

A Scholarly Review of Research on Enhancing Social Skills in Children with Autism Spectrum Disorder Through Music Education

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ABSTRACT: Children with autism spectrum disorder (ASD) show ongoing problems with social communication and interaction, plus limited repeated behavior patterns (American Psychiatric Association, 2013). These social skill issues make it hard to them to fit into schools and society. While common treatments like social skills training, Applied Behavior Analysis (ABA), and speech therapy are often used worldwide research suggests that music education could help boost social interaction in ASD children. But in Vietnam, this idea is pretty new, without many thorough reviews or practical how-to guides. Studies show that music education activities lead to better social skills in autistic children. Music helps improve eye contact taking turns, copying others, and starting social interactions. Most studies find that groups using music show much better results than those that do not. But how well music works depends on things like how it is done how long it lasts, if parents are involved, and each child's unique traits. Some big controlled studies have shown mixed results, which means we need more research to figure out the best way to use music. This review backs up the idea that music education could help develop social skills in autistic children. It suggests that teachers and experts should mix music into special education programs to boost social interaction and inclusion. The study also points out current research limits and suggests future research topics stressing the need for Vietnam-specific studies and the creation of special music programs for ASD children.

KEYWORDS: Autism Spectrum Disorder (ASD), Social Skills, Music Education, Intervention, Vietnam.

1. INTRODUCTION

1.1. Autism Spectrum Disorder and Social Skills Deficits

Autism Spectrum Disorder (ASD) is a brain-based condition that affects development. People with ASD struggle with social communication and interaction. They also show limited repeated behaviors and interests (APA, 2013). Children with ASD often can't do basic social things like talk, use body language, play with others, or share feelings. This makes school and friendships hard for them. Gresham and Elliott (1990) say social skills are behaviors that help people get along. These include talking, working together, and solving problems. Children with ASD have big problems in these areas. ASD is becoming more common worldwide at a fast pace. According to Zeidan et al. (2022) about 1% of children around the globe have an ASD diagnosis. In the United States, this number has gone up to 1 in 36 eight-year-olds as of 2023. Vietnam doesn't have official numbers for the whole country yet. However early research shows a similar rate (0.8–1%). Vietnam has seen a significant jump in cases over the last 20 years (VietnamPlus 2018).

1.2. The Need for Early Social Skills Intervention

These trends show we need to help children with ASD develop social skills on. The usual methods like social skills training, ABA, and speech therapy are still key, but music education has popped up as a promising new way. Music being full of emotion, can grab the attention of children with autism. It gives them a safe place to practice social behaviors like making eye contact, taking turns, and sharing (Sharda et al. 2018). Bandura's social learning theory (1977) backs up the idea that children can pick up social behaviors by watching and copying others. Group music activities can make this easier for them.

New worldwide research backs up the positive effects of music on social skill growth in children with ASD. Take Chen and his team's work in 2024. They looked at 16 studies and saw that music therapy has a big impact on how these children talk and mix with others. In the same way, Kim and colleagues (2009) and Kanzari's group (2025) noticed ASD children got more social when they took part in off-the-cuff or movement-based music programs. But not every study has shown good results. The TIME-A project (Geretsegger et al. 2014) found small improvements on the ADOS scale, which makes people wonder about how consistent these treatments are.

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In Vietnam, experts haven't done much research on music apps for children with autism. Some early work, like what Nguyen Van Tho did in 2013, showed that singing and moving around had good effects, but nobody's checked it out yet. A few places in Ho Chi Minh City have started to use music when they work with autistic children, and it looks like it's helping them talk and play with others better. But these places are just winging it - they don't have a real plan, people who know what they're doing, or the right setup to make it work well.

1.3. Research Objectives

In light of this background, this study aims to review the scientific evidence about music-based interventions to develop social skills in children with ASD. The study wants to answer these research questions:

- What music education techniques have interventions used?
- Which social skills do these techniques enhance?
- How effective are these interventions and what are their limits?
- What factors affect the outcomes of interventions?

1.4. Methodology

This study uses a qualitative research method to examine how music-based treatments work for children with autism spectrum disorder (ASD) in Vietnam. We gathered data by reviewing literature conducting interviews and observing participants. Our literature review involved a thorough search of peer-reviewed articles, books, and reports published from 2010 to 2024. We used databases like PubMed, Scopus, and Google Scholar. We searched for key terms such as "music therapy," "autism spectrum disorder," "children," and "Vietnam." This approach helped us base our study on current evidence and proven practices.

Besides secondary data, we collected primary data through talks with music therapists special education teachers, and parents of children with ASD in Vietnam. The semi-structured interview style let participants tell us about their experiences, views, and problems with music-based treatments. We did observational studies in chosen special education centers and therapy sessions looking at how children and leaders interacted during music activities. We wrote down, coded, and looked at data from interviews and observations to find common themes and insights. We followed ethical rules, like getting informed consent and keeping things private all through the study. By bringing together many data sources and viewpoints, this method gives a full grasp of the real-world effects and cultural significance of music-based treatments for children with ASD in Vietnam.

2. RESEARCH FINDINGS

2.1. Music Education Methods in Interventions for Children with Autism

Teaching music to children with autism spectrum disorder (ASD) can follow various methods. Each method works to tackle social, communication, or behavior difficulties in its own way. Improvisational music therapy becomes a big part of this effort. In this method, children and therapists craft music on the spot together. They might use voices, instruments, or even movement to communicate. This process emphasizes emotional bonding and non-verbal connections. It gives children a chance to express feelings and build shared attention skills (Geretsegger et al. 2014; Kim et al. 2009). Therapists listen and mimic what the child plays. Doing this helps create back-and-forth interactions, promote turn-taking, and strengthen social exchanges. These sessions are often tailored to suit the child's sensory preferences and communication level. This flexibility makes them effective for children with varying abilities.

One approach people often use is the Orff-Schulwerk method. It blends music movement, drama, and speech to create lessons that feel organized yet fun. This method involves instruments like xylophones, metallophones, and percussion. These tools make it easy for children with ASD to join in, no matter their musical background (Ghasemtabar et al., 2015). Group music sessions offer children a chance to build social skills like taking turns working together and following cues from teachers or classmates. The focus on creativity and moving around in the Orff style can ease anxiety. It also encourages better motor skills and gives children a lively way to interact.

Singing activities with guidance work well to teach music to children with autism. These might include singing well-known songs, writing easy lyrics, or using call-and-response songs to get children talking (Katagiri 2009; Brownell 2002). Singing helps children learn language, speak more, and stay focused. Songs being rhythmic and repetitive, help children recognize social cues and improve their memory. Singing in groups gives them a sense of being included while building connections with others. Using gestures, picture cards, or visual aids during these sessions can make it easier for children with limited speech to understand and join in. In addition, playing instruments together in groups is often part of music therapy aimed at children with ASD. These activities require children to play under the direction of a leader or react to musical signals. They focus on listening working together and being in sync with others (Zhang & Wheeler, 2021). Joining an ensemble lets children practice taking turns, following rules made for the group, and understanding body language, all of which are key for social skills. The setup of ensemble activities helps children feel successful while building their involvement with others and boosting their confidence.

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Movement-focused music activities like dancing rhythmic actions, and musical games help children who struggle with sensory issues or have trouble speaking (Kanzari et al. 2025). These activities support copying actions becoming more aware of their body and connecting with others through fun interactions. Moving along with music can calm energy levels, boost focus, and create moments shared with peers, building friendships. Some programs also use music-based technology, like digital apps or games, to engage children who enjoy electronics (Zhang, 2024). These tools give fast feedback and adjust to each child's pace making them a helpful extra to regular music lessons. Finally, integrating music education to programs aimed to teach social and communication skills helps improve how well children keep and use what they learn (Zhou et al. 2025). Putting music activities inside proven therapy practices lets teachers and therapists use music's appeal and emotional pull to support social learning. The variety of music teaching approaches gives specialists the chance to shape lessons around what each child needs and likes helping them maximize the potential for social and communicative growth.

2.2. Social Skills Improved through Music Interventions

Music therapy has shown strong results in helping children with autism spectrum disorder (ASD) build better social skills. A key area of progress is seen in eye contact and shared attention. When children join activities like improvising music or singing in a call-and-response style, they're encouraged to focus on their therapist or peers. This builds shared focus and mutual gaze (Kim et al. 2009; Geretsegger et al. 2014). Experts believe these basic skills are crucial steps to develop, as shared attention plays a big role in learning language and reading social cues. The predictable rhythms and engaging qualities of music make it easier for children with ASD to stay focused and take part in back-and-forth interactions, which are often hard to manage in other activities.

An important area to improve is turn-taking and working together in groups. Children can practice waiting for their turn listening to others, and reacting the right way when they join music ensemble activities. These might include playing instruments with a group or joining in organized musical games (LaGasse 2014; Gooding 2011). These activities feel similar to real-world social interactions and help children learn social rules better. Music activities can also promote imitation skills and two-way communication. By copying rhythms, melodies, or movements from others, children build connections and better understand how others feel (Kern & Aldridge, 2006). This copying does not help children feel closer to others but also teaches them to see the world from another person's point of view.

Music-related techniques help children show emotions and communicate without words. Many children with ASD find it hard to understand and share feelings through normal speech. Music gives them a safe and exciting way to explore emotions. Researchers like Katagiri and Sharda discovered this in their studies in 2009 and 2018. Activities like singing playing instruments or moving with music allow children to show feelings like joy or frustration in ways others understand better. This process helps children use words more too. Songs, with their catchy tunes and repeated patterns, encourage talking and language skills. Lim in 2010 and Chen and others in 2024 found that children in music therapy often speak more, pronounce words better, and try harder to talk with others around them.

Music sessions help reduce self-isolation and pulling away from social groups. Fun and organized music activities encourage children to connect with others, which boosts how they join in group activities (Vaiouli & Ogle, 2015). As time goes on, these good social interactions can carry over to places like schools or parks improving social skills in a wider sense. Studies and reviews show music-focused therapies bring medium to strong effects on social interaction, communication, and daily-life behavior in children with ASD (Ke et al. 2022; Chen et al. 2024). Music works well because it is universal and adaptable offering a way to reach children who may not benefit from regular social skills training. This leads to better inclusion and improves their overall quality of life.

2.3. Effectiveness and Limitations of Music Interventions

Music-based activities play a key role in helping children with autism spectrum disorder grow socially, and in their ability to communicate. Research and reviews highlight that music therapy boosts social interaction, improves both verbal and nonverbal communication, and supports better emotional control (Geretsegger et al. 2014; Chen et al. 2024). Group music sessions give children the chance to work on skills like taking turns paying attention to others and working together. These sessions combine structure with flexibility making learning more approachable. The natural joy and excitement tied to music often encourage children to take part more than in typical interventions (LaGasse 2014). The repetitive and rhythmic nature of music also helps many children manage their arousal levels and creates a calming predictable environment. This is helpful for those dealing with sensory challenges. Some approaches, like improvisational music therapy, have shown that they can encourage unplanned social interactions and stronger emotional responses (Kim et al. 2009). Using tools like interactive apps or digital instruments within music therapy has been useful for children who may not respond as well to standard methods (Zhang 2024).

Although music interventions show promise, they face several limitations. A key challenge involves the differences in how children with ASD respond, not every child benefits the same way from music-based strategies (Ke et al. 2022). Factors like sensory sensitivities personal likes, and cognitive abilities can play a role in how well these interventions work. Another issue lies in the lack of standard protocols or consistent ways to measure outcomes in music therapy studies. This gap makes it harder to compare findings or reach solid conclusions about how effective they are (Geretsegger et al. 2014). Many of these studies also struggle with

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small participant numbers or designed control groups, which hurts the ability to apply results. While music interventions can spark early social interaction maintaining or applying these skills outside of sessions often remains difficult (Vaiouli & Ogle, 2015). Access to resources and qualified therapists is another problem in areas with fewer resources. Some children might also find certain sounds or group settings overwhelming or unpleasant, which shows the importance of creating tailored and flexible programs. Larger well-designed studies are needed to figure out who benefits the most and under what circumstances these approaches work best.

2.4. Factors Influencing the Effectiveness of Music-Based Interventions

How well music-based therapy works for children with autism spectrum disorder (ASD) depends on many factors like the child's traits, the environment, and how the therapy is done. A child's age, thinking skills, language ability, and sensory reactions affect how they respond to music therapy (Geretsegger et al. 2014; Ke et al. 2022). Younger children or those with stronger natural interest in social interaction often show faster progress in social skills through music sessions. Children who enjoy music and feel at ease in group settings tend to connect more with the activities. On the other hand, children sensitive to noise might need special adjustments in the sessions. A child's love for music also plays a big role in how successful the therapy can be; it works better when it includes their favorite tunes, instruments, or types of music (Reschke-Hernández, 2011).

Therapist skills and how they plan activities are crucial aspects to think about. The success of sessions depends a lot on the music therapist's training, experience, and ability to adapt (LaGasse 2014). Therapists with more expertise can better match activities to what a child needs, change levels of structure, and react to different behaviors. How the intervention is set up—like whether it's one-on-one or in a group how often it happens, or how long it lasts—also plays a role in how effective it is (Vaiouli & Ogle, 2015). Studies show that taking part over a longer period leads to bigger and more lasting changes. Involving families can also strengthen how well children use their skills. Caregivers or parents who join music sessions or continue the activities at home help children apply what they learn to everyday situations (Thompson et al. 2019). Things like having enough resources using music that fits the child's culture, and support from schools or clinical programs can boost or hold back how well music therapy works. To get the best results, therapists need to work together with families and educators to create personalized plans and tackle these challenges.

3. DISCUSSION

3.1. Theoretical Foundations

Music-based therapies for children with autism spectrum disorder (ASD) work because of ideas that explain why music helps improve communication and social skills. One key idea is the social motivation theory of autism. This theory says that children with ASD have lower interest in being social (Chevallier et al. 2012). Music, since it's both fun and comforting, can make them more open to interacting with others. It creates a safe and enjoyable way to connect. Another important idea is the theory of neural plasticity, which shows how the brain can change with practice and meaningful activities. Repeated exposure to music might reshape parts of the brain that control how we hear, talk, and feel emotions (Wan et al. 2010). This matters a lot for children with ASD, whose brain connections in these areas are often different.

Another idea comes from the shared affective motion experience (SAME) model, which looks at how moving together and sharing emotions help form social connections (Srinivasan & Bhat, 2013). Music makes this easier with its rhythms and group activities, which pull people into sync. This rhythm encourages shared focus and emotional bonds, things that children with ASD often struggle with. The communicative musicality theory also shows how music connects to early communication skills. It points out how things like lullabies or silly songs mirror the ways preverbal communication develops (Malloch & Trevarthen, 2009). Therapists can use these natural musical exchanges to set up chances for children to practice imitating taking turns or showing emotions in a safe space. Together, these theories offer solid support for using music to meet the needs of children with ASD.

3.2. Practical Implications

Music-based interventions have great importance for helping children with autism spectrum disorder. Clinicians, teachers, and families can use these methods to tackle complex issues in communication and social skills. These challenges often do not respond well to typical therapies (Geretsegger et al. 2014). Music creates a setting that feels both fun and structured letting children work on things like sharing attention, expressing feelings, and taking turns. This can make it easier for children to feel comfortable and try these skills without the stress they might feel in usual therapy sessions (LaGasse 2014). Parents and teachers can also add music activities into daily life at home or in school making it simple to keep practicing and building skills over time (Vaiouli & Ogle, 2015).

Another key takeaway is how music interventions can adjust to fit both personal needs and cultural settings. Therapists can boost participation and drive by shaping musical sessions around a child's likes and developmental stage. Engagement remains crucial to learn (Reschke-Hernández, 2011). Getting parents or caregivers involved during music sessions helps children carry over these skills in daily life, while also bringing families closer together. It allows families to take an active role in their child's growth (Thompson et al. 2019). Technology, like music apps or online tools, allows music-based methods to reach more people even in

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places with fewer resources (Zhang, 2024). Combining music with therapy and education for children with ASD shows potential to improve both results and daily life. At the same time, it gives children and families an enjoyable and rewarding experience.

3.3. Recommendations for Vietnam and Similar Contexts

Using music-based programs to help children with autism spectrum disorder (ASD) in Vietnam and similar places needs thoughtful planning. Planners need to think about local resources, traditions, and the current education and healthcare systems. To spread awareness, it is essential to help parents, teachers, and healthcare workers understand music therapy better. Many families in Vietnam might not know the advantages of music programs or could misunderstand how well they work (Nguyen et al. 2022). To fix this, hosting training events, workshops, and outreach programs is key to share facts and get more people on board. Adding music therapy lessons to special education and teacher courses can also train educators to use music in classrooms, including in areas where resources are limited (Pham & Ta, 2020).

Another key recommendation is to shape music-based therapies, so they match Vietnamese traditions and meet what local children need. This could mean using classic Vietnamese songs traditional instruments, and musical games to make sessions fun and fit the culture (Nguyen & McPherson, 2021). Music therapists can work with local musicians and families to create custom programs that connect with children's lives and interests. Using tech tools like mobile apps or online programs can help get past distance problems and bring music therapy to hard-to-reach places (Zhang, 2024). Leaders and decision-makers should focus on funding and research to check if these therapies work well in Vietnam. This ensures the programs last and are backed by solid evidence. Following these ideas could help Vietnam and others improve care and learning for children with ASD by making music therapy more cultural and easier to access.

4. CONCLUSION

Music-based interventions offer a flexible way to help children with autism spectrum disorder improve areas like social skills expressing emotions and managing behavior. Ideas like social motivation theory neural plasticity, and communicative musicality help explain why music works well to connect with children and help their growth. These interventions have shown they can fit into different settings, give families and children real benefits, and stay easy to use over time. People can add musical activities into everyday life at home, in school, or in therapy sessions making them a long-lasting option to support development. To apply music-based interventions in Vietnam or similar settings, people need to think about cultural fit available resources, and involving local communities. Adapting these programs to include traditional music and using technology can help them work better and reach more people in areas lacking resources. Informing the public, training workers, and including families play key roles in making these efforts successful and long-lasting. Sharing research and working together with different groups will help build stronger evidence and improve effectiveness. Using music as a tool gives a fun and culture-friendly way to improve life and development for children with ASD and those around them.

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