

Impact of Music Therapy on the Emotional and Cognitive Development of Young Musicians

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Abstract

A systematic review was carried out on the production and publication of research papers related to the study of ICT, Student Competencies, Higher Education and Vocational Training under the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) approach. The purpose of the analysis proposed in this document was to know the main characteristics of the publications registered in the Scopus and WoS databases during the study of the proposed variables, achieving the identification of 62 publications in total. Thanks to this first identification, it was possible to refine the results through the keywords entered in the search button of both platforms, which were MUSIC THERAPY, EMOTIONAL DEVELOPMENT, COGNITIVE DEVELOPMENT, MUSICLANS, reaching a total of 16 documents, excluding duplicates and those that did not meet the analysis criteria. Among the main contributions, it is found that research in music therapy has also underlined its positive impact on social and emotional well-being, facilitating inclusion and social cohesion in group contexts, such as intergenerational choirs and educational programs. This shows that music therapy not only supports individual well-being, but also promotes healthier and more collaborative social interactions between different generations and groups.

Keywords: *Music Therapy, Emotional Development, Cognitive Development, Musicians.*

Introduction

Music therapy is a discipline that uses music and its elements for therapeutic purposes, it has been shown to be an effective tool to promote emotional and cognitive well-being, especially in young populations. In the case of young musicians, who already have a close relationship with music, the implementation of music therapy can enhance not only their musical skills, but also their integral development. (de Leon & Barros, 2021)

On an emotional level, music therapy offers a space for young musicians to explore and express feelings that might be difficult to verbalize. Through interventions designed to reduce stress, improve self-esteem, and strengthen resilience, this technique can help musicians better manage the pressure and anxiety they often face in competitive and high-demand environments. On the other hand, on a cognitive level, studies have shown that music therapy can improve skills such as memory, concentration and creativity, all crucial for success in the musical field. This therapeutic approach not only benefits those young people who are facing emotional difficulties, but can also be a valuable resource for those who seek to enhance their cognitive and emotional abilities in their musical career. In this sense, music therapy offers a holistic intervention that promotes a balanced and healthy development, aligning emotional well-being with the cognitive demands of musical training. Among the main benefits are the following: (Castañón Pinto, 2012)(Olalla, 2024)

Improved emotional well-being	Stress and anxiety management: Young artists often face high levels of pressure in their studios and performances. Music therapy helps reduce stress and anxiety, offering an outlet for emotional expression and managing emotions.
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	<p>Increased self-esteem: Through musical creation and exploration, young people develop greater confidence in their abilities and a better perception of themselves, which positively impacts their self-esteem.</p>
	<p>Fostering emotional resilience: Music therapy provides tools for young people to cope with and overcome emotional difficulties, helping them develop greater resilience in challenging situations.</p>

Table 1. Benefits Of Music Therapy on An Emotional Level

Fountain: Own elaboration based on "Community music therapy in the construction of identity in adolescents displaced by the armed conflict, in its current context, in the Benposta School of Cundinamarca" (2019)

The importance of the benefits of music therapy in young artists lies in its ability to promote integral development at a crucial stage of life, where emotional and cognitive pressures are particularly intense. Music therapy not only offers a safe space for young people to manage their emotions and cope with the stress that comes with artistic practice, but it also strengthens their self-esteem and resilience, qualities essential for success in their careers and in life in general. Through musical expression and exploration, young people learn to channel their emotions in a healthy way, which allows them to better face the challenges of their personal and professional environment. In addition, the cognitive and social benefits offered by music therapy are essential to enhance artistic performance and improve social interactions. By fostering skills such as memory, attention and creativity, young artists develop key competencies for their musical training, while group work and improved communication allow them to better relate to their peers and create support networks. These aspects are essential for their long-term well-being, as they provide them with tools for both their artistic development and their social and emotional life in general. Therefore, it is important to know the current state of the scientific production recorded around music therapy studies and its impact on young musicians in Spain, which is why this article was available, which systematically studies the main articles published in journals indexed in the Scopus and Wos database during the period 2017-2023 from Spanish institutions.

General Objective

To analyze, from a bibliometric and bibliographic perspective, the production of research papers on the variables Music Therapy, Emotional Development, Cognitive Development, Musicians, published in high-impact journals indexed in the Scopus and Wos databases during the period 2017-2023 by Spanish institutions.

Methodology

The present research is qualitative, according to Hernández, et al., qualitative approaches correspond to research that carries out the procedure of obtaining information to review and interpret the results obtained in such studies; to do this, he searched for information in the Scopus and Wos databases using the words MUSIC THERAPY, EMOTIONAL DEVELOPMENT, COGNITIVE DEVELOPMENT, MUSICIANS (2015)

Research Design

The design of the research proposed for this research was the Systematic Review that involves a set of guidelines to carry out the analysis of the data collected, which are framed in a process that began with the coding to the visualization of theories. On the other hand, it is stated that the text corresponds to a descriptive narrative since it is intended to find out how the levels of the variable affect; and systematic because after reviewing the academic material obtained from scientific journals, theories on knowledge management were analyzed and interpreted. (Strauss & Corbin, 2016) (Hernández, Baptista, & Fernández, 2015)

The results of this search are processed as shown in Figure 1, through which the PRISMA technique for the identification of documentary analysis material is expressed. It was taken into account that the publication was published during the period between 2017 and 2021 without distinction of country of origin of the publication, without distinction of area of knowledge, as well as any type of publication, namely: Journal Articles, Reviews, Book Chapters, Book, among others.

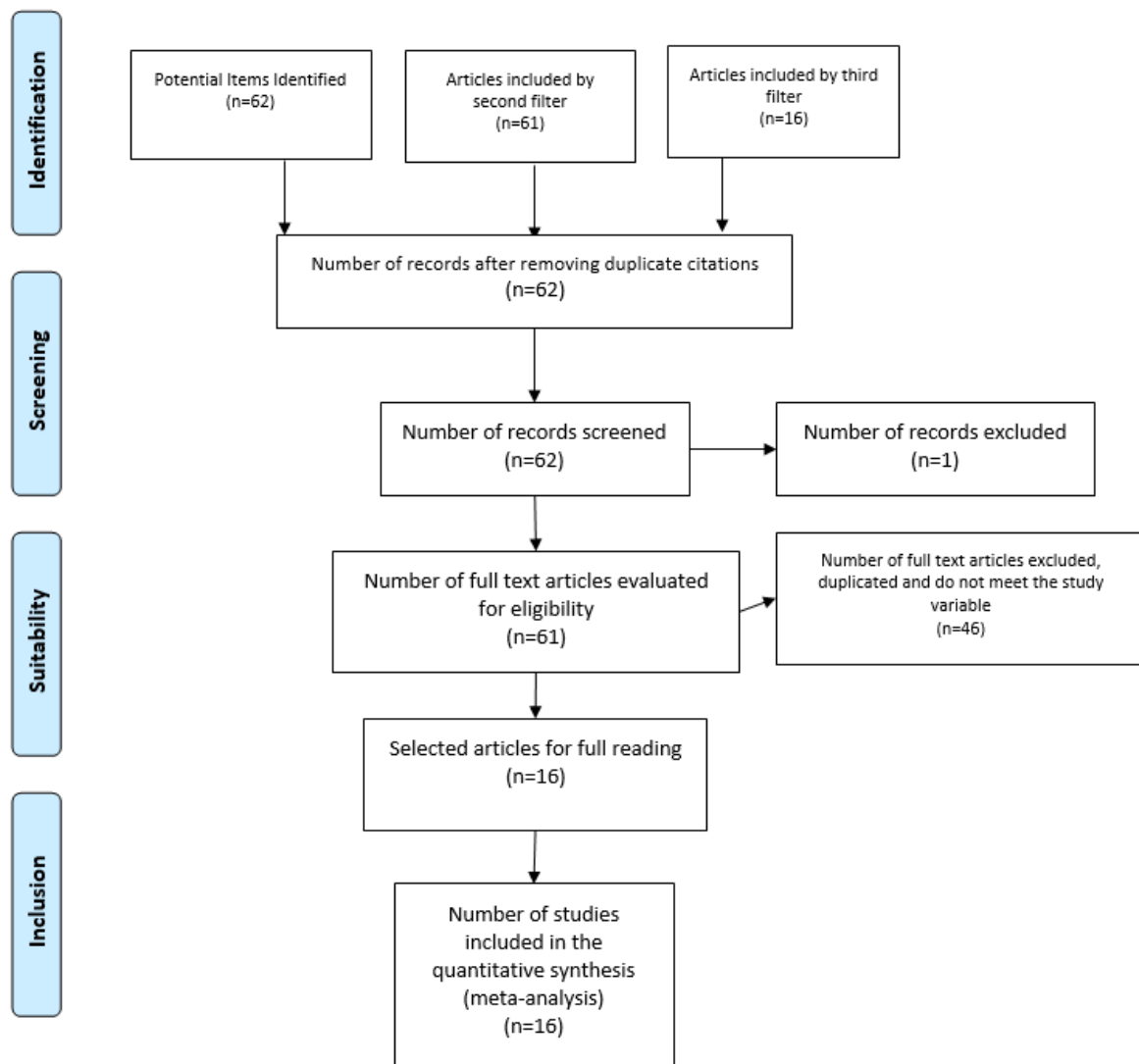


Figure 1. Flowchart of a Systematic Review Carried Out Under the PRISMA Technique (Moher, Liberati, Tetzlaff, Altman, & Group, 2009)

Source: Authors; Based on the proposal of the Prisma Group (Moher, Liberati, Tetzlaff, Altman, & Group, 2009)

Results

Table 2. Shows the Results After Applying the Search Filters Related to the Methodology Proposed for This Research, After Recognizing the Relevance of Each of the Referenced Works.

N o.	RESEARCH TITLE	AUTHOR /YEAR	COUNTRY	TYPE OF STUDY	INDEX ING
1	<i>The Active Musical Room: Fostering Sensorimotor Discoveries and Musical Creativity in Toddlers</i>	Peñalba, A., Martínez-Álvarez, L., & Schiavio, A. (2021).	SPAIN	QUALITATIVE	SCOPUS
2	THE SHARED PATHWAYS OF TOUCH AND SOUND TO EMOTION: CURRENT NEUROSCIENTIFIC EVIDENCE; [THE SHARED PATHS OF TOUCH AND SOUND TO EMOTION: CURRENT NEUROSCIENTIFIC EVIDENCE]	García, Á., Mulas, M. J. L., Mezcuá, B. R., & Pena, J. M. S. (2023).	SPAIN	QUALITATIVE	SCOPUS
3	<i>Neurocognitive music therapy: Intersecting music, medicine and technology for health and well-being</i>	Ramírez-Meléndez, R. (2023).	SPAIN	QUALITATIVE	SCOPUS
4	<i>The impact of an intergenerational choral singing experience as a channeling vehicle for emotions, values, motivations, and learning; [The impact of an</i>	Lluch, E. S. (2023).	SPAIN	QUALITATIVE	SCOPUS

	<i>intergenerational choral singing experience as a channel vehicle for emotions, values, motivations and learning]</i>				
5	<i>Predictors of music performance anxiety in conservatory students</i>	Lupiáñez, M., , Ortiz, F.D.P., , Villa, J., , Muñoz, M.A. (2022)	SPAIN	QUANTITATIVE	SCOPUS
6	<i>The Efficacy of Music for Emotional Wellbeing During the COVID-19 Lockdown in Spain: An Analysis of Personal and Context-Related Variables</i>	Martínez-Castilla, P., Gutiérrez-Blasco, I.M., Spitz, D.H., Granot, R. (2021)	SPAIN, ISRAEL	QUALITATIVE	SCOPUS
7	<i>Music therapy in the treatment of dementia: A systematic review and meta-analysis</i>	Moreno-Morales, C., Calero, R., Moreno-Morales, P., & Pintado, C. (2020).	SPAIN	QUALITATIVE	SCOPUS
8	<i>Music Therapy Enhances Executive Functions and Prefrontal Structural Neuroplasticity after Traumatic Brain Injury: Evidence from a Randomized Controlled Trial,</i>	Siponkoski, S. T., Martínez-Molina, N., Kuusela, L., Laitinen, S., Holma, M., Ahlfors, M., ... & Särkämö, T. (2020).	FINLAND, SPAIN	QUANTITATIVE/Q UALITATIVE	SCOPUS

9	<i>Perceived Benefits of a Remote Yoga and Mindfulness Program for Student Musicians During COVID-19</i>	Bartos, L. J., Posad, M. P., & Krägeloh, C. (2023).	SPAIN, NEW ZEALAND	QUALITATIVE	SCOPUS
10	<i>Putting music to trial: Consensus on key methodological challenges investigating music-based rehabilitation</i>	Grau-Sánchez, J., Jamey, K., Paraskevopoulos, E., ... Hackney, M.E., Särkämö, T. (2022)	SPAIN, CANADA	QUALITATIVE	SCOPUS
11	<i>Engagement in Music-Related Activities During the COVID-19 Pandemic as a Mirror of Individual Differences in Musical Reward and Coping Strategies</i>	Ferreri, L., Singer, N., McPhee, M., ... Zatorre, R.J., Mas-Herrero, E. (2021)	SPAIN, UNITED STATES, FRANCE, CANADA	QUALITATIVE	SCOPUS
12	<i>Musical Expression Programs in Early Childhood Education to Improve Inclusion: A Systematic Review of the Literature; [Musical Expression Programs in Early Childhood Education to Improve Inclusion: A Systematic Review of the Literature]</i>	Escudero-Carrascal, C., Fernández-Hawrylak, M., Ruiz-Palomo, M.E.(2023)	SPAIN	QUALITATIVE	SCOPUS

13	<i>Emotional Training and Modification of Disruptive Behaviors through Computer-Game-Based Music Therapy in Secondary Education</i>	Chao-Fernández, R., Gisbert-Caudeli, V., & Vázquez-Sánchez, R. (2020).	SPAIN	QUALITATIVE	WOS
14	<i>Effects of Music Education on 10-to 18-Year-Old Adolescents' Emotional Development: A Systematic Review</i>	Magraner, J.S.B., Marín-Liébana, P. Nicolás, A.M.B. (2022)	SPAIN	QUALITATIVE	WOS
15	<i>Music therapy for adolescents with psychiatric disorders: An overview</i>	Freitas, C., Fernández-Company, J. F., Pita, M. F., & Garcia-Rodriguez, M. (2022).	SPAIN, PORTUGAL	QUALITATIVE/QUANTITATIVE	WOS
16	<i>The role of music in the development of children with Down syndrome: a systematic review</i>	Gemma, M. G., Pablo, M. C., & Cabedo-Mas, A. (2020).	SPAIN	QUALITATIVE	WOS

Table 2. List of Articles Analyzed

Source: Own Elaboration

Word co-occurrence

Figure 2 shows the relationship between the keywords used to search for the study material for the elaboration of the systematic analysis proposed for this research.

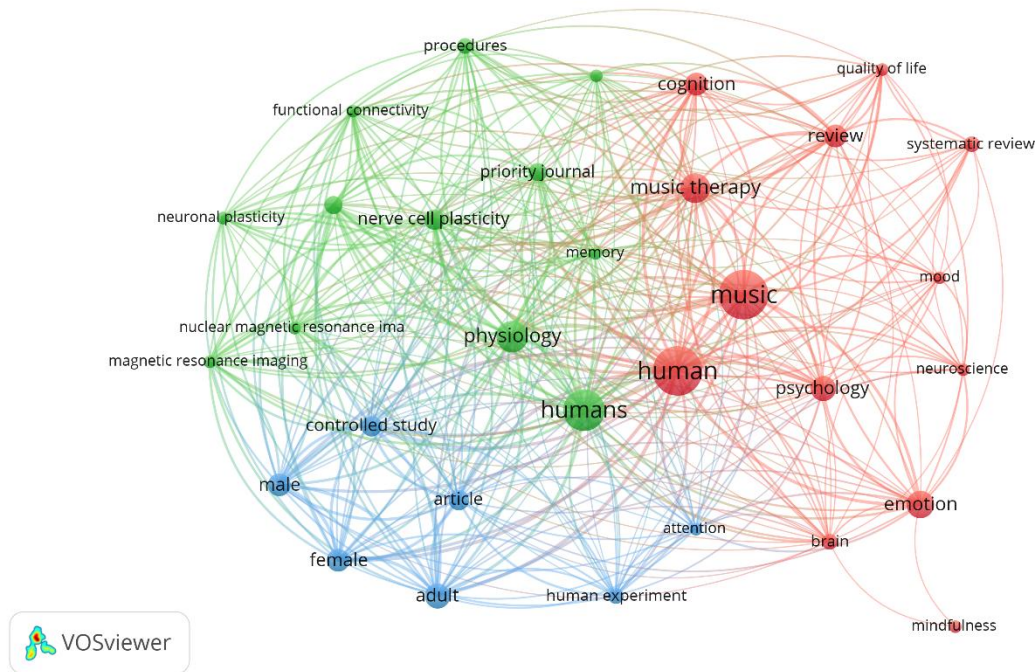


Figure 2. Co-Occurrence of Keywords

Source: Own elaboration

The figure above is a map of co-occurrence of terms related to music therapy research, generated with VOSviewer. Through which it is possible to determine the relationship between each keyword used in the research submitted to analysis. Highlighted in this map are several key terms, such as "Music Therapy," "Music," "Emotion," "Cognition," and "human," which are centrally located and connected to multiple other terms. This suggests that research on music therapy is strongly linked to studies in emotions, cognition, and human well-being in general. Terms such as "Review," "Quality of Life," and "Neuroscience" reflect a trend toward systematically reviewed studies that address the impact of music therapy on quality of life, as well as its connection to disciplines such as neuroscience.

Another interesting aspect is the grouping of terms such as "Neuronal Plasticity" and "Functional Connectivity" in the green cluster, suggesting a strong relationship between music therapy and studies related to neurological and physiological effects on the brain. There are also terms associated with experimental and control methodologies, such as "Controlled Study", "Magnetic Resonance Imaging" and "Nuclear Magnetic Resonance Imaging", indicating that much of the research is oriented towards the rigorous scientific measurement of the effects of music and music therapy on the human brain.

Discussion

The systematic review presented shows that music therapy has a significant impact on the emotional, social and cognitive well-being of young musicians, playing a fundamental role in their integral development. In the emotional field, several studies have indicated that music therapy is effective in reducing stress and anxiety, especially in high-pressure environments such as musical performance. Peñalba et al. (2021) highlight how music facilitates emotional regulation in children and young people through creative exploration, while Lupiáñez et al. (2022) underline the role of music therapy in reducing performance anxiety in conservatory students. In addition, Chao-Fernández et al. (2020) show that music therapy, even in unconventional formats such as interactive games, helps to channel difficult emotions, improving behavior and promoting greater emotional stability. These findings confirm that music therapy is an effective resource for the emotional management of young musicians, providing them with tools to face the challenges inherent in their artistic training.

In terms of social well-being, music therapy encourages inclusion and collaboration in group musical contexts. Lluch (2023), for example, demonstrates that the experience of intergenerational choral singing facilitates not only emotional expression, but also strengthens social bonds between participants, promoting meaningful interactions between generations. This finding underscores the value of music therapy as a means of integrating young musicians into social support networks, contributing to an environment where interpersonal relationships are healthier and more collaborative. Similarly, Escudero-Carrascal et al. (2023) confirm that musical expression programs in early childhood education are effective in promoting social inclusion, helping young people with different abilities to feel accepted and supported. These results indicate that young musicians not only benefit individually from music therapy, but also experience significant social growth.

In the cognitive field, music therapy has proven to be an effective intervention to enhance key skills such as attention, memory and executive function, all of which are fundamental for success in musical training. Ramírez-Meléndez (2023) explores how the interaction between music, technology, and medicine can improve neurocognitive functions, suggesting that young musicians could benefit from greater brain plasticity and improvements in the ability to concentrate and problem-solve. Likewise, Siponkoski et al. (2020) provide clear evidence that music therapy contributes to neuroplasticity and the development of executive functions, highlighting its potential to improve the academic and artistic performance of young musicians. Although many studies focus on cognitive enhancements in clinical settings, it is reasonable to infer that these interventions may also enhance cognitive development in healthy young musicians, given that such skills are essential for musical learning and instrumental performance.

In the Spanish context, scientific contributions on music therapy have grown considerably in recent decades, positioning Spain as a benchmark in research on the therapeutic impact of music. Studies have examined how music therapy influences the emotional, cognitive, and social well-being of different populations, with particular attention to children, adolescents, people with neurological disorders, and young musicians. This growth reflects a greater awareness of the benefits of music not only as an art, but also as a therapeutic intervention tool supported by scientific evidence.

The impact of music therapy on the Spanish community is remarkable, especially in areas such as education, mental health and neurological rehabilitation. Research such as that of Ramírez-Meléndez (2023) and Siponkoski et al. (2020) highlights the integration of music therapy in clinical contexts, where it has been used to improve brain plasticity, the development of executive functions, and the recovery of cognitive skills in patients with brain damage. In addition, studies such as that of Lupiáñez et al. (2022) have shown how music therapy contributes to emotional well-being in competitive environments, such as music conservatories, by reducing anxiety.

In the educational field, music therapy has been recognized as a valuable resource to promote inclusion and the emotional and social development of young people. Research such as that of Lluch (2023) and Escudero-Carrascal et al. (2023) has examined how group music, whether in intergenerational choirs or in children's musical expression programmes, improves social cohesion and facilitates the inclusion of children with different abilities. These interventions not only improve communication and social skills, but also offer a space for emotional expression and personal development, with a significant impact on the quality of life of the participants.

In terms of mental health, music therapy has been integrated into intervention programs for adolescents with psychiatric and emotional disorders, as evidenced in the study by Freitas et al. (2022). This research, which covers both Spain and Portugal, demonstrates how music therapy can improve the emotional state and reduce the symptoms of these disorders, offering a non-invasive approach that complements other therapeutic treatments.

The impact of music therapy in Spain is broad and diverse, with a solid scientific basis supporting its use in clinical, educational and social contexts. Research in the country has made it possible to advance in the understanding of how music can improve the integral well-being of different populations, especially young musicians, who benefit from its ability to regulate emotions, enhance cognitive skills and facilitate social

relationships. The growing indexing of Spanish studies on international platforms such as Scopus and WoS reflects the global recognition of these advances, positioning Spain as a key player in the development and promotion of music therapy internationally.

In summary, these findings highlight that music therapy not only positively impacts young musicians from an emotional perspective, but also promotes their social well-being and improves cognitive performance. Evidence suggests that music therapy is a comprehensive tool to support the personal and professional development of young musicians, helping them manage the emotional, social, and cognitive complexities inherent in their artistic training. Therefore, incorporating music therapy into educational and mental health programs aimed at young artists would be highly beneficial, fostering both their emotional well-being and their social and cognitive growth.

Conclusions

Music therapy is firmly established as an effective therapeutic tool in the field of mental and cognitive health, with a wide range of applications ranging from improving emotional well-being to stimulating neurocognitive functions, such as neural plasticity and memory. This makes it a comprehensive intervention for the personal and artistic development of young musicians.

The field of music therapy has evolved towards interdisciplinary approaches, connecting music not only to traditional areas such as psychology and cognition, but also to emerging disciplines such as neuroscience and physiology. This integration has allowed for a deeper understanding of the biological and neural mechanisms underlying the impact of music on the human brain, opening up new opportunities for research and clinical application.

The scientific evidence on music therapy is supported by methodologically rigorous studies, such as randomized controlled trials and systematic reviews, which ensure the reliability of the results obtained. The use of advanced techniques such as functional magnetic resonance imaging has made it possible to objectively measure the effects of music therapy on brain connectivity and neuroplasticity, reinforcing its validity as a therapeutic intervention.

Research in music therapy has also underlined its positive impact on social and emotional well-being, facilitating inclusion and social cohesion in group contexts, such as intergenerational choirs and educational programmes. This shows that music therapy not only supports individual well-being, but also promotes healthier and more collaborative social interactions between different generations and groups.

Spain has emerged as a benchmark in music therapy research, positioning itself internationally on platforms such as Scopus and WoS. Research carried out in this country has contributed significantly to the understanding of the emotional, social and cognitive benefits of music therapy, consolidating its relevance in areas such as education, neurological rehabilitation and mental health.

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