



Study Of The Effectiveness Of Music Therapy On Student's Test Anxiety

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Abstract

Background and Aim: Exam anxiety is one of the most common problems that learners face during their studies and affects their academic performance. Over the past decades, a variety of treatments have been used by researchers to reduce test anxiety; Therefore, the purpose of this study was to investigate the effectiveness of music therapy on test anxiety in students aged of 18-12 years in Tehran.

Methods: The present study is applied in terms of purpose and in terms of method is quasi-experimental with pre-test and post-test design with control group. The statistical population of the study includes all students aged 18-12 years in Tehran. The statistical sample consisted of a training group (15 people) and a control group (15 people) which was selected by random sampling method.

Music therapy was performed in 8 sessions of 90 minutes for the training group and the control group did not receive any intervention. The research instrument included the Friedman Test Anxiety Scale. Both groups completed the Friedman Exam Anxiety Questionnaire as a pre-test and post-test. One-factor analysis of variance and SPSS-24 software were used to analyze the data.

Results: The results showed that the music-therapy intervention method significantly reduced the average test anxiety score of students aged 18-12 years ($P < 0.01$).

Conclusion: The findings of this study acknowledge the importance of the use of music therapy in reducing test anxiety of students aged 18-12 years. This approach can be used to reduce the damage caused by student test anxiety.

Keywords: Anxiety, music therapy, students.

Introduction

Exam anxiety is a specific type of anxiety that is characterized by physical, cognitive, and behavioral symptoms when you are preparing for an exam and taking tests.

It becomes a problem when high levels of this anxiety interfere with preparing and taking the test (Latas, Pantik et al., 2010).

Having a little anxiety in a person is both natural and necessary, but if it is too much, it will be problematic for him, so that he will not be able to get the necessary points with information and skills (Richardsorn, 2011).

Test anxiety is an unpleasant emotional reaction to the assessment situation. This emotion is characterized by a mental feeling of tension, encouragement, and arousal of the autonomic nervous system (Guida, Ludlow, 2005).

Researchers define test anxiety as a relatively stable trait associated with threatening situations (Larson, 2010). Children in elementary school experience little anxiety about the exam.

Exam anxiety develops between the ages of 10 and 12 and lasts into adulthood and even college. Exam anxiety seems to increase with age and the importance of academic achievement (Craig, Dobson, 1995).

Musege & Brod (1999) listed four components for test anxiety: anxiety, excitability, interference, and lack of self-confidence. Spielberger (1980) test anxiety has two components: the anxiety component and the excitement component.

Concerns about negative cognitions about performance and excitement refer to spontaneous arousal perceived by the individual, such as heart rate and muscle tension.

Diagnosis and treatment of anxiety in children and adolescents is very important because their personality is formed during this period.

Many children become anxious when they are in a new situation and show various reactions such as stuttering, hanging on to their parents, shyness, and biting their nails, and so on.

It is the duty of the parents in this situation to deal with him patiently and to give him the necessary self-confidence to face those situations.

Encouraging parents is effective in connecting children with the outside world and non-family members. Many parents are unaware of their child's feelings until the day they get into trouble (such as the first day of school).

One of the most common causes of pain and nausea in primary school children is fear and anxiety. Parent's worries (about the child entering school, his / her educational status, etc.) cause it to be transmitted to the child and increase his or her anxiety. Common disorders in children include social anxiety, fear of school, test anxiety (Khosravi, Ostvar, Azami, 2012).

Because test anxiety is a cognitive disorder, music therapy seems to be one of the most useful treatments to reduce it.

The use of art as a humanistic therapy is a therapy based on the interaction between the individual, the environment and the therapist. Music therapy is possible as a non-pharmacological treatment.

Music therapy (MT) is defined as the use of music for therapeutic purposes. There are reports that music can have beneficial effects in people with various injuries, for example, previous studies have shown the effectiveness of music in temporarily relieving common symptoms in patients with medical conditions such as asthma, cancer, and in reducing osteoarthritis and anxiety before surgery and also in helping respiratory patients.

Music is also effective in helping treat and rehabilitate some psychiatric patients, including schizophrenia, sleep disorders, and common problems such as depressive disorder. Music has also been used to reduce anxiety and help patients with dementia.

The difference between playing music in one place to achieve a particular effect and using MT is that MT is a type of psychotherapy with an epistemological background and requires a therapist familiar with specific psychological techniques. There are several types of MT, each of them is associated with specific psychological orientations.

Musical activities can be used to increase and maintain various physical, psychological or emotional-social aspects of the elderly (Peters, 2001). Music therapy means using music and tuned music programs to rehabilitate all patients (physical and mental).

Music therapy can effectively treat stress and emotional illness in humans. In a study of people with severe mental illness, it was found that music increases the quality of these people's life.

For example, writing a song causes the expression of these people, which has a positive effect on them.

The results of treatment have shown that patients improve significantly when thinking about themselves and relaxation. Music may act as an anxiety therapist in a way that reduces anxiety experiences (Khorramabadi et al., 2012).

Rafieian, Azarbarzin and Saffarizadeh (2009) in the study of the effect of music therapy on anxiety, pain, nausea and vital signs of patients undergoing cesarean section in Dr. Shariati Hospital in Isfahan concluded that music therapy reduces pain and anxiety in mothers undergoing cesarean section. But it has no effect on nausea.

Azani et al. (2009) in a study examined the effect of listening to invigorating music on self-esteem and self-efficacy of female nurses, the results showed that listening to invigorating music has an effect on self-esteem and self-efficacy.

Fallah et al. (2011) in their research entitled Comparison of the effectiveness of music therapy with guided imagery and cognitive strategies to reduce student's anxiety concluded that the mean scores of the two experimental groups in the post-test had a significant change in the reduction of anxiety scores, but no significant difference was observed between the two groups.

Mottaghi et al. (2011) studied the effect of Quran recitation on athletes' anxiety. The results showed that the score of athletes' anxiety under the influence of Quran recitation was significantly lower than unaffected athletes.

Mir Baqer Ajrpez et al. (2011) in a study entitled The effect of music and the sound of the Holy Quran on the level of anxiety and vital signs of patients before abdominal surgery concluded that the music and sound of the Holy Quran both reduce the level of anxiety and vital signs of patients is effective before surgery.

Khorramabadi et al. (2012) in their research examining the effect of music therapy on reducing addiction, anxiety and depression of drug addicts concluded that music therapy is a useful method in reducing addiction, anxiety, depression and stress of drug addicts.

Kennedy (1998) studied the effects of music performance, emotional rational therapy, and observational learning on self-efficacy and self-esteem of delinquent and deprived adolescents and concluded that in deprived adolescents who were trained in music performance, active therapy without emotional rational therapy and observational learning Improvement in self-confidence and self-efficacy was observed in comparison with adolescents in the control group.

Kivasco (2005) uses three music-therapy techniques, including musical movements, rhythmic activities, and competitive games, to reduce stress, anxiety, and aggression in women recovering from substance abuse. The results showed that these techniques were effective in treating and reducing stress, anxiety and aggression of the subjects.

Ritchie and William (2007) in a study entitled "Measuring self-efficacy in music" concluded that music has an effect on increasing the self-efficacy of students at the Royal College of Music in London. In another study on music learning and self-efficacy in primary school children (2010), they also found that self-efficacy increased in children who were taught music.

Heechn (2010) in a study of music therapy in the treatment of patients with neurobehavioral disorders caused by brain injury, has shown that music therapy is effective in reducing anxiety and overcoming problems and promoting positive behaviors in groups with behavioral and neurological disorders.

Trahin (2011) investigated the effect of group music therapy on the mentally ill and concluded that people suffering from mental illness often experience depression, anxiety, and difficulty maintaining relationships.

The use of music therapy has been useful in the treatment of outpatients.

Travanimi et al. (2011) examined individual music therapy for the treatment of depression. The results of this study showed that music therapy along with standard care is very useful for people and has good results.

Mei Li, Najou, Pan, Lao Wang, and Ping Zhang (2011) in a study entitled The effect of music therapy on anxiety in breast cancer patients concluded that the post-test anxiety scores of the intervention group were lower than the control group and music therapy has positive effects on lowering anxiety scores and patients with breast cancer.

In many studies, the effectiveness of music in clinical interventions has been recommended for at least 30 minutes during the music listening period (Nelson, 2008).

Non-pharmacological interventions such as the use of music therapy by psychologists and counsellors can increase the possibility of further use of this valuable diagnostic method by improving mental illnesses such as depression and anxiety disorders.

A review of previous research shows the positive effect of music therapy on improving educational, training and psychological conditions. The positive effects and applications of music in the field of education have been highly regarded. These effects have been observed even in the embryonic period of mice.

As a result of music, there is evidence of improved learning in the future (2006, Chikahisa, Sei, Morishima, Sano, Kitaoka, Nakaya). Learning music is associated with increased IQ (2004). (Schellenberg Music education on memory, attention, spatial abilities, mathematics and reading, community problem solving (1999) (Ulfarsdottir & Erwin, Improving Knowles academic performance, Jeffrey, 1996), Gardiner (Fox), learning capacity and learning process (Maier, 2009) & Pekrun, Elliot), reducing anxiety (2009; Abasi Tehrani, Johari Fard, & Alahyari), anger and depression, and social skills.

Music therapy does not have any side effects on students, in addition, it is simple, cheap and safe, and is more acceptable to therapists than medical methods; Therefore, the present study was designed to investigate the effectiveness of music therapy on student's test anxiety.

Analysis Method

The present study is applied in terms of purpose and semi-experimental in terms of method with pre-test design and post-test with control group.

The statistical population of the study includes all students age of 18-12 years in Tehran. The statistical sample consisted of a training group (15 people) and a control group (15 people) which was selected by random sampling method.

Music therapy was performed in 8 sessions of 90 minutes for the training group and the control group did not receive any intervention. The research instrument included the Friedman Test Anxiety Scale. Both groups completed the Friedman Exam Anxiety Questionnaire as a pre-test and post-test.

In this study, the pre-test and post-test method with a control group was used.

Considering the confirmation and normality of the distribution of scores by Kolmogorov-Smirnov test and the homogeneity of variances by Leven test, Confirmation of regression homogeneity was also confirmed by analysis of covariance and the data were analysed using SPSS software version 24.

Friedman Test Anxiety Scale (1997)

This questionnaire has 23 questions and its purpose is to assess different dimensions of test anxiety (social humiliation, cognitive error, stress). In Baazat's research, Sadat Sadeghi, Izadifar, Rubenzadeh (2012) To evaluate the validity of this test, structural validity and factor analysis test were used.

In the factor analysis, all 23 items were included in the analysis and none of the items had a correlation of less than 0.3.

Cronbach's alpha is presented to measure the reliability of the questionnaire: social humiliation is 0.95, cognitive error is 0.85, stress is 0.83, total is 0.91. Also, the total reliability of the Cronbach's alpha test anxiety questionnaire in the present study is 0.87.

Inclusion criteria

- Students between the ages of 18 and 12 who have been tested for anxiety.
- Not participating in the treatment program at the same time as this research.
- Absence of psychological disorder or history of mental illness and hospitalization in psychiatric wards.
- Having the written consent of the parents.

Exclusion criteria

Absence from treatment sessions.

Table 1: General titles and topics of the music therapy group Actions

First session

Introduction and acquaintance with group members.

Express group rules and goals.

A brief discussion of test anxiety, a description of music and its effects.

Assignment: Group members write down their goals and expectations for attending the ceremony.

Second session

Encourage group members to listen to music and discuss about poems and music artists.

Encourage members to identify and capture disturbing inner feelings.

Encourage members to sing to deal with identified negative emotions.

Assignment: Identify the situations that cause the most anxiety about the exam and also prepare poems that they enjoy reading.

Third session

Singing poems prepared in the form of two-person groups presenting each other in the form of songs

Listen to a song that has already been prepared

Assignment : to listen to soft music before reading and also to read the poem aloud if you experience test anxiety while reading.

Fourth session

Encourage band members to identify and record their abilities while listening to soft music

Members discuss these capabilities

Mental imagery of the exam situation and trying to replace the pleasant state of music with the anxious state of the exam Assignment : to provide a hypothetical situation such as an exam situation and listening to music at the same time.

Fifth session

Encourage members to read poems in groups without using music

Encourage members to read the poem individually while encouraging others

Encourage members to express strong emotions related to test anxiety while listening to music

Assignment: identifying and recording the feelings and thoughts that cause test anxiety and putting them in order to be performed in the next group sessions

Sixth session

Encourage members to listen to music with refreshing themes of Iranian music

Use relaxation techniques with music

Arrange breathing and relaxation exercises with music

Assignment : Use the relaxation plan along with listening to music

Seventh session

Listen to music and at the same time encourage members to experience exciting emotions

encourage members to emphasize their current feelings as well as encourage them to sing familiar songs

play music at variable speeds by recording and persuading members To harmonize with the played pieces of music

Assignment: Prepare songs that are in harmony or have different emotional states

Eighth session

Reviewing previous assignments

summarizing post-test sessions

Assignment :listening to non-verbal music and simultaneously whispering poems in case of test anxiety.

Finding

The mean age of all subjects in both experimental and control groups was 16 years, and all of them were tested for anxiety. Thus, 15 subjects in the experimental group and 15 subjects in the control group participated. First, the mean and standard deviation of the research-dependent variable are presented separately for the experimental group and the control group in both pre-test and post-test time periods (Table 1).

Table (1): Mean and standard deviation of student's test anxiety variable

The standard deviation	Average	Number	Group	the level
4/13	40/65	15	examination Group	pre-test
4/26	37/32	15	control group	
5/68	25/71	15	Examination Group	Post-test
3/04	36/25	15	control group	

As can be seen in Table 1, there were changes in pre-test and post-test scores on the test anxiety variable in both the experimental and control groups.

In music therapy training, the mean and standard deviation of test anxiety scores in the post-test were significantly lower than in the pre-test. In this research,

multivariate covariance statistical test has been used due to its greater relevance and compatibility with the research hypothesis.

Table (2): Analysis, analysis of covariance, effectiveness of music, therapy on test anxiety, students

Eta	P	F	MS	df	SS	Source of changes
0/483	0/001	17/35	272/312	1	272/312	Pre _ test
0/765	0/001	33/27	1040/122	1	1040/122	Group
			15/70	27	303/154	Error

According to the results of Table 2, after adjusting the pre-test scores, the difference between the experimental and control groups at the alpha level of 0.001 is significant; Therefore, the research hypothesis on the effect of music therapy training on reducing student's test anxiety and the difference between the experimental and control groups in terms of test anxiety in the post-test is confirmed.

Conclusion

The aim of this study was to evaluate the effectiveness of music therapy on student's test anxiety. The results obtained from the comparison of post-test anxiety test in the two groups, indicate that after participating in music-therapy sessions, test anxiety scores of students in the experimental group had a significant decrease compared to the control group, so music-therapy is effective in reducing student's test anxiety.

This finding is consistent with the findings of Belchek and Klowksi (1989), Epdick (1990), Winter (1994), Bradt, and Delio (2009), Gautin, Sova & Virait, Picot, Harrison (2009), and Jitti (2011) , Which confirms the effectiveness of music therapy in reducing anxiety.

Explaining this finding, it can be said that because anxious people suffer from emotional stress, the use of different types of music reduces heart rate and deepens breathing, and as a result, reduces their anxiety (Epdic, 1990).

It can be said that music is effective in recalling past events, providing a non-verbal opportunity for a range of unconscious feelings and cognitions, strengthening one's abilities, identity and concept, and transforming moods.

Because of these musical characteristics, one can expect people to become less anxious about using music therapy (US Department of Elderly, 2005).

Music can evoke sadness, failure, sadness, and depression, and by evoking these memories, sad feelings are more easily evacuated (Sheibani, Pakdaman, Dadkhah, & Hassanzadeh, 2010).

Participating in music therapy sessions creates opportunities for social interaction and positive changes in individuals' physical and mental states, thereby increasing their sense of control over life, reducing anxiety and stress, and enriching their self-confidence (Chiu, 2008).

It also affects the sensory and cognitive components (Beck, 1991) and has a very significant effect on the expression of emotions, increasing insight and self-awareness about oneself and the environment (Zadeh Mohammadi, 2010).

Reference

Ba Ezat, Fereshteh, Sadat Sadeghi, Mansoureh, Izadi Fard, Razieh, Rubenzadeh, Shermin (2012), Validation and Testing of Friedman Exam Anxiety Test: Farsi Form, Psychological Studies, Faculty of Educational Sciences and Psychology, Alzahra University, Period 8, No. 1.

Beck, S. L. (1991). The therapeutic use of music for cancer related pain. *once Nurse Forum*, 18, 1327-37.

Belchek, O. M. & Loveski, J. C. (1989). *Nursing introversion*. Philadelphia: Saunders Company.

Bradt, J. & Dileo, C. (2009). *Music for stress and anxiety reduction in coronary heart disease patients*. Washengton: D. C.

Choi, B. (2008). Awareness of music therapy practices and factors influencing specific theories. *Journal of music therapy*, 93(2), 25-42.

Craig, K. D & Dobson, K. S(1995). *Anxiety and Depression in Adults and Children*. CALIFORNIA: SAQE PUBLICATION, INC.

Ghetti, C. M. (2011). *Effect of Music Therapy with Emotional- Approach Coping on Pre- Procedural Anxiety in Cardiac catheterization*. (doctoral thesis, University of Kansas).

Guetin, S. , Soua, B. , Voiriot, G. ,& Picot, M. (2009). The effect of music therapy on mood and anxiety- depression: An observational study in institutionalized patients with traumatic brain injury. *Annals of Physical and Rehabilitation Medicine* 52 (3), 30-40.

Guida, F. V. ,& Ludlow, L. H. (1989). A cross cultural study of test anxiety. *Journal of Cross Cultural Psychology*, vol. 20, PP. 178-190.

Khosravi, M. , ostwar, Z. & Azmi, S. (2012). *Test Anxiety*, Scientific Publishing.

Larson, H. A. , Yoder, A. , johnson, C. , Ramahi, M. E. Sung, j. ,& Washburn, f. (2010). Test Anxiety and Relaxation Training in third - grade students. *journal of eastern Education*, 39(1). 13 - 22.

Latas M, Pantic M, Obradovic D. (2010). Analysis of test anxiety in medical students. *Medicinski pregled*. 63(11- 12): 863-6.

Mahmoudi Firouz, Pour Taleb Narges, Sadeghi Farzaneh (2018) Meta-analysis of the Effectiveness of Different Methods of Therapy on Test Anxiety in Iran. Quarterly Journal of Psychological Methods and Models, Article 2, Volume 9, Issue 31, Spring 1397, p. 47-68.

Mardpour, A. (2010). The Comparison of the Effectiveness of Regular Sensitization Therapy Methods, Study Skills and Combined Method in Reducing the Test Anxiety among Islamic Azad University Students at Yasuj Branch in the academic year of 2010-2011. Journal of Clinical Psychology, 4th Year, Spring 2012.

Moghimiyani Maryam, Amini Razieh and Kashani Fahimeh (2016) The Effect of Gestalt Therapy on Expression of Nursing Students. Nursing and Midwifery, Volume, No. 26.

Parssa'i Iman, Saadipour Esmael, Duttaj Fariborz, Asadzadeh Hasan (2018), Excitement prediction based on school climate, family-related values and family functioning in high school students. Quarterly Journal of Psychological Methods and Models, Vol. 9, No. 32, Summer 1397, Page 1-14.

Pourhossein, R. (2015). Investigating the Mediating Role of Cognitive Emotion Regulation strategies in Relation with students into learning with anxiety in Academic Year 1984-2012. Master's Thesis, University of Tehran.

Shibani, F. , Pakdaman, S. , Dadkhah, A. ,& Hasanzadeh, M. (2010). Effectiveness of music therapy on adult depression and loneliness feeling. Journal of Iran adults, 16(5), 22-35.(Persian).

Updike, P. (1990). Music results for ICU Patients. Dimensions of Critical Care Nursing, 1(2), 39-45.

Zadeh Mohamadi, A. (2010). Usages of music therapy. Tehran: Asrare danesh. (Persian).