

EFFECTS OF MUSIC THERAPY ON TEENAGERS' ANXIETY

ERIKA HARANGI, SEBASTIAN VAIDA*, SIMION ECHIM

Facultatea de Psihologie și Științe ale Educației, Universitatea Babeș-Bolyai

Abstract

One of the most common mental health disorders among adolescents is anxiety, which is found in 10% to 20% of adolescents worldwide. Because these disorders have a significant impact on the academic, social, and emotional functioning of adolescents, it is essential to find effective, accessible, and acceptable solutions that can be applied on a large scale and cost-effectively. Although cognitive behavioral therapy is a popular approach to treating anxiety, young people may find it stigmatizing or inaccessible. Music therapy, a therapeutic intervention using music, stands out in this context because it is non-invasive, expressive, and engaging for adolescents. Music therapy provides opportunities for emotional self-regulation and symbolic expression, either through listening (receptive) or through creative activities (active). The purpose of this systematic review was to determine the extent to which music therapy helps adolescents feel less anxious. We analyzed studies published between 2015 and 2025. "Music therapy," "anxiety," and adolescent/teenager were the key words used to select articles. The objectives of this review were to (1) summarize the results of music therapy; (2) identify the characteristics of effective interventions; and (3) analyze the methodological limitations of existing research. The studies analyzed demonstrated that music therapy has a positive effect on reducing general anxiety as well as school anxiety, along with an increase in self-esteem and self-control, indicating that music therapy, whether active (e.g. improvisation, singing) or receptive (e.g. guided listening), is effective, with maximum benefits in groups or combined with other therapies.

Cuvinte-cheie: terapie muzicală, adolescenți, anxietate, analiză sistematică, psihologie.

Keywords: music therapy, adolescents, anxiety, systematic review, psychology.

1. INTRODUCTION

Especially among vulnerable groups such as children and adolescents, interest in complementary and alternative therapies has increased in recent decades. Music therapy is one of these approaches, which has been recognized for its ability to support the physical, emotional and cognitive development of children in an accessible and non-invasive way. Music is used in this therapeutic intervention to support psychosocial and clinical goals, either through listening or active production. Childhood and adolescence are important stages of a person's development, in which rapid transformations occur at a biological, psychological and social level. Emotional

* Sebastian Vaida, Facultatea de Psihologie și Științe ale Educației, Universitatea Babeș-Bolyai, Cluj-Napoca, România, E-mail: sebastianvaida@psychology.ro

repression, anxiety, behavioral disorders or problems with social integration frequently appear during these phases. Traditionally, traditional medical and psychotherapeutic means have been used to address these problems. However, in recent years, music therapy has become an additional therapeutic tool, especially due to the fact that it is fun and easy to understand for the young mind.

Music therapy can reduce stress, anxiety, and depression, as well as attention, communication, and social behavior (Shi, Lin & Xie, 2016). Music therapy has also been shown to be helpful for children with disabilities, autism spectrum disorders, or chronic illnesses. However, results are often incomplete and study methodologies differ significantly, making it difficult to generalize conclusions. With these premises in mind, the purpose of this systematic review is to analyze and synthesize the current research on how music therapy affects adolescent anxiety. The purpose of this research is to provide a structured analysis of the advantages, disadvantages, and future perspectives of using music therapy as a therapeutic intervention for anxiety in the 10-19 year old population.

2. MUSIC THERAPY

Music therapy is a form of therapeutic intervention that uses music intentionally to support emotional, social, and cognitive development. Applied by trained specialists, music therapy takes place in a safe and structured setting, with clear objectives, and can take various forms – from creative activities (singing, improvisation, composition) to listening to music in a guided, receptive way. According to the American Music Therapy Association (AMTA, 2015), this practice is based on scientific evidence and takes place in the context of a therapeutic relationship.

Studies from recent years show that music therapy activates parts of the brain involved in emotion processing, behavior regulation, and reward mechanisms (Koelsch, 2010; Chanda & Levitin, 2013). This explains why, beyond simple relaxation, music can have real effects on anxiety or stress. Applied research has also highlighted clear benefits: reducing anxiety and pain in medical contexts (Klassen *et al.*, 2008), improving social behaviors in children with autism spectrum disorders (Geretsegger *et al.*, 2014), or supporting attention and self-regulation in children with ADHD (Rickson & Watkins, 2003).

3. ANXIETY IN TEENAGERS

Anxiety is one of the most common mental health disorders in adolescents, affecting school performance, social relationships and quality of life. In Romania, 19.23% of psychiatric diagnoses in adolescents are anxiety disorders (UNICEF, 2022), highlighting the need for effective interventions. Music therapy, due to its attractive and non-invasive nature, offers a complementary approach, using active (e.g. improvisation, singing) and receptive (e.g. guided listening) methods.

Adolescence is a period of transition marked by physical, emotional and social changes, which can increase vulnerability to anxiety. Factors such as academic pressure, family expectations, peer influence and exposure to social networks contribute to increased levels of stress and anxiety. Anxiety disorders, such as generalized anxiety, social anxiety, or test anxiety, can have a profound impact on academic performance, interpersonal relationships, and overall well-being, making it necessary to identify effective interventions.

Anxiety is a natural emotional reaction, characterized by tension, worry, and anticipation of danger or failure. It becomes problematic when it is severe, persistent, and disrupts daily routines. In childhood and adolescence, anxiety can occur as a normal part of development (such as fear of separation, failure, or social evaluation), but in some cases it can develop into clinical anxiety disorders, which significantly impair social, academic, and family adjustment. According to studies, anxiety disorders are the most common mental disorders in children and adolescents, accounting for between 6% and 20% of the population (Costello, Egger & Angold, 2005). Polanczyk *et al.*, 2015 Generalized anxiety, social anxiety, specific phobias, and panic disorder are some of these conditions, which are often accompanied by somatic symptoms such as headaches, insomnia, or motor agitation (Beesdo, Knappe & Pine, 2009).

Children with anxiety tend to exhibit hypervigilance, avoidance, catastrophic thinking, and emotional regulation problems. Adolescents with anxiety may also exhibit social withdrawal, poor academic performance, and an increased risk of depression or substance use (Essau *et al.*, 2014). In addition, anxiety may be a source of vulnerability for aggressive behaviors or parental violence. Anxiety is considered a way to react to intense conflicts in their family (Ibabe & Jaureguizar, 2011). In these circumstances, prompt identification and intervention are essential to prevent symptoms from worsening and to support the mental health of children and adolescents.

4. EFFECTS OF MUSIC THERAPY ON ANXIETY IN TEENAGERS

Mental health is an essential part of human development in childhood and adolescence. It has a lasting impact on individual well-being, academic performance, social integration and health in adulthood. The World Health Organization (WHO, 2021) defines mental health as a state of well-being in which a person can realize their own potential, cope with the stresses of daily life, work effectively and contribute to their community. This definition, when applied to children and adolescents, implies not only the absence of mental disorders, but also the harmonious development of emotional, cognitive and social functions in a safe environment.

Based on epidemiological data, it is estimated that between 10 and 20 percent of children and adolescents worldwide suffer from a mental disorder, and a large proportion of patients have not yet been diagnosed and have not found a solution to

their problems (WHO, 2021). Anxiety, depression, ADHD, conduct disorders and autism spectrum disorders are the most frequently diagnosed conditions (Polanczyk *et al.*, 2015). Numerous risk factors can contribute to the occurrence of these problems, such as childhood trauma, family instability, academic pressure or social isolation. Furthermore, mental disorders that are not treated in childhood can persist in adolescence and adulthood, increasing the risk of substance use, social exclusion, school dropout and suicide (Kieling *et al.*, 2011).

In this context, complementary therapeutic approaches, such as music therapy, are becoming increasingly relevant in contemporary psychological and psychoeducational practice. Music therapy is an intervention based on the systematic and intentional use of music to support individualized therapeutic goals, in a safe, structured, and relational setting. Music, by its universal and non-verbal nature, represents a means of accessing the deep emotional sphere, allowing for the indirect expression of feelings, the exploration of inner conflicts, and the strengthening of emotional self-regulation. In addition, musical interventions offer valuable opportunities for social interaction, teamwork, and mutual support, all of which are key elements for the healthy development of children and adolescents.

From a neuroscientific perspective, studies show that music activates brain networks involved in emotion processing (amygdala, hippocampus), behavioral regulation (prefrontal cortex), and pleasure and motivation circuits (dopaminergic system), which explains its positive effects on mood, anxiety, and stress (Koelsch, 2010; Chanda & Levitin, 2013). In addition, meta-analyses and controlled clinical trials have demonstrated that music therapy is effective in reducing anxiety and depressive symptoms in adolescents (Maratos *et al.*, 2008), improving social behaviors in children with autism spectrum disorders (Geretsegger *et al.*, 2014), and developing self-esteem and emotional expressiveness in young people with emotional disorders (Gold *et al.*, 2006).

Therefore, music therapy can be considered a therapeutic resource with significant clinical and educational value, with broad applicability in supporting mental health at an early age.

The systematic analysis of the specialized literature on the effects of music therapy on children and adolescents is thus justified both by the need to develop effective and acceptable psychological interventions for this age group, and by the potential of music to contribute to harmonious emotional development in a gentle, accessible and deeply human way.

5. METHODOLOGY

5.1. DATA SOURCES

A systematic review was conducted with a thorough search in two databases (ProQUEST and Pub Med) to find articles that were relevant to the chosen topic,

the treatment of generalized anxiety disorder using virtual reality. The aim was to find journal articles (also known as academic journals) that met certain inclusion criteria and were relevant to the search. The search terms “music therapy”, “anxiety” and “teenagers/adolescents” were used. The syntaxes used were (((music therapy) AND (anxiety))) AND (teen) / (((music therapy) AND (anxiety))) AND (adolescent) / (((music therapy) AND (anxiety))) AND (teenager).

A total of 157 articles resulted, which were evaluated by reading the title, the abstract and by referring to the full content.

5.2. INCLUSION CRITERIA

Population: The World Health Organization states that the primary target group of the study should be adolescents aged 10 to 19 years.

Interaction: Music therapy (active, such as improvisation or singing; or receptive, such as guided listening) should be the main intervention or a significant part of the program being evaluated.

Outcome: As the primary outcome, the study should report a reduction in anxiety. This should be measured by validated scales (such as the State Anxiety Inventory - STAI or GAD-7) or by other objective methods, such as cortisol levels.

Publication period: Articles should be published between 2015 and 2025.

Language: To ensure accessibility and consistency of the analysis, studies should be available in English.

5.3. EXCLUSION CRITERIA

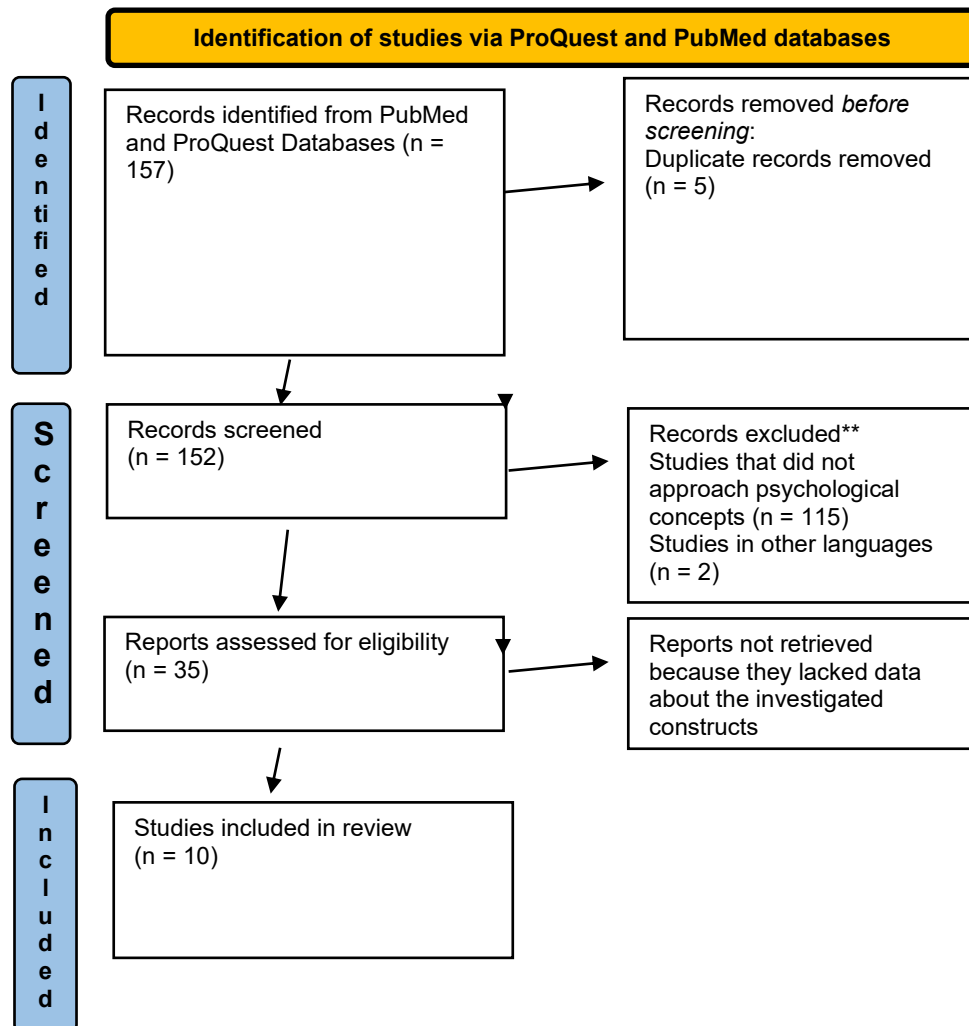
Inappropriate population: Studies that do not include the primary target group of adolescents (10-19 years) were excluded.

Lack of music therapy as an intervention: Studies that do not use music therapy (active or receptive) as the primary intervention or significant component are excluded.

Lack of anxiety as a primary outcome: There are studies that do not indicate reduction in anxiety as the primary outcome. For example, some studies were excluded if they focused on additional outcomes, such as violence, depression or autism, without addressing anxiety according to the established criteria.

Languages used: Studies that are not available in English are excluded to ensure that the analysis is accessible and complete. Despite the fact that some documents may be available in other languages, the primary criterion was the content in English.

The entire selection, inclusion and exclusion process can be seen in the PRISMA flow diagram (graphic 1).



5.4. DATA EXTRACTION

We extracted predefined data according to a template: Study author, title, year of publication, purpose, sample, design and conclusions. The PRISMA diagram, with the study flow, provides a visual representation of the selection, essential for methodological validation. Also, alignment with PRISMA facilitates the identification of gaps (e.g. small samples, lack of follow-up), supporting future recommendations, such as RCT studies with standardized designs. In the Romanian context, where the needs of adolescents with anxiety are pressing, PRISMA helps filter relevant evidence, providing a basis for adapting music therapy to local

needs. After a careful reading of the article included in the review, data extraction was carried out manually, in several steps. In order to find all the information necessary for the analysis, we read the titles, abstracts and the full text after selecting the ten studies that were relevant. To ensure consistency and comparability, we used a pre-established form, which contained the same categories of information for each study. This was formatted as a table created in Word. The use of automated software was not used to extract data individually to carefully monitor study discrepancies. This data included the methods of application of music therapy (active or receptive), anxiety measures, and the context in which the intervention took place (educational, medical, community). Immediately after reading each article, the information was added to the table. Due to the fact that some data were not clearly detailed, such as the exact duration of the sessions or the therapist's training, these were marked as "not reported". We extracted data for each group, where relevant to the review topic, if an article contained more than one type of intervention or group of participants. At this stage, our goal was to collect all relevant information about music therapy interventions in an organized and uniform way, so that I could analyze how effective they are in reducing anxiety in adolescents.

6. RESULTS

A number of 157 studies were selected that resulted from entering the keywords into the specified databases. Following a thorough analysis of both abstracts and full text, which was necessary, nine studies were found that met the inclusion criteria for the review. The various studies included between 27 and 80 participants, all aged 10–19 years. Table no. 1 presents the selected research articles in a systematic way and it includes the author's name and study, year of publication, study purpose, sample, design, and conclusions. The systematic review, based on 10 studies selected according to the PRISMA model and published between 2015 and 2025, demonstrates that music therapy has a positive effect on reducing anxiety in adolescents (10–19 years), affecting 10–20% of this group globally (World Health Organization, 2021). This systematic review analyzed the effects of music therapy on anxiety in adolescents aged 10 to 19 years. In Romania, anxiety is an increasingly prevalent problem; 19.23% of psychiatric diagnoses are anxiety (UNICEF, 2022). 10 relevant studies that include active interventions, such as singing or improvisation, as well as receptive ones, were selected from databases (PubMed, ProQUEST). The research focused on effectiveness, different types of interventions, and elements that influence outcomes. The methodology was rigorous and was based on verified scales, such as the STAI and GAD-7.

Table no.1
Selected research articles

Study	Objective	Sample	Design	Intervention	Conclusions
1. Goldbeck, L. & Ellerkamp, T. (2012). A randomized controlled trial of multimodal music therapy for children with anxiety disorders	to evaluate the effectiveness of multimodal music therapy in a randomized controlled setting for children diagnosed with anxiety disorders, aiming to reduce anxiety symptoms through structured music-based interventions.	40 Adolescents aged 10–1 years old	RCT	Multimodal melotherapy	Multimodal music therapy (MMT), combined with cognitive behavioral therapy, is superior to usual care (TAU) in reducing anxiety in 8- to 12-year-old children with anxiety disorders, with a remission rate of 67% compared with 33% ($p = 0.046$). Assessments at the end of treatment and 4 months posttreatment show persistence of remissions, suggesting the efficacy of MMT as an alternative nonverbal intervention. However, the authors recommend future studies with larger samples and comparisons with pure cognitive behavioral therapy.
2. Huang, Z., & Duell, N. (2020). A novel music therapy intervention utilizing pop music to reduce	to investigate the effectiveness of an innovative music therapy intervention based on pop music in reducing anxiety and depression in adolescents, by using a musical genre close to	50 adolescents	Survey	Receptive melotherapy with pop music	A four-week, pop music-based receptive music therapy intervention resulted in a moderate reduction in anxiety and depression in fifteen adolescents. This suggests that using their favorite music may be an effective and affordable

Table no.1 (continuare)

adolescent anxiety and depression	their preferences to increase emotional involvement and therapeutic effect.				approach. The results show an improvement in emotional state, based on validated clinical scales; however, the authors emphasize that further studies with larger samples are needed.
3. Josyula R. & Kaci R. (2024). The effect of music on teenagers in combatting stress and improving performance	to compare the effects of active (choir) and passive (lo-fi listening) participation in musical activities on cognitive performance under stress in adolescents	75 high school adolescents, aged 13–18 years old, from USA	Experimental, 2 groups, pre-post test with cognitive task - Sudoku	Active participation (choir, 80 min) vs. passive listening (lo-fi music, 20 min)	Active participation in music (choir) led to a significant improvement in cognitive performance under stress (mean Sudoku reduction: -17.5 seconds, $p < 0.05$), while passive listening was linked to an increase in solving time (+8.7 seconds). Only forty percent of those in the passive group and seventy percent of those in the choir showed improvements. The study claims that active music therapy is more effective than passive in reducing stress and increasing cognitive efficiency in adolescents.

Table no.1 (continuation)

Study	Objective	Sample	Design	Intervention	Conclusions
4. Kwok, S.Y.C.L. (2019). Integrating Positive Psychology and Elements of Music Therapy to Alleviate Adolescent Anxiety	to explore how integrating positive psychology with elements of music therapy can reduce anxiety in adolescents. To develop an effective intervention that promotes the emotional well-being of young people.	60 Adolescents aged 14-18 years old	Quasi experimental	Group music therapy with elements of positive psychology	Over 8 weeks, it demonstrated a significant decrease in anxiety, as measured by the GAD-7 ($p=0.002$). The results suggest that these combined methods can improve emotional well-being and should be included in adolescent mental health support programs. However, further studies are needed for long-term confirmation.
5. Matokhniuk et al. (2021). Psychocorrection of Adolescents' Anxiety by Music Therapy	to examine the effectiveness of music therapy in the psychological correction of anxiety in adolescents, that is, to reduce anxiety levels through music-therapeutic methods adapted to the emotional needs of this age group.	60 Adolescents (aged 13–15 years old)	Experiment	Psychocorrection program with music therapy (relaxation, musical games, vocal expression)	A psychocorrection program through music therapy, which was implemented in two stages in 2018–2019, significantly reduced anxiety in 60 adolescents aged 13 to 15. This was measured by the Phillips and Spielberger Khanin scales. In addition, compared to the control group, the experimental group experienced an increase in self-esteem and self-control. The results showed that music therapy is an effective

Table no.1 (continuation)

					psychological approach, as the high level of anxiety decreased by half and motivational factors increased. The authors suggest parental participation and the inclusion of art therapy techniques in other age groups, emphasizing the potential of the technique.
6. Patterson, S., Duhig, M., Darbyshire, C., Counsel, R., Higgins, N., & Williams, I. (2020). Implementing music therapy on an adolescent inpatient unit: A mixed methods evaluation of acceptability, experience of participation and perceived impact	to evaluate, through a mixed methodology, the acceptability, participation experience, and perceived impact of music therapy in an inpatient unit for adolescents. The study tracked both the perspectives of the participants and the perceived effectiveness of the intervention in the clinical setting.	20 adolescents	Mixed methods	Active melotherapy	The use of music therapy in an inpatient unit for adolescents is well accepted and considered to have a positive effect on the emotional well-being of twenty adolescents, reducing anxiety and improving their therapeutic experience. The research highlighted a subjective reduction in anxiety and greater engagement in activities, using a mixed approach (qualitative methods and questionnaires) over six weeks.

Table no.1 (continuation)

Taipale, M., Peltola, H.-R., & Carlson, E. (2022). Music Listening for Self management of Anxiety: A Qualitative Survey	to explore, through a qualitative survey, how listening to music is used by individuals as a personal strategy for managing anxiety, highlighting experiences and perceptions related to this type of emotional self-regulation.	30 adolescents/young adults (15–20 years old)	Qualitative survey	Receptive melotherapy	Qualitative analysis found that music helps regulate emotions by creating a safe space and reducing daily stress, with individual preferences influencing effectiveness. However, the authors emphasize that the benefits are dependent on awareness of musical choices and require further studies to quantify the long-term impact.
8. Ugwuanyi, C. S., Eke, C. I., & Okeke, C. I. (2021). Effect of music therapy combined with cognitive behavioral therapy on test anxiety among secondary school students	to investigate the combined effect of music therapy and cognitive-behavioral therapy on test anxiety in high school students, observing whether this integrated intervention can significantly reduce anxiety levels before exams.	83 Adolescents (mean age – 18.23 years old)	RCT	Melotherapy combined with CBT	A combination of music therapy and CBT had a significant effect on reducing test anxiety in high school students ($F(2, 87) = 53.72, p < 0.001, \eta^2 = 0.55$). The single-intervention or control groups achieved significantly higher post-intervention scores on the anxiety scale than participants in the group that received both music therapy and CBT. The combined efficacy of the intervention indicates that music therapy enhances the effect of CBT on emotional regulation. The study supports the addition of music therapy to CBT programs in schools

Table no.1 (continue)

9. Wang, E. (2022), Effects of Music Listening Interventions on the Mental Health of Adolescents	to investigate the impact of music listening interventions on anxiety and stress in adolescents	40 Adolescents aged 14–18 years old, from USA	With a control group; pre and post test	Receptive melotherapy (guided music listening: jazz, hip-hop, classical, different tempos) vs. control (white noise)	Listening to jazz music significantly reduced state anxiety levels in adolescents ($p = 0.038$), compared to control noise (white/pink noise). Other genres (classical, hip-hop) did not produce significant effects. Musical preference influenced the effectiveness of the intervention, with participants who listened to their preferred genre experiencing greater reductions in anxiety. The study supports the potential of receptive music therapy as an accessible method of emotional regulation among adolescents.
10. Xiang C. & Li X. (2025). Effects of mindfulness, music therapy, and social support on adolescents' test anxiety	to investigate how mindfulness reduces test anxiety in adolescents, through the mediation of music therapy and social support	372 Adolescents from a Chinese school	Correlational (chained mediation model)	Mindfulness + perception of music therapy (MT Scale) + social support	The reduction in test anxiety was significantly affected by mindfulness ($\beta = -0.349$, $p < 0.001$). This was mediated by melotherapy, which contributed 12.1% of the total effect, and social support contributed 26.2%. In total, the indirect chain effect (mindfulness $\rightarrow$ music therapy $\rightarrow$ social support $\rightarrow$ anxiety) was 4.8%. The results support the use of music therapy as an accessible intervention in educational settings to reduce anxiety in adolescents.

Studies show that music therapy reduces anxiety levels and has a positive effect on certain medical conditions: Ugwuanyi, Eke & Okeke (2021) found that it can reduce test anxiety ($d=0.61-1.5$), and Kemper and Danhauer (2019) showed benefits in medical settings. Matokhniuk *et al.* (2021) found that 60 adolescents aged thirteen to thirteen years old saw both an increase in self-esteem and a reduction in school anxiety. However, according to the meta-analysis by Aalbers *et al.* (2023), there is a medium effect size ($d=0.45$), which highlights methodological diversity. Music therapy works best when used in conjunction with other types of treatment or in groups. These limitations include short-term data and small samples (Patterson *et al.*, 2015). Mental health programs should include these, with an emphasis on larger and more personalized future studies.

7. CONCLUSIONS AND LIMITS

From this systematic review, we can draw some major key points:

Music therapy is an effective and attractive intervention for reducing anxiety in adolescents, supported by 10 studies from 2015–2025.

Results indicate benefits in educational and medical contexts, but are limited by small samples and lack of long-term data.

Integrating music therapy into mental health programs is recommended, with an emphasis on future more robust and personalized research.

This systematic review shows that music therapy is a promising way to reduce anxiety in adolescents. It has emotional, behavioral, and social benefits. However, the conclusions are limited by a number of methodological elements. The comparability and generalizability of the results are affected by small sample sizes, a lack of long-term follow-up measurements, variability in interventions (in terms of duration, frequency, and types of techniques used), and a lack of control over significant variables such as people's musical preferences or the level of training of those using music therapy, education, or the application of intervention tools (e.g., differences between amateurs and professionals in music).

Furthermore, the cultural context in which the research was conducted is not fully representative of Romanian society, and some studies did not use standardized measures of anxiety. Also, many interventions were performed by unauthorized music therapists, which may have a negative impact on their effectiveness. Future research will need to be more rigorous, using randomized designs, larger samples, standardized interventions, and long-term evaluations. In addition, this research will include the analysis of individual factors, such as cognitive style, musical preferences, social support, and baseline anxiety, to better understand under which conditions music therapy is most effective.

Studies such as those by Matokhniuk *et al.* (2021) demonstrate that a psychocorrection program with music therapy reduces anxiety in adolescents aged ten to thirteen years old in both their personal lives and in school. In addition, self-

control and self-esteem increase, both measured using the Phillips and Spielberger-Khanin scales. In addition, Ugwuanyi, Eke & Okeke (2021) found a substantial decrease in exam-related anxiety. In addition, Kemper and Danhauer (2019) demonstrated medical benefits ($d=0.61-1.5$). A meta-analysis by Aalbers *et al.* (2023) showed a moderate effect ($d=0.45$), suggesting that music therapy provides significant benefits, whether active (e.g., improvisation, singing) or receptive (e.g., guided listening). This is especially true in groups or when used in conjunction with other types of treatment. These results show that music therapy, a non-invasive way to meet the needs of adolescents, is attractive. They also argue that it can be used as an alternative to other treatments.

But the results are limited by the methodological limitations of the included studies. Due to the small number of participants, the results are less generalizable. The comparison with Patterson *et al.* (2015), which included only 20 participants, is based on the fact that there was no long-term follow-up. Methodological heterogeneity, highlighted by Aalbers *et al.* (2023), indicates how study design differs, the duration of interventions (4–12 weeks) and the types of music used, all of which have an impact on the consistency of the evidence. In addition, adolescents' musical preferences and the quality of program implementation may have an impact on effectiveness, aspects that have not been sufficiently investigated in current research. Since 19.23% of adolescent psychiatric diagnoses in Romania are anxiety disorders (UNICEF, 2022), more extensive and personalized research is needed to adapt music therapy to local needs. Therefore, even though there is promising evidence, it is not yet sufficient to determine long-term effects without further research.

Studies support the idea that music therapy can work both directly and indirectly in a supportive educational setting. Mental health interventions need to be part of an ecosystem educational setting based on supportive relationships. In addition, research shows that students' access to social support and emotional awareness training, such as mindfulness, improves the effectiveness of music therapy. In the future, researchers should study multi-layered interventions that combine expressive therapies such as music therapy with other validated approaches to address the needs of adolescents. It is also recommended that music therapy be included in school intervention programs, not just as an art form. It should also be included in the institution's mental health policy as a structured therapeutic tool.

In the long term, it is necessary to create layered interventions that integrate music therapy with recognized approaches such as mindfulness or group counseling. These can be modified to suit the educational, cultural, and emotional needs of each school group. In addition, future research should examine in more depth how three factors influence the success of music therapy: initial anxiety level, musical preferences, and social context. More convincing data on the long-term effects of this intervention can be provided by a rigorous methodological framework and a long-term design.

The results show that music therapy should be part of mental health programs for adolescents, especially in hospitals and schools. To maximize the effect, it can be used in conjunction with other treatments. Implementation should include personalized sessions based on the participants' musical preferences and for the ideal duration. In addition, it should ensure that educational and medical staff are trained in the use of these techniques. Future studies should prioritize randomized controlled trials (RCTs) with larger samples, long-term follow-up, and analyses that assess gender, age, and socioeconomic background. The review says that music therapy has potential that has not yet been sufficiently studied. If developed, it could offer innovative methods of anxiety management, contributing to better mental health for adolescents around the world.

The results of the review should lead to the creation of practical guides that provide therapists, educators, and parents with detailed advice on how to use music therapy sessions well. These guides should include concrete examples of activities, such as group singing or music relaxation, to facilitate access in communities with limited resources. In addition, they should include accessible resources, such as personalized music playlists for adolescents that can be accessed through apps or online platforms. Interdisciplinary collaboration between psychologists, music therapists, and educational authorities is needed to create pilot programs and track outcomes over the course of a school year. This collaboration will produce information over a long period of time. Finally, studies involving culturally and socioeconomically diverse populations should be prioritized when awarding research funding in the future. These studies should evaluate the effectiveness of music therapy in global settings, such as Romania, where local interventions could meet the specific needs of adolescents.

Music therapy appears to be a core therapeutic tool for helping adolescents with mental health problems, rather than just another solution. Because it is attractive, has no harmful side effects, and is easy to apply, it is popular in settings such as schools, community centers, and homes. Music therapy also responds to an urgent need today: providing friendly intervention strategies adapted to the emotional language of young people. In the future, it is essential that research is not limited to evaluating the effectiveness of music; it should explore in more depth the mechanisms by which music influences emotional regulation and the contextual variables that may mediate the effect of music therapy, such as the attachment style, the level of social support, or the cognitive style of the adolescent. Interventions that are adapted to musical styles and the local socio-educational context, including Romania, can significantly increase engagement and effectiveness.

This systematic review shows that music therapy has real potential to reduce anxiety symptoms in adolescents and young adults both as a primary intervention and as an additional modality to help traditional treatments. Music therapy creates a safe, convenient, and engaging environment for this age group, whether used actively (through music, improvisation, or participatory techniques) or receptively

(through guided listening and assisted relaxation). Although all included studies showed significant progress, methodological limitations of the research (such as the absence of RCTs and small samples) indicate that the field still needs scientific consolidation. Future researchers need to expand the comparison between different types of music therapy, standardize intervention protocols, and include long-term evaluations. This will help to implement music therapy in clinical practice for adolescent mental health.

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REZUMAT

Una dintre cele mai frecvente tulburări de sănătate mintală în rândul adolescenților este anxietatea, care se întâlnește de la 10% până la 20% dintre adolescenții din întreaga lume. Deoarece aceste tulburări au un impact semnificativ asupra funcționării academice, sociale și emoționale a adolescenților, este esențial să se găsească soluții eficiente, accesibile și acceptabile, care pot fi aplicate pe scară largă și în mod rentabil. Deși terapia cognitiv-comportamentală este o abordare populară pentru tratarea anxietății, tinerii o pot considera stigmatizantă sau inaccesibilă. Muzicoterapia, o intervenție terapeutică care utilizează muzica, se remarcă în acest context deoarece este neinvazivă, expresivă și captivantă pentru adolescenți. Muzicoterapia oferă oportunități de autoreglare emoțională și exprimare simbolică, fie prin ascultare (receptivă), fie prin activități creative (active). Scopul acestei analize sistematice a fost de a determina măsura în care terapia muzicală îi ajută pe adolescenți să se simtă mai puțin anxioși. Am analizat studii publicate între 2015 și 2025. „Terapie muzicală”, „anxietate” și adolescent/adolescentă au fost cuvintele-cheie folosite pentru selectarea articolelor. Obiectivele acestei analize au fost (1) să rezume rezultatele terapiei muzicale; (2) să identifice caracteristicile intervențiilor eficiente; și (3) să analizeze limitele metodologice ale cercetărilor existente. Studiile analizate au demonstrat că terapia muzicală are un efect pozitiv asupra reducerii anxietății generale, precum și a anxietății școlare, alături de o creștere a stimei de sine și a autocontrolului, indicând faptul că terapia muzicală, fie ea activă (de exemplu, improvizație, cântat), fie receptivă (de exemplu, ascultare ghidată), este eficientă, cu beneficii maxime în grup sau combinată cu alte terapii.