



ISSN No: 2319-5886

International Journal of Medical Research &
Health Sciences, 2016, 5, 9S:615-619

The survey of the relationship between meta-cognitive self-regulation with the test anxiety in the city of Urmia's Medical Sciences University Students in 2016

Ali Reza Salar¹, Rahim Baghaei², Hassan Ghavami³ and Sadegh Zare^{4*}

¹Community Nursing Research Center, Zahedan University of Medical Sciences, Zahedan, Iran

²Patient Safety Research Center, Urmia University of Medical Sciences, Urmia, Iran

³Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

⁴Community Nursing Research Center, Student Research Committee, Zahedan University of Medical Sciences, Zahedan, Iran

Corresponding Email: zaresadegh93@yahoo.com

ABSTRACT

The university students with higher levels of test anxiety have been shown to have lower cognitive and meta-cognitive performances and therefore they act weakly on their examinations and tests. According to the role played by meta-cognitive variable in anxiety and the importance which is considered for the test anxiety in the university students' performance and based on the findings which are contradictory in some of the stances, there is a necessity to perform more researches on this field of study. Thus, the current study aims at the survey of the relationship between the meta-cognitive self-regulation with the test anxiety in Urmia medical sciences university students. In the present descriptive-analytical study, 482 Urmia medical sciences university students have been selected based on a random method and they were asked to participate in completing questionnaires in 2016. The information required for the present study were collected by taking advantage of a three-part questionnaire, the first part of which was related to the demographic characteristics, the second part pertained to Pintrich's meta-cognitive self-regulation questionnaire and the third part also contained questions in connection with the test anxiety questionnaire designed, as well, by Pintrich et al. The data gathered based on the above process were analyzed by making use of SPSS ver.19, descriptive statistics, Pierson correlation test and the independent t-test. In the present study, the participating university students' average age was 21.70 ± 2.91 and 298 individuals from the total number of the participants were male. The relationship between gender with any of the test anxiety and meta-cognitive self-regulation variables was not found statistically relevant and significant. The relationship between the age and the meta-cognitive self-regulation was shown to be statistically significant but the relationship between the age and test anxiety was not found to be statistically significant. The developmental self-regulation mean score among the university students was 58.33 ± 11.22 and the test anxiety mean score was calculated to be 22.69 ± 6.36 . The results of the analyses performed via making use of Pierson correlation tests indicated that the relationship between developmental self-regulation and test anxiety is statistically significant. The results obtained in the present study indicated that the relationship between the developmental self-regulation and the test anxiety in the university students is statistically significant, thus it is suggested that in order for the university students to be able to gain control over their learning process they are required to be taught with cognitive and meta-cognitive strategies.

Keywords: meta-cognitive self-regulation, test anxiety, university students, Urmia

INTRODUCTION

Nowadays, in the contemporary world, millions of the men and women, elders and youngsters have been diagnosed to suffer from anxiety [1, 2]. The plague has so much deeply rooted into their minds and bodies that it has rendered them impatient and restless. Some of these sufferers are found with a feeling of stress in their heads and a feeling of pain in their hearts, they seem feeble in their decision making and when a decision made they are incapable of putting it into practice. The children and the youth experience a wide spectrum of the anxieties during their course of growth and development and these are sometimes so extensive and severe that the daily and academic life looks difficult to them [3, 4]. Test anxiety is a critical instructional problem which influences millions of students including the university students around the globe every year. Test anxiety is an unpleasant emotional reaction to the evaluation situations. Such an emotion is determined with some sort of a tension, distress and arousal of the autonomic nervous system [5, 6]. Test anxiety is a worry and a concern regarding one's own competencies and talents when being tested and evaluated [7, 8] which triggers the individual's autonomic nervous system in valuation situations which entail making a move forward and progress [9, 10]. Test and evaluation situations call for two types of reactions. Firstly, the task-oriented reactions are stimulated which bring about the conditions for the emergence of behaviors which are required in fulfilling a task or an assignment; secondly, the anxiety reactions are learnt which cause two types of behavior and response to appear: 1. task-related responses based on which the individual accomplishes the task and the test and via the fulfillment of which tries to reduce and lower the test anxiety level; 2. the responses and the behaviors irrelevant to the task which are determined with the feelings and emotions of being feeble and miserable, intensified bodily reactions, prediction and expectation of punishment and reprimand, low self-confidence and implicit efforts to get rid of the test situation [11, 12]. Test anxiety threatens the university students' mental health and it has been found to adversely influence their efficiency, the development of their talents, personality formation and social identity [5].

Tobias believes that the university students with higher levels of test anxiety have been recognized to have lower cognitive and meta-cognitive performances and consequently they usually act more weakly in their exams [13]. In the area of the more modern psychological treatments, through combining the schematic and information processing approaches, Welz and Matheus for the first time introduced a meta-cognitive pattern based on an applied self-regulation to elucidate and treat emotional disorders, the main assumption of the model is that the beliefs in the psychological disorders are formed of meta-cognitive components, they guide the thoughts functioning and defense and handling styles and they are interchangeably also influenced by them [14] and this construct is in this form that the utilization of the cognitive and meta-cognitive skills will undoubtedly lead to meaningful learning. When meaningful learning takes place learner studies the instructional material with a higher rate of understanding and insight, increasingly higher interest level, higher academic self-image, better learning speed and lower test anxiety and in case it is deemed as necessary the individual makes a practical use of them [15-17]. According to the role of meta-cognitive variable played in the anxiety and the importance given to the test anxiety in the university students' performances and the findings that are occasionally found contradictory, carrying out further research in this field of study is deemed necessary. Thus the present study aims at the survey of the relationship between the meta-cognitive self-regulation in the city of Urmia's medical sciences university students.

MATERIALS AND METHODS

The current research is a descriptive-analytical study carried out on 482 individuals of Urmia medical sciences university students in 2016 all of whom have been selected based on a random method. The information required for the current study have been collected via a three-part questionnaire the first part of which included demographic characteristics (age, gender), the second part involved meta-cognitive self-regulation questionnaire and the third part incorporated test anxiety questionnaire designed by Pintrich et al. Pintrich's meta-cognitive self-regulation questionnaire contained 12 questions. The measurement scale was ordinal MSLQ. The study participants provided answers, based on the questionnaire guidelines, and the responses were scored based on Likert's 7-point scale from 1 (it is not true about me at all) to 7 (it is completely true about me). The score for each of the scales is an averaged mean score obtained for the scale constituent items. Therefore, in the present study the lowest score possible is 12 and the maximum score obtainable is 84. The questionnaire's reliability score was obtained 0.79 by Pintrich et al and it was also calculated again for the current study and a reliability score of 0.80 was obtained.

Test anxiety questionnaire also included 5 questions which is a subgroup of Pintrich's strategic learning questionnaire. The measurement scale used by the current research plan was ordinal MSLQ. The testees provided

answers based on the questionnaire guideline and their responses were scored according to Likert's 7-point scale from 1 (it is not true about me at all) to 7 (it is completely true about me). The score that can be acquired for each scale is a mean score averaged for all of the constituent items of the score. Thus, in the present study the minimum and maximum obtainable scores are 5 and 35, respectively. The questionnaire reliability calculated by Pintrich et al was 0.80 and it was again calculated for the present study which was shown to be 0.78.

To gather the data, firstly the objective of the research plan was explained to the participants and then after an oral consent was acquired the questionnaires were administered. At the beginning of the questionnaires there was written a text to inform the participants of their consent for taking part in the present study which read "your cooperation with the current research plan means that you are fully aware of your participation terms. Also, the information provided by the respondents in the present research plan will remain highly confidential and they are not exposed to any risks of any sort". The data were collected and extracted from the questionnaires and subsequently they were analyzed by taking advantage of SPSS ver.19, descriptive statistics, Pierson correlation test and independent t-test.

RESULTS

In the current study, the participating students' average age was 21.70 ± 2.91 years of age and 298 individuals (61.8%) were male. The results of the data analysis examined via independent t-test indicated that there was no significant relationship between gender and any of the test anxiety variables and Meta cognitive self-regulation ($P>0.05$). There was found a significant relationship between age and meta-cognitive self-regulation ($P=0.02$), but the relationship between age and the test anxiety was not figured out as statistically significant ($P=0.16$). (Pierson correlation test): The students' developmental self-regulation was 58.33 ± 11.22 and their test anxiety mean scores ranged 22.69 ± 6.36 . The results obtained from Pierson correlation tests indicated that there is a significant relationship between the developmental self-regulation and test anxiety ($P<0.001$).

DISCUSSION

The results of the present study indicated that the relationship between the developmental self-regulation and the test anxiety in the university students is statistically significant. In sum, the meta-cognitive skills and meta-cognitive relevant strategies pertain to the learners' abilities for being aware and consciously controlling of one's thoughts, as a human being [18] and teaching the cognitive skills can reduce the test anxiety [19]. In numerous studies the relationship between the meta-cognitive skills and the mental and psychological disorders has been justified some of which can be highlighted here, for instance, Wales and King in an experimental study compared the meta-cognitive skills teaching with the other treatment methods in the patients with generalized anxiety disorders. In their study, all of the patients who were subjected to such a treatment method were lost of their anxiety symptoms and signs and therefore it was concluded that the meta-cognitive method is an effective method in treating the generalized anxiety disorder [20]. Meta-cognitive skills provide for levels of intervention in which there is no emphasis placed on the thoughts content and challenging negative beliefs which were used to be underlined in the traditional cognitive interventions; rather, it is tried to change the meta-cognitive skills which increase the inconsistent repetitive negative thoughts or have been found to elevate the negative beliefs. In elaborating the meta-cognitive treatment efficiency, it is worth mentioning that in such an approach instead of the treatment being involving challenging with the interfering thoughts and inefficient beliefs it includes somehow making a connection with the thoughts which prevent from the creation of resistance or complicated perceptive analysis and this way one can come up with strategies for eliminating inconsistent thoughts causing worries and concerns in the individual [21].

The learners who have been diagnosed with higher levels of test anxiety seem to have critical problems in information processing such as coding and storing the learnt material and this is what causes them to underachieve and also to have lower performances when sitting for tests. Teaching the study skills in various learning-test cycle stages through removing the information processing and meta-cognitive deficits can lower the test anxiety [22, 23]. In elaborating the findings obtained from the proposed supposition here it is noteworthy that when the individual is strong in his or her meta-cognitive skills s/he will possibly try to perform the behaviors relevant and appropriate to the tasks s/he is assigned with and when the task-relevant response is presented the individual's success and progress will be augmented; therefore, the anxiety related to the performance is decreased. Also, it can be inferred that the meta-cognitive knowledge is connected to the good performance and the university students who possess special strategies regarding cognitive and meta-cognitive skills are more likely to make use of far better instructional strategies.

Of course, there are other factors influencing the university students' anxiety. In the study conducted by Hashmat et al, among the important factors effective on the test anxiety in the university students, one can point to the lengthiness of the test time, lack of physical activity, the field of study being widely extensive, lack of awareness of the testing and examination styles, lack of knowledge regarding the anxiety reduction techniques and/or in case of being informed of the latter the lack of practically practicing such strategies [24].

Generally it can be concluded that the meta-cognitive knowledge is effective because it causes the individual to get aware of the meta-cognitive processing methods and in fact it contributes to the individual to think based on his or her own meta-cognitive style. At the examination time, when the worrisome thoughts find their way into the individual's brain, instead of giving importance to such thoughts and as a treatment method the individual tries to be guided towards learning the fact that such thoughts will not necessarily lead to action and also they are not real and so the individual should not be imposed with stress and disqualification when sitting for a test. Among the other meta-cognitive knowledge efficiency and effectiveness on the test anxiety reduction one can refer to the identification of the negative and positive meta-cognitive beliefs or challenges related to the worries and concerns of interest. A great majority of the individuals with test anxiety consider the thoughts related to the examination situation as dangerous and uncontrollable and they have a negative attitude towards such thoughts and some others also adopt a positive attitude towards such worrisome thoughts and they think that such worries make them to be more fully prepared for the test, and it is the same very thought that activates their worries and concerns [25].

CONCLUSION

The results of the present study indicated that the relationship between the developmental self-regulation and test anxiety is statistically significant among the university students. Therefore, it is suggested that in order for the students to be able to gain control over their learning, they have to be taught with cognitive and meta-cognitive strategies. Teaching the meta-cognitive methods, especially the self-regulation skills in learning, teaching, self-initiation, self-observation and self-judgment to the students, particularly the university students will be consequently followed by academic achievement and test anxiety reduction. Thus, the prerequisite for reaching to such a goal is that the use of meta-cognitive strategies should be taught to the teachers and professors in order to be transferred to the university students, as well.

Acknowledgement

The current study is a result obtained by a research plan in BA degree in nursing and obstetrics department in the University of Zahedan. We are hereby thankful to all of the participants in the study and also the officials and authorities of Zahedan medical sciences university and Urmia medical sciences university whose generous and sincere helps greatly assisted us in data collection stages.

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