The relationship between self-efficacy and test anxiety among the paramedical students of Qom University of Medical Sciences

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Abstract

Introduction: Increased levels of anxiety are lead to the lower performance of students in the exam situation. On the other hand, the self-efficacy is directly related to the academic performance of the students.

Materials and Methods: in this cross-sectional study, 233 paramedical students of Qom University that had been randomly selected were participated in this study. The demographic information's sheet, test anxiety inventory and the self-efficacy scale were used as data collection tools. Logistic regression analysis and Pearson correlation coefficient were used for data analysis.

Results: The score of test anxiety of %43.4 of the students was more than the mean of anxiety score. In the univariate logistic regression analysis, the increasing of self-efficacy score was associated with the decreasing of the of test anxiety. (OR: 0.79, %95 CI: 0.73-0.86) And also, the chance of test anxiety among the female students was more than males. (OR: 1.74, %95 CI:1.01-2.99) The age, marital status and the number of elapsed terms wasn't significantly associated with the test anxiety. In multivariate logistic regression analysis, only self-efficacy predicts the test anxiety. (OR: 0.80, %95 CI: 0.73-0.87).

Conclusion: The findings of this study showed that the students with higher self-efficacy experience lower test anxiety. Therefore, the strengthening of this individual feature in students can lead to the better performance of students in the exam situation by decreasing of test anxiety. According to the existed difference between the sexes, the girls have more need to the self-efficacy promotion programs.

Keywords: Test anxiety, self-efficacy, students, Medical Sciences.

Introduction

The test anxiety is an emotional-cognitive phenomenon that plays an important role in the function and promotion of pupils and students [1]. A study that was performed in Iran reported the amount of test anxiety as mild in 37% of students, moderate in 38.5% of students and severe in 24/5% of students [2]. test anxiety makes people skeptical about their capabilities and its consequent is reduction of such situations that makes peoples in dealing with evaluation. Therefore, people who are suffering from test anxiety, although they knows the answers of questions but the anxiety is to the extent that they cannot use from their information for answering of the questions [3]. The test anxiety threatens the psychological health of students and pupils and it has adverse impacts on the effectiveness of students, talents and the formation of personality and social identity of them. The test anxiety gradually become stable trait and is often associated with feelings of inadequacy [4].

Self-efficacy beliefs are an important factor in the regulation of human behavior and motivation and coping with anxiety [5]. According to the Bandura theory, the self-efficacy is a sense of mastery for doing of especial activities that the trust, confidence and self-esteem of each person for doing of activities have an important role [6]. Capa & Loadman in their study showed that 40% of the test anxiety is predictable with self-efficacy [7]. The students with high self-efficacy are considered their tasks as challenges that must mastered on them and in the case of failure apply greater effort. But people with low self-efficacy in dealing with their tasks considered them more difficult as it is, And this issue leads to the stress and anxiety in them and they are faced with a decline in their performance [8]. Janice is confirmed the existence of relationship between test anxiety, self-efficacy and academic performance of the students [9]. Mehrabizadeh in the survey of test anxiety and its relationship with self-efficacy showed that it is a significant relationship between these variables

[10]. Khoshnevisan in the survey of relationship between self-efficacy with depression, anxiety and stress showed that self-efficacy is explained the 15% of anxiety variance [11]. And also in some studies, it was found that people with low self-efficacy have more social anxiety [12, 13]. As it is noted, an important factor in performance and coping with stressful situations is the one's beliefs from his/her ability that expressed as self-efficacy. Since the students during their education have to coping with the stressful situations of exams, therefore, this study was performed for determination of relationship between test anxiety and self-efficacy in the students of Qom University of Medial Sciences.

Methods

In this cross-sectional (descriptive-analytical) study that was performed in 2015, the 233 paramedical students of Qom University of Medical Sciences were selected randomly according to the list of students. The demographic information's sheet, test anxiety inventory and the self-efficacy scale were used as data gathering tools. The test anxiety inventory that was used in this study is consists of five items. The respondent specified his/her opinion about each of the statements on a four-point Likert scale. Therefore, the range of test anxiety score was from 5 to 20. A higher score indicates more test anxiety. This inventory was created by Taylor & Deane that its Cronbach's alpha coefficients has been reported 0.87, And also, the criterion validity (concurrent) of this inventory has been approved by Spielberger anxiety questionnaire [14]. In the first, this questionnaire was translated to Farsi by an English Language expert and next, the Persian-version of this questionnaire was returned to the English by another English expert finally after correction of existed gaps, in a preliminary study among 30 students, its internal consistency was confirmed by the Cronbach's alpha coefficients of 0.87 [14]. The questionnaire of general self-efficacy is consists of 10 items that survey the one's beliefs about the ability to coping with life issues and difficulties. This is a self-administered questionnaire that the responder specified his/her opinion on the 4-point Likert scale from completely true to completely false. The range of scores is from 10 to 40 and the higher score is indication of higher self-efficacy beliefs. This questionnaire was made by Schwarzer and Jerusalem in 1995. The reliability of this questionnaire is reported by Cronbach's alpha of 0.89. Rajabi reported the Cronbach's alpha of this questionnaire as 0.82 among Iranian students [15]. The questionnaires were completed by the students before the starting of the exam. Before the giving of questionnaire to students, the verbal consent was obtained from them. The data was maintained anonymously in all stages of investigation. The data were analyzed by the SPSS software Ver. 16 by using

of descriptive statistics tests and univariate and multivariate logistic regression. The variables with P < 0.2 were entered to the multivariate logistic regression model and their simultaneous effects were investigated. In all tests, the significance level was considered at the level of 0.05.

Results

From 233 students that participated in this study, 134 students were female (%57.5) and 46 students (%19.8) were married. 21.5% of students were lived in the student dormity and 67.4% of them were lived with their families and % 11.2 of them were lived in their personal home. The score of test anxiety of % 43.4 of students were more than the mean of anxiety among the students. According to univariate regression analysis, increasing of the score of self-efficacy reduce the chance of test anxiety, significantly. So that, by increasing of the score of self-efficacy in the amount of one score, the test anxiety level is reduced in the amount of % 21. And also, the female students were experienced the anxiety of 1.74 times more than male students. [Table 1].

Table 1: Association between demographic variables and self-test anxiety by logistic regression analysis (univariate model).

Variable	CI %95	Odd ratio	P
Self-efficacy	0.73-0.86	0.79	<0.001
Age	0.94-1.07	1	0.88
Gender (female)	1.01-2.99	1.74	0.04
Married	0.54-2.04	0.87	1.05
The number of semesters spent	0.98-1.35	1.15	0.07
Residence	0.47-1.24	0.77	0.28

Age, marital status, number of elapsed terms of education and residency status was not significantly associated with exam anxiety. After entering of variables to the multivariate regression model, it is specified that the most important factor in tests anxiety is self-efficacy. So that, increasing of self-efficacy was associated with decreasing of test anxiety. gender, the number of elapsed educational terms wasn't significantly associated with test anxiety [Table 2].

Table 2: Association between demographic variables and self-test anxiety by logistic regression analysis (multivariate models).

Variable	CI %95	Odd ratio	P
Self-efficacy	0.73-0.87	0.80	<0.001
Gender (female)	-2.63 0.71	1.37	0.34
The number of semesters spent	0.95-1.40	1.15	0.13

Discussion

In the present study, 43.4% of the students had the test anxiety of more than the mean. Lashkaripoor in his study showed that 42.7% of examinees are suffering from the test

anxiety [16]. A study in china were reported the test anxiety of the high school students as 65.2% [17]. Because, the test anxiety can be affected by various factors, including differences in educational environment, degree of difficulty of questions are designed by teachers and the educational system and the atmosphere of the exam, therefore, a major part of the difference in test anxiety is caused of difference of these factors in different universities [18].

The self-efficacy had a significant negative relationship with test anxiety. Janise, Capa & Loadman, Jex & Bliese Onyeizugbo,Ghasemmohammadyary, Mehrabizadeh and Akbari were obtained a similar results in relation to the self-efficacy and test anxiety [7, 9, 10, 19, 22].

The imagination of a person from his/her capabilities is one of the most important factors in dealing with anxiety situations. The students with high self-efficacy are confident to their abilities and show more desire, effort and endurance in doing of their tasks [23].

The peoples in judging of their abilities from their function are affected by a various factors. The hardness of job, the amount of effort, the desirable and undesirable situation, the amount of external helps, the physical and emotional status of them and the modality of success and failure are from these factors. The positive and negative attitude about themselves and the modality of success and failure affect the judgment about the self-efficacy. The people's beliefs about their merits affect the psychological situations, depression and anxiety in threatening situations. Those who believe themselves can solve their problems and they do not allow the disturbing thought patterns to enter in their mind and therefore do not disturb. Conversely, those who do not believe in their effectiveness, experience the anxiety and stress against incoming treats and they will not be spared from the adverse effects of them [24].

The peoples with high self-efficacy believe that can effectively deal with the events and circumstances that they encountered. Since they expect success in overcoming the problems, they resist in their duties and often operate at a high level. Research has shown that when a person is more efficient, it is more probable to start work and do more tries and show more tenacity when he/she encountered to the problem or failure [25].

In this study, the exam anxiety of females was more than males. Mohammad Yari, Akbari, Ginter, Onyeizugbo et al and Devine et al found similar results [19, 22, 26, 28]. While in the study of Tuntufyes and Hatami, the anxiety hadn't any significant difference between males and females [28, 29].

The gender difference in anxiety is explained by gender role acceptation and social expectations; because the girls are believes that the anxiety is a feminine trait. Therefore, when they encounter to it, they accept it. While the males

shows a defensive actions versus the anxiety and they knows it as a threat for their masculinity. Therefore, the males learn to cope with the anxiety or deny it or use from the coping strategies versus it [20, 22, 26, 27].

In the Anderman et al study, the mean score of self-efficacy beliefs in males was more than the girls [30]. High self-efficacy beliefs in males may be a result of gender stereotyped beliefs of their parents, previous experience, expectations of their parents and their attitudes. It seems that the high self-efficacy in males is from coping strategies that protect them from the anxiety of exams [20, 22, 31].

There was no significant relationship between the exam anxiety and the age. The results of this study were consistent with the results of the study of Cheraghian, Hatami , Tuntufyes [18, 28, 29]. And it was inconsistent with the results of Watson study which stated that anxiety increase with age [32].

While, there is a significant relationship between the exam anxiety and increasing of the age in the school-age but the results of performed studies showed that there isn't any significant relationship between the age and exam anxiety during education in university [28]. And also, this finding can be a result of propinquity of the mean age of participants in this study. There is not found any significant relationship between exam anxiety and marital status. The results of this study were consistent with the results of Moghimian study. The finding of this study may be related to the low number of married people in this study [33].

In this study, there was no significant relationship between GPA and exam anxiety [32]. Although, Senay et al in 2012 determined that the function improved by controlling of anxiety in exams [34]. And also in the study of Chapel, there is a significant relationship between the exam anxiety and GPA and it is clear that the female students with low anxiety had the higher GPA in comparison with female students with high anxiety; while, this was not in the male students. And also, the female students had more exam anxiety and higher GPA in comparison with the male students [1].

Conclusion

The test anxiety has always been one of the problems in the educational systems, and it always has disrupted the function of the peoples in achieving of the educational goals. It can lead to the loss of academic performance and prolongation of learner's education duration. In addition, the test anxiety is a risk factor for developing other mental disorders. Therefore, the planning for reduction of this phenomenon among the students and especially in the students with higher anxiety (such as newly arrived students and female students) has a great importance. According to the opinion of the experts, intervention in the test anxiety can reduce

anxiety and increase the performance and productivity of the peoples. Development of university policies in the field of taking standardized exams, attention to the condition and atmosphere of the exam's session, an appropriate training of doing of exam, attention to the amount of self-efficacy of individuals and empowering of students to gain a sense of self-efficacy can help to reduce the test anxiety. Also, due to the high prevalence of test anxiety among the students, it is recommended that with attention to this phenomenon, more researches be done to identify the factors associated with it and provide some strategies for coping with the test anxiety.

Conflicts of Interest

Acknowledgment

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