Role of Health Anxiety, Anxiety Sensitivity, and Somatosensory Amplification in Predictors of Student s' COVID-19 Anxiety

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Abstract

The present study aimed to investigate the role of health anxiety, anxiety sensitivity, and somatosensory amplification in the prediction of COVID-19 anxiety in students. The research design was descriptive and correlational. The statistical population of the study included university students of Guilan University in 2020. In the present study, 200 students participated in the study using available sampling method through online calling. The results showed that health anxiety, anxiety sensitivity, and somatosensory amplification were positively and significantly correlated with COVID-19 anxiety. Regression results showed that These variables significantly predicted 55% of the new coronavirus anxiety. It seems that the high anxiety level of COVID-19 in students, can enhance their anxiety and sensitivity about health state and they would exaggerate physical and emotional symptoms. Thus, the University's psychological and Counseling Services must take steps to reduce the anxiety of COVID-19 and increase students' awareness.

Keywords: Anxiety sensitivity, covid-19 anxiety, health anxiety, somatosensory amplification

Introduction

The Coronavirus 2019 outbreak began in Wuhan, China, and quickly attracted the attention of the World Health Organization, which soon was identified as a worldwide epidemic. The COVID-19 epidemic and the closure of universities caused great anxiety and tension among students. Given that adolescence is a critical developmental period, anxiety and fear caused by coronavirus 19 can cause irreparable damage to students' psychological health (Husky, et al., 2020).

Among those with underlying illnesses, health concerns are adaptable, but there are people who have severe physical health concerns and anxieties without being at risk or suffering from a

particular illness. They become self-conscious and consider simple physical symptoms as a serious illness, these people have health anxiety (Asmundson & Taylor, 2020). In this regard, Wheaton, et al., (2012) showed that health anxiety can be a predictor of anxiety due to swine flu. Regarding the relationship between anxiety sensitivity and COVID-19 anxiety, it can be said that anxiety sensitivity causes a person to consider his anxiety symptoms as traumatic and with catastrophic consequences. As a result of this type of interpretation, disaster prediction causes catastrophic anxiety and increases the severity of a person's anxiety symptoms (Hovenkamp-Hermelink, et al., 2019).

Somatosensory amplification is characterized by a tendency to experience normal physical and visceral emotions that are severe, harmful, and disturbing, but are usually minor and are not considered a sign of serious illness (Hacimusalar, et al., 2019). The results of the research of Mosheva, et al., (2020) indicate that in response to epidemic diseases, there is an increase in sensory physical exacerbation. In another study, Elieson, et al., (2017) concluded that although sensory physical exacerbation plays an important role in the development of physical symptoms, it is also closely related to other factors such as anxiety and depression. Therefore, the main hypothesis of the present study was:

Between health anxiety, anxiety sensitivity and somatosensory amplification with students' COVID-19 anxiety have a positive relationship.

Method

The research design was descriptive and correlational. The statistical population of the study included students of Guilan University in 2020. By using available sampling method, through online calling, 200 students participated in the study. Inclusion criteria included being volunteer and with age range of 18-30 years. Also, the existence of serious physical, psychological problems and lack of complete response were considered as criteria for exclusion from the study.

The COVID-19 Anxiety Questionnaire: 10 adapted items of swine flu list (Wheaton, et al., 2012) were used to measure COVID-19 anxiety based on the 5-point Likert scale. The internal consistency of this questionnaire by Cronbach's alpha method was 0.81.

Short Health Anxiety Inventory: This list of 18 three-item questions covers disease probability, disease severity, and physical caution. In the present study, Cronbach's alpha of disease, disease outcomes, general health concern and total list were 0.84, 0.81, 0.87 and 0.89, respectively.

Anxiety Sensitivity Index-3: This index is derived from the 18-item ASI (Taylor, et al., 2007). ASI has good internal consistency, convergent and divergent validity (Taylor et al., 2007). In the present study, suitable Cronbach's alpha coefficients were obtained for physical (0.81), cognitive (0.80), social (0.85) and total index (0.83).

Somatosensory Amplification Scale: The Sensory Physical Intensification Scale is a 10-item instrument that assesses the level of visceral and physical discomfort. In the present study, Cronbach's alpha was 0.87 for this scale.

Results

In Table 1, the descriptive indices of research variables including mean and standard deviation are reported. Before analyzing the data, its assumptions were tested. The amount of variance inflation for the predictor variables ranged from 1.512 to 4.435, which were far from 10, so multiple lines were rejected. In addition, the Durbin-Watson value was 1.732, which was between 0 to 4, so the residual correlation was rejected.

Table 1. Descriptive indicators and the results of examining the normality of research variables

Variables	M	SD	Skewness	Kurtosis
COVID-19 anxiety	38.25	7.65	1.31	0.886
Getting sick	10.02	5.75	0.370	1.42
Consequences of the disease	8.42	6.78	0.195	1.68
General health concerns	11.07	7.09	0.228	1.70
Physical factor	17.37	6.49	0.248	0.941
Cognitive factor	16.97	6.84	0.068	1.10
Social factor	17.68	5.17	0.814	0.161
Somatosensory amplification	30.21	9.18	0.157	0.978

Pearson correlation coefficient was used to investigate the relationships of variables. Table 2 presents the correlation matrices of the research variables. According to the results, research variables had significant positive correlations with COVID-19 anxiety (P<0.01). In other words, with the increase of the mentioned variables, the amount of COVID-19 anxiety increases.

Table 2. Results of correlation between research variables and COVID-19 anxiety

Variables	1	2	3	4	5	6	7	8
Getting sick	1							
Consequences of the disease	0.231**	1						
General health concerns	0.363**	0.471**	1					
Physical factor	0.288**	0.461**	0.606**	1				
Cognitive factor	0.486**	0.421**	0.427**	0.365**	1			
Social factor	0.542**	0.271**	0.401**	0.393**	0.733**	1		
Somatosensory amplification	0.576**	0.425**	0.477**	0.403**	0.574**	0.509**	1	
COVID-19 anxiety	0.452**	0.457**	0.605**	0.601**	0.528**	0.539**	0.532**	1

The results related to multiple regression analysis of health anxiety, anxiety sensitivity and somatosensory amplification showed that the correlation coefficient of predictor variables with COVID-19 anxiety is 0.74 and these 6 variables significantly managed to predict 55% of the changes in COVID-19 anxiety (P<0.001). Also, according to the beta value, the variables of

general health concern ($\beta= 0.260$), social factor ($\beta= 0.165$), physical factor ($\beta= 0.163$), consequences of the disease ($\beta= 0.154$), cognitive factor ($\beta= 0.147$), somatosensory amplification ($\beta= 0.131$) and getting sick ($\beta= 0.102$) had the most significant effect in predicting COVID-19 anxiety ($P<0.05$).

Conclusion

The results of this study showed that health anxiety, anxiety sensitivity and sensory physical exacerbation have significant positive correlations with COVID-19 anxiety. This means that the higher the level of anxiety, self-morbidity, and attention to physical symptoms, the higher the degree of anxiety associated with the Coronavirus 19. It can also weaken their immune systems, which in turn increases their risk of developing the COVID-19. Accordingly, they need to overcome their irrational anxiety and control their anxiety by doing other activities such as exercise. The statistical population of this study was the students of Guilan University in 2020; Therefore, caution should be exercised in extending the results to other groups and regions. Restriction of research to self-report and online questionnaires is another limitation of research. In this regard, it is suggested that in future studies, research questionnaires be distributed in person with social distance and observance of health points.

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Conflicts of interest

The authors declared no conflict of interest.

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