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INVESTIGATING THE EFFECT OF WORRIES ABOUT CONTROLLING THOUGHT AND ANXIETY ABOUT CORONA DISEASE IN PREDICTING LEARNING ANXIETY AMONG HIGH SCHOOL STUDENTS IN MAHSHAHR

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ABSTRACT

The purpose of this study was to investigate the role of concerns from controlling thought and anxiety related to the Coronavirus disease in predicting students' learning anxiety. This was of a correlational study. The statistical population included all high school students in Mahshahr. A total number of 132 people was selected by available sampling method and they answered Alipour et al.'s (2013) Corona Disease Anxiety Questionnaire, Wales and Davis's Worry Inventory (1994) and Pekrun, Goetz and Perry's Learning Anxiety Scale (2002, 2005), which were distributed through virtual networks. Data were statistically analyzed after being collected using Pearson correlation tests and multiple regression. The findings showed that there was a positive significant relationship between corona anxiety and worries and students' learning anxiety (P <0.001). The results of regression analysis also showed that anxiety and worried over corona disease play a significant role in predicting students' learning anxiety (P <0.001). Based on the results of the study, it is advised that students' learning anxiety be taken into account in the context of the prevalence of infectious diseases such as corona.

Keywords: *Corona Anxiety, Worry, Learning Anxiety*

INTRODUCTION

Coronavirus is one of the diseases that is associated with such consequences as respiratory, intestinal, liver, and neurological diseases (Zhu et al., 2020). One of the newest coronaviruses is COVID-19, which was first seen in December 2019 in Wuhan Province, China (World Health Organization, 2020) and soon spread to most countries in the world, including Iran (Alizadeh-fard and Saffarnia, 1999). In addition to somatic problems, COVID-19 has been associated with numerous problems, including multiple psychological traumas (Yin et al., 2020). One of the problems plaguing many people is to face corona anxiety or anxiety over their infection or infection of those around them with the coronavirus (Alipour et al., 2009). Corona anxiety includes such behaviors as constant checking for symptoms, checking for corona-related news and press releases, and symptoms such as anxiety, restlessness, tremors, and anxiety as these instances make them more be more anxious (Toh, 2019). The spread of

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COVID-19 also led many countries to make decisions to quarantine cities because of the spread of the disease; China, India, Iran, and Italy were among these countries (World Health Organization, 2020). The quarantining process of the cities was accompanied by the closure of universities and schools in Iran, so that all schools in Iran were closed down since the beginning of March 2020, and virtual education was provided for students. Since virtual education infrastructure is not yet available in many cities in Iran, this education was associated with a myriad of problems. Student stress and anxiety in virtual learning as well as corona-caused anxiety can be associated with many academic problems such as learning anxiety (Patki et al., 2013). Factors affecting learning anxiety mostly include four aspects and include learning factors, teacher factors, platform factors, and interaction factors (Xingbao et al., 2016). All of these dimensions can be negatively affected by quarantine conditions because, on the one hand, the prevalence of COVID-19 prevents students from interacting with each other and the teacher as it creates disease anxiety (Yin et al., 2020), and on the other hand, learning anxiety is thought to be a common phenomenon in virtual training (Xingbao et al., 2016).

Another factor that appears to affect the corona disease anxiety and thus the anxiety of students' learning is the worry. While worried people are constantly anxious to control their thoughts, and in this condition, unpleasant and uncontrollable verbal thoughts and images of the future, which are accompanied by negative emotional experiences, cause inconvenience (Toh, 2019). Worry is different from anxiety, although it is an integral cognitional part of it (Sherwood et al., 2020). Anxiety leads to a bias towards threatening stimuli and increased anxiety as it has a negative effect on information processing (Williams et al., 2014). In fact, worry and anxiety have a reciprocal effect on each other, with worry being associated with anxiety, and the inseparable part of anxiety is worry (Sherwood et al., 2020). Therefore, worry can affect corona anxiety and therefore learning anxiety. People with anxiety problems are more likely to ignore the consequences of worry; these people think that worry has constructive goals, such as preventing negative events (Lawrence et al., 2019). This is while low levels of anxiety are effective in preparing to solve problems and deal with problems (Lawrence et al., 2017) but increasing the severity of anxiety will be associated with increased anxiety and decreased mental health levels (Stumper et al., 2017).

A review of the research background suggests that the impacts of anxiety-related worries from controlling corona disease problems on learning anxiety and quarantine conditions have not been considered, and research does not cover the objectives of the present study. Therefore, as the subject under study matters, the present study aimed to investigate the role of worry about controlling thought and anxiety of corona disease in predicting students' learning anxiety.

RESEARCH METHOD

The present study was performed via a descriptive-correlation method. The statistical population of the study included all high school female students in Mahshahr in the academic year of 2019-2020. Using the convenience sampling method, a total of 149 people was selected and research questionnaires were distributed online among these people. The research tools included Alipour et al.'s (2013) Corona Disease Anxiety Questionnaire, Wales and Davis's Worry Inventory (1994), and Pekrun, Goetz, and Perry's Learning Anxiety Scale (2002, 2005).

The questionnaires were designed in such a way that they provide training to individuals with scores above 18 (30% cut off). Finally, after redundant scores were deleted, the data belonging to 132 people were analyzed using the Pearson correlation method as well as multiple regression.

Corona Disease Anxiety Questionnaire:

This questionnaire was prepared and validated by Alipour et al. (2017) in order to measure anxiety from the prevalence of Coronavirus in Iran. The final version of this inventory has 18 items and 2 components. This tool has been set on the 4-point Likert range from never (0) to always (3). Items numbered 1 to 9 are related to psychological symptoms and items 10 to 18 are related to physical symptoms. Corona's overall anxiety score is also obtained from the sum of the scores of each item. The total score varies between 0 and 54. High scores on this questionnaire indicate a higher level of anxiety in individuals. In their research, Alipour et al. (2020) reported the reliability of the dimensions of the questionnaire using Cronbach's alpha method for psychological factor (0.879), physical factor (0.861), and (0.919) for the whole questionnaire. Also, in the study by Alipour et al. (2019), the Guttmna's λ-2 for the first and second factors, and the total questionnaire were 0.882, 0.864, and 0.922, respectively. Alipour et al. (2009) also estimated the validity of the research by linking this tool to the general health questionnaire. Corona anxiety questionnaire correlation with the overall score of the general health questionnaire and the components of anxiety, physical symptoms, social dysfunction, and depression were reported to be 0.48, 0.52, 0.42, 0.33, and 0.27, respectively. In the present study, the reliability of the questionnaire was calculated through Cronbach's alpha and was obtained (0.886) for the psychological factor, (0.913) for the physical factor, and (0.930) for the whole questionnaire.

Pekrun, Goetz and Perry's Learning Anxiety Questionnaire (2002, 2005):

This questionnaire was taken from the Pekrun's Academic Emotions Questionnaire (AEQ) and has 11 questions. The goal of the questionnaire is to assess the level of anxiety about learning. In designing the questionnaire, a five-point Likert scale ranging from completely disagree (1) to completely agree (5) has been used, and higher scores are consistent with greater learning anxiety. Pekrun, et al. (2002) showed that the Cronbach's alpha calculated for the subscale of the questionnaire ranged from 75% to 95%, indicating an acceptable reliability of this scale. In Iran, Cronbach's alpha coefficient and confirmatory factor analysis were used to evaluate the reliability and validity of this questionnaire in the research by Kadivar et al. (2009). The results of their research, being in line with the results of Pekrun's (2002) research, showed that the questionnaire has an acceptable internal consistency and Cronbach's alpha coefficient in this subscale is 0.802. Its validity was also confirmed. Therefore, this questionnaire is a good inventory for determining the level of anxiety associated with learning. In the present study, the reliability of post-learning anxiety reliability was calculated through Cronbach's alpha and it was 0.911.

Thought Control Questionnaire (Wells and Davis, 1994):

This questionnaire was developed by Wells and Davis (1994) to measure individual differences in the use of uninterrupted disturbing thought control strategies and has 30 items, including

five scales of withdrawing attention (1, 9, 16, 19, 21, 30), self-punishment (2, 6, 11, 13, 15, 28), social control (5, 8, 12, 17, 25, 29), reassessment (3, 10, 14, 20, 23, 27) and worries (4, 7, 18, 22, 24, 26). In the present study, the worry dimension was used to assess the level of concern among the subjects. Therefore, each of the subscales has 6 items, such that the authors reported Cronbach's alpha coefficient of 0.64 and the pre-test-post-reliability reliability coefficient of 0.67 for the subscales of this questionnaire. In Iran, Goodarzi and Ismaili Turkanburi (2005) considered Cronbach's alpha coefficient for the whole questionnaire at 0.81 and for the subscales of withdrawing attention, social control, worry, punishment, and reassessment at 0.79, 0.70, 0.70, 0.76, and 0.70, respectively. In the present study, the next reliability of worry was calculated through Cronbach's alpha and it stood at 0.836.

FINDINGS

The mean age of the subjects was 17.20 (standard deviation of 3.84). Participants had a mean of 32.88 days in quarantine. The mean and standard deviation of the scores of the research variables are presented separately in the test and group stages in Table 1.

Table 1. Mean and standard deviation of the scores of the studied variables

Variable	Mean	SD	Min.	Max.
Learning anxiety	37.15	10.69	11	55
Corona anxiety	15.34	12.09	7	24
Worry	12.68	4.30	6	24

According to the findings of Table 1, the mean learning anxiety was 37.15, the mean anxiety of Corona disease was 15.34, and the mean anxiety was 12.68. The correlation between the variables was investigated using Pearson correlation method, the results of which are listed in Table 2.

Table 2. Research Correlation Matrix

Variable	Learning anxiety	Corona anxiety	Worry
Learning anxiety	1		
Corona anxiety	0.499**	1	
Worry	0.480**	0.434**	1

0.001<P**

Based on the results in Table 2, there is a significant positive relationship between corona anxiety and worry with students' learning anxiety (P <0.001), which suggests that students with higher anxiety and disease anxiety have more anxiety in learning. To investigate the role of predictor variables (anxiety and worry because of corona) in predicting the variable of criterion (disease anxiety), multiple regression test was used concurrently. Performing this test requires observing the assumptions on the normalcy of the data distribution, non-alignment of the error, and that the errors are independent and verified. The results of multiple regression analysis are presented in Tables 3 and 4.

Table 3. Results of multiple regression analysis concurrently

Square sum	Mean square	F	Sig.	R	R2
4345.34	2172.67	٢٦/٣٤	0.001	0.53	0.29

Table 3 indicates that the regression model for predicting corona anxiety is significant based on negative metacognitive beliefs and worries. Also, the R2 value is 0.29 and this model predicts 29% of the variations in learning anxiety.

Table 4. Regression coefficients for learning anxiety scores based on corona anxiety and worry

Variable	B	Std. Error	β	t	Sig.
Constant value	23.67	2.47	-	9.58	0.001
Corona anxiety	0.31	0.07	0.36	4.29	0.001
Worry	0.68	0.21	0.27	3.29	0.001

Using the multiple regression method concurrently, the significance model was obtained (the adjusted R square was 0.29, P <0.001, F=26.34). This model accounted for 29% of the variable criterion variance (learning anxiety). It also explains that all β coefficients are significant. Therefore, it can be said that corona anxiety and worry play significant roles in predicting the students' learning anxiety.

DISCUSSION

This study aimed to investigate the role of worries about controlling thinking and corona anxiety in predicting anxiety in learning among high school students of Mahshahr. In general, the results showed that there is a significant positive relationship between corona anxiety and worry about learning anxiety. The results are consistent with the those of other studies, including Yin et al.'s (2020) study, which showed that disease anxiety prevents students from interacting with each other and the teacher, thus increases learning anxiety; Sherwood et al. (2020) on the relationship between anxiety and worry problems; Farhadi et al. (2013) who showed negative metacognitive beliefs were associated with students' academic problems such as test anxiety and also the research done by Mahmoud Alilou, et al. (2015) on the relationship between negative metacognitive beliefs in pathological worry and test anxiety. To explain the findings of this part of the study, it can be said that corona anxiety and worry are components related to anxiety, which aggravate it. People who are constantly worried about the smallest problems they have are constantly thinking, and instead of using effective coping techniques, they replace more trivial negative thoughts for their own. Therefore, relinquishing the consequences of worrying and perceiving that worry has constructive goals, such as preventing the occurrence of negative events, will be the cause of more anxiety for these people (Lawrence et al., 2019).

On the other hand, COVID-19 is associated with high anxiety because of its high prevalence and mortality risk. The conditions for quarantine and virtual education/learning should also be taken into account in increasing learning anxiety. Because students' contact with the teacher and their classmates decreases in quarantine conditions, learning anxiety increases (Yin et al., 2020). Overall, it can be concluded that worries about controlling corona's thinking

and anxiety are related to students' learning anxiety. Therefore, paying attention to the psychological dimensions of students (especially anxiety, corona anxiety, as well as students' learning anxiety) is very critical in corona quarantine conditions and should be focused attention. Based on the research findings, it is recommended that by increasing educational programs in the media, especially radio and television, measures should be taken to correct students' beliefs about worries associated with mind control and corona anxiety to redu. The present study, like other studies, had limitations that included using the questionnaire ce learning anxiety in students and thus improve performance. It is also recommended that future studies be done while introducing effective interventions on corona anxiety and worries as the only research tool, failure to control the controlling variables, and also limited the research community to Isfahan students, indicating the need for caution to be observed in generalizing the results.

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