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Music and children with autism spectrum disorder: A case study

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Abstract

Autism spectrum disorder is a complex neurological disorder characterized by impairments in communication and social interaction, limited patterns of behavior, interests and activities. Given the different forms of autism spectrum disorder and the fact that no two people are the same, an individual approach to each individual is required. Musical ability is one of the special talents that a child with an autism spectrum disorder can have. Such a child should be allowed to practice music. As a therapy, music therapy has proven to be effective in working with children with autism spectrum disorder, i.e. it has a positive effect on communication, vocalization, joint attention, eye contact, concentration, cooperation, cognitive functions, social skills, etc. This paper presents the observations obtained through the study case. The aim of the research was to show the behavior of students with autism spectrum disorder in the Music culture class and the impact of music therapy on their behavior. For the purposes of the research, two interviews were conducted, i.e. with a teaching assistant who worked with a student with an autism spectrum disorder and with the student's parents. The case study showed that the student has a developed musical ability, that he participates actively, with reserved attention, only in the Music culture classes, and that music therapy helped him in his expression and speech. It is essential to give these kids the tools they need to further develop their musical abilities. It will contribute to children with autism spectrum disorder feeling safe, happy, and accepted in their environment.

Keywords: children with autism spectrum disorder, teaching of Music culture, music therapy, musical ability, case study

1. Introduction

Autism spectrum disorder is a complex neurological disorder that affects the functioning of the brain and prevents a person from understanding what s/he sees, hears, or feels. About

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50% of people with autism spectrum disorder cannot develop functional speech, and for those who can, speech may have limited communicative functions and may be unusual in terms of quality. In addition to speech difficulties, there are also difficulties in social interactions and behavior. On the one hand, there are individuals who are extremely reticent, and on the other hand, there are those who are excessively active. Also, people may develop unusual preferences for objects (AZOO, 2008). Children with an autism spectrum disorder do not have the ability to direct attention to more areas than a healthy person (Bujas Petković, 2000). Some common characteristics of people with autism spectrum disorder are communication, social interaction and learning, and unusual behavior (AZOO, 2008). Autism spectrum disorder is specific disorder because the child seemingly develops properly until the age of 18 to 20 months, i.e., speaks the first words, plays, and communicates with the environment. Around the second birthday, changes occur in the child, i.e., s/he stops talking, is no longer interested in the environment and people, has no eye contact, and does not respond to her/his name. Bizarre behaviors also begin: for example, the child twirls his fingers in front of his eyes, spins around herself/himself, runs from one end of the room to the other, continuously spins wheels on toys, holds oblong objects such as shoelaces, ropes, or shakes them continuously (Kardum, 2021). The disorder is three to four times more common in boys than in girls (Bujas Petković, 2000).

There are different forms of autism spectrum disorder, and they are: Kanner syndrome, or autistic disorder; Asperger syndrome, or autistic personality disorder; Atypical autism, or unspecified pervasive developmental disorder; Rett syndrome; Heller syndrome, or disintegrative disorder. Each form of autism spectrum disorder is characterized by specific symptoms. Kanner's syndrome (autistic disorder, infantile autism, autistic syndrome, autism) is diagnosed when six symptoms from the following areas are present: a) qualitative impairment of social interactions; b) qualitative impairment of communication; and c) limited, repetitive, and stereotyped patterns of behavior, interests, and activities (Smolić-Ročak, 2013). Children and young people with Asperger's syndrome (autistic personality disorder) have less pronounced deficits in social interaction and have pronounced average and above-average intelligence. Psychotic episodes are possible in adolescence and later (Bujas-Petković, 2000). Asperger's syndrome most often occurs and is diagnosed between the ages of five and nine (Smolić-Ročak, 2013). Atypical autism (unspecified pervasive developmental disorder) is a disorder when there is a pervasive developmental disorder due to its appearance after the age of three or when the disorder does not meet the criteria for an autistic disorder in all three areas. Children with this disorder usually have reduced intelligence with autistic characteristics (Remschmidt, 2009). Rett syndrome is characterized by the fact that it almost always leads to regression, i.e., to dementia (Remschmidt, 2009). Heller's syndrome (disintegrative disorder, childhood dementia, psychosis, and symbiotic psychosis) is a progressive impairment of language understanding

and expression and intellectual, social, and communication skills in children (Remschmidt, 2009). This disorder appears in a child between two and ten years of age after completely normal development, and at the beginning of the disease there is a sudden and permanent loss of already acquired skills in all developmental areas over several months (Bujas-Petković, 2000).

Autism spectrum disorder has been increasingly present since the beginning of the 21st century. Table 1 shows the prevalence of autism spectrum disorder in some European countries.

Table 1. Prevalence of autism spectrum disorder (Kardum, 2021)

Country	per10,000 children	1 child on
Poland	3	3333
Germany	38	263
Netherlands	48	208
Norway	51	196
Finland	54	185
Estonia	60	167
Belgium	60	167
Denmark	69	145
Croatia	100	100
Switzerland	145	69
Ireland	153	65

In the continuation of the paper, the influence of music on children with difficulties on the autism spectrum disorder will be presented, and in the research part of the paper, the observations obtained through a case study, i.e., through two structured interviews, will be presented. The first interview was conducted with the teaching assistant of a student with an autism spectrum disorder, and the second was conducted with her/his parents.

2. Theoretical background

Music, music therapy and children with autism spectrum disorder

Musical ability is one of the special talents of children with autism spectrum disorder. Some people with autism spectrum disorder like to listen to music, feel the structure of music, and recognize melodies. Some of them can remember and sing long melodic phrases; sometimes they have the ability to remember and play melodies they have only heard once; and they can have perfect relative or absolute pitch (Baron-Cohen & Bolton, 2000). Students with some of the disorder on the autism spectrum disorder can be included in regular elementary

schools. Therefore, in a regular class environment, they also attend Music culture classes, in which some children with autism spectrum disorder are happy to participate. Thus, in the research carried out by Zrilić et al. (2022), it was shown through a case study that the third-grade student with a diagnosis of autism spectrum disorder enjoys the teaching of Musical culture and that he is happy to participate in it. At the beginning of learning to sing a new song, he showed difficulties, but after listening to it several times, he remembered the melody. He sang the song he adopted softly and the words as he heard them, i.e., he often sang them wrong. He has a developed sense of rhythm and likes to dance (Zrilić et al., 2022). Kardum (2008) emphasizes that for students with autism spectrum disorder, music serves as a medium rather than a goal in itself. She believes that for the benefit of the child, we must give up the methodical thinking that is the starting point when it comes to regular music lessons in elementary general education schools. Program music (for example, the composition of Vltava (B. Smetana) can be a stimulus for students with autism spectrum disorder because some of the autistic children have a very pronounced sensibility and associative potential, and some of them also express manifestations of synesthesia as they "see" music in colors or experience it as a taste. Therefore, they are very happy to participate in conversations about music, while for analysis (melody, rhythm, etc.), they generally do not have sufficient perceptive abilities and refuse it (Kardum, 2008). Also, the author believes that it is useful to use popular music because we do not evaluate the artistic value of pop music but rather its role in creating an atmosphere of relaxation and trust, getting rid of stereotypes, creating meaningful movement, awareness of the sense of rhythm, and adequate motorically response (Kardum, 2008). Musical games are also useful for acquiring concepts related to self-care, understanding one's own body and creating an image of oneself, understanding one's own behavior, and for the purpose of acquiring elementary concepts about nature, people, and relationships. Children are taught to interact with other children, to participate together, and to take turns participating (Kardum, 2008). Simpson (2013) points out that the activity of playing, i.e., the exchange of instruments during group class music, develops the skill of exchanging and sharing instruments because, while some students play, for example, a solo drum, others wait and thus learn how to participate jointly and alternately.

Unlike music lessons, which may or may not have a therapeutic purpose, music therapy implies the therapeutic use of music and its elements (melody, rhythm, harmony, etc.). Music therapy was initially used for people with traumatic brain injuries, neurological conditions, and fatigue. It was later concluded that the therapy has a good effect on stress disorder and psychological trauma and on children and youth with difficulties in emotion regulation, behavior, concentration, and verbal expression (Sausser & Waller, 2006). It has been shown that music therapy has a positive effect in children with autism spectrum disorder on their social communication, vocalization, attention, eye contact, concentration, cooperation,

interactive behavior (Bujanović & Martinec, 2019), participation in games and playing together, speech (Yılmaz et al., 2014), intelligence (Goldstein, 1964), and expression of feelings (Zorba, Akçamete & Özcan, 2020), language skills, i.e. verbal and non-verbal communication (Hanser 1999 according to Burić Sarapa & Katušić, 2012) and reduces undesirable forms of behavior (Pasiali, 2004), negative emotions and obsessive behaviors (Jagudina & Johansson, 2011 according to Burić Sarapa & Katušić, 2012).

Goldstein (1964) conducted one of the first studies on the effects of music therapy on the cognitive functions of a child with autism spectrum disorder. He examined the impact of music therapy on attention retention and intelligence. After three months of music therapy, a significant improvement in intelligence was recorded. He believes that the increased interest in dancing, movement, and singing is connected with the inner experience of the outside world of a child with autism spectrum disorder (Goldstein, 1964). Vocal improvisation, which is a combination of vowels and consonants, can help improve prosodic forms of speech and serves to stimulate or shape vocal expression. Children who communicate through non-verbal communication through music therapy express feelings and thoughts (Hanser, 1999 according to Burić Sarapa & Katušić, 2012). Edgerton (1994) conducted research on the effects of musical improvisation on communication skills. Children with autism spectrum disorder between the ages of six and nine participated in the research. Children came for treatment once a week for ten weeks. Research has shown that musical improvisation can have a positive effect on the development of communication skills, and changes in the social behavior of children with autism spectrum disorder occur during the music therapy process. Researchers believe that the continuous adaptation of the therapist to each individual is an important element of music therapy. Wimpory et al. ((1995) conducted a study showing the effect of music therapy on the social skills of a child with autism spectrum disorder. Namely, they monitored the interaction between mother and child, i.e., different games were used between mother and child, including singing. The result of the therapy was manifested in the improvement of the child's eye contact and interaction with the mother (teasing) during symbolic play. The social skills that were developed through music therapy remained twenty months after the treatment. Research conducted by Pasiali (2004) studied the effect of individualized therapy songs on the development of social skills and the reduction of undesirable behaviors in children with autism spectrum disorder. The researcher created the lyrics of the song following the current guidelines for writing the lyrics of social stories developed by special education teachers to modify the barriers in functioning of children with autism spectrum disorder. Then the text of the song was set to music with the melody of the child's favorite song. The research results showed that individualized therapeutic songs can reduce undesirable forms of behavior even after three weeks of music therapy. Research conducted by Jagudina and Johansson (2011 according to Burić Sarapa & Katušić, 2012) showed that, under the influence of music, negative emotions

and obsessive behaviors are reduced and the creation of social relationships is encouraged in children with autism spectrum disorder. Sila Zorba et al. (2020) conducted a study to examine the effect of music therapy on two specific skills of an eight-year-old child with autism spectrum disorder: 1) exchange-sharing of feelings; 2) expressing feelings. Music therapy had the effect of improving both skills during therapy and monitoring the classroom teaching in which the child was involved. Mamić et al. (2010) conducted research in which Tomatis therapy was applied. The music of W. A. Mozart was used, which had the effect of raising the threshold of tolerance to sounds, better attention, greater social interaction, and greater willingness to engage in activities in students with autism spectrum disorder.

We can conclude that numerous studies show that music has a deep meaning and influence on some children with autism spectrum disorder. Therefore, in the continuation of the paper, research, more precisely a case study, is presented that aims to contribute to the mentioned topic, i.e., show how music and music therapy can help children with autism spectrum disorder overcome difficulties.

3. Methodology

Case study description

This paper will present the observations obtained through the research through a case study. For the purposes of the research, two structured interviews were conducted with predetermined content and a list of questions asking for specific information. The first interview was conducted in 2021 with a teaching assistant who worked with a student with autism spectrum disorder in an elementary school for two school years. In 2023, a second interview was conducted with the student's parents because the student underwent music therapy treatments in Croatia and Belgium in the period from 2014 to 2023, and the treatments were also performed at home. During the interview, the teaching assistant and the parents answered questions regarding the following topics: a) development and symptoms; b) a student in a school environment; c) music and music therapy. The aim of the research was to show the behavior of students with autism spectrum disorder in the Music culture class and the impact of music therapy on their behavior.

Research participant

The participant in this research is a student with an autism spectrum disorder who has a pervasive developmental disorder and, in addition, a hyperactivity disorder. During kindergarten, the teachers pointed out to the boy's parents the changes in his behavior compared to before. The boy's parents also noticed the same, i.e., that he stopped playing

with the toys he had loved until then. As an example, the parents state that until then he liked to play with toy cars, but that they no longer interested him, and he became interested in unusual objects such as candles. The educators also noticed his stereotypical play and the absence of social interaction, i.e., the absence of appropriate socializing with peers and an unusual way of communicating. The boy was then four years and six months old. Because of the above, the parents took the boy for detailed specialist treatment, which confirmed a developmental disorder on the autism spectrum.

Due to the diagnosis, the student's enrollment in the first grade of elementary school was postponed for one school year, i.e., he started the first grade at the age of eight. Upon starting school, the boy was assigned a teaching assistant. From the first grade, he attends classes partly in a special department and partly in the regular one, i.e., in the special department he takes the subjects Croatian language, Mathematics, nature, and Society, and in the regular class he takes Music culture, Art culture, Physical and health culture, and Religious studies, while a foreign language enters. In the special department, there are about 10 students with different diagnoses, from mild to severe, and in the regular class, there are 21 students.

4. Results

First interview: interview with the teaching assistant

The interview with the teaching assistant was conducted in 2021. The teaching assistant worked with the boy during two school years, i.e., she was his teaching assistant in the second and third grades (school years 2017/18 and 2018/19). At that time, the student was between 9 and 10 years old.

a) Development and symptoms

According to the teaching assistant, symptoms that indicate a disorder on the autism spectrum are: lack of social eye contact, attention deficit disorder, easy loss of attention, sensitivity to stimuli, difficulties in longer communication and understanding, misunderstanding of social rules, etc. The student has developed speech and language, has social and emotional skills, and achieves short communication. In addition to autism spectrum disorder, he is also hyperactive, has a need for constant movement and going out to the school yard without prior notice, and requires constant supervision due to the possibility of running away from the classroom and the school building. Also, the boy easily and strongly connects with things and people, so if any change happens by chance, he starts to cry uncontrollably. When his condition worsens or when he gets upset, he starts screaming, crying, punching his head, and throwing himself on the floor. What distinguishes him from most children with autism spectrum disorder is that he is never aggressive towards others but only self-harms. The specific actions of the boy are that he

always has a toy in one hand, and in the other hand, he holds a straw that he keeps spinning. The student is very picky when it comes to food; he only eats certain dishes, he hardly eats fruits and vegetables, and he eats the same food and drinks the same juice every day at school. The aforementioned characteristic of all people with autism spectrum disorder is that they do not like change.

b) A student in a school environment

The assistant supports the student from the beginning to the end of the school day, especially in tasks that require communication, sensory, and motor activity. In addition, she helps him with his hygiene needs when taking food and drinks in the classroom and during extracurricular activities. As for the respective teachers, each teacher has an individual approach to the student. Some subject teachers who are trained try to choose the best methods of work and have understanding and empathy for the boy. Subject teachers who do not understand his difficulties are in the minority. The professional service (pedagogue, psychologist) is very understanding towards the student. Non-teaching staff have unrealistic expectations and do not understand his behaviors or the general needs of children with autism spectrum disorder. All subject teachers have criteria for evaluation according to a special program. Nevertheless, the assistant concludes that it is difficult for the subject teachers to be objective, so sometimes they only reward the effort and not the knowledge of the students. The student answers orally and in writing, depending on the subject. During the written exam, the assistant helps him understand the questions and continuously directs his attention. She believes that the student is extremely smart and knows a lot, but his short attention span creates a problem.

Given that the student has developed speech, he occasionally communicates with other people in a way that is specific to him. For example, he approaches the other students and subject teachers, tells them what he has in mind, and immediately runs away without waiting for the reaction. Also, the student knows the names of all students from both classes, addresses them by their first name, and calls them to come and play "hunting" with him. From the above, it can be concluded that the student has developed social skills. As for emotional skills, the student constantly follows the facial expressions of the teaching assistant and recognizes whether she is happy, smiling, sad, or ignoring him due to undesirable behavior. When the assistant is dissatisfied about his undesirable behavior, he asks her the question, "How are you?" and apologizes for his behavior. Also, he often "gets it in her face" and smiles to make her smile too. Likewise, the student is very sensitive and reacts to the emotional states of other children. For example, if he sees one of his friends crying, he immediately starts crying too. On the other hand, what he doesn't like is other children screaming. When they do, he covers his ears with his hands.

c) Music and music therapy

The teaching assistant states that the student's favorite subject is Music culture. During these lessons, he manages to keep his attention; he is focused on the teacher and on the musical activities they are currently doing. His favorite activity is singing, and the student knows a lot of songs by different artists by heart and often performs them. The written exam in the Music culture class is the same as for regular class students, only to a reduced extent. For the written exam, he must learn to recognize several compositions by ear, i.e., after listening to the composition, he must write the name of the composer and the name of the composition, and recognize and name the instruments. He always solves such tasks with the maximum number of points and with satisfaction. During the Musical culture classes, he sits quietly, listens and enjoys all the musical content.

The teaching assistant knows from the conversation with the parents that he has been going to Tomatis therapy in Croatia and Belgium for a long time (there will be more about this therapy in the rest of the paper). The teachers, parents, and teaching assistant have noticed a great improvement after the therapy because the boy is much calmer, has significantly greater attention and concentration, is in a better mood, and, most importantly, self-harm has decreased.

Second interview: interview with the parents of the student

In the 2022–23 school year, immediately after the end of the school year, an interview with the parents was conducted, i.e., when the student finished the seventh grade and was 14 years old.

a) Development and symptoms

The boy's parents state that the symptoms of autism spectrum disorder are as follows: repetitive actions, desire for everything to happen in a fixed order, difficulty accepting changes, inability to understand the conveyed meaning, etc. Specific and undesirable actions change in phases over the years, and there were many of them. Some of them were throwing different things out the window, tearing leaves from flowers and plants, tearing pages from school notebooks and books, and opening products in shops, for example, puddings and chocolate bars. Because of some of the aforementioned actions, the mother used to have problems, for example, in the store, and she had to explain that he was a child with an autism spectrum disorder and that she would pay for everything destroyed. Today, when the boy is in puberty, he often speeks ugly and inappropriate words (swear words). Similar to this, he experiences times throughout the day when, as a result of his inner world, he starts shouting loudly and talking about things that did not actually happen. Then his mother talks to him, distracting his attention and thoughts.

b) A student in a school environment

The mother believes that not everyone at school has enough understanding of the specific needs of children with autism spectrum disorder. She states that the behavior of such children is very specific and that they often have undesirable behaviors that are part of their diagnosis, but that such children are often stigmatized as disobedient and naughty. She also states that there are teachers who really try to gain the trust of the boy, so she points out the boy's current teacher. Likewise, she believes that our educational system is not sufficiently developed and adapted to children with disabilities. In terms of teaching and evaluation, the student's mother believes that the teachers adapt as much as possible to each individual student's difficulties. An individual program is made for each student, according to her/his possibilities and abilities. Knowledge is mostly tested in writing, except when it comes to reciting songs. If the student has not mastered the teaching content, the teacher will not start with new content but will try to get the student to learn everything.

c) Music and music therapy

The mother states that the boy loves music very much and that he could listen to it all day at home, and that he wants that the TV or YouTube channel where he listens to music is always on. In addition, the boy recognizes the songs already after the first few bars and can often interpret the songs correctly. The mother often uses listening to music as a reward for a task well done.

In addition to the music he listens to in his free time, the boy goes to Tomatis therapy treatments.[33] The mother states that when the boy was younger, he listened to her voice, the way he heard it while he was in her womb. For the purposes of therapy, the mother recorded herself telling a certain story that the boy was listening to. According to the instructions she was given, the mother would change the frequencies on the device and the boy would hear the sound of her voice as he did when he was in her womb before birth. This method within the framework of Tomatis therapy is used in children of preschool and early school age. For older children, Tomatis therapy is based on listening to artistic music at different frequencies that are determined individually for each child. It is based on brain mapping, i.e., imaging of the brain, and therapy is determined according to the results of

[33] French otolaryngologist Alfred Tomatis (1920–2001) is the founder of the Tomatis method. The Tomatis method is a discipline that studies the relationship between the ear and the voice and between the ear and spontaneous mental activity and helps people who have various hearing difficulties, i.e., attention and learning dissabilities, barriers in functioning in the area of speech and language. It also serves to improve emotional control, coordination, and motor skills in people with autism spectrum disorder (Šarić, 2020). The Tomatis method is also known as auditory training, auditory stimulation, and listening therapy. Alfred Tomatis observed how different frequencies and sound rhythms can have an impact on a person's state. He also observed that W. A. Mozart's music is extremely useful for reducing difficulties due to its melodies, rhythms, symmetry, purity, simplicity, and high frequency tones (Mamić, Fulgosi-Masnjak & Pintarić Mlinar, 2010).

that imaging. The mother states that Tomatis therapy has been used since the boy was six years old. The therapy is carried out in sessions lasting 90 minutes, with breaks of 60 minutes, and thus repeated three times a day for a week. After that, there is a break of five weeks, and the procedure is repeated. Several children listen to the therapy in the same room. Children put together puzzles while listening to music and flip through picture books, and therapists warn that there must be complete silence in the room. In the beginning, they went to Zagreb and Belgium for therapy, which required financial costs, and the journey was tiring for the boy. This is why the parents decided to buy a Tomatis therapy device and use it at home. The mother states that she underwent training that lasted a week and trained herself to play music at home. She emphasizes that she is trained to conduct therapy exclusively for her child. They received five programs, and every other week, the boy listens to a different program for a year. After a year, the parents go with the boy to Belgium, where a new brain scan is done again, according to which he receives new listening programs. A program is determined separately for each boy's ear. The choice of compositions that the parents will listen to is given in the program, and the composers whose compositions the boy often listens to are W. A. Mozart and J. Strauss.

Another method that the boy's mother talked about is nighttime Tomatis. Before going to bed, the boy lies down, listens to music, and it soothes him and puts him to sleep. After that, the boy had a better and more beautiful dream. What the mother points out is the fact that the parents were warned about in Belgium, which is that Tomatis therapy should not be combined with drugs because they cancel out the effects of music therapy.

As a conclusion of the conversation, the boy's mother said the following: *With the help of Tomatis therapy, my son managed to overcome his difficulties in expressing himself and became a fully verbal boy who puts together complex sentences without difficulty and has quite good diction, which is very rare in children with autism spectrum disorder. As they told us in Belgium, hearing and speech are closely related and influence each other, so listening to music affected his speech and expression.*

6. Discussion and conclusions

The purpose of this study was to examine how students with autism spectrum disorder behaved in the Music culture class and how music therapy affected their behavior. The case study showed that a student with autism spectrum disorder has a developed musical ability and that he actively participates, with sustained attention, only in music lessons at school, that he loves music very much, memorizes songs, and performs them. He also recognizes compositions and artists and remembers the names of compositions and composers. The stated results are in accordance with the research of Zrilić et al. (2022), in which a boy with

autism spectrum disorder gladly participated in music lessons, had a developed sense of rhythm, and loved to dance to music. As for music as therapy, the student has been going to Tomatis therapy for several years now, and progress can be seen in his behavior. He is calmer, has much greater attention and concentration, is in a better mood, and his self-injury has decreased. Also, the boy managed to overcome difficulties in expression and speech and became a fully verbal boy who enjoys every form of music. The above results coincide with research that has shown that music therapy has a positive effect on communication, vocalization, joint attention, and concentration (Bujanović and Martinec, 2019; Hanser, 1999 according to Burić Sarapa and Katušić, 2012) and reduces undesirable forms of behavior (Jagudina and Johansson, 2011). according to Burić Sarapa and Katušić, 2012; Pasiali, 2004). This research included one student with an autism spectrum disorder, and we believe that a case study that would follow more participants would give a more complete insight into the investigated issue. In this research, we conducted interviews with the boy's parents and the boy's teaching assistant. To gain a more comprehensive understanding, we recommend interviewing the music teacher who instructs a student with an autism spectrum disorder in a regular classroom in our next study. Therefore, we can conclude that early diagnosis and response are important for children with autism spectrum disorder. Therefore, Luştrea et al. (2017) point out that parents of children with autism spectrum disorder and experts must act as a team in which each member has a role. They believe that professionals should not only teach parents how to deal with all aspects of autism spectrum disorder but also help parents adjust their parenting styles. Our thinking is in this direction, considering that a developed musical ability is one of the gifts that children with autism spectrum disorder can have. As a result, it is essential to give these kids the tools they need to further develop their musical abilities. The parents can do this by learning the aforementioned and allowing their kids to practice music. It will contribute to children with autism spectrum disorder feeling safe, happy, and accepted in their environment.

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