Case report

Stress, Resilience, and Self-efficacy among University/College Students during COVID-19 pandemic

Nazia Nazir

Department of Psychiatry, Allied Hospital, Faisalabad Medical University, Faisalabad, Pakistan

Abstract.

Objectives : To identify the challenges faced in regard of online learning and the impact on stress, resilience, and self-efficacy related to academic outcomes of college students during covid-19 pandemic.

Study Design: Cross-sectional study

Materials and Methods: a total of 345 students were selected from different universities and colleges of Faisalabad practicing e-learning.

Place and Duration of Study: This study was conducted through an online survey during covid-19 pandemic for the period of 1.5 months i.e. 10 th -April-2021 to 25-may-2021.

Results: Revealed that similar problems were faced by all students taking e-learning which fails to be productive owing to financial constraints, dissatisfaction by teachers and poor quality or no access to internet service during covid-pandemic with no significant gender difference or belongingness to a particular institution. 59.4% and 31% showed moderate and severe level of stress respectively being higher in female population .81.7% of students showed self efficacy and 77.8% build resilience.

Conclusions: Online acedamics is found to be an ineffective mode of learning with many drawbacks being faced by university students during covid 19 pandemic, majorly due to compromised internet facility. Moreover, its impact on building stress with the resultant coping by self efficacy and resilience is also remarkable.

Keywords: COVID-19, Students, Stress, Resilience, Self-efficacy, Pakistan, cross-sectional study

Introduction

From the initial phase of covid 19 pandemic ,globally the economical, psychosocial, occupational and academic domains have been adversely affected where prevention of spread of disease through lockdowns has further restricted the general population.in this period of chaos, the daily life activities especially have been negatively changed where many higher institutions carried on online learning to ensure effective academic deliverance despite being inexperienced in this new mode of teaching. UNICEF revealed that 90% of countries employed broadcast and digital learning during this pandemic [1,2,3], according to United Nations

Educational, Scientific and Cultural Organization (UNESCO) report 2020,globally 68% of the total institution affiliated pupils were negatively affected acedamically [19].Covid pandemic has massively changed the perception of stress and reaction to it specially related to educational activities.On an alarming rate,amongst U.S students,in 2020, the fatal nature of this contagious disease has increased the level of anxiety ,depression and suicidal intent and less than half of them were able to tackle with the distress they faced. [4][5]

Pandemics are accustomed of negatively altering the population's activities which may pose a risk to higher incidence of anxiety and depression particularly when loss of income is the core factor. [6] Globally ,Amongst university students this contagious infection particularly affected the sleep quality which further enchanced the perceived stress.

Resilience is a response to extreme stress followed by which the body employs positive coping strategies to build productivity.It is established that resilience equips in better handling on exposure to stress and depression supporting the mediation moderation model. [7,8]

Self-efficacy is a driving force that empowers to control ,motivate and reinforce oneself for the attainment of a specific goal.The influence of covid-19 specified perceived stress also captures this self-efficacious ability where social isolation along with exposure and loss by this infection declines the academic self-efficacy [9,10] Furthermore, perceived stress during this pandemic is worsened with insecurity amongst university students where hope and self-efficacy play a pivitol role to lessen the adverse effect of the formers.[11]

Moreover,when the ability to be resilient and self efficacious is being compromised,students are more prone to develop anxiety and depressive disorders highlighting its prevention and importance during pandemic.According to Wang et al, 48.1%,38.4%of university pupils reported depression and anxiety respectively where less than half of learners established resilience and 71% experienced rise in anxiety levels during covid -19 pandemic [5]

Rationale of the study

Coronavirus has already led us to the state of confinement which drove us to change the traditional learning pattern to e-learning. So, the rationale of this study was to determine its impact on stress, resilience and self-efficacy faced by students during COVID-19.

Objective of the study

The objective of this study was to identify the predominant psychological issues faced by the students during COVID-19 and as well to find out the challenges faced by the students during e-learning.

Inclusive criteria

University/college students will be involved .

Exclusive criteria

Individuals who have completed their education and also those who are in the secondary education system.

Methodology

The study was carried out after taking ethical approval by the Ethical committee of FMU research, Faisalabad, Pakistan. In this,a descriptive, cross-sectional study design was used for data collection. The study was conducted from different universities and medical colleges of Pakistan between the period of 1.5 months i.e. 10th -April-2021 to 25-may-2021. This cross-sectional study was based on assessing stress, resilience, and self-efficacy among university/college students. The technique of a simple random sample was used for this purpose. This research questionnaire is based on socio demographics.3 different psychometric scales were used : Perceived stress scale (PSS), an abbreviated version of the Nicholson McBride Resilience Questionnaire (NMRQ), and General Self Efficacy Scale (GSES). Data was collected through a Google form questionnaire from 345 respondents studying in Pakistan. In this online research, Google form was taken as a tool of data collection. The questionnaire was shared via E.mail and different popular social media. The instruments used in online research were valid and reliable. Google form was also tested on some random students before collecting the sample to check its reliability. SPSS version 21 was used to analyze collected data. Respondent's responses were presented descriptively, primarily in percentage and frequencies. Afterward, One-Sample t-test was used regarding stress, resilience, and self-efficacy issues faced by students during COVID-19, an Independent Sample t-test regarding the difference between male and female University students responses related to stress, resilience, and self-efficacy during COVID-19, and cross findings frequencies for the problems related to residence and internet facility. Descriptive analysis was used for the following variables: gender, residence, age, socio-economic status, and internet facility challenges.

Results

A total of 345 (M= 47%, F = 53%) students from across Pakistan were included. Table 1 represents the basic socio demographics where mean age is 20.722 ± 2.293 .majority of the participants[n=251 (72.8%)] belonged to urban population . 78.3% (n=270) had availability to internet services whereas 16.5%(n=57) had sparse and 5.2%(n=18) had no access.

P value 0.000 shows significant impact on perceived stress,resilience

Table 1: *Basic demographics of students (n = 345)*

Characteristics		Mean ± SD
Age		20.722 ± 2.293
	Minimum	17
	Maximum	41
Gender		N (%)
	Male	162 (47%)
	Female	183 (53%)
Residence		
	Urban	251 (72.8%)
	Rural	94 (27.2%)
Socio-economic Status		
	High	34 (9.9%)
	medium	284 (82.3%)
	low	20 (5.8%)
Internet facility		
	Yes	270 (78.3%)
	No	18 (5.2%)
	Barely have	57 (16.5%)

Table 2: *One Sample t-test regarding stress, resilience and self- efficacy in University students during COVID-19*

Variable	N	M	SD	t	df	P
Resilience	345	2.56	1.071	44.419	344	.000
Stress	345	21.35	8.111	48.902	344	.000
Self-efficacy	345	30.261	5.4683	102.786	344	.000

Table 3: *Independent Sample t-test regarding the difference between male and female University students responses related to stress, resilience, and self-efficacy during COVID-19*

Variable	Gender	N	M	SD	t	df	P
Resilience	Male	162	2.68	1.101	1.911	343	.06
	Female	183	2.46	1.036	1.904	331.901	.06
Stress	Male	162	19.35	9.407	-4.443	343	.003
	Female	183	23.13	6.267	-4.340	274.836	.003
Self-efficacy	Male	162	30.272	5.5134	0.034	343	.977
	Female	183	30.251	5.4432	0.034	336.852	.977

and self efficacy faced by students during COVID-19.

Table 3 shows (t = 1.911), (p = 0.049)for resilience, and (t = 0.034), (p = .977)for self-efficacy hence no gender difference in these respective variables related to challenges faced by University students. But stress factor in university students (t = -4.340), (p = 0.003) highlighted that the female students experienced more stress as compared to male participants.

According to the frequencies in Table 4 concludes that 26.6% of students with rural residency faced more challenges in internet connectivity during online classes as compared to the 12.7% urban resident student and on the other hand 6.4% of students didn't even have a facility to attain.

Discussion

Impact of covid-19 on psychosocial aspect of life general population including the health care workers as well as on the running systems of education are numerous and devastating where students are posed to increased level of stress for which different coping strategies are employed to alleviate .This present study has remarkably highlighted the negative effect of covid pandemic on pupils of higher education system as well as their non acceptance to e-learning direly

Table 4: Residence of the students * Internet facility available to the students

| | | | Internet facility to the students | | | Total |
			barely have	No	Yes	
Residence of the students	Rural	Count	25	6	63	94
		% within residence of the students	26.6%	6.4%	67.0%	100%
		% within Internet facility to the students	43.9%	33.3%	23.3%	27.2%
	Urban	Count	32	12	207	251
		% within residence of the students	12.7%	4.8%	82.5%	100.0%
		% within Internet facility to the students	56.1%	66.7%	76.7%	72.8%
Total		Count	57	18	270	345
		% within residence of the students	16.5%	5.2%	78.3%	100.0%
		% within Internet facility to the students	100.0%	100.0%	100.0%	100.0%

due to the higher level of stress experienced during this process. [1] [15] This study highlighted gender differences in relation to stress experienced during pandemic which an Italian study supports that female students are more prone to be stressed as well as find in difficult to manage (p < 0.0001). [16].

Similary ,a Swedish study by Berman et al. reported 85% negative alteration in self efficacy related to learning among students. [17]. Another study conducted in Taiwan during covid-19 pandemic revealed that 37.2% of students faced psychological distress whereas 71.1% of students became resilient . [18] In contrast, a German study by Edgar V.et al highlighted that students adjusted well to the impact of covid-19 pandemic with the passage of time, faced difficulty to tackle in initial phase .[4]

However, a study in Turkey significantly shows the strong relationship of perceived stress with resilience and self efficacy among adults highlighting mediating impact of self efficacy on the other two variables. [12]. A recent study in Pakistan on geriatric population also supports the moderating effect of self-efficacy related to fear of covid-19 but insignificant to exposure [20]

Although E-learning emboldens the learning and makes study adaptable according to a Pakistani study by Mukhtar et al. but Internet problems unsympathetically disturbed students learning which could be solved by recovering and expanding telecommunication in our country. [13] However,A study in Nepal in 2020 also highlighted limitation of online learning especially among pupils belonged to rural areas and medical students where affordability along with accesibility & hurdles in practical based skilled learning were the major problems.[19]

Conclusions

This study concludes the ineffectiveness of e-learning among university students of Pakistan with inadequacy in internet service availability being a core factor. Further, the higher level of perceived stress has been experienced particularly in female pupils but the resilience and self efficacy developed remarkably in majority.This highlights a need to establish a specific mental health care program for higher educational learners to first prevent the occurrence of psychological complications due to pandemic in future as well as to cultivate positive coping capabilities to render the development of mental illness.

Reference

1. Rasiah R, Kaur H, Guptan V. Business Continuity Plan in the Higher Education Industry: University Students' Perceptions of the Effectiveness of Academic Continuity Plans during Covid-19 Pandemic. Applied System Innovation. 2020;3(4):51

2. Abdul H, Mohd J.Effects of COVID-19 pandemic in daily life A living systematic review of the psychological problems in people suffering from COVID-19. Curr Med Res Pract. 2020; 10(2): 78–79.

3. UNICEF data: Monitoring the situation of children and women . Education and COVID-19.Sept 2020.

4. Edgar V,Susen S,Anna W.The impact of the COVID-19 pandemic on stress, mental health and coping behavior in German University students – a longitudinal study before and after the onset of the pandemic. BMC Public Health.2021;1385(3).

5. Wang X, Hegde S, Son C, Keller B, Smith A, Sasangohar F. Investigating mental health of US college students during the COVID-19 pandemic: cross-sectional survey study. Journal of medical Internet research. 2020;22(9).

6. Fatemeh K,Sajad D, Zahra K.An investigation of depression, anxiety, and stress and its relating factors during COVID-19 pandemic in Iran. BMC Public Health 21, 275 (2021).

7. Du C, Zan MC, Cho MJ, Fenton JI, Hsiao PY, Hsiao R, Keaver L, Lai CC, Lee H, Ludy MJ, Shen W. Increased Resilience Weakens the Relationship between Perceived Stress and Anxiety on Sleep Quality: A Moderated Mediation Analysis of Higher Education Students from 7 Countries. Clocks & sleep. 2020;2(3):334-53.

8. Havnen A, Anyan F, Hjemdal O, Solem S, Gurigard Riksfjord M, Hagen K. Resilience moderates negative outcome from stress during the COVID-19 pandemic: A moderated-mediation approach. International Journal of Environmental Research and Public Health. 2020;17(18):6461.

9. Alemany-A I, Rojas-R G, Granda-V J, Mingorance-E ÁC. Influence of COVID-19 on the Perception of Academic Self-Efficacy, State Anxiety, and Trait Anxiety in College Students. Frontiers in psychology. 2020;11.

10. Michael P. Carey,Andrew D. Forsyth.Teaching Tip Sheet: Self-Efficacy.American Psychological Association.2009

11. Wen FF, Zhu JL, Ye HX, Li LY, Ma Z, Wen XX, Zuo B. Associ-

ations between insecurity and stress among Chinese university students: The mediating effects of hope and self-efficacy. Journal of Affective Disorders. 2021;281:447-53.

12. Sinan OK, Ümmet D. The Relationship Between Psychological Resilience and Perceived Stress in Adults: The Mediating Role of General Self Efficacy. Türk Psikolojik Danışma ve Rehberlik Dergisi.2021;11(60):67-84.

13. Mukhtar K, Javed K, Arooj M, Sethi A. Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. Pakistan journal of medical sciences. 2020;36:27.

14. Zeng W, Wu X, Xu Y, Wu J, Zeng Y, Shao J, Huang D, Zhu Z. The Impact of General Self-Efficacy on Psychological Resilience During the COVID-19 Pandemic: The Mediating Role of Post-traumatic Growth and the Moderating Role of Deliberate Rumination. Frontiers in Psychology. 2021;12:2326.

15. Vagni M, Maiorano T, Giostra V, Pajardi D. Coping with COVID-19: emergency stress, secondary trauma and self-efficacy in healthcare and emergency workers in Italy. Frontiers in psychology. 2020;11:2294.

16. Fiorillo A, Sampogna G, Giallonardo V, Del Vecchio V, Luciano M, Albert U, Carmassi C, Carrà G, Cirulli F, Dell'Osso B, Nanni MG. Effects of the lockdown on the mental health of the general population during the COVID-19 pandemic in Italy: Results from the COMET collaborative network. European Psychiatry. 2020;63(1).

17. Berman AH, Bendtsen M, Molander O, Lindfors P, Lindner P, Granlund L, Topooco N, Engström K, Andersson C. Compliance with recommendations limiting COVID-19 contagion among university students in Sweden: associations with self-reported symptoms, mental health and academic self-efficacy. Scandinavian Journal of Public Health. 2021

18. Der Feltz-C V, Maria C, Varley D, Allgar VL, De Beurs E. Workplace stress, presenteeism, absenteeism, and resilience amongst university staff and students in the COVID-19 lockdown. Frontiers in psychiatry. 2020;11:1284.

19. Surkhali B, Garbuja CK. Virtual learning during COVID-19 pandemic: pros and cons. Journal of Lumbini Medical College. 2020;8(1):154-5.

20. Mumtaz A, Manzoor F, Jiang S, Anisur R M. COVID-19 and Mental Health: A Study of Stress, Resilience, and Depression among the Older Population in Pakistan .Multidisciplinary Digital Publishing Institute.In Healthcare 2021;9(4):424.