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Emotional Effects of Music Therapy on Children with Special Needs

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ABSTRACT

The responses to music are both physiological and emotional, changing the life of a child with special needs. It creates new diverse feelings. The current study explains music therapy's contributions to modeling the emotional behavior of children with special needs by encouraging the expression of feelings and by solving relational issues. The paper is structured on two parts. First part highlights literature concerning the backgrounds, the aims and the effect of music therapy on children with special needs. The second part focuses on the practical area of music therapy bringing up study cases, participants to the music therapy act, children exposed to different types of music that involve active (vocal and rhythmical singing and improvisation) and receptive (music audition) participation. Children are encouraged to express their feelings through art as a part of the evaluation proving that, as predicted, musical experience leads to a positive increase in the children's skills and emotional responses and also develop their learning and thinking abilities.

KEYWORDS: *emotional behavior, musical experience, music therapy, special needs*

Literature review - Music and Emotions

It was demonstrated that music brings emotional responses in people with or without special needs. Therefore, researchers provide a mean of understanding the complex aspects of the relation between music, thought and feeling (emotion). They provide answers to how the brain reacts to music using methods such as the electro-encephalography (EEG) and the magneto-encephalography (MEG) which involves monitoring electromagnetic energy pattern, positron emission tomography (PET) and functional magnetic resonance imaging (fMRI) that work by monitoring the flow of blood and levels of blood oxygen at specific locations in the brain. Music both communicates and induces emotions thought various characteristics: tempo, melody, intensity or sound quality (timbre). It is only one of the benefits of engaging with music.

Methods to measure which emotions are elicited by music and are numerous. For example, the recently developed Geneva Emotional Music Scale (GEMS) includes 33 emotion terms, reduced by factor analysis to 9 dimensions: Activation, Inspiration, Tenderness, Nostalgia, Peacefulness, Power, Tension, Wonder, and Sadness. To these, researchers from University of Kansas added 3 more: Liking, Pleasantness and Joyful Activation. The participants rated special selected music using these dimensions on a scale of liking from "not at all" to "very much." The findings were relevant: people tend to enjoy music that is pleasant. When a particular piece of music is characterized by high levels of all three original emotions (liking, pleasant, joyful activation), the listener likes this piece. It is possible therefore, that listeners seek out these emotions in music. (Anderson et al., 2011)

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The neuroscientists have the same opinion: music lights up the brain, and they explain the importance of the type of music applied by therapists. The right hemisphere of the brain "lights up" when people (or children) learn to read music, understand key signature and notation, and follow the sequence of notes. It is the center of feelings and emotions. It is activated when music is heard. It distinguishes between melodies with a variety of pitch and timbre. The left hemisphere of the brain is responsible for language and logic so, it is analyzing what was heard. Therefore, by playing an instrument or by singing, the brain is activated in the same area that is involved in analytical and mathematical thinking. Also, studies reflect that listening to music stimulates the neural network - the dopaminergic regions of the brain (responsible for learning, memory and reward), as well as the limbic system (responsible for emotional expression).

Listeners usually agree about what type of emotion is expressed in a particular piece, which makes us believe that music actually produce emotion in listeners. The distinction between perception and production of emotions is analyzed not only by psychologists, therapists or musicians, but also by philosophers who relate the analysis of emotion in music with the distinction between *cognitivism* meaning that music simply expresses or represents emotions and *emotivism* saying that music elicits real emotional responses in listeners. Moreover, by learning to play a musical instrument in childhood stimulates cognitive development and leads to enhanced skills in a wide variety of areas. (Bangerter A & Heath C, 2004)

Literature review: Children with special needs - Characteristics

Classifying a child as having special needs or not could vary from one country to another. The diagnoses include attachment disorder, attention deficit hyperactivity disorder (ADHD), developmental disabilities, mental disabilities and learning disabilities. In countries such as United States, the list of diagnoses also includes alcohol syndrome (FAS) and oppositional defiant disorder. All these categories, depending on the characteristics of the disorder are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and require health care-related services and/ or special institutions.

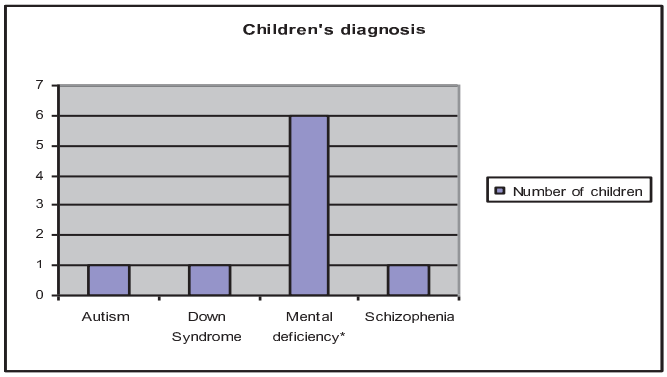
Children may have mild to severe cognitive delays causing difficulty with concepts such as math, telling time, maintaining attention and focus, and difficulty sequencing and remembering events. Depending on the severity, they may have diminished receptive language, difficulty sounding out words, difficulty understanding words or concepts, delayed speech, or problems discriminating between sounds. Poor visual motor, gross and fine motor development and coordination sensory integration problems are common. Motor problems regarding low muscle tone, could also manifest and so are physical over-activity or extreme under-activity motor skills. Often, all these delays or physical problems are joined by emotional problems. For example, non-retarded autistic children are getting normal controls on measuring their emotions' expression and recognition. They recognize and show simple and complex emotions, naming and represent those in pictures, but they manifest difficulty talking about these socially derived emotions, getting embarrass. Through music therapy children with special needs could learn to verbalize their emotions, it only requires time and patience. When a certain level of retard it's evident to a child the therapist must focus on simple or primary emotions, such as happiness, sadness, anger and fear in order to understand the nature and occurrence of social-emotional deficit, knowing that these children are limited in the ability to recognize and communicate feelings through facial expression.

Related to the children with special needs, through music therapy in general, or melotherapy in particular, children obtain a motivating setting in which their social skills can be

improved. Music is used to create a positive experience where the children can enhance their self-esteem with the others. Special songs and techniques are effective in addressing academic skills such as letter and number identification, counting, or problem solving. It is motivating and helps concentration which can allow children to attend to a task for a longer period of time. Moreover, music therapy facilitates communication (language skills), participation to group sessions or in class, and the nonverbal expression. To not forget that singing is an effective technique used to increase sentence length, fluency, rate, and appropriate pitch and volume of the speaking voice. The rhythmic component of music is providing a multi-sensory stimulation in the auditory, visual, and tactile forms, and addresses poor coordination and balance issues. In time, through active or auditory melotherapy sessions, children learn to keep eye contact with the others, to properly touch or hug a peer, and to develop identification and appropriate expression of their emotions. For instance, children may listen to a "sad" (minor key) piece of music while singing about feeling sad and practicing making a sad face, or on the contrary they listen to a " happy" (a major key) piece of music and singing about being happy and practicing making a smiling face.

Research – Method, discussion and findings

The research was made on a sample of 9 children, diagnosed with mild to severe mental deficiency (three of those also having epilepsy), and one of each: Down syndrome, autism, and schizophrenia. They attend one of the special schools in Brasov, part of the national educational system. The diagram of their disorders is presented below.



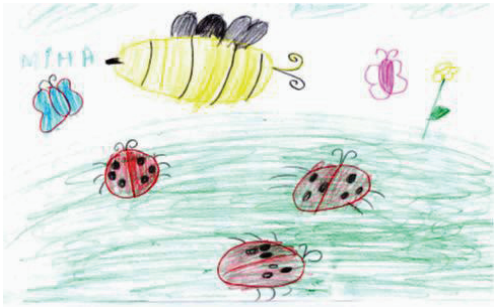
The children started a program with intensive music teaching three years ago, with great results. If in the beginning the children were unable to socialize and to concentrate over a task, they didn't verbalize their feelings and were incapable of showing any type of emotion, with patience, in time, the children ended up not only to recognizing basic feelings such as happiness and sadness, but also to display them in different situations.

The first music therapy session started with an easy conversation including a presentation and a short background check. This way the therapist could have a full image of the environment the children belong to, a list of their disorders, they familial issues, their skills, so on. During sessions more kinds of alternative therapies could be integrated along music therapy: it's possible to practice *active music therapy* including sound therapy, rhythm therapy, and melotherapy using musical instruments (piano, drums, blockflutte, singing), *auditory melotherapy* (children's music, classical music - Mozart for children), or Art therapy, dance and movement and drama therapy. After few sessions children were able to play roles, to dance in

pairs or in group, to draw and paint. All changes in the children's behavior were noted or recorded as per their parents' permission.

Children were asked about the way they felt during the melotherapy session and their answers were positive, even excited. During the evaluation they verbalized the feelings about playing the instruments or listening and singing the songs. The children recounted their emotions, and accurately labeled their affect expression in chosen pictures. As predicted their emotions were positive, but half of the children manifested some difficulty talking about their emotions. All of them preferred instead to illustrate their feeling in a drawing remembering the musical piece they liked the most. Again, as predicted, children illustrated the songs they've been singing. Few examples are below. With one exception all children finished the drawing.

Traian (Schizophrenia)



Mihaela (Epilepsy, Mild Mental Deficiency)

Bogdan (Epilepsy, Moderate Mental Deficiency)

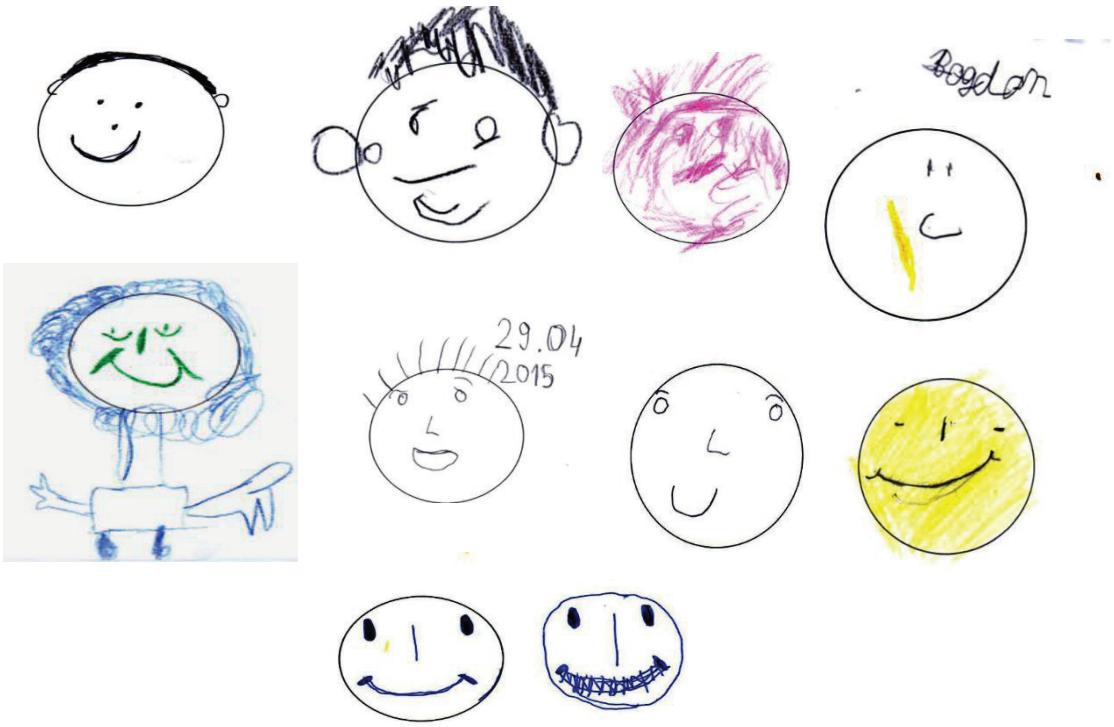
Raul (Mild Mental Deficiency)

Alexandru (Autism)

Gabriel (Severe Mental Deficiency)

The qualitative features of the drawings, such as the colors used, the size and details of the parts, and the shape of the figures may be used for a professional analysis. With the mention that the therapist is not necessary a specialist in interpretation of drawings, on a first look we can see the colors that were used in drawings (in our case the colors were light), and if the images are friendly and illustrating a positive mood or, on a contrary, dark, unhappy images illustrating a negative mood.

At the end, children were tested for their ability to identify the affective connotations of melodies in the major mode. Different from the case of musical fragments the children were asked to match musical fragments with schematic representations of happy and sad faces. The findings were relevant, and the hypothesis was tested: all children recognized the major mode and showed it by drawing happy faces. They were able to show emotions responding positively to the uplifting music, enhancing their self-esteem and showing a positive self-image.



Conclusion

Music brings a sense of security, encouraging children to take risks, to socialize and be more spontaneous in interactions with others, to show emotions. As seen, music therapy can provide additional opportunities for positive interaction and building relationships not only between the therapist and the children - subjects of the therapy, but also among the family members and the child with special needs, who now is seen in a "different light." The family witnesses the child's strength and skill, its joy and spontaneity for the first time. Therefore, as predicted in our hypothesis, music therapy contributes to modeling the emotional behavior of children with special needs by encouraging the expression of feelings and by solving relational issues.

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