: Socioeconomic Class as the Predictor for Cognitive Processing Strategies in Pakistani Education

- System. *Pakistan Journal of Social Sciences*, 39(1), 253 – 270. doi:<https://www.bzu.edu.pk/PISS/Vol.%2038,%20No.%202.%202018/Vol.%2039,%20No.%201.%202019/PISS-Vol39No1.%202019-21.pdf>
4. <https://www.bzu.edu.pk/PISS/Vol.%2038,%20No.%202.%202018/Vol.%2039,%20No.%201.%202019/PISS-Vol39No1.%202019-21.pdf>
 5. Ali, R., Hussain, I., & Rahmani, S. H. (2019). How Socioeconomic Classes Influence Academic Grades of Elementary School Students? Defining Mediation Role of School Backgrounds and Cognitive Processing Strategies. *Journal of Educational Research*, 22(2), 201-227. Retrieved from <http://jer.iub.edu.pk/journals/JER-Vol-22.No-2/15.pdf>
 6. Alkhalaf, A. M. (2018). Positive and Negative Affect, Anxiety, and Academic Achievement among Medical Students in Saudi Arabia. *International Journal of Emergency Mental Health and Human Resilience*, 20(2). Retrieved from <https://www.omicsonline.org/pdfdownload.php?download=open-access-pdfs/positive-and-negative-affect-anxiety-and-academic-achievement-among-medical-students-in-saudi-arabia-1522-4821-1000397.pdf&aid=101988>
 7. American Psychological Association. (2020). Anxiety. *Psychological Topics*. Retrieved from <https://www.apa.org/topics/anxiety/index>
 8. <https://www.apa.org/topics/anxiety/index>
 9. Australian Bureau of Statistics. (2011). *Information Paper: Measures of Socioeconomic Status*. Retrieved from Canberra, Australia: <http://www.abs.gov.au/ausstats/abs@nsf/mf/1244.0.55.001>
 10. Fessell, D., & Cherniss, C. (2020). Coronavirus Disease 2019 (COVID-19) and Beyond: Micropractices for Burnout
 11. Prevention and Emotional Wellness. *Journal of the American College of Radiology*. doi:<https://doi.org/10.1016/j.jacr.2020.03.013>
 12. Green, M. J., & Benzeval, M. (2013). The development of socioeconomic inequalities in anxiety and depression symptoms over the lifecourse. *Social Psychiatry and Psychiatric Epidemiology*, 48, 1951–1961. doi:DOI 10.1007/s00127-013-0720-
 13. Gul, A. (Producer). (2020). Pakistan Detects First Coronavirus
 14. Cases, Links to Iran Outbreak. Retrieved from <https://www.voanews.com/science-health/coronavirusoutbreak/pakistan-detects-first-coronavirus-cases-links-iranoutbreak1/3>
 15. Heshmat, R., M, Q., B, G., & al., e. (2016). Association of socioeconomic status with psychiatric problems and violent behaviours in a nationally representative sample of Iranian children and adolescents: the CASPIAN-IV study. *BMJ Open*, 6. doi:doi:10.1136/bmjopen-2016-011615
 16. Hiremath, P., SuhasKowshik, C. S., Manjunath, M., & Shettar, M. (2020). COVID 19: Impact of lock-down on mental health and tips to overcome. *Asian Journal of Psychiatry*, 51, 102088. doi:<https://doi.org/10.1016/j.ajp.2020.102088>
 17. Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., . . . Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry*. doi:[https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
 18. *Lancet Psychiatry*. doi:[https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
 19. [0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
 20. Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry Research*, 288, 112954. doi:<https://doi.org/10.1016/j.psychres.2020.112954>
 21. Hudson, C. G. (2005). Socioeconomic Status and Mental Illness: Tests of the Social Causation and Selection Hypotheses. *American Journal of Orthopsychiatry*, 75(1), 3-18. doi:DOI: 10.1037/0002-9432.75.1.3
 22. Martínez, E. (2020). Pandemic shakes up world's education systems Retrieved March 19, 2020, from Human Rights Watch <https://www.hrw.org/news/2020/03/19/pandemicshakes-worlds-education-systems>
 23. Ochi, M., Fujiwara, T., Rie, M., & Kawakami, N. (2014). Association of socioeconomic status in childhood with major depression and generalized anxiety disorder: results from the World Mental Health Japan survey 2002–2006. *BMC*. doi:<http://www.biomedcentral.com/1471-2458/14/359>
 24. doi:<http://www.biomedcentral.com/1471-2458/14/359>
 25. Payne, G. (2013). Models of Contemporary Social Class: The Great British Class Survey. *Methodological Innovations Online*, 8(1), 3-17. doi:10.4256/mio.2013.001

26. Rana, S. (2020, April 03, 2020). Coronavirus forecast to render 18.5m jobless in Pakistan. *The Express Tribune*. Retrieved from <https://tribune.com.pk/story/2189904/2coronavirus-forecast-render-18-5m-jobless>
27. Reiss, F., Meyrose, A.-K., Otto, C., Lampert, T., Klasen, F., & Ravens, -. S. U. (2019). Socioeconomic status, stressful life situations and mental health problems in children and adolescents: Results of the German BELLA cohort-study. *PLoS ONE*, 14(3). doi:<https://doi.org/10.1371/journal.pone.0213700>
28. Reville, P. (2020) *The pandemic's impact on education: Time to fix American education with race-for-space resolve/Interviewer: L. Mineo*. Coronavirus Update, The Harvard Gazette.
29. Seipp, B. (1991). Anxiety and academic performance: A metaanalysis of findings. *Anxiety Research*, 4(1), 27-41. doi:DOI: 10.1080/08917779108248762
30. Shaikh, Z., & Pathak, R. (2017). Revised Kuppuswamy and B G Prasad socio-economic scales for 2016. *International Journal of Community Medicine and Public Health*, 4(4), 997-999. doi:<http://dx.doi.org/10.18203/2394-6040.ijcmph20171313>
31. Sherman, A. L. (2020). Coronavirus anxiety scale: A brief mental health screener for COVID-19 related anxiety. *Death Studies*. doi:DOI: 10.1080/07481187.2020.1748481 Stankovska, G., Memedi, I., &Dimitrovski, D. (2020). Coronavirus COVID-19 Disease, Mental Health And Psychosocial Support. *Society Register*, 4(2), 33-48. doi:<https://doi.org/10.14746/sr.2020.4.2.03>
32. Steptoe, A., Tsuda, A., Tanaka, Y., & Wardle, J. (2007). Depressive Symptoms, Socio-Economic Background, Sense of Control, and Cultural Factors in University Students from 23 Countries. *International Journal of Behavioral Medicine*, 14(2), 97-107.
33. The States man. (2020, April 02, 2020). *The States man*. Retrieved from
34. <https://www.thestatesman.com/world/coronavirus-pandemicpakistan-extend-lockdown-2-weeks-death-toll-reaches-31-1502872742.html>2/9
35. [reaches-31-1502872742.html](https://www.thestatesman.com/world/coronavirus-pandemicpakistan-extend-lockdown-2-weeks-death-toll-reaches-31-1502872742.html)2/9
36. Wahed, W. Y. A., & Hassan, S. K. (2017). Prevalence and associated factors of stress, anxiety and depression among medical Fayoum University students. *Alexandria Journal of Medicine*, 53, 77-84. doi:<http://dx.doi.org/10.1016/j.ajme.2016.01.005>
37. doi:<http://dx.doi.org/10.1016/j.ajme.2016.01.005>
38. Waris, A., Atta, U. K., Ali, M., Asmat, A., &Baset, A. (2020). COVID-19 outbreak: current scenario of Pakistan.
39. *New*