Using Music Therapy to Enhance Social, Speech and Language Skills in One Five Year Old Child with Autism: A Case Study

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Using music therapy to enhance social, speech and language skills in
one five year old child with autism: A case study

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A Thesis submitted to the
Department of Education and Human Development
in partial fulfillment of the requirements for the degree of
Master of Science in Education

Degree Awarded:
May 2002
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Abstract

This descriptive case study examined the effects of using music therapy to enhance engagement, social, and early literacy skills in one 5-year-old boy diagnosed with autism.

Video and audiotapes of music therapy sessions, progress notes and reports, and interviews with the boy's parents, special education teacher, and music therapist were qualitatively analyzed for this study.

Instructional implications of this study include the recommendation that music therapy services, when used in conjunction with the educational program of autistic children, can be beneficial in helping to facilitate engagement and early literacy goals and objectives.

Recommendations for future research in this area include the study of the benefits of music therapy with autistic children beyond the preschools setting with higher-level educational goals.
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CHAPTER I

Statement of the Problem

Purpose

The purpose of this study was to review the literature dealing with the use of music therapy to enhance engagement, social, and early literacy skills in the autistic population, and to compare the results of this review with a case study of one five year old boy's experience with music therapy.

The Autism Society of America (2001) estimates that there are approximately 400,000 people in the United States with some form of autism. Autism is now considered by many to be one of the most common childhood conditions within the realm of developmental disorders. The DSM IV-R categorizes Autism Spectrum Disorder as a pervasive developmental disorder with a range of deficits in three core areas:

1. social interaction
2. communication
3. Patterns of behavior, interests and activities which tend to be repetitive and stereotyped.

The symptoms are usually evident by the age of three. Autism is a spectrum disorder, with various combinations of symptoms and a wide range of cognitive skills evident. (American Psychiatric Association, 1994) Perhaps the most defining characteristic of autism is a disturbance in social relationships—an impairment in the ability to initiate and maintain relationships with others. (Autism Society of America, 2001; Kanner, 1943; Rutter, 1978; & Wing, 1969)

It has been noted that autistic children evidence unusual sensitivities to music. Music therapists have reported that this unusual responsiveness often makes the implementation of non-music goals more possible. (Alvin & Warwick, 1992; Baker, 1982; Hendrick, 1997; Saperstone, 1973; Stevens & Clark, 1969; & Watson, 1979)

According to Alvin and Warwick (1992), music therapy is used to promote healing, change, and improved learning. Music therapy is particularly effective with autistic children because “... it is a non-verbal form of communication, it is a natural reinforcer, and provides motivation for practicing non-musical skills. Most importantly, it is a successful medium because almost everyone responds positively to at least some kind of music.” (Staum, 2001, p.1)
The development of literacy is a social process that begins in children’s relationships with the people around them. Based on the premise that early literacy experiences are dependent on these relationships, Brooks-McLane and Dowley-McNamee (1990) state, “It is people who make reading and writing interesting and meaningful to young children. To these relationships and activities children bring their curiosity, their interest in communicating and their inclination to be a part of family and community life.” (p. 142)

Music therapy can help to increase speech and language skills, turn taking, self-expression and choice making, helping to facilitate the autistic child’s relationship with the people in his life. If the goal of increased engagement with the people and the world around him can be mastered, early literacy goals are then attainable.
Need for the Study

The treatment of a child diagnosed with autism is typically done utilizing a team-orientated approach. Ideally, the team consists of a special education teacher, a speech and language therapist, a child psychologist, a one to one therapy aide, a music therapist, as well as occupational and/or physical therapists if needed. While all school districts recognize the need for special education placements for autistic children, approval for music therapy services is often difficult to secure.

Autistic children lack many crucial social skills, such as the ability to communicate their thoughts, feelings and ideas with those around them. Music therapy can help to increase speech and language skills, self-expression, turn taking, and choice making.

While music therapy cannot be looked at as a cure for autism, it can have a profound impact on the lives of autistic children and their families, and should be viewed as an integral piece of their therapy. Children with autism are entitled to educational opportunities that will build on their strengths to remediate their weaknesses. The validation of music therapy as a viable treatment modality is a step in the right direction if we are to be advocates for these children who have so much difficulty engaging in the world around them.
Substantive Questions

Does it appear that music therapy is having a positive effect on Daniel’s ability to engage with the world around him and the people in it? How has music therapy been used to facilitate speech, language and early literacy goals for Daniel?

Definitions

1. **Autism**- A neurological disorder that typically appears during the first three years of life. It is characterized by difficulties in the areas of social interaction and communication abilities.

2. **DIR**- “Developmental, Individual-difference, Relationship-based” model of therapy, based on the work of Dr. Stanley Greenspan. This approach centers on the idea that affective experiences are the center of all skill development.

3. **Echolalia**- A type of speech commonly found in the autistic population, where the autistic person imitates words and phrases said by others with no apparent understanding of what is being said.

4. **Engagement** (as related to autism)- a person’s ability to take part in and participate in the world around him.
5. **Music Therapy** - the controlled use of music in the treatment, rehabilitation, education and training of individuals suffering from physical, mental or emotional disorders (Alvin & Warwick, 1992).
CHAPTER II

Review of the Literature

The purpose of this study was to review the literature dealing with the use of music therapy to enhance engagement, social, and early literacy skills in the autistic population, and to compare the results of this review with a case study of one five year old boy’s experience with music therapy.

Historical Background of Autism

First described by D. Leo Kanner in 1943, autism is a severe psychological disorder that affects approximately 4 out of 10,000 children. Autism is usually diagnosed in early childhood, and occurs four times more frequently in boys compared to girls. (Aarons & Gittens, 1999) Kanner identified the following major characteristics of autistic children:

1. the inability to relate to people and situations from the beginning of life
2. the failure to use language for the purpose of communication
3. anxiously obsessive desire for the maintenance of sameness, resulting in a marked limitation in the variety of spontaneous activity
4. play is characterized by a preoccupation with stereotyped, repetitive activities, lacking any creative or social function. (Kanner, 1943)

By the end of the 1970’s, autism was included in the American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, or DSM III (APA, 1980). The DSM III diagnostic criteria was similar to Kanner’s and included:

1. abnormal communication
2. abnormal social development
3. ritualistic and stereotyped behavior and resistance to change.

Problems Associated with Autism

The following areas encompass the wide range of problems associated with autism within the above identified core areas of deficit:

Language Development

Abnormalities in the area of language development are often the first problem that parents identify. At the stage where normally developing children move from single words to simple phrases in their speech, the progress of an autistic child often stops, and previously used vocabulary will be lost. Among those children who do acquire spoken language, it tends to be highly unusual in the areas of tone,
pitch and rate. Echolalia is common and sometimes one sees delayed echolalia. Most children with autism do not use language to communicate socially. (Howlin, 1998)

Play and Imagination

The play seen in autistic children is often repetitive and non-social in nature. It is common to see these children spinning objects, lining up toys or objects in exact patterns, and fixating on one or two toys in particular for unusual periods of time. Any attempt to interrupt their activity can cause extreme frustration and distress in the autistic child. (Howlin, 1998)

Social Impairments

The core features of social difficulties seen in autistic children are “lack of reciprocity, impaired empathy, and a lack of joint attention—that is, failure to share their own enjoyment or activities with other people in normal ways.” (Howlin, 1989, p. 92)

Ritualistic and Stereotyped Interests or Behaviors

Unusual preoccupations with specific items are commonly seen in autistic children, for example, with trains, stop lights or flags. Compulsive behaviors such as excessive handwashing or turning the lights on and off are common.
Motor man nerisms such as spinning, hand flapping and rocking can be present, as well as fixations on certain foods, colors, shapes or textures. Many autistic children develop an interest in collecting large quantities of a specific item. Resistance to change in routine and environment can cause severe distress and anxiety in autistic children. (Aarons & Gittens, 1999; Howlin, 1998)

Early Literacy Development in Children

The environment that surrounds a child plays an important role in his early experiences with literacy. Brooks-McLane & Dowley-McNamee (1990) state that:

Young children stand the best chance of developing a good foundation for writing and reading if their learning about literacy is anchored in their relationships with caretakers, peers, and other community members, and if it is tied to contexts and activities that have personal meaning and value for them. (p. 144)

Because one of the hallmark symptoms of autism is the child’s difficulty relating to people and situations, his ability to absorb early literacy concepts from everyday exposure is limited. In the book Ladders to Literacy: A Kindergarten Activity Book, O’Connor, Notari-Syverson and Vadasz (1998) state that learning to become literate begins before formal reading instruction via a child’s natural surroundings. They identify the following three developmental pillars of literacy learning:
1. expressive and receptive language
2. concepts of print/environmental print
3. phonological awareness.

Autistic children need help in relating to the people and experiences that surround them before they can progress through these important developmental stages of learning. (Greenspan & Wieder, 1998)

**DIR Model of Therapy (Developmental, Individual-difference, Relationship-based model)**

Stanley Greenspan, MD (1998) said that:

Rather than being separate and subservient to thought, emotions seem to be responsible for our thoughts. Because emotions give direction to our actions and meaning to our experiences, they enable us to control our behavior, store and organize experiences, construct new experiences, and think. (p. 111)

Greenspan's DIR model of working with children with special needs believes that our functional emotional skills provide the basis for our intellectual sense of self, and for familiar skills such as turn taking, counting and reading.

Greenspan's approach centers around the concept of “floor-time,” which uses play to help autistic children move up the developmental ladder while encouraging emotional and intellectual growth. Floor time is used to create experiences at each level of development that build on his strengths and work on
his areas of difficulty. Greenspan and Weider (1998) state that there are six
developmental skills that lay the foundation for all learning and development:

1. the dual ability to take an interest in the sights, sounds and
   sensations of the world and to calm oneself down. (The ability to
   self-regulate)

2. the ability to engage in relationships with other people

3. the ability to engage in two way communication

4. the ability to create complex gestures, string together a series of
   actions into an elaborate and deliberate problem solving sequence

5. the ability to create ideas and to use words to indicate wishes and
   interests

6. the ability to build bridges between ideas and to make them reality
   based and logical.

Greenspan and Wieder called these "functional emotional skills," and state
that these skills are the basis for all advanced thinking, problem solving and
coping. They stipulate, "Cognitive potential cannot be explored until
interactive experiences are routine." (p. 8) It is from this premise that the
DIR approach was developed as an intervention strategy for children with
autism.
Music Therapy

Music therapy is an established health profession similar to occupational or physical therapy. Music therapists are college graduates who have earned a minimum of a bachelor’s degree from one of seventy approved music therapy programs. Those who pass the national certification examination become board certified. Music therapists work in preschools and schools, early intervention programs, hospitals and hospices, music schools, outpatient clinics, group homes or residential treatment centers, and in private practice. Music therapists use music to address physical, psychological, cognitive, behavioral, and social/emotional functioning. The relationship between the music therapist and the client is structured to create a positive environment to promote growth in any of the above areas. (American Music Therapy Association, 2002) There are many different types of music therapy, and each type can be tailored to meet the individual and different needs of each client.

Orff-Schulwerk Movement

In 1924, Carl Orff and Dorothy Gunther founded the Guntherschule in Munich, Germany, a school based on music, dance and rhythmic training. Orff was responsible for the musical portion of the curriculum. The Guntherschule did not survive World War II, closing due to political pressure and bombing
raids. In 1963 the Orff Institute was opened as a training center for what became known as "Orff-Schulwerk" all over the world. (Bitcon, 1976) Orff-Schulwerk revolves around the following principles:

1. success must be implicit in the session
2. the materials must be appropriate to the abilities of the individuals in the group
3. the material presented must be open ended
4. adaptability, flexibility, sensitivity, knowledge of disabilities and therapeutic needs, a sense of humor and a regard for personal dignity are all necessary components of persons working with Orff-Schulwerk in the clinical setting. (Bitcon, 1976)

Orff's philosophy was based on the belief that because children learn to speak before they learn to read or write, that they should have a "musical language" with which they are comfortable with before formally studying music. This is in line with the belief that children must be socially comfortable before they can master the world of print. (Bitcon, 1976, Greenspan & Wieder, 1998) According to Bitcon (1976), the Orff-Schulwerk Program is pre-intellectual, improvisational, intuitive, rhythmic, and a facilitator of expression.
GIM Music Program (Guided Imagery and Music)

Dr. Helen Bonny developed Guided Imagery and Music in the 1970’s. It is a “music-centered, transformational therapy, which uses classical music to stimulate and sustain a dynamic unfolding of inner experiences, in support of physical, psychological, and spiritual wholeness.” (Clarkson, 1998)

Creative Music Therapy

Nordoff and Robbins (1968, 1977) pioneered this improvisational music therapy technique with autistic children. This technique works through the creation of improvisational music that serves as a non-verbal means of communication between the therapist and the child. They have worked extensively with autistic children using vocal and instrumental improvisational techniques as well as familiar songs to provide a means of self-expression and to teach everyday tasks such as brushing their teeth, potty training and dressing. They reported that the use of Creative Music Therapy improved interpersonal relationships and decreased pathological behaviors in children with autism. Alvin and Warwick (1992) reported that improvisation was useful in facilitating interactions and developing relationships of trust and enjoyment between autistic children and their mothers.
MIT- Musical Interaction Approach

The goal of Musical Interaction Therapy is to “increase active social participation as indicated through social initiations and eye contact.” (Wimpory, Chadwick, & Nash, 1995, p.544) Wimpory, et al. (1995) explored the effect of this therapeutic approach on the social and symbolic development of a young autistic child over a two-year period. Twice weekly music therapy sessions involved such mother-child games as swinging, patting, tickling, vocalizing, action-rhymes and singing. The child’s lead was followed and she was treated as though she could communicate intentionally. They reported that the use of MIT was followed by improvements in the child’s use of social acknowledgement, eye contact, and interaction. A two-year follow up confirmed that these positive changes were sustained.

Music Therapy and Literacy

Music activities can help to foster early literacy development in many ways. As students listen to books on tape, many are set to music. As the children follow along in the book they are both hearing and seeing the words on paper. As they listen and sing along they begin to realize that the print contains meaning. “Their total body involvement in the song’s melody and movement serve to heighten their understanding and enjoyment of the text.” (Fisher &
McDonald, 2001, p. 107) Music also can contribute to students’ understanding of story sequence when a book is set to a rhythmic chant or rhyme. Phonics and phonemic awareness can be addressed when teachers integrate music into the curriculum. We often play with words in songs through rhyme, tempo, and repeated or altered lyrics. “What better way than music is there to provide young children a captivating entrance into the world of phonemes?” (Fisher & McDonald, 2001, p. 109) Gilles, Andre, Dye and Pfannenstiel (1998) point out that each time a student learns a new song he is introduced to new content and vocabulary. Music can serve to raise awareness and understanding of new vocabulary within meaningful content. Onset and rime can be worked on through songs containing repetition and rhyme. Many of these activities set to music can provide valuable background knowledge necessary for later literacy learning. (Fisher & McDonald, 2001; & Gilles, et al., 1998)

Music Therapy and Autism

Music therapy in the educational setting includes all musical engagement activities that have curricular or developmental learning goals. Music therapy in the special education setting works by using music to help the students gain non-musical knowledge as well as the skills necessary for educational success. (Bruscia, 1989) In developmental music therapy the therapist uses musical experiences and the relationships that develop to help clients attain delayed
developmental milestones. Music therapy addresses not only educational needs but also developmental growth in areas such as sensorimotor, cognitive, affective, and interpersonal. (Baker, 1982; Bitcon, 1976; Bruscia, 1989; & Clarkson, 1998) Music therapy functions as a related service under the Individuals with Disabilities Act, and serves to assist the child with special needs to benefit from special education. (Alley, as cited in Bruscia, 1989) When music therapy is prescribed as a related service, goals and objectives are documented on an Individual Education Plan (IEP). Music therapy has been found to stimulate attention and increase motivation to participate in the educational setting by adapting strategies to encourage participation in the least restrictive environment for a particular child. (American Music Therapy Association, 2002)
CHAPTER III

The Design of the Study

The purpose of this study was to review the literature dealing with the use of music therapy to enhance engagement, social, and early literacy skills in the autistic population, and to compare the results of this review with a case study of one five year old boy’s experience with music therapy. The researcher used a qualitative analysis of interviews with Daniel’s parents, special education teacher, and music therapist, and all progress notes and educational reports, and made statements about their observations about the following questions:

1. How has music therapy been used to facilitate social, speech and language skills with Daniel?

2. Has there been a progression in Daniel’s ability to engage in the world around him?
Methodology

Subject

Daniel is a five year, six month old boy diagnosed with Autism Spectrum Disorder. Daniel lives at home with his parents and two siblings. His parents report that he walked at 19 months, and although he had “a little babbling” did not use words to communicate. Due to his weak gross motor skills, lack of language development, as well as sensory defensiveness and hand flicking, his parents began to wonder if Daniel was autistic. At the age of two years, six months, a developmental evaluation confirmed a diagnosis of autism, and he began to attend a special education preschool program. This classroom consisted of eight students, one special education teacher, one speech and language teacher, and two teacher’s aides, as well as prescribed occupational therapy and speech therapy in his home setting. He began to receive music therapy at the age of three. When Daniel turned four his parents and therapist felt strongly that he would benefit from a more inclusive school setting, and he was placed in a half day integrated preschool program consisting of 18 children, half typically developing and half classified as needing special education support. This classroom consisted of a regular education teacher, a special education teacher, a speech and language
therapist, and a classroom assistant, as well as several one to one
paraprofessionals assigned to individual students, including Daniel. Daniel also
received occupational therapy, individual speech and language therapy, and music
therapy at school. In the afternoons, Daniel received home-based occupational,
speech and language therapy, SEIT (special education itinerant teacher) services
and paraprofessional services. Daniel’s family received consultation services
with a psychologist, utilizing the DIR (Developmental, Individual Difference,
Relationship-based) model of therapy. This model utilized Dr. Stanley
Greenspan’s Functional Stages of Emotional Development, and assesses
children’s skills at each of six levels of development, all of which are typically
mastered by children prior to the age of 48 months.

Procedures:

Materials: Educational reports, including IEP goals and objectives, music
therapy progress notes, interviews with Daniel’s parents, teachers and music
therapist, and videotapes of music therapy sessions.

Procedures: I interviewed Daniel’s parents, teachers, and music therapist. I
collected and organized videotaped music therapy sessions, as well as interviews,
reports and therapy session progress notes.
Analysis of Data

I used a qualitative analysis of the interviews with Daniel’s parents and music therapist, as well as all progress notes and reports, and made statements about their observations concerning the following questions:

1. How has music therapy been used to facilitate social, speech and language skills with Daniel?

2. Has there been a progression in Daniel’s ability to engage in the world around him?
CHAPTER IV

Analysis of the Data

The purpose of this study was to review the literature dealing with the use of music therapy to enhance engagement, social, and early literacy skills in the autistic population, and to compare the results of this review with a case study of one five year old boy’s experience with music therapy. The researcher used a qualitative analysis of interviews with Daniel’s parents, special education teacher, and music therapist, and all progress notes and educational reports, and made statements about their observations about the following questions:

1. How has music therapy been used to facilitate social, speech and language skills with Daniel?

2. Has there been a progression in Daniel’s ability to engage in the world around him?
Question 1: How has music therapy been used to facilitate social, speech and language skills in Daniel?

Daniel was originally referred for a music therapy evaluation at the request of his parents as part of the transition from his early intervention services to the 8:1:1 preschool program. His parents reported that Daniel responded to music in a way that had not been seen in other areas of his life, and were hopeful that music therapy services could enhance his educational program.

**Initial Music Therapy Evaluation- Age 2 years, 9 months**

The music therapy evaluation was carried out over four different meetings and observations, both within the classroom setting and in the music therapy room. Daniel's parents reported that he responded to musical interactions in the home setting, for example, by manipulating their hands to move according to the motions of favorite songs or finger plays such as “Wheels on the Bus” and “Itsy Bitsy Spider.” The music therapist who conducted the evaluation reported that although these familiar songs were attempted several times during the evaluation, Daniel did not participate in any way, and most often walked away from the evaluator. While he did strum the guitar for some time, this action took on a perseverative nature, with both hands strumming together over and over for an extended period of time. The evaluator reported no reaction to her singing,
halted phrases, musical cadences, or tempo changes. The recommendation from this initial music therapy evaluation was that Daniel did not demonstrate the appropriate criteria to qualify for music therapy services, and that he be reevaluated again in six months. Daniel’s parents responded to the school district in writing to voice their disappointment and frustration over the denial of music therapy services. They stated that they did not feel that Daniel was fairly tested due to the lack of a formal documented test that is provided consistently to all children being evaluated for music therapy services. They reiterated their strong desire for music therapy services for Daniel, stating:

Daniel has loved music since a young age. His family and relatives can attest to it. His teachers can attest to it. We have seen his eye contact improve, and his interactions with others improve. It has been a way of getting his attention and keeping it, a way of calming him, having him follow direction through song...all because of music! To not provide him the opportunity is heartbreaking!"

They requested that Daniel be given music therapy on a trial basis, two times a week for two months, and then he could be more fairly assessed during a second music therapy evaluation. In support of this request Daniel’s parents enclosed the following comments by Daniel’s teachers and therapists as quoted from his Preschool
Student Evaluation Summary Report:

Speech/Language Evaluator:

He enjoys Circle time and listens intently to the songs and finger plays. His eye contact has greatly improved. He is just beginning to imitate a couple of motor movements during songs and finger plays. He seems to imitate the “Wheels on the Bus” song by rolling his arms in a circle or approaching an adult and manipulating their arms to have them sing it. He does this with several songs as well. A Music Therapy evaluation is recommended for Daniel, as he appears to imitate and perform more when music is present.

Occupational Therapist:

Daniel is particularly fond of musical toys and demonstrates a good grasp of cause and effect when he used them. He enjoys songs and gets a sparkle in his eye when toddler songs are sung. Songs and music are a media that aid him in attending, making eye contact and shifting his gaze. There has been an increase in the number of times as well as the length of time that Daniel makes eye contact.

Special Education Teacher:

He enjoys and remains through a 15-20 minute circle time, and has begun to grab adult hands to move them through familiar, favorite finger plays.

Assistant Professor of Pediatrics (from the developmental center evaluation team):

I support continued occupational therapy services that would concur with music as a reinforcer and specific music therapy ought to be considered in his total program”.

Daniel’s parents concluded their letter by saying “Thank you for the opportunity for Daniel to receive a second music therapy evaluation. Music to
date has played an important role in Daniel’s life. We feel that an evaluation in a setting that is familiar and comfortable for Daniel will reduce distractions.”

Second Music Therapy Evaluation- Age 3 years, 0 months

In response to the letter written by Daniel’s parents, an independent music therapist conducted a second music therapy evaluation in his home with his mother present. The recommendation of that evaluator was that Daniel receive music therapy services 2x/30 minutes per week individually. In her evaluation report she stated:

Daniel is motivated and activated by listening to, and by making music. He demonstrates the ability to attend, interact, and be stimulated and motivated while engaged in the musical environment. Daniel demonstrates the ability to engage in a wide variety of music activities which stimulate his interest while simultaneously addressing overall delays.

The evaluator noted that having his mother present afforded Daniel with the security needed to feel comfortable exploring instruments, singing, and active movement within the session with a great deal more success than when alone with the therapist. For this reason, she recommended that the initial work with Daniel would need to center first and foremost in establishing a therapeutic working alliance. This would foster the trust and security that Daniel needed to get the maximum benefits from the music therapy. The evaluator stated, “The pairing of auditory, tactile, and kinesthetic experience is essential in facilitation
of language development, as well as providing motivation for cognitive and motor development."

It was in response to the second music therapy evaluation that Daniel was approved for music therapy services in the home setting, commencing shortly after his third birthday. The focus goals for this therapy were to:

1. Increase expressive language skills.
2. Increase receptive language skills.
3. Increase social and emotional skills.

Music Therapy Summary- Age 3 years, 10 months

This report summarized the music therapy that Daniel received since it began 10 months prior. The therapist reported using an approach based on Creative Music Therapy, an improvisational approach to individual music therapy. The therapist described this approach as “active, rather than receptive, with the overall goals of developing expressive freedom, communication, and interresponsiveness.” The following narrative was taken from Daniel’s Music Therapy Summary after approximately 10 months of therapy twice weekly for 30 minutes:

Daniel has made steady gains throughout the school year. The most noticeable gains have been his increased participation in various musical activities, imitation skills, playing a variety of rhythm instruments, and interaction with the therapist. Daniel demonstrates the ability to remain involved in varying activities
over the course of a 30-minute session. Through facial expressions and vocal sounds he appears to enjoy music and the act of making music. Daniel readily explores instruments and is eager to produce sounds. When he first began in music therapy, grasping mallets and playing drums were difficult tasks for Daniel to complete. He now plays with meaning and purpose, holding a steady beat and imitating simple rhythm patterns and sequences. His strength and grasp have improved considerably.

Daniel’s expressive language continues to be severely delayed. His vocalizations tend to be limited to expressing displeasure. Very recently however, Daniel has begun to babble with more consonant-vowel sounds than have been heard in the past. Daniel produces some tonal and exclamatory sounds in response to music and singing. This is demonstrated by improvisational instrument playing. The involvement in the experience of music activates the inherent urge for vocal expression; the music’s rhythmic structure both evokes and supports the form of Daniel’s vocalization. All attempts at vocal production should continue to be supported.

Daniel actively participates in greeting and goodbye songs. He imitates motions to both, and has increased the number of songs he can actively participate in which contain movement sequences. Daniel has also increased the amount of time he will remain engaged with the therapist in a play activity. Earlier, Daniel was content to use the music in a solitary fashion. He will now engage with the therapist in various activities. He uses frequent eye contact for affirmation of his skills, and to both lead and follow in various rhythm games. The singing of Daniel’s name, along with improvised lyrics about his activity, induces changes of behavior. He established eye contact, smiles, moves rhythmically, and plays instruments actively. Out of the resulting relationship established with the therapist, Daniel can move or be led into outwardly active experiences.

Daniel is motivated and activated by listening to and making music. He shows enjoyment, laughing and smiling while engaged in music activities that address overall delays. Daniel demonstrates a very strong ability to relate with another person through music. His ability to connect at this level will be a strong building block for Daniel to progress in his development.
Daniel's music therapist concluded her summary with the recommendation that he continue to receive music therapy services individually two times a week for 30 minutes a session.

**Videotaped Music Therapy Sessions:**

A review of videotapes of Daniel's sessions during the first year of music therapy show that the music therapist was focusing most of her lessons on developing a therapeutic working relationship with him using familiar songs taken from his home setting. Songs such as “Wheels on the Bus,” and “Mr. Sun” were used to engage Daniel's attention and interest. The therapist used a variety of musical instruments during these songs, such as drums and rhythm sticks to teach Daniel accompanying movements to the songs. For example, rhythm sticks were used during “Wheels on the Bus” to create the motions in the song of open and shut, up and down, and round and round. The therapist modeled the motion while sitting across from Daniel. At first, Daniel had limited eye contact and poor attention, at times getting up from his seat to play in the corner. Eventually he did return to his seat and copy some of her motions with his rhythm sticks, sometimes humming quietly along as she sang the song. During these early sessions, Daniel's eye contact and attention appeared to increase as the session progressed and as the therapist persisted with the activity a number of
times. These frequent repetitions appeared to be needed to assist in capturing Daniel’s attention. Daniel seemed to become more relaxed and to calm down as each session progressed and as he became more familiar with the activities. As this happened his eye contact and attention to the therapist increased. Although his vocalizations were infrequent and difficult to understand, some humming was heard, and as the therapy progressed Daniel attempted to use one to two word utterances. An example of this was when the therapist sang the song “Mr. Sun,” she purposefully left out the last word for Daniel to fill in. When she sang “Oh Mr. Sun, Sun, Mr. Golden Sun, please shine down on _______,” Daniel filled in the word by singing “me.” While his vocal responses to the music was typically quite limited, it appeared that he was following along as the therapist sang the songs, eventually imitating her hand motions on a routine basis.

**Integrated Preschool Program - Age 4 years, 2 months**

Approximately four months after the above referenced summary was written, Daniel was transferred out of his 8:1:1 special education classroom placement and began attending a fully integrated preschool program 5 days a week for half days. The new classroom consisted of 18 students, half of them considered to be typically developing, and half who were classified with a variety of special needs.
The staffing of this classroom consisted of a special education teacher, a regular education teacher, a speech and language therapist, as well as various 1:1 aides for some of the special needs children including Daniel. Daniel received occupational, speech/language, and music therapy in this school setting, both on a pull out as well as a push in basis. In addition to the continuation of his twice-weekly individual music therapy, he participated in the classroom group music sessions once a week. In the afternoons, he received home based speech, special education, and paraprofessional services, as well as consultation services for the family with a psychologist.

**Annual Review- Age 4 years, 9 months**

By the time Daniel’s annual review was prepared, he had been in his new integrated preschool placement for eight months, and his parents were encouraged by the progress they saw in the area of social engagement. They reported that socially, Daniel enjoyed being around people, and he would sometimes greet guests with a “hi” and take their coats. They were pleased to report that his relationship with his sisters was growing, and he enjoyed playing chasing games and dancing with them. His teachers and therapists noted similar growth in peer relationships in the school setting, as evidenced in his annual review reports. The psychologist reported that Daniel made progress in all goal areas, although auditory processing and language comprehension were still areas of concern. In her report for his annual review she states:
When we first started treatment, Daniel exhibited very little affect or change in facial expression. He rarely smiled. He had very poor imitation skills, rarely initiated any interaction and was avoidant of interaction. He demonstrated very poor memory and appeared very limited cognitively. He could follow classroom routine with the use of a picture schedule, and was affectionate with his parents. He primarily ignored his sisters. He was non-verbal and primarily made a single e-e-e-e- sound. He did not gesture or point.

Currently, he is speaking in single words and very occasionally two word combinations. His articulation is improving, but continues as a significant issue. He spontaneously initiates play with his sisters. He exhibits much more affect and facial expression, and has become increasingly able to use gestures. He has good imitation skills and good visual memory. His cognitive skills appear remarkably different from 1-½ years ago.

Daniel exhibits very significant auditory processing and language comprehension difficulties. He understands very simple short commands and simple questions with visual support. He can use words to ask for desires, sings songs, counts, etc. He uses a few single words, with a recent significant increase in the number of spontaneous words. He imitates most words on request and points to and labels pictures in books. There has been a recent increase in verbalization/jargon and an increase in echolalia, both meaningful and non-meaningful.

Initially, Daniel was very under-reactive, with low energy level, low tone and was very withdrawn. He now shows mixed reactivity, with much more sensitivity to sensory input. He can be very overwhelmed by noise or intrusion into his body space.

Daniel shows a relative strength in affect cuing and gestures. Uses some sign language, points, stomps in anger, and will look right at you and cue you facially with what he wants a puppet to do. He often pretend cries and looks for a reaction. He responds to gestures with intentional gestures. Daniel imitates others well. He responds very well to affective attunement when distressed. He often signs “happy” when he thinks an adult is upset to get them to smile.”
Both the special education teacher in the classroom and in the home setting reported that Daniel had made progress in his goal areas of increasing social/emotional, speech and language skills in the classroom.

In the classroom teacher’s annual review narrative she reports that:

Over the past school year, Daniel has made a great deal of progress. He began the school year with full dependence on a picture schedule and his 1:1 aide to help clarify classroom expectations or help him move through one activity and onto the next. Any type of unexpected change in his routine would upset Daniel, causing him to collapse to the ground and cry in frustration.

He has improved his ability to attend to stories and he actively takes part in most circles. He is communicating in 2-4 word utterances and is expanding his ability to string more words together to communicate his thoughts. Daniel shows his teachers and peers that he is very proud of himself when the receiver understands the message he is trying to relay.

Daniel participates in all music movement activities and loves to act out hand motions in songs, singing along as well.

Daniel has become very engaged over this school year when working on his pre-reading and pre-writing skills. Daniel thrives by watching his peers. Observational learning is a necessity for Daniel’s success in education.

The special education itinerate teacher who worked with Daniel in his home setting reported that:

Daniel's attending skills during DIR lessons at home and at school have lengthened over the past year. He currently stays engaged with therapists for longer periods of time.

Daniel has extremely strong visual skills and is beginning to recognize and name letters and numbers. He enjoys books and seems very attentive as he looks for details on each page. He is now able to label quite a few different items on each page.
The speech/language therapist who worked with Daniel in the school setting addressed the specific areas of receptive, expressive and pragmatic language skills in her report:

**Receptive language**- Daniel could identify objects by touch (doll, tree, shoe, cup, spoon, car), identify all body parts, follow simple one step directions, and has begun to understand the concept of taking turns.

**Expressive language**- Strengths include Daniel’s use of a combination of sounds for names and objects, to greet people, to label common objects and imitate words with close approximations.

**Pragmatic language**- Daniel has made significant gains with his pragmatic skills. He plays with toys appropriately and is able to immerse himself in appropriate pretend play with adults. Although he has not yet shown interest in cooperative play with peers, he understands the concept of turn taking and is able to tolerate peers in his proximity. During play Daniel often seeks out adults for assistance or reciprocal play. Daniel has the ability to greet familiar adults, but has not shown this on a consistent basis. When requesting needs and wants from an adult, Daniel often makes fleeting eye contact. His eye contact is more engaging during play when it is on his own terms. He continues to work on initiating and terminating conversation. He has made significant gains with attending skills.”

The speech/language therapy that Daniel received in his home setting was increased from 3x60 to 5x60 based on the severity of Daniels communication needs 6 months prior to this annual review report by the home based speech/language therapist:

At the onset of therapy Daniel communicated his wants and needs primarily through non-verbal means including independently reaching for items, facial expressions/body language, and leading a partner by the hand to desired items. Daniel has made significant gains in all areas of communication. He is able to use single words
to respond to the prompt “What do you want?” and has significantly increased his use of spontaneous verbalizations with accompanying gestures. Additionally his ability to indicate preference when given a choice between two items is improving, along with emerging skills in response to yes/no questions. Recently he has begun to combine 2-3 word utterances during play with increased frequency. As a result of the progress Daniel has made in his ability to communicate his wants through the use of emerging expressive skills, the augmentative picture communication system is no longer considered necessary in the home environment.

Daniel has made significant gains in relying more on vocalizations and verbal attempts to express himself. Over the past several months, Daniels vocabulary has shown significant growth, with better retention and use of those words in his repertoire. He is beginning to use language to direct person’s actions and is beginning to use names to personalize those directives. Additionally Daniel utilizes varied intonation patterns to reflect his emotional state and uses “sound effects” (such as roaring like a lion when angry) directed at a communication partner as a mode of expression. Accompanying body language and gesturing as well as strong intonation patterns are used to emphasize his message. Appropriate response to yes/no questions is emerging. When motivated to do so Daniel displays strong verbal imitation skills. This is particularly noted in his ability to self-correct to make his utterance more intelligible when provided with a model.

In addition to the progress noted in receptive and expressive skills over the past 6 months, Daniel also continues to make gains in pragmatic language skills. In the beginning of the school year, he often had difficulty adjusting to the demands of therapy, yelling “goodbye” while fleeing from the therapy setting. Daniel now anticipates the arrival of therapists while attending to the driveway through a window or front door. Instead of fleeing from the room at the onset of therapy, Daniel now greets this therapist at the door and assists in carrying the toy bag. Whereas Daniel used to simply toss aside or become frustrated with a “broken” or stuck” toy, he will now hand it to a partner for assistance and is able to request, “help” with a verbal prompt. He has recently begun to use family and therapist names with the prompt “Who is that?” or “Who am I?” This skill is carrying over to spontaneous use of names as
noted during play. Overall, Daniel has made remarkable gains in all areas of communication in the past six months.

Daniel's music therapist also reported positive gains in his social skills, as well as his receptive and expressive language skills:

Over the past year Daniel has made considerable progress during music therapy sessions. Last year at this time, Daniel had limited expressive language, mainly vocal sounds to express pleasure and displeasure. Daniel now has a large repertoire of music and songs that he is familiar with and can sing through, which has increased his expressive language skills. Daniel learns the lyrics to songs very quickly and retains this information over time. He sings songs that he has learned at home, in his classroom, and in the music therapy setting. At times he will sing through songs with a loud, confident singing voice. For a period of time, Daniel was using single word utterances, however at the same time he could sing entire songs. Daniel's expressive language is not 2-3 word utterances and mixed jargon.

When singing, Daniel will use word approximations to keep the rhythm, tempo and melody of the song flowing. When music and singing activities are involved, whether it is composed music, instrumental activities, songs about specific topics or songs for learning, Daniel remains involved, interested, less frustrated, and less withdrawn. Because of his ability to learn and sing these songs, he has improved his ability to spontaneously interact and relate with this therapist, expressing his likes and dislikes and expanding himself expressively. Daniel is always receptive to any singing activity and will participate through the completion of the activity. He is most attentive during sessions when a song is involved. It is very clear that this is a motivating, engaging and reinforcing method, which allows him to work to his potential.

Videotapes of Music Therapy Sessions:

The review of the videotapes of several music therapy sessions during this time period support the reports from Daniels teachers and therapists that music
therapy helped Daniel to form social relationships while addressing speech and language goals. As the therapy progressed, higher-level songs were used to introduce new concepts and vocabulary. An example of this was the use of the song “Bear Hunt,” which introduced and reinforced such concepts as open/close, over/under/through, up/down, top/bottom, in/out, across, running, climbing, and rowing. Not only was Daniel fully attentive throughout this lengthy song, he had good eye contact and participated both in singing the song with the therapist, as well as using various hand motions to depict the actions in this song.

During another session, Daniel was able to follow along in the book as the audiotape of the book The Napping House was played. He seemed to enjoy listening to this book on tape, rocking back and forth to the music while paying very close attention to the story.

At one point the therapist played the song “Twinkle, Twinkle, Little Star,” and Daniel sang along with her, approximating most of the words and strumming along with her on the guitar. He seemed to be intrigued with the sounds that he could produce as he strummed the guitar strings, and at the end of the song he proudly stood up and said “Ta-da!,” as he watched for the reaction of his therapist.

During another session, the song “Take Me Out to the Ball Game” was sang, as Daniel and the therapist batted a balloon back and forth with the rhythm sticks as they sang to the music. Although Daniel’s articulation was difficult to
understand, his approximations of the words in this song were meaningful and his attention and eye contact was much improved from the previous videotapes.

The music therapist also used picture cards to introduce and increase Daniel's vocabulary, for example, in the song "Old MacDonald." The therapist sang the line "...and on his farm he had a _______," pointed to a picture of an animal, and had Daniel fill in the missing animal by naming the picture. He especially appeared to enjoy this activity using a microphone to sing his answer into. At times he would gently bang the head of the microphone on the table to the beat of the music.

The therapy sessions always ended with a familiar goodbye song, which had accompanying hand motions. This song helped Daniel to make the transition out of the music therapy session and back into the classroom with minimal upset, although he always appeared sad that the session had come to an end.

Current Information:

The annual review for this past school year was not yet finalized at the time of this writing. Current test results, educational and therapy reports were in progress and not available.

Videotaped Music Therapy Sessions-Current School Year:

A review of videotaped music therapy sessions from the current school year was completed. There have been many changes in Daniel’s performance in the
past year within his music therapy sessions. While most previous sessions were
done with Daniel and his therapist alone, she has begun to introduce another
child into the sessions with him. This is in response to his increased ability to
tolerate the presence of another child into his interactions, as well as his
increased success with his use of expressive language skills.

During one session, Daniel and another boy Mike were given free reign to
explore the various instruments around the room together. The therapist
eventually had them play a game using the slide whistles to make high and low,
or “up” and “down” sounds. One of the boys would make the sounds, and the
therapist would lift the other child either up or down depending on the sound
made. Daniel appeared to love this game, and was able to “use his words” to tell
the therapist to lift him “up” or “down.” When the therapist playfully fell down,
he exclaimed “Hey-you stand up!” or “Up, up, up!” The therapist took a turn
playing the whistle, and had the boys lift the baby dolls either up or down to the
pitch of whistle, which Daniel did gleefully, laughing the entire time. At one
point Mike wandered away from the activity, and Daniel ran up to him and
yelled “Come on!” When the therapist fell to the floor and told Daniel that she
was too tired to play, he commanded her to “get up—stay up!” He also
periodically went up to the video camera lens and shouted “Boo! “ into it loudly,
laughing at himself. The boys then had a little marching parade using the whistle
and bongo drums, marching to the beat that they were making together. The next
thing that Daniel wanted to do was to play the electric keyboard, but it was up on a high shelf, so he dragged a chair over and tried to get it himself. After he realized that it was still out of reach, he pulled on the therapist’s arm and said “Help me—Help me get piano,” which she did. He jumped up and down, and said “Thank you, thank you!” He began to play the keyboard, and when Mike tried to play it with him, he put on a kitty cat mask and tried to scare him away, yelling “Meow, Meow” loudly in his face. Once again Mike tried to sit at the keyboard with him, and after he couldn’t scare him away as he had before, he told Mike “Mine, mine—you play the whistle!” Mike went and played the whistle, and Daniel played the keyboard, and when he finished his song, stood up, bowed a little and said “Thank you, thank you” to his “audience.” Although Daniel had considerable difficulty taking turns with Mike at the keyboard, he did use his words to express his feelings to Mike, along with finger pointing and stomping his feet. The therapist eventually prompted Daniel to share the keyboard with a lion puppet, but he remained quite possessive of it for the rest of the session.

During another session, the song “Hickory, Dickory, Dock” was used to facilitate the use of more new vocabulary, as well as counting skills. Daniel loved this song, singing it several times using puppets to act the action out. His eye contact, attention to the therapist, and engagement in this session was much improved over previously seen sessions.
The above gathered data give strong evidence in support of the positive outcomes as a result of using music therapy to enhance Daniel's social, speech and language skills. When integrated into both his school and his home-based programs music therapy had a positive impact on Daniel in all goal areas.

Question 2: Has there been a progression in Daniel's ability to engage in the world around him?

After looking at the music therapy session videotapes, educational reports and interviews with Daniel's parents, teachers and therapists, it can be concluded that there has been a significant progression in Daniel's ability to engage in the world around him.

When Daniel first made the transition from home-based services to a school setting, he had very limited engagement with others. It was reported that he had low tone and energy levels, and was under reactive and very withdrawn. He rarely initiated interaction, avoided others attempts at interaction, and evidenced little affect or change in facial expressions. He used a picture schedule to move through classroom routines, and was described as non-verbal, with no gestures. Although he was affectionate with his parents, he generally ignored his sisters.

At the time of his first annual review, it was reported that Daniel used some babbling, with CV sounds as well as some tonal and exclamatory sounds in
response to music. He did have some vocal expression, although it was limited to expressing displeasure. It was reported that he participated in both hello and goodbye songs during music therapy, and that his engagement was increasing during play activities with his therapist. He sometimes fled from his therapist at the beginning of his sessions, and at times still avoided interaction with others. Although he engaged in appropriate pretend play with adults most of the time, this was not yet the case with peers.

Shortly after this annual review, he was moved from his special education class and placed into an inclusive preschool setting, with continuing services in the afternoons at home. At his next annual review eight months later, his parents were encouraged by the increase that they saw in Daniel's social engagement, as well as by their view that his relationship with his sisters was growing. He no longer needed to use his picture schedule at school to move through the routine, and was able to tolerate longer periods of engagement with others. He was using gestures to communicate, frequently using single words, and occasionally using two to three word utterances to express himself. His articulation was slowly improving and he was becoming more understandable. He no longer fled from adults, but would actually anticipate and greet familiar people at the door, saying “Hi,” and sometimes taking their coat. He was showing good imitation skills and using his words to ask for desires. It was reported that his vocabulary had increased significantly, as well as his ability to count and actively take part in
most classroom activities. His teacher reported that he thrived by watching peers in the classroom, and was calling people by their name at times. His ability to answer yes/no questions was improving, and his ability to attend to the task at hand was increasing.

The music therapist is currently working on expanding on Daniel's use of expressive language, as well as generalizing the social interactions into activities outside the therapy sessions.

**Summary**

In summary, music therapy has had a positive impact on the facilitation of social, speech and language skills in Daniel. The use of music has helped to engage Daniel and sustain his interest in the world around him. By working closely with Daniel's parents and teachers, his music therapist has been able to introduce and incorporate new concepts and vocabulary in a non-threatening manner within the safety of their sessions. The ability to engage in the world around him has opened the doors to improved social, speech and language skills, and has set up a solid foundation for future educational goal attainment.
CHAPTER V

Conclusions

The purpose of this study was to review the literature dealing with the use of music therapy to enhance engagement, social, and early literacy skills in the autistic population, and to compare the results of this review with a case study of one five year old boy’s experience with music therapy.

Limitations

While music therapy has played an important role in Daniel’s progress, it is only one piece of his very involved therapy puzzle. The premise of his treatment program centers on a team concept, involving special educators, speech and language therapists, occupational therapists, a DIR psychologist and 1:1 therapy aides, music therapy, and his very devoted and involved parents and extended family. The above people have worked very hard to synchronize their focus and to work on similar goals and objectives through their various specialties. There is no way to get an absolute measurement of how much of his progress can be
directly attributed to his involvement in music therapy. Because this has been a strong team effort, when we look at what has influenced Daniel’s growth we must look at all aspects of his program. Because Daniel has received such extensive intervention services both at home and at school, an isolated study of the impact that music therapy has made on his speech, language and social goals is not possible.

**Classroom Implications**

Autistic children do not grow up in isolation. They must be helped to tolerate and engage in the world around them. It is with this in mind that the concept of inclusive classrooms must be the standard of care for this population whenever possible. When an autistic child is placed in an inclusive classroom setting, it is imperative that the teacher be familiar with all of the therapy opportunities available to facilitate maximum educational progress. While most educators are familiar with speech and language, occupational and physical therapies, modalities involving the arts are often overlooked or dismissed as a waste of valuable instructional time. In their article “The intersection between music and early literacy instruction: Listening to literacy” (2001) Fisher and McDonald are especially enthusiastic about group music, saying, “Within group musical activity, children learn as they read, write, comprehend and express oral
language within the highly active and engaging contexts that music making provides.” (p.106)

It is up to the teachers of children with disabilities to educate themselves and utilize whatever treatment modality necessary to bring about positive and lasting educational progress.

**Implications for Future Research**

There is a good deal of literature on music therapy available, although more is needed in the area of music therapy and early literacy skills with children with special needs. A valuable area of study would be to analyze teacher perceptions about what music therapy is, and how it can be used to enhance learning.

Another area of much needed future research is in the use of music therapy to help children with learning disabilities progress educationally.

**Summary**

In conclusion, this study looked at the important contributions that music therapy had in the life of Daniel, one five-year-old boy with autism. It illustrated the many ways that music therapy was used to enhance the social, speech and language skills that Daniel needed to better engage with the world around him.

I have witnessed people of all ages and walks of life transcending anxiety, grief and frustration through music. No matter how disabled the participants appear, music seems to soothe their souls and alleviate their isolation. It is this capacity that music has for breaking down barriers between human beings that motivates me as a music therapist.

It is my hope that music will continue to enhance the quality of Daniel's life, and that educators of children with special needs will come to appreciate and respect the impact that music therapy can have in the lives of the children that they teach.
References


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