



Original Article

The effectiveness of cognitive skills training based on stress reduction on students' night homework anxiety

Farnaz Abhar Zanjani¹; *Hassan Touzadeh Jani²; Mahdi Amiri³

¹Ph.D. in Psychology, Department of Psychology, Khorasan e Razavi Science and Research Branch, Islamic Azad University, Neyshabur, Iran.

²Ph.D. in Psychology, Associate Professor, Department of Psychology, Khorasan e Razavi Science and Research Branch, Islamic Azad University, Neyshabur, Iran.

³Assistant Professor of Clinical Psychology, Psychiatry and Behavioral Sciences Research Center, Mashhad University of Medical Sciences, Mashhad, Iran.

Abstract

Introduction: The present study aimed to evaluate the effectiveness of teaching cognitive skills based on stress reduction on students' night homework anxiety.

Materials and Methods: The statistical population of this study included all elementary students of the second period of Khorasan Razavi province who had homework anxiety. 24 of them (experimental and control groups) were selected by purposeful method. For data collection, the problem scale of the homework for children at the ANCCO and colleagues (HPC) was used. After performing the pre-test, the intervention of cognitive skills training was presented to the experimental group in format of eight 45 minute- sessions. At the end of the intervention, two groups were evaluated in post-test phase. Covariance analysis was used to analyze the data.

Results: The results show that after controlling the pre-test, the difference between the pre-test and post-test scores of the two groups was significant for homework anxiety, and the mean scores of the experimental group was significantly less than the control group (0.45, ETA, $P < 0.05$, $F = 17.26$). The effect of this intervention on night homework anxiety is 0.45.

Conclusion: According to the results, it seems that the training of cognitive skills based on stress reduction is effective on students' night homework anxiety.

Keywords: Anxiety, Cognitive skills, Homework, Stress, Students.

Please cite this paper as:

Abhar Zanjani F, Touzadeh Jani H, Amiri M. The effectiveness of cognitive skills training based on stress reduction on students' homework anxiety. *Journal of Fundamentals of Mental Health* 2019 Mar-Apr; 21(2):95-100.

Introduction

Anxiety is an adaptive excitement and a mood that displays without any external stimuli and its origin is unconscious and non-inhibitory (1,2). This condition is an unpleasant and often obscure concern (3) often associated with symptoms of an

auto device such as shortness of breath, palpitations, transpiration, headache, short stomach upset, and restlessness. Although low anxiety is necessary for human life and everyday life, high anxiety causes serious harm to the body and mind (4).

*Corresponding Author:

Department of psychology, Khorasan e Razavi Science and Research Branch, Islamic Azad University, Neyshabur, Iran

h.touzandehjani@ymail.com

Received: Oct. 15, 2018

Accepted: Jan. 10, 2019

In fact, anxiety is a necessary response to stress, and it prepares a person with a risk of reaction and response when he or she comes. In many cases, such a response is logical and even vital, but its abnormal state can affect a wide range of human functions (5). Therefore, little anxiety can have a positive effect on life and development. It is natural that this type of anxiety not only has no harm to the human development process, but also is constructive and useful (6).

According to DSM-5, anxiety is a 3 to 13 percent lifelong prevalence. Anxiety Disorder is an extreme or unreasonable fear of situations where a person's behavior or performance may be evaluated (7). Among the various anxieties that humans experience in their life span, especially during formal education, can be the anxiety of the night. The night's homework defines as a set of tasks set by the teacher at the school to enable them to complete their school hours outside their school hours (8). In general, the meaning of the task of the night is all the tasks involved (writing assignments, memorable, solving, etc.) that teachers set daily for their students to do at home. Nightlife has a variety of types of exercises, preparation, expansion and creativity.

According to the nature of these assignments, the effect of each of them on students' academic achievement can be different from each other (9). The night work is always one of the factors involved the realization of learning has been prominent, and the form and type of assignment have also varied in each period in proportion to the perception that learning existed (10).

In today's world, education of people is one of the necessities of life, without the education of the continuing life of people at risk. Because education of people in need of a lot of money and budget, therefore, the purpose of educational education of students is their academic achievement (11). The pressures associated with education are the main source of stress in young people all over the world. Educational activities for children and adolescents are of great importance in most cultures, but parents' expectations, teachers and students themselves, due to competition and academic excellence, can be a source of stress and stereotyping for most students (12).

Stress reduction cognitive skills training are a multifaceted approach in which techniques such

as relaxation, diaphragmatic breathing, mediation for identifying auto-negative thoughts, cognitive distortions and rebuilding it by replacing rational thoughts, effective coping training, managing anger and expressing Gray is taught to people (12). Nickeyk, Wingerhorstz and Zelenberg (13) showed that reducing stress has an effect on reducing symptoms of anxiety and increasing the positive mood and high quality of life. Due to the important role that school plays in shaping people's attitudes about their abilities and abilities, it is important to control the mental health problems of students such as stress, depression and anxiety. Meanwhile, cognitive skills training based on stress reduction and anxiety has both strong theoretical basis and several studies have confirmed its effectiveness in reducing psychological symptoms and anxiety (14). Cognitive Therapy is a psychotherapy system that tries to reduce self-harmful emotional and behavioral responses by making changes in defective thinking and maladaptive beliefs that underlie emotional responses. In cognitive therapy, emphasis has been placed on reducing the intensity and intensity of uncomplicated responses of caregivers and teaching modern skills in order to reduce unwanted behaviors and increase more compassionate behaviors (15).

Cognitive therapy is also a short-term treatment that is often effective in the treatment of depression (16).

Cognitive therapy is based on the views that stress states like depression, anxiety and anger often persist or intensify by beneficial and extreme thinking. The role of the therapist is to help the patient to identify and correct the person's thinking through the application of logical and empirical criteria.

Cognitive therapy is in fact a model for gathering and categorizing real-world information; Beck and Frillin consider cognitive therapy as depression as a redefinition of rational beliefs whose purpose is to re-energize the individual's realistic system (17).

Lin believed that cognitive skill training improves human relationships and enables individuals to act in accordance with their own interests, and allow them to express their desires without feeling anxious and stressful and honest feelings. They will show themselves in this way, which promotes their upbringing and excellence

(18). Teaching techniques and cognitive skills such as problem-solving skills will enable students to solve their problems and deal with stress and anxiety. Because anxiety and stress will lead to many psychological, physical and social problems in the students, and if skills of coping with these factors are not given to them, they will be frustrated in society.

Therefore, using the teaching of cognitive skills mentioned above, it is possible to develop students' thinking and strengthen their memory and stress and anxiety factors in them to the desirable level (19).

Materials and Methods

At first, the subjects were recruited on the basis of a revised version of the Psychiatric Clinical Interview, the fifth Diagnostic and Statistical Manual for the Detection of Semi-Structured Clinical Intervention (SCID), identified by a psychologist. Students who received the lowest scores in the questionnaires selected via purposeful sampling and then the samples were randomly divided into two experimental and control groups.

The both group were evaluated in pretest phase. Then, treatment interventions for reducing cognitive skills based on stress reduction were performed for 8 sessions (45 minutes) for the experimental group, but the control group did not receive any interventions.

After the end of the treatment period, both groups were compared using the post-test research tools. At the end, the results of the pre-test and post-test were compared between the two groups.

Research instrument

A) *Diagnostic Interview*: The semi-structured clinical interview of SCID is based on the Diagnostic and Statistical Manual of Psychiatric Disorders (Fifth Edition) (DSM-V) of the American Psychiatric Association, which provides a clinical interview, in addition to facilitating the process of evaluating and verifying the reliability and validity of resources (3).

B) *The problem scale of the homework for children at the ANCCO and colleagues (HPC)*: Housekeeping Home Problem List (HPC) by Kathleen M. Ensco, Grill Scully, Rafael Ramirez and Frederic M. Levine was made in 1987, consisting of 20 items that are used to measure home-based homework problems. The implementation of the questionnaire is based on the 4-point Likert scale, which is used for "never", "sometimes", "often" and "Most often" are rated 0, 1, 2, and 3, respectively. A higher overall score indicates more homework problems in children. In ANCO and colleagues' research, this scale has an excellent algebraic coefficient of 0.91. The alpha of the questionnaire in this study was 0.79. The data were analyzed by SPSS18 software using descriptive and inferential statistics.

Results

The mean and standard deviation of descriptive findings and repeated measures tests were used to explain the covariance test. Findings of the research were used. In order to evaluate the overall significance of the fitted model, from the effects of pylosic effects and the Lambdesa Wikis test, and the Hutchling effect and the larger of the second root, it is shown in Table 1.

Table 1. Piley Effect Test, Hutchling Effect, Lamboidy Wickels, Root

	Partial η^2	F	df	Sig
Piley	0.001	0.99	3.0	0.00
Wickels	0.001	0.00	3.0	0.00
Hutchling	0.999	699.54	3.0	0.00
Root	0.999	699.54	3.0	0.000

($P < 0.01$)

According to the value of the Lambda test in the following table, the statistical significance of 0.01 and the significant level of zero showed that at least one of the variables of stress and anxiety in

the students' homework in the experimental and control group were significantly different in the post-test with each other.

Table 2. The results of single-variable covariance analysis experiment and control groups

Source of change		SS	df	MS	Partial η^2	Sig	F
Homework anxiety	Group	320.83	1	320.83	0.45	0.000	17.26
	Error	390.15	21	18.57			
	Total	30522	24				

(P<0.01)

Table 3. Modified mean scores of post-test anxiety variable

Dependent Variable	Group	M.M	standard error
Homework anxiety	Experimental	31.24	1.29
	Control	39.08	1.29

(P<0.01)

The results of the above tables indicate that after controlling the pre-test, the difference between the pre-test and post-test scores of the two groups was significant for the anxiety variables of the night task, and the mean scores of the experimental group in the anxiety variable of the night-time was significantly less than the control group (0.45, η^2 , $P < 0.05$, $F = 17.26$). The effect of this intervention on the night anxiety is 0.45.

Discussion

Based on the results of this study, and the other researchers such as Holly Onal (20), Joseph Williams (21), Kelly Hanna (22), Cocaqua et al. (23), Mubiini (24), Orly and colleagues (25), Sharma (26), Spilberger (27), Cappadine (28), and Wolstad et al. (29), it can be argued that by training cognitive skills, people identify lower stress-related physical symptoms and decrease their emotional stress, anxiety, and stress due to educational expectations.

Identifying auto-negative thoughts and cognitive distortions and replacing rational thoughts plays an important role in the correct evaluation. In this training course, people learned to have an accurate assessment of their academic abilities and talents and, based on their successes in education, have reasonable expectations. The existence of these rational expectations reduced the amount of experienced anxiety (30). According to the Water Thumberer's theory, anxiety involves cognitive and emotional components, and cognitive components which are responsible for reducing the performance and individual's mental attitudes and emotional components which are responsible for emotional

reactions to the situation (31) and also, William's view that anxiety is a response to external stimuli. So, it can be emphasized that those with anxiety at night have a kind of self-employment with a worrying mindset that they slightness and doubt about their abilities are determined and often they carry out a negative cognitive assessment, negative emotions and undesirable physiological response (32,33).

Also, people who learn coping skills instead of helplessness, passivity and mind-blowing, will increase their abilities and reduce the requirements of stressful situations (problem-oriented strategy). Also, when people use stress management techniques to reduce stress and associated physical symptoms, control sensation increases (34). Cognitive therapy protocol for adolescents with anxious response to homework, through the training of identifying unrealistic risks, enables them to control and manage worrying thoughts, negative emotions, and adverse physiological responses (35).

In a general explanation it can be stated that cognitive stress reduction training emphasizes the collaborative relationship between the therapist and the authorities and also has the potential to reduce the full range of academic anxiety that students experience and it can be effective in improving self-efficacy beliefs that are the main problem for anxious people (16).

Conclusion

According to the results, it seems that the training of cognitive skills based on stress reduction is effective on students' night homework anxiety.

Acknowledgement

This research approved by Department of psychology, Khorasan e Razavi Science and

Research Branch, Islamic Azad University, Neyshabur and the authors had not conflict of interests.

References

1. Abbasi Z, Amiri S, Talebi H. [The effective comparison between modular cognitive behavioral therapy (MCBT) and child parent relationship training (CPRT) in children with separation anxiety symptoms]. *The social sciences* 2016; 11(6): 890-902. (Persian)
2. Adebule SO. The effect of homework assignment on mathematics achievement of secondary school students in south west Nigeria. *J Educ Pract* 2014; 5: 52-5.
3. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders (DSM-5®)*. Washington, DC: American Psychiatric Publication; 2013.
4. Ang RP, Huan VS, Braman OR. Factorial structure and invariance of the Academic Expectations Stress Inventory across Hispanic and Chinese adolescent samples. *Child Psychiatr Hum Dev* 2017; 38(1): 73-87
5. Arch J, Ayers CR, Baker A, Almklov E, Dean DJ, Craske MG. Randomized clinical trial of adapted mindfulness-based stress reduction versus group cognitive behavioral therapy for heterogeneous anxiety disorders. *Behav Res Ther* 2013; 51(5): 185-96.
6. Becker EM, Becker, KD, Ginsburg GS. Modular cognitive behavioral therapy for youth with anxiety disorders: A closer look at the use of specific modules and their relation to treatment process and response. *School Ment Health* 2012; 4: 243-53.
7. Chiu AW, Langer DA, McLeod BD, Hark Drahotka A, Galla BM, Jacobs J, et al. Effectiveness of modular CBT for child anxiety in elementary schools. *NIH Public Access Author Manuscript* 2013; 28(2): 141-53.
8. Corina L, Gomez R. Unique associations of reinforcement sensitivity theory dimensions with social interaction anxiety and social observation anxiety. *Pers Individ Diff* 2014; 60: 20-24.
9. Deslandes R, Rousseau M, Nadeau T. Evolution and relation of students' homework management strategies and their parents' help in homework during the transition to high school. *Proceeding of the Annual Meeting of the American Educational Research Association, New York, NY, 2008.*
10. Dunne MP, Sun J, Nguyen ND, Truc T, Loan KX, Dixon J. The influence of educational pressure on the mental health of the adolescence in East Asia. *J Sci Res Hue University* 2010; 61(1): 18-27.
11. Egan MY, Kubina LA, Lidstone RI, Macdougall GH, Raudoy AE. A critical reflection on occupational therapy within one assertive community treatment team. *Can J Occup Ther* 2010; 77(2): 70-9.
12. Emerson TN, Mencken KD. Homework: to require or not? *Online graded homework and student achievement. Perspect Econom Educ Res* 2011; 7(1): 20-42.
13. Nyklicek I, Vingerhoets AD, Mercel Zeelenberg M. *Emotion regulation and well-being*. New York, Dordrecht Heidelberg; 2011: 101-15.
14. Galbraith T, Heimberg RG, Wang S, Schneier FR, Blanco C. Comorbidity of social anxiety disorder and antisocial personality disorder in the National Epidemiological Survey on Alcohol and Related Conditions NESARC. *J Anxiety Disord* 2014; 28(1): 56-7.
15. Galla BM, Wood JJ, Chiu AW, Langer DA, Jacobs J, Ifekwunigwe M, Larkins C. One year follow-up to modular cognitive behavioral therapy for the treatment of pediatric anxiety disorders in an elementary school setting. *Child Psychiatr Hum* 2012; 43: 219-26.
16. William CH, Wilson PH, Morrison J, McMahon A, Andrew W, Lesley Allan L, et al. Guided self-help cognitive behavioural therapy for depression in primary care: A randomized controlled trial. *PLOSE One* 2013; 8(1): 5273.
17. Leahy RL, Holand SJ. *Treatment plans and interventions for depression and anxiety disorders*. New York: Guilford; 2010.
18. Lin Y. Evaluation of an assertiveness training program on nursing and medical students' assertiveness, self-esteem and interpersonal communication satisfaction. *Nurs Educ Today* 2004; 24(8): 656-65.
19. Akgun S, Ciarrochi J. Learned resourcefulness moderates the relationship between academic stress and academic performance. *Educ Psychol* 2010; 23(3): 287-94.
20. Hülya Ünal-Karagiiven M. Demographic factors and communal mastery as predictors of academic motivation and test anxiety. *J Educ Train Stud* 2015; 3(3): 1-12.
21. Joseph N, Williams DP, Bowman A, Koenig J, Thayer JF. The need to approach emotional experiences as a mediator between resting heart rate variability and trait anxiety. *Anxiety* 2016; 10(24): 34.

22. Kley H, Tuschen-caffier B, Heinrichs N. Safety behaviors, self-focused attention and negative thinking in children with social anxiety disorder, socially anxious and non-anxious children. *J Behav Ther Experim Psychiatry* 2012; 43: 548-55.
23. Kocak C. The analysis on interpersonal relationship dimension of secondary school students. according to their ruminative thinking skills. *Soc Behav Sci* 2014; 143: 783-7.
24. Mobini S, Mackintosh B, Illingworth J, Gega L, Langdon P, Hoppitt L. Effects of standard and explicit cognitive bias modification and computer-administered cognitive-behavior therapy on cognitive biases and social anxiety. *J Behav Ther Experim Psychiatry* 2014; 45(2): 272-9.
25. Orly S, Rivka B, Rivka E, Dorit S. Are cognitive-behavioral interventions effective in reducing occupational stress among nurses? *Appl Nurs Res* 2012; 25(3): 152-7.
26. Sharma CR. Total quality management in education. *Indira Gandhi National Open University, India* 2011; 35(1): 182-8.
27. Spielberger CD, Anton Bedell J. Test anxiety interventions for children and adolescents: A systematic review of treatment studies from 2000-2010. *Psychol Schools* 2015; 50: 57-71.
28. Capaydin Y. High school students' emotions and emotional regulation during test taking. Department of educational sciences, Middle East Technical University of Ankara, Turkey, 2017.
29. Vollestad J, Sivertsen B, Nelsen GH. Mindfulness-based stress reduction for patients with anxiety disorders: Evaluation in a randomized controlled trial. *J Behav Res Ther* 2011; 49: 281-8.
30. Forsberg L. Homework as serious family business: Power and subjectivity in negotiations about school assignments in Swedish families. *Br J Soc Educ* 2007; 28(2): 209-22.
31. Waters AM, Zimmer-Gembeck MJ, Farrell LJ. The relationships of child and parent factors with children's anxiety symptoms: Parental anxious rearing as a mediator. *J Anxiety Disord* 2012; 26(7): 737-45.
32. Wilhelm S, Pbillies KA, Dielie E, Baehman U, Greenberg JL, Fama JM, et al. Modulate cognitive behavioral therapy for body dysmorphic disorder: a randomized controlled trial. *Behav Ther* 2016; 43: 314-27.
33. Cooper H, Robinson JC. Does homework improve academic achievement? *Rev Educ Res* 2016; 76: 1-62.
34. Antoni MH, Ironson G, Schneiderman N. Cognitive behavioral stress management: workbook (treatment that work). *Masochist*; 2007.
35. Corina L, Gomez R. Unique associations of reinforcement sensitivity theory dimensions with social interaction anxiety and social observation anxiety. *Pers Individ Diff* 2014; 60: 20-24.