

## Exploring the benefits of Music Therapy in reducing stress and anxiety

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**Abstract:** *The progress of a minor represents a transition from one age stage to another. The period of adolescence is crucial in the evolution of the individual. Adolescence, in particular, fits the period of students in grades IX - XI. This stage is accompanied by not only physical changes, but also psychological ones. Young people in the higher cycle are preparing for the Bacculaureate exam - a defining moment in their existence, which generates an increased level of anxiety. Currently, there is an increase in the number of anxious students before taking exams. Anxiety is the inclination of an individual to feel a state of restlessness, which is an emotion. This state is characterized by subjective feelings of tension, anxiety, gloomy predictions and, physiologically, by the activation of the autonomic nervous system. The chosen topic is relevant because the number of students in the higher cycle concerned about passing the final exams is increasing, generating anxiety, uncertainty and fear. An increase in the level of anxiety negatively affects the processes of development of a healthy personality, professional self-determination, which faces significant difficulties. The absence of a practical approach to the development of this problem, together with its high importance both personally and socially, determined its selection as a research subject. We believe that music therapy, which involves not only listening to music, but also performing songs that help cultivate a positive attitude in students, can help solve difficulties related to reducing anxiety levels in students.*

Key-words: *therapy, music therapy, stress, anxiety*

### 1. Introduction

Music therapy, a centuries-old practice, is gaining modern recognition for its significant role in reducing stress and anxiety. In an increasingly hectic society, where daily pressures profoundly affect mental health, music therapy offers an alternative and effective method of managing these states. By using sounds and rhythms, music can induce states of relaxation, reducing emotional and physical tension. Studies show that listening to proper music can lower cortisol levels, the stress hormone, and improve emotional perception and overall well-being. Additionally, active

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involvement in music creation can improve self-esteem and provide a form of therapeutic self-expression. This holistic approach, which blends art with science, demonstrates the vast potential of music therapy in promoting mental health and emotional balance.

**The goal** of this project is to theoretically justify and experimentally test the plan to reduce anxiety in high school adolescents through music therapy. Anxiety is addressed as part of the emotional-volitional aspect in this investigation. The subject of the study focuses on the process of overcoming anxiety in high school teenagers using music therapy. The objectives of the research are well defined:

1. Analysis of concepts related to the problem under discussion.
2. Examining the anxiety level of high school teenagers.
3. Develop an intervention plan to reduce anxiety in high school adolescents through music therapy.
4. Evaluation of the results of experiments on decreasing anxiety levels in high school adolescents.

The hypothesis assumes that the effectiveness in overcoming anxiety in high school adolescents can be increased by implementing a correction program based on music therapy. This program will be designed with the following in mind:

- the use of specific methodological methods (selection and listening of musical pieces from simple to complex in terms of timbre and modal coloring);
- Creating a favorable atmosphere during music therapy sessions with teenagers.

Research methods include the evaluation of the literature relevant to the subject studied; direct observation; data comparison; empirical methods, such as assessing anxiety levels using Olga Kondash's method and identifying personal and situational anxiety using Charles Donald Spielberger's STAI method.

## **2. Theoretical analysis of the characteristics of anxiety correction in high school students through music therapy**

Researchers call adolescence the most difficult period of development. It is one of the sensitive periods in which the need for autonomy and independence in personal and school life increases. The main neoplasm of the period is the acquisition of a sense of maturity, which is expressed in the formation of a temporal perspective, as well as the anticipation of the level of aspirations of one's own level of development. There is a restructuring of educational work, there is a development of interest and cognitive activity due to the expansion of connections with the surrounding world, interaction with peers and adults, which requires the child to expand his existing knowledge, skills and abilities. Being at home during the period of self-isolation, adolescents were deprived of the necessary freedom of action and the usual social

connections. Parental control over their activities became non-stop, they did not have the opportunity to take a break from family members and privacy. Parents' anxiety about their children's academic success has increased due to the opportunity to directly observe school activities. Many parents were not satisfied with the quality of online education and the detachment of teenagers during online lessons, which turned out to be an additional pressure factor.

All these factors played a huge role in increasing the level of anxiety and aggression in teenagers.

The main elements of challenging anxiety in high school students reveal the concept of anxiety and explore its roots among students. Anxiety can be interpreted as an aspect of the emotional-sensory sphere, characterized by asthenic and negative emotions, which can arise unconsciously in high school students). Spielberger defines anxiety as a personality trait that predisposes the individual to perceive a large number of objectively certain events as threats.

The level of anxiety reflects the individual's sensitivity to stress, the perception that most of the events in his life are threatening. A high level of anxiety can affect the psychological well-being of the individual and can be associated with neurotic conflicts, emotional and neurotic declines, as well as psychosomatic disorders. Anxiety can also be related to the fear of losing prestige and self-esteem. As a stable personality trait, anxiety can cause an increased tendency to experience stress in situations of real or imagined danger. Unlike fear, which is a reaction to a specific threat, anxiety is often subjective to a particular event. External manifestations of anxiety can include general disruption of activity and a decrease in its direction and productivity. However, anxiety, in itself, is not initially a negative personality trait, but a normal level of anxiety is a natural state for an individual.

Studies investigating anxiety in students have shown that anxiety levels decrease slightly in the transition from adolescence to early adolescence, corresponding to the high school years, but increase in recent years. In adolescence, there are no major differences between boys and girls in terms of anxiety, although girls seem to experience more anxiety in the high school environment.

A high school student who feels mentally balanced and psychologically comfortable at school is the best socially adapted, without dysfunctions of basic mental functions such as memory, thinking, attention, perception, emotions.

The challenges faced by high school students are mainly related to the fear and anxiety of asserting themselves in front of their peers, the uncertainties related to the choice of their future career and the pressure related to their studies. Anxiety is an emotional manifestation of internal tension. In conditions of high anxiety, intense psychological and emotional stress occurs, and the presence of an increased level of anxiety in high school students can be considered a risk factor. Excessive anxiety in high school students can be an alarm signal for various neurotic disorders, mental

and physical health problems. Therefore, information on the emotional state of high school students is crucial for teachers and school counselors.

Anxiety in school children cannot be reduced only to modern aspects of psychology. Throughout history, thinkers have researched the relationships between students and teachers, the effectiveness of education, and the mindsets of students. As society advances, the issue of anxiety in children remains relevant. Currently, the number of students with anxiety tendencies is increasing, either due to the complexity of social relationships or due to internal factors, such as individual psychological characteristics.

### **3. Music therapy as a method of correction.**

Music therapy is a psychotherapeutic approach that focuses on the healing effects of music on the psychological state of the individual. Music therapy covers two aspects:

- it is a medical discipline that uses music for therapeutic and preventive purposes;
- a psychosomatic regulation system that is based on the positive impact of sound waves organized in a harmonious musical structure on physical, psycho-emotional and spiritual functions.

Special physiological studies have shown how music influences different human systems. Researchers have shown that music accelerates the heart rate and increases breathing. The effects of music on heart rate and breathing vary depending on the pitch of the sound, the strength of the timbre, and other characteristics of the sound (Rucsanda, Scârneciu 2013).

As part of the program, we implemented a receptive form of music therapy, which involves listening to carefully chosen pieces of music to evoke a specific emotional and aesthetic experience. Afterwards, we discussed associations, experiences, and fantasies that arose during listening. The program used various variations of receptive music therapy, including music that evoked a wide range of emotions. For example, to facilitate awareness of sadness, we used "Adagio for Strings" by S. Barber or "Nimrod" from Enigma Variations by E. Elgar. To be aware of feelings of anger and anxiety, we used music in a fast minor key, such as "Dance of the Swords" by A. Khachaturian or "Toccatina and Fugue in D minor" by J.S. Bach. To induce a sense of calm and introspection, we chose music in a slow major key, such as "Clair de Lune" by C. Debussy or "Air on the G string" by J.S. Bach. To evoke joy and fun, we used melodies in fast major keys, such as the overture "Wilhelm Tell" by G. Rossini or the finale of Symphony no. 9 by A. Dvořák.

The process of reacting to emotional states has always been supported by drawing, since adolescents with a high level of aggression and anxiety often have

difficulty verbalizing their experiences. The main idea of the program was for emotionally unstable, aggressive or anxious adolescents to achieve a state of catharsis by developing processes of analysis, feeling, empathy and understanding of emotions through musical influence. Catharsis was achieved due to a gradual change in musical impact. In the first stage, the teenagers listened to music appropriate to their emotional state, then an opposite piece of music in terms of emotional content, and in the third stage, a work with a strong emotional impact. For example: the first stage with "The Seasons" by P. I. Tchaikovsky, followed by "Piano Concerto no. 1" by S. Rachmaninov, and ending with "Bolero" by M. Ravel.

More and more often, researchers emphasize the potential of art in correcting mental processes. For example, K. Jung discussed the positive impact of art on the development of children with difficulties, emphasizing the role of artistic activities in the development of cognitive functions and stimulation of creativity. *The therapeutic and corrective capacities of art in relation to people with emotional disorders are related to the fact that art offers new positive experiences, generating new creative needs and ways of satisfaction* (Jung 1966).

Today, there are numerous branches of art therapy, and the popularity of this method is growing (Jones 2005; Smith 2011; Adler 1997). We believe that, in times of isolation, music is the most accessible and versatile means to facilitate emotional release. Music is distinguished by a specific system of signs or language, which provides various means of expression.

Music researchers highlight the complexity of musical language, which is associated with a large volume of information in works, recognizing the powerful impact of music. The musical effect has a psychological impact due to (Coffin and Sisneros 2024):

- **Emotional saturation**, because the language of music is a specific emotional language that expresses the reflection, intensity and content of human feelings, generating emotional experiences without going through the filter of the ego.
- **Interethnicity**, a unique property of musical language, which makes music not create language barriers, and the essence of a musical work is accessible to people of different cultures and nationalities.
- **Abstraction**, manifested by the fact that musical language creates images without relying on the content of a specific object, being very generalized.
- **Associativity**, i.e. the feelings evoked by music can generate associations proportional to the individual's life experience.
- **Synesthesia**, which allows the creation of the effect of sensations, both olfactory and visual.
- **Aesthetics**, which is manifested by the fact that the musical language reflects various aspects of reality.

In the study conducted by A. Meyer, M. Klein demonstrated that the volume of music can convey pictorial moments, emotional enthusiasm, reduce emotional tension and influence other emotional states (Klein 2008; Meyer 2013). According to E. Durand (Durand 1982) and M. Lefevre (Lefevre 2006), the magnitude and power of the psychological impact of music are related to the individual's need for music, determined not only by the psychological effect, but also by the emotional effect of the musical sound and the personal meaning of the music. Music therapy or music therapy includes an arsenal of various methods, such as: medical, pedagogical, psychotherapeutic, forming a specialized direction in science, known as correctional music therapy (Rousseau 2004; Lambert 1992). Music therapy has a positive effect on correcting adolescents' personality traits and emotional states (Niemann 2018).

For the most detailed study of personal anxiety in high school students, we used the method of Charles Donald Spielberger, the renowned American psychologist, best known for his contributions to the study of anxiety, specifically for the development of the State-Trait Anxiety Inventory (STAI), a tool widely used in clinical psychology and research to assess anxiety levels. This technique helped us analyze the individual predisposition to anxiety. A high indicator of personal anxiety was observed in 62% of respondents, i.e. 56 students (19 boys and 37 girls). A high indicator of situational anxiety was present in 34% of students, i.e. 31 students (12 boys and 19 girls). Young people in this category adapt to new classes, so they all have a high level of anxiety. Looking at the results, we conclude that situational and personal anxiety in girls is higher than in boys.

Olga Kondash's method helped identify students with high levels of self-esteem, school and personal anxiety. We analyzed the results obtained and formed an experimental group of students with different levels of anxiety. Thus, 60% of the students (54 students) have a high anxiety index, a level of anxiety in the normal range is present in 30% (27 students), and a low level of anxiety in 10% (9 students). Interpersonal anxiety is 28% in boys (13 boys) and 27% in girls (12 girls). School anxiety is observed in 26% of girls (12 girls) and 26% of boys (12 boys).

Thus, an experimental group A was formed, consisting of students with high levels of anxiety, with whom correctional work was performed, and group B, consisting of students, with whom no work was carried out (control group).

At the stage of the finding experiment, the overall anxiety index in the experimental group (group A) was 81%. The level of interpersonal and self-estimated anxiety in group A before the experiment was 27% in girls and 28% in boys. The highest rates are observed when there is a fear of hearing laughter behind your back and appearing small. The level of school anxiety was 26% in both sexes.

The overall level of anxiety in control group B was 76%. Interpersonal and self-reported anxiety in control group B was 28% in girls and 25% in boys. The level of school anxiety was 10% in girls and 15% in boys.

The comparative analysis did not reveal statistically significant differences between the samples of boys and girls in groups A and B. The study allowed the identification of regularities and the elaboration of psychological and pedagogical recommendations for school psychologists. A program for correcting anxiety in high school students has been developed, with the aim of creating the conditions for correcting anxiety through the method of music therapy.

In modern conditions, one of the main problems is the issue of a person's social value, and health is objectively one of the important conditions of life. Among the many factors that affect the ability to work and the manifestation of the self in society, anxiety plays an important role, both among adults and children. Anxiety is a personality trait that includes elements such as fear, suspicion, tension, and anticipation of danger. In a state of anxiety, there is strong psycho-emotional stress, and the presence of high anxiety in high school students becomes a risk factor (Suteu, Rucsanda 2023).

#### 4. Conclusions

The issue addressed in the thesis on reducing anxiety in high school students through music therapy is of great importance. Anxiety can act as a catalyst for students' social maladjustment, negatively impacting their lives: not just their studies, but also their communication with peers, their health, and their overall psychological state. There is a specific manifestation of anxiety in high school students, called *graduate anxiety*, which appears at the end of a period of life and preparation for the unknown future. This anxiety occurs in students in the ninth grade, decreases in the tenth grade and increases significantly in the eleventh grade.

According to the empirical study carried out on 90 students (45 boys and 45 girls) from grades IX-XI, it was found that the level of anxiety is high, the highest being on the scale of interpersonal anxiety. It is associated with changes in the classroom and teaching staff, difficulties in building interpersonal relationships. In a music therapy program consisting of 20 sessions, statistically significant differences were observed between the experimental and control results, indicating the effectiveness of the program.

Thus, music therapy can become an effective psychotherapeutic method for correcting anxious behavior in high school students. The study allowed the development of practical recommendations:

- The results can be used by psychologists and teachers to understand the problem of anxiety in students.
- Identifying a high level of anxiety by psychologists will help to carry out corrective and preventive work.
- Music therapy can include individual work and group classes to reduce anxiety.
- An extra hour of music during school hours could use carefully selected musical works.

Comparative analysis of anxiety levels with the Kondash questionnaire showed a significant decrease in anxiety in the experimental group (A). The overall anxiety index in group A was 50%. School anxiety decreased to 16% in girls and 15% in boys, interpersonal anxiety to 19% in girls and 16% in boys, and self-reported anxiety to 27% in girls and 16% in boys. In the control group (B), the overall anxiety index was 70%. School anxiety was 12%, self-reported anxiety was 25% in girls and 30% in boys, and interpersonal anxiety was 25% in girls and 29% in boys.

Comparison of experimental and control results indicated a significant decrease in anxiety in group A, confirming the effectiveness of the corrective work performed. Unlike the control group, students in the experimental group became less anxious in school and interpersonal interactions.

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