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## Comparing the Effectiveness of Story Therapy and Music Therapy on Anxiety in Primary School Students

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### ABSTRACT

**Objective:** The aim of the present investigation was to draw a comparison between the efficacy of story therapy and music therapy in alleviating anxiety among primary school students in the city of Ilam.

**Methods:** The present study employed a semi-experimental approach, utilizing a pre-test-post-test design with a control group. The target population for this research consisted of second-year students attending elementary schools in Ilam in the year 2022. The sample size comprised 63 individuals, selected through accessible sampling, and were randomly assigned to three groups (21 students per group, with two experimental groups and one control group). The anxiety questionnaire developed by Najarian et al. (2014) was utilized as the research instrument. The experimental groups underwent eight sessions of story therapy training and twelve sessions of music therapy, while the control group did not receive any intervention. The data were analyzed using analysis of covariance ( $p < 0.05$ ) with the assistance of SPSS software.

**Results:** The findings revealed that both story therapy and music therapy were effective in reducing students' anxiety. Also, according to the findings, there is no significant difference between the effectiveness of the two interventions on reducing anxiety.

**Conclusions:** Consequently, these findings hold valuable implications for educators, child psychologists, and families.

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## Introduction

Education during childhood encompasses the significant period of character formation and the development of various habits. It plays a crucial role in preventing problems that may influence the future of the individual and society, as well as determining the societal direction (Thamari, 2019). Devoting attention to the issues and challenges faced by children contributes to the advancement of society, while neglecting to address these problems can lead to irreversible damages (Shafi Abadi, 2022). Due to their limited capacity for abstract thinking, children face difficulties in effectively expressing their emotions and feelings (Kreik, 2019). The suppression and inadequate ability to articulate emotions, particularly negative ones, pose a threat to a child's mental well-being (Spence et al., 2017). Consequently, these challenges not only burden parents and teachers but also create obstacles in the lives of children (Forlanger, 2019). Given that childhood is a pivotal, definitive, and delicate phase of life, many spiritual and personality traits are established during this period, serving as the groundwork for the formation of an individual's character in subsequent stages (Maqimi Firouzabad, 2018). Moreover, prioritizing mental health is of utmost importance during this stage. Identifying and resolving behavioral and personality issues at a young age significantly contribute to the cultivation of a healthy personality in adulthood. However, research indicates that approximately 15 to 20 percent of children and adolescents encounter some form of behavioral and psychological problems (Karimi et al., 2018). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), anxiety disorders are prevalent among children and adolescents, constituting a major source of disability according to World Health Organization statistics (Hoffman, 2016). These disorders manifest through physical symptoms such as physical tension and apprehension about the future (American Psychiatric Association, 2013). The experience of anxiety can encompass a mental sense of restlessness, a range of behaviors including worry, anxiety, and uneasiness, as well as a physiological response originating from the brain, evident in heightened heart rate and muscle tension (Barlow and Durand, 2018).

The formation and persistence of anxiety symptoms can be influenced by a multitude of factors. These disorders arise as a result of the intricate interplay between environmental factors, such as family dynamics and parenting styles (Way and Kendall, 2014), genetic and biological factors (Viam and Anderson, 2019), negative life events such as bereavement, death, and parental divorce

(Phillips et al., 2015), as well as factors pertaining to the child. Notably, the child's mood significantly interferes with daily life performance, social functioning, family life, and particularly academic performance (Hale, White, Criswell, 2016). Recent research findings indicate that the prevalence of anxiety disorders among children and adolescents ranges from 6% to 18% (Esaw and Gabiden, 2013). In a broader context, it has been reported that one third of the global population experiences anxiety disorders at some point in their lives (Bandelo and Michaelis, 2015).

Consequently, investigating and identifying the pathological factors and processes underlying these disorders can elucidate their essence and facilitate the development of effective diagnostic protocols for treatment. Prior studies have proposed numerous intervention strategies to alleviate anxiety, wherein practitioners can employ suitable methods to mitigate tension in individuals and groups, while considering the unique circumstances of each person or group. Among the suggested intervention strategies are story therapy and music therapy. Given that many children exhibit disinterest in attending therapy sessions, fostering engagement with story therapy can serve as an effective means to reduce their anxiety and regulate their emotional states (Bahamin and Koreshnia, 2017). Recognizing that individuals shape their actions and interpersonal interactions based on a repertoire of narratives, it can be inferred that stories exert a significant influence on children's behavior (Frank, 2021). Storytelling constitutes an activity through which people define and are shaped by the narratives they encounter (Peleham, 2020). It provides a valuable avenue for enhancing comprehension of verbal and practical behaviors, encompassing depictions of the self, the world, and diverse characters with whom individuals engage, thus shaping their interpersonal relationships (Bunki, 2018).

The findings of longitudinal studies also indicate that narratives prompt children to confront their anxiety and fears. Rather than avoiding these situations, children come to comprehend them as components of emotions and thoughts that extend beyond their own selves. Consequently, children are able to express their sentiments and pay greater attention to their emotional states (Kreimai and Ferdosipour, 1400). Furthermore, Brett (2021) conducted research investigating the impact of narrative therapy on depression in children. This study involved 400 elementary school children and the results demonstrated that narrative therapy effectively reduces depressive symptoms in children. In a separate investigation, Cook (2020) examined the influence of narrative therapy on

children's motivational difficulties. The study revealed that narratives establish a meaningful context, motivating children to overcome challenges and fostering opportunities for the enhancement of problem-solving skills.

In their research titled "The Effect of Narrative Therapy on School Anxiety in Elementary School Girls," Ghorbani and Raisi (2018) concluded that narrative therapy significantly alleviates school anxiety in elementary school girls. The experimental group exhibited significantly lower average scores in post-test assessments compared to the control group in terms of the level of school anxiety. Consequently, the findings suggest that narrative therapy has a substantial impact on reducing school anxiety. Moreover, music is recognized as having a pivotal and fundamental role in numerous psychological disorders, as indicated by Gutierrez and Camarena's (2015) research. Music therapy emerges as a novel approach in clinical psychiatry that effectively addresses generalized anxiety disorder (GAD), a prominent learning disorder among students. Music therapy is a method utilized to achieve various therapeutic objectives through the utilization of music, which can contribute to the enhancement and organization of individuals' mental and physical well-being (Aba et al., 2017). In essence, music therapy is employed to restore, maintain, and strengthen individuals' physical, mental, and emotional health (Panagiotopoulou, 2018). Music serves as a powerful medium of communication between therapists, clients, and peers, making music therapy an effective modality that can be utilized independently or in conjunction with other therapies. Music therapists cater to individuals of all age groups, ranging from young children to the elderly (Garcia-Gonzalez et al., 2018).

Regarding music therapy, recent research indicates that music has a substantial impact on physiological processes such as respiration, heart rate, blood pressure, and the secretion of stress hormones. Moreover, it can modulate behavioral and emotional responses, both reducing and enhancing their stimulation. For instance, the soothing melodies of music can decrease the release of cortisol, a hormone associated with stress and pressure, while also increasing the production of endorphins in the brain, which act as analgesics and promote relaxation, thus fostering a sense of comfort and well-being in individuals (Kamalpour, 2019). Wilson (2022) conducted a study examining the efficacy of music therapy in treating depression among children. The findings revealed that music therapy significantly alleviated feelings of frustration in this population. DiLeo (1999) defines music medicine as a non-pharmacological intervention wherein patients listen to

pre-selected music either chosen by medical professionals or themselves from available programs. Music therapy, on the other hand, encompasses a therapeutic process involving a music therapist and the establishment of a therapeutic relationship through musical experiences.

In a research study titled "Comparing the Efficacy of Music Therapy and Writing Therapy on Anxiety and Depression in Students with Cancer," Naseri et al. (2019) concluded that both music therapy and writing therapy were effective in reducing depression and anxiety among students with cancer. The results showed no significant difference in the effectiveness of these two treatment approaches.

Given these explanations and the high prevalence and enduring nature of anxiety-related disorders in childhood, as well as their impact on students' social and academic performance deficits, the implementation of effective prevention and timely intervention programs becomes crucial. Furthermore, considering the significance of art-related interventions, the present study aims to alleviate symptoms of anxiety disorder in second-level elementary school students by comparing the effectiveness of two therapeutic approaches: story therapy and music therapy. Consequently, this research endeavors to conduct a simultaneous and focused comparison of the efficacy of story therapy and music therapy in reducing anxiety among elementary school students. Hence, the central question of this study is: Is there a significant difference in the effectiveness of story therapy and music therapy in reducing anxiety among students?

## Material and Methods

The current study employed a method that aligned with the practical objective and entailed the utilization of a semi-experimental approach. This approach adopted a pre-test-post-test design with the inclusion of a control group. Consequently, the efficacy of story therapy and music therapy was employed as an independent variable, with the aim of examining their impact on anxiety, a dependent variable. The statistical population for this research encompassed all male and female students in the second year (4th, 5th, and 6th grades) of Ilam city schools during the year of 2022. Specifically, there were a total of 14 elementary schools for girls and boys, comprising 154 female students and 198 male students in the fourth grade, 120 female students and 190 male students in the fifth grade, and 155 female students and 170 male students in the sixth grade. Among this statistical population, an anxiety questionnaire was administered. Subsequently, individuals who

scored higher than the normal on the questionnaire were randomly selected, resulting in a total of 63 participants divided equally among three groups based on their educational level. These participants were then assigned to two experimental groups and one control group (21 participants in each group). Following the completion of a pre-test, the two experimental groups received story therapy and music therapy interventions, respectively. Finally, a post-test was administered to all three groups upon the conclusion of the sessions.

In this study, a group intervention involving story therapy and music therapy was conducted at various stages. The inclusion criteria for the study were as follows: meeting the diagnostic criteria for anxiety disorder as determined by a specialist, being in the second year of elementary school, and not undergoing any psychological treatments or drug therapy concurrently. Participants were also required to attend at least two therapy sessions. Ethical considerations were addressed by assuring the students that this article was solely a research paper. Additionally, a summary of the results would be provided to the elementary students of Ilam city as a gesture of appreciation.

The research utilized the 20-question anxiety questionnaire developed by Najarian et al. (2014). The reliability of this instrument was assessed using Cronbach's alpha, which yielded a value of 0.82. In this study, the story therapy employed the book of Parirukh and Amjadi (2018). According to the authors of this book, its contents are significant in terms of reducing anxiety, depression, despair, and fear in children. Consequently, the book has garnered support from numerous authors (Saatchi et al., 2018). The participating students were given full autonomy to participate in the study, and their verbal consent was obtained. Their information was treated with utmost confidentiality, and the results were reported collectively. Subsequently, the students completed the anxiety questionnaire. Data from 63 participants were analyzed in two stages, namely the pre-test and post-test, according to the inclusion and exclusion criteria. The research was conducted through face-to-face interactions, and after obtaining the necessary permissions, 63 students with anxiety disorders were randomly selected and divided into three groups of 21. The first experimental group received story therapy, while the second experimental group received play therapy. The treatment sessions consisted of eight 60-minute sessions of story therapy and twelve 60-minute sessions of music therapy, whereas the control group was placed on a waiting list. The data were subsequently analyzed using multivariate covariance analysis via SPSS-28 software.

**Table 1.** Story therapy intervention sessions

Session	Content
1	Getting to know the people of the group and introducing themselves
2	In this session, the skill of expressing one's feelings and opinions to others, as well as the use of polite words instead of insults and stubbornness, were discussed.
3	In this session, the reduction of impulsive and rebellious behaviors will be discussed
4	In this session, the reduction of jealous behaviors is discussed
5	In this session, the reduction of inappropriate daring will be discussed
6	In this session, many arrogant behaviors will be reduced
7	In this session, the skill of patience, forgiveness and sacrifice will be increased
7	In this session, the methods of problem solving and decision-making and replacing the correct behaviors against the wrong behaviors of the past will be discussed

**Table 2.** Summary of music therapy sessions

Session	Topic	Content
1	Make initial contact	Getting to know and introducing the leader and members to each other, stating the goals and rules of the group, mutual respect, regular participation and the like, performing the pre-exam and listening to uplifting wordless piano music
2	Reduce anxiety	Feedback from the previous session, introducing music themes, reducing anxiety and relaxation using ecstatic music, and presenting homework (presenting happy music without words)
3	Expressing negative physical feelings	Feedback from the previous session, expressing negative physical feelings along with playing soothing piano pieces, presenting homework (happy music without words)
4	Psychological manifestations	Feedback from the previous session, expression of feelings and emotions, self-expression and psychological concerns while playing music without words and presenting homework
5	Increasing positive thoughts and self-talk	Feedback from the previous session, building self-confidence and recalling past successes with passive music and presenting homework
6	Focus on pain relief	Feedback from the previous session, pain control with the help of hypnotic music (focusing on the music) and presentation of the assignment
7	Increasing the quality of life	Feedback from the previous session, increasing the quality level of meaningful life with the help of creative music, presentation of homework
8	Expressing the relative importance of abilities	Feedback from the previous session, playing soothing piano pieces and discussing feelings, thoughts or memories related to the text, presenting the assignment
9	Increase hope and goal setting	Feedback from the previous session, playing soothing piano pieces along with encouraging the patient to hum songs describing himself, presenting the assignment
10	Enjoying	Feedback from the previous session, presenting the assignment, playing an uplifting and joyful wordless piece along with reciting songs that sympathize with the patient, and presenting the assignment.
11	Empowering people to express feelings and enjoy	Feedback from the previous session, increasing vitality and happiness with the help of physicalizing music and presentation of homework
12	Integrating the contents, summarizing the expression of feelings, explaining the group's experience and concluding	Feedback from the previous meeting, review of the exercises of the whole course, discussion and examination of the problems of the members, presentation of the assignment



## Results

In the descriptive statistics section, the indices related to anxiety scores in both groups of students were calculated separately and the descriptive data can be seen in Table 3.

**Table 3.** Descriptive statistics of anxiety scores

Group			Story therapy		Music therapy		Control	
			Mean	SD	Mean	SD	Mean	SD
<b>Fourth grade</b>	Girl	Pretest	54.60	9.85	59.34	11.97	54.05	9.92
		Posttest	43.5	7.22	48.18	8.44	52.50	9.12
	Boy	Pretest	51.60	8.79	56.97	10.12	50.05	8.45
		Posttest	45.50	7.96	49.41	8.69	51.50	8.67
<b>Fifth grade</b>	Girl	Pretest	62.56	13.97	59.60	12.57	57.20	9.35
		Posttest	41.75	7.12	44.50	7.87	51.25	8.94
	Boy	Pretest	58.62	12.11	53.74	9.62	56.53	8.98
		Posttest	47.11	8.65	46.26	7.25	49.99	8.01
<b>Sixth grade</b>	Girl	Pretest	51.20	8.95	52.29	9.72	55.75	9.50
		Posttest	39.50	6.78	42.35	7.92	51.34	8.84
	Boy	Pretest	53.54	9.02	54.85	10.58	53.75	9.12
		Posttest	41.35	6.97	45.86	8.63	55.63	9.84

Among the 63 people who responded to the questionnaire in terms of gender, 35 people, equal to 55.6%, were girls, and 28 people, equal to 44.4%, were boys. In terms of educational level, 21 people had the equivalent of 33.3% in the fourth, fifth and sixth educational levels. The anxiety variable in the pre-test is equal to 82.19 and in the post-test, it is equal to 71.71 and in the whole sample it is equal to 78.30. The assumption of univariate normality of anxiety was confirmed by different treatment groups and pre-test and post-test. This research was conducted in order to compare the effect of story therapy and music therapy on reducing the anxiety of male and female students in the second level of elementary school in Ilam city. In the present study, the Kolmogorov-Smirnov test was used to check the assumption of normality of the research data. According to the results of the Kolmogorov-Smirnov test, the significance level for the anxiety variable is greater than 0.05, so the data distribution is normal. Also, the test of the equity of the variance-covariance matrix of the variables was tested by Box-M test. According to the value of Box-M statistic which was equal to 17.839 and the significance level was equal to 0.197, this assumption was confirmed.

**First hypothesis:** Story therapy and music therapy have an effect on reducing the anxiety of elementary school students (fourth, fifth and sixth grades).



**Table 4.** Summary of one-way covariance analysis results on post-test scores with pre-test anxiety control

Source	Variable	SS	DF	MS	F	P	Eta <sup>2</sup>
Group	Anxiety	1366.86	11	1366.86	11.30	0.001	0.32

According to Table 4, there is a significant difference between the average anxiety of music therapy, story therapy and control groups. The effect size is equal to 32%.

**Table 5.** Mean estimation of anxiety in the post-test of music therapy and story therapy

Variable	Group	Pretest	Posttest		95 % CI	
Anxiety	Music therapy	82.19	71.71	2.39	66.91	76.51
	Story therapy	58.52	43.23	2.79	37.65	48.82

According to Table 5, the mean anxiety in the pre-test of the music therapy group was equal to 82.190 and in the post-test of the music therapy group it was equal to 71.71, which has a decreasing trend, the reason for this trend is the effectiveness of the treatment. Also, the mean anxiety in the pre-test of the story therapy group was equal to 58.52 and in the post-test of this group it was equal to 43.23, which has a decreasing trend and this is the reason for the effectiveness of the treatment.

**Second hypothesis:** There is a significant difference between the effectiveness of story therapy and music therapy on reducing students' anxiety (fourth grade, fifth grade, and sixth grades).

**Table 6.** Bonferroni post hoc test to compare treatment groups

Group (I)	Group (J)	I – J difference	SD	p	95 % CL	
					LL	HL
Stoey therapy	Music therapy	1.19	3.42	1	-7.23	9.62
Control	Music therapy	-10.30	3.56	0.016	-19.07	-1.58
	Stoey therapy	-9.11	3.56	0.04	-17.88	-0.33

According to table 6, music therapy is significantly effective on anxiety compared to the control group. Because the average difference is equal to -10.302 and the significance level is 0.016, which is smaller than 0.05. Therefore, music therapy is effective in reducing anxiety. Also, story therapy is significantly effective on anxiety compared to the control group. Because the average difference is -9.111 and the significance level is 0.039, which is smaller than 0.05. Therefore, story therapy group therapy is also effective in reducing anxiety. Also, according to the findings, there is no significant difference between the effectiveness of the two interventions on reducing anxiety.

## Discussion

The present study was conducted with the aim of comparing the effectiveness of story therapy and music therapy on reducing anxiety in the second grade students of Ilam city. The results showed that both story therapy and music therapy have an effect on reducing the anxiety of elementary school students. But there was no significant difference between the effectiveness of the two interventions. Our findings are in line with the research results of Gudarzi et al. (2019), Alilou et al. (2019), Maqsoodi (2018), Agha Mohammadian, et al. (2017), Carik et al. (2020) and Dapal (2018).

Rafiyan et al. (2018) evaluated the effect of music on the level of anxiety of hospitalized children. They concluded that the average anxiety score of children in the intervention group was significantly reduced compared to the control group. In this regard, the results of the aforementioned studies were consistent, as it is believed that meeting the needs of students to build relationships is the core of music therapy. According to the obtained results, i.e. the effectiveness of story therapy and music therapy on reducing students' anxiety, the role of the above therapies in reducing exam anxiety and improving students' emotional functions in the educational environment is becoming more apparent. Therefore, it is suggested that teachers and school officials use exercises related to such trainings in the educational environment to improve academic well-being and reduce anxiety.

Based on the acquired findings, namely the efficacy of story therapy and music therapy in diminishing students' anxiety, the significance of said interventions in alleviating examination-related anxiety and enhancing students' emotional capacities within the educational milieu is progressively manifesting. Consequently, it is recommended that educators and educational authorities incorporate activities pertaining to these instructional modalities within the academic setting to cultivate scholastic well-being and mitigate anxiety.

## Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

## Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Payame Noor University. The patients/participants provided their written informed consent to participate in this study.

### Author contributions

A.M and M.A contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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### Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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