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Music of the Mind: An Examination of Music as a Communication Conduit for Autistic Children in an Educational Atmosphere

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MUSIC OF THE MIND: AN EXAMINATION OF MUSIC AS A COMMUNICATION CONDUIT FOR AUTISTIC CHILDREN IN AN EDUCATIONAL ATMOSPHERE

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Abstract

Topics covered in this investigation are autism, music therapy, and education. Music has a unique way to communicate and touch people like no other medium. It knows no racial, ethnic, or social boundaries and can be used for various therapeutic reasons, such as autism. This study investigates whether music is an effective form of communication for autistic children in and educational environment. Books, journal articles and websites related to these topics were used as sources in this research project. In addition, the author conducted a survey to receive a better idea of how the public views the affect music has on communication. The objective of the survey was to obtain information with regard to the themes of music and education. At the end of this research project, the author has learned that music is healing. It is a raw expression of sentiment. Music is cathartic in its structure and is something that we are all touched by. It is a universal language that finds a way to touch each person in a unique way and is boundless in its meaning.

For Mom ...

Who has loved, supported and sacrificed so much to ensure that her children received the best education. Thank you!

To Dr. Lombardi ...

Thank you for your undivided attention, inspiration and guidance.

"If music be the food of love, play on."
- William Shakespeare, *Twelfth Night*

"Music is the best way to spend time."
- Anon

"Music is enough for a lifetime, but a lifetime is not enough for music."
- Sergei Rachmaninov

TABLE OF CONTENTS

Chapter I

INTRODUCTION

Ever since the author was a child, music has been a huge part of her life. While growing up, she has studied several instruments, including piano and voice. She would read anything on music history that she could get her hands on. The author has more CDs than she has space. The running family joke was they wished she knew her Physics and Calculus work just as well as she knew the lyrics to her new favorite song. There was no doubt in anyone's mind that when she was older; the author was going to work in the field of music.

During high school, the author used to baby-sit for her cousin. Over the years she watched him, she noticed that he would not look you in the eye when you spoke to him. The author also noticed that he did not talk as much as other children his age. In addition, he often played by himself. Sometimes he would have screaming fits and would not go to sleep. The only way the author could calm him down was if she sang or played music for him. Whenever he was angry he would beat a toy drum to communicate that he was upset. If he were happy, he would play a plastic flute-like instrument and dance around. His mother had noticed the same things as the author and took him to various doctors because his behavior was not improving.

It was first believed that the author's cousin was autistic. However, after a battery of tests, he did not meet all the required characteristics needed for a diagnosis of autism. Therefore, he was diagnosed as having a pervasive developmental disorder – not

otherwise specified (PDD – NOS). It was the author's experience with her cousin that made her realize that music could be used for more than just entertainment.

> As far back as the 6th century BC, Pythagoras believed that music and the right food could cleanse the soul and body. Later, in Christian Europe, the church used medicine and music as a means of therapy when they chanted and prayed over the sick. Moreover, primitive people throughout the world have used music and dancing in their healing for thousands of years. In fact, that vigorous tribal dancing to music was very likely beneficial in a number of ways. Besides helping illnesses, it provided valuable exercise, inducing mental and physical relaxation, and bringing the participants together into a closer relationship.
>
> (http://pa.essortment.com/whatismusicth_rezp.htlm)

Music has a unique way to communicate and touch people like no other medium. It knows no racial, ethnic or social boundaries and can be used for various therapeutic reasons, such as treating autism.

Autism, first described by Dr. Leo Kanner in 1943, affects as many as 1 in 500 individuals. According to the Autism Society, it is four times more prevalent in boys than in girls. (http://www.autism-socitey.org) "Children with autism typically have difficulties in verbal and non-verbal communication, social interactions, and leisure or play activities. The disorder makes it hard for them to communicate with others and relate to the outside world." (www.centerformusictherapy.com) The Center of Music

Therapy states, music "influences human behavior by affecting the brain and subsequently other bodily structures in ways that are observable, identifiable, measurable and predictable, thereby providing the necessary foundation for therapeutic applications." (www.centerformusictherapy.com)

This study will focus on how therapists and teachers use music in an effort to help autistic children express themselves. For the most part, this study will concentrate on how music is used as a form of communication in an educational environment.

Research Question

Is music an effective form of communication for autistic children in an educational environment? This study will delve into how music therapy creates an environment advantageous for autistic children to learn and communicate.

Subsidiary Questions

In addition to looking at music as a communication vehicle for autistic children, this study will field the following questions in order to seize a better understanding of the topic at hand:

#1. What causes autism?

#2. What is the overall aim of music therapy?

#3. What are characteristics of an autistic child?

#4. What are some examples of how music is used as a teaching tool?

#5. Who discovered autism?

#6. Who developed music therapy?

#7. What is the difference between music therapy and music education?

Purpose of the Study

The purpose of this study is to define music therapy and autism. What causes autism? How is autism diagnosed? Who developed music therapy? What are the overall aims of music therapy? What is the difference between music therapy and music education?

Another tenet of this study is to evaluate how teachers and therapists use music as a way to communicate. What are the nine therapeutic characteristics of music? How is music used to communicate in an educational setting? What are some examples?

The last tenet the author will address is to validate that music can be used to foster a comfortable environment that autistic children can feel free to communicate and learn. How does music motivate an autistic child to release themselves from their shells?

Objectives

The author will focus on the following three objectives during this study:

- To discuss the background, history and theory of music therapy and autism.
- To discuss the difference between music therapy and music education.
- To exhibit how and why music is used as a communication vehicle for autistic children.

Definition of Terms

#1. Amygdala (amygdaloid nucleus): "The Amygdala, which means "almond-shaped", controls our aggression and emotions. Many autistic individuals are aggressive towards themselves or others, or conversely, extremely passive. Furthermore, autistic children and adults often appear emotionless or 'flat' (even though they obviously have emotions)." (www.autism.org)

#2. Asperger's Disorder: "Asperger's Disorder is characterized by impairments in social interactions and the presence of restricted interests and activities, with no clinically significant general delay in language, and testing in the range of average to above average intelligence." (www.autism-society.org)

#3. Autism: "Autism comes from a Greek word meaning self-absorbed and self-centered." (http://dubinserver.colorado.edu/prj/eir/p01.html) "It is characterized by impairments in social interaction, communication and imaginative play prior to the age of three years where there are stereotyped behaviors, interests and activities." (http://www.autisim-society.org)

#4. Cerebellum: "The cerebellum controls balance and motor skills, including eye movements." (www.tbts.org/anatomy.htm)

#5. Childhood Disintegrative Disorder: "Childhood Disintegrative Disorder is characterized by normal development for at least the first two years and significant loss of previously acquired skills." (www.autism-society.org)

#6. Down Syndrome: Down Syndrome is "a common chromosome disorder due to an extra chromosome number 21 (trisomy 21). Mental retardation, a characteristic face, and multiple malformations characterize it. Down syndrome is a relatively common

birth defect. The chromosome abnormality affects both the physical and intellectual development of the individual. It is associated with a major risk for heart malformations, a lesser risk of duodenal atresia (part of the small intestines is not developed), and a minor but still significant risk of acute leukemia." (www.medterms.com)

#7. Epilepsy (seizure disorder): "When nerve cells in the brain fire electrical impulses at a rate of up to four times higher than normal, this causes a sort of electrical storm in the brain, known as a seizure. A pattern of repeated seizures is referred to as epilepsy. Known causes include head injuries, brain tumors, lead poisoning, mal-development of the brain, genetic and infectious illnesses. But in fully half of the cases, no cause can be found. Medication controls seizures for the majority of patients." (www.medterms.com)

#8. Fornix: "An arching fibrous band in the brain connecting the two lobes of the cerebrum. Each fornix – there are two – in the brain is an arched tract of nerves. 'Fornix' is the Latin word for 'vault' or 'arch'." (www.medterms.com)

#9. Fragile X Syndrome: "Fragile X syndrome, called Marin-Bell syndrome, is a genetic disorder and is the most common form of inherited mental retardation. It is a sex-linked genetic abnormality in which a mother is a carrier, transmitting the disorder to her sons. It affects approximately 1 in every 1,000 to 2,000 male individuals and the female carrier frequency may be substantially higher. Males afflicted with this syndrome typically have a moderate to severe form of intellectual handicap. Females may, also, be affected but generally have a mild form of impairment." (www.autism.org)

#10. Hippocampus: The hippocampus, shaped like a "sea horse", appears to be primarily responsible for learning and memory. Damage or removal of the hippocampus will lead to an inability to store new information into memory." (www.autism.org)

#11. HOXA1 Gene: "HOXA1 is vital to early embryo because this gene turns on or off other genes. Its specific role is in brain development. Recent research indicates that autistic patients carried a mutated version of the HOXA1 gene." (http://special.northernlight.com/autism/researchers_gene.htm)

#12. Individual Educational Plan (IEP): IEP is the educational roadmap for the young person with a disability. Good IEP goals are driven by the child's needs and are mutually agreed on by the family and school. They support activities that are valued and typical of others who are the same age as the child. IEP, also, supports school and community membership and facilitates movement toward the long-range goals set by the child and her family. (www.hyperlexia.org/iep_roadmap.html)

#13. Landau – Kleffner Syndrome: "Landau-Kleffner Syndrome is manifested as a form of aphasia, (loss of language), which usually develops between 3 and 7 years. It is twice as common in males than females. Initially, these individuals have a healthy, problem-free development with normal speech and vocabulary. These individuals first lose their ability to comprehend (i.e., receptive speech) and then their ability to speak (i.e., expressive speech). These changes can occur gradually or suddenly." (www.autism.org)

#14. Limbic System: This system includes the hippocampus and amygdala. It is important in the regulation of motor activity and emotions. "Over the past 10 years, high tech research methods have begun to reveal neurological damage in some autistic

individuals. One of the most important findings indicates specific damage in the limbic system, particularly in the amygdala and hippocampus." (www.autism.org)

#15. Mamillary bodies: "Mamillary bodies act as a rely station, transmitting information to and from the fornix and thalamus." (www.phymac.med.wayne.edu/facutlyprofile/penney/CQHQ/coglossary1.htm)

#16. Mental Retardation: Mental retardation is the "sub-average intellectual ability that is equivalent to or less than an IQ of 70". It is "present from birth or infancy, and is manifested especially by abnormal development, by learning difficulties, and by problems in social adjustment." (www.m-w.com)

#17. Music Therapy: "Music therapy is the enhancement of human capabilities through the planned use of music influences on brain functioning." (http://www.centerformusictherapy.com)

#18. Pervasive Developmental Disorder (PDD): "PDD is a broad heading that several related disorders are grouped under. Some disorders that fall under PDD are autism, Asperger's Disorder, Rett's Disorder and Childhood Disintegrative Disorder." (www.autism-society.org)

#19. Pervasive Developmental Disorder - Not Otherwise Specified (PDD - NOS): "PDD - NOS is commonly referred to as atypical autism. Diagnosis may be made when a child does not meet the criteria for a specific diagnosis, but there is a severe and pervasive impairment in specified behaviors." (www.autism-society.org)

#20. Rett's Disorder: "Rett's Disorder is a progressive disorder, which to date, has occurred only in girls. Characteristics of this disorder are periods of normal development and then loss of previously acquired skills, loss of purposeful use of the

hands replaced with repetitive hand movements beginning at the age of one to four years." (www.autism-society.org)

#21. Septum: "Septum is borrowed from the Latin word "saeputm" meaning a "dividing wall or enclosure". It is part of the heart that divides the right and left sides of the heart." (www.medterms.com)

#22. Temporal lobe: "The temporal lobe is part of the brain that controls auditory memories, some hearing, visual memories, some vision pathways, other memories, music, fear, some language, some speech, and some behavior." (www.tbts.org/anatomy.htm)

#23. Thalamus: "Thalamus is part of the cerebral hemispheres that processes information reaching the cerebral cortex."
(www.phymae.med.wayne.edu/facutlyprofile/penney/COHQ/eoglossary1.htm)

#24. Tourette's Syndrome: Tourette's Syndrome is "a tic disorder characterized by the presence of chronic vocal and motor tics, probably based on differences in or damage to the basal ganglia of the brain. It usually emerges between the ages of 6 and 18 and is somewhat more common in people with AHHD (attention deficit hyperactivity disorder), obsessive-compulsive disorder or an autistic spectrum disorder than in the general population. Tics may be minor and trifling or major and debilitating. The frequency of the tics, minor and major, typically tends to wax and wane." (www.medterms.com)

#25. William's Syndrome: "William's Syndrome is a genetic disorder characterized by mild mental retardation. It is a rare disorder in which a portion of DNA material on chromosome 7 is missing. The prevalence in the population is somewhere

between 1 out of 20,000 to 50,000 births. Many people with Williams Syndrome exhibit autistic behaviors. This includes: developmental and language delays, problems in gross motors skills, hypersensitivity to sounds and being picky eaters." (www.autism.org)

Limitations

This study will solely focus on music therapy as a way for autistic children to communicate. However, music therapy is not the only way to treat autism. There are several other approaches, such as art therapy and medication, which can be utilized to help remedy specific symptoms that are unique to each person. "Techniques used", Juliette Alvin (1978) remarks, "should ultimately make sense to the child and enable him to progress at his own pace" (p. 2). To further that, Alvin (1978) believes "each autistic child is a unique individual whose scattered abilities should come together as much as possible" (p. 2).

Another limitation this study presents is that multiple therapies are used to teach a child with autism, not just one. In order to have the most effective therapy sessions with an autistic person, the therapists must construct an individual educational program that is unique to each patient. Alvin (1978) reports, "The most recent studies on autism seem to show that the child can greatly benefit from a structured therapeutic education" (p. 1).

Lastly, music therapy is not only used in treatment of autistic children. According to The Center For Music Therapy in Austin, Texas, music therapy can be used in the treatment of Alzheimer's "to cue memory recall and socialization". In addition, it can be used in rehabilitation "to manipulate neurological functions such as motor, speech and cognitive processes". Music therapy, also, "reduces anxiety, promotes progressive and

autogenic relaxation, maintains function and facilitates life enrichment experiences, which facilitates an overall sense of well being in an individual." (www.centerformusictherapy.com)

Chapter II

BACKGROUND OF AUTISM AND MUSIC THERAPY

"When a child in the autism spectrum responds positively to music, it makes sense to let that child establish and explore relationships and learn through musical activities" (Brunk, 1999, pg.12). Before the author discusses the use of music as a mode in which autistic children can communicate, one should first be abreast with the background of autism and music therapy. Toward that end, the author wishes to dedicate this chapter to providing the reader with this information.

Overview of Autism

Who Discovered Autism?

Renowned psychologist from Johns Hopkins University, Dr. Leo Kanner, published a paper in 1943 describing autistic children. However, he asserted that he noticed such children since 1938. Before Kanner noticed and recorded a pattern of symptoms for autistic children, they would have been classified as emotionally disturbed or mentally retarded. Kanner observed that these children often demonstrated capabilities that showed that they were not merely slow learners, yet they didn't fit the patterns of emotionally disturbed children. Thus, he invented a new category called Early Infantile Autism, which has since sometimes been called Kanner's Syndrome. (www.vaporia.com/autism/autismfaq-hist.html)

What is Autism?

The Autism Society of America in Bethesda, Maryland states that there are several related disorders that are grouped under the broad heading of pervasive developmental disorder (PDD). Some PDDs are autism, Asperger's Disorder, Pervasive Developmental Disorder – Not Otherwise Specified (PDD-NOS), Rett's Disorder and Childhood Disintegrative Disorder. All of these disorders are characterized by "severe and pervasive impairment in several areas of development." (www.autism-society.org) "Autism is a complex development disability that typically appears during the first three years of life. It is result of a neurological disorder that affects the functioning of the brain. Autism and its associate behaviors have been estimated to occur in as many as 1 in 500 individuals and are more prevalent in boys than girls." (http://autism-society.org) The Autism Society of America asserts autism impacts "the normal development of the brain in the areas of social interaction and communication skills." "Children and adults with autism typically have difficulties in verbal and non-verbal communication, social interactions and leisure or play activities." (http://autism-society.org) "Children within the PDD spectrum often appear relatively normal in their development until the age of 24-30 months, when parents may notice delays in language, play or social interaction." (http://autism-society.org) "In addition, dysfunctional behaviors may start to appear, such as self-stimulatory behaviors (i.e., repetitive, non-goal directed behavior, such as rocking and hand flapping), self-injurious (e.g., hand-biting and head banging), sleeping and eating problems, poor eye contact, insensitivity to pain, hyper-/hypo-activity and attention deficits."(wysiwyg://206/http://www.geocivies.com/ARNFL/overview

.html) "Individuals may have unusual responses to people or attachments to objects and resistance to changes in routines." (http://autism-society.org) "One possible reason for this insistence of sameness may be the person's inability to understand and cope with novel situations."(wysiwyg://206/http://www.geocities.com/ARNFL/overview.html) As observed by the Autism Society of America, autistic individuals may experience sensitivities in their five senses: sight, hearing, touch, smell and taste. (http://autism-society.org)

"Some individuals with autism may have other disorders, which affect the functioning of the brain such as: Epilepsy, Mental Retardation, Down Syndrome or genetic disorders such as: Fragile X Syndrome, Landau-Kleffner Syndrome, William's Syndrome or Tourette's Syndrome." (http://autism-society.org)

The Autism Society of America maintains, "there are great differences among people with autism. Some individuals mildly affected may exhibit only slight delays in language and greater challenges with social interactions. The person may have difficulty initiating and/or maintaining a conversation or keeping a conversation going." (http://autism-society.org/whatisautism/autism.html)

How is Autism Diagnosed?

"Autism is classified as one of the pervasive developmental disorders. Because it varies widely in its severity and symptoms, autism may go unrecognized, especially in mildly affected individuals or in those with multiple handicaps." (www.mhsource.com/hy/autism.html) As stated by The Autism Society of America, there are no medical tests for diagnosing autism. "An accurate diagnosis must be based on

observation of the individual's communication, behavior and development levels. However, because many of the behaviors associated with autism are shared by other disorders, various medical tests may be ordered to rule out or identify other possible causes of the symptoms being exhibited." (http://autism-society.org) "A standard reference is the *Diagnostic and Statistical Manual* (DSM), a diagnostic handbook now in its fourth edition. SDM-IV lists criteria to be met for a specific diagnosis under the category of Pervasive Development Disorder. Diagnosis is made when a specified number of characteristics listed in DSM-IV are present. Diagnostic evaluations are based on the presence of specific behaviors indicated by observation and through parent consultation and should be made by an experienced, highly trained team." (http://autism-society.org) "Researchers and therapists have developed several sets of diagnostic criteria for autism. Some frequently used criteria include:

- Absence or impairment of imaginative and social play,
- Impaired ability to make friends with peers,
- Impaired ability to initiate or sustain a conversation with others,
- Stereotyped, repetitive or unusual use of language,
- Restricted patterns of interests that are abnormal in intensity or focus,
- Apparently inflexible adherence to specific routines or rituals and
- Preoccupation with parts of objects." (www.mhsource.com/hy/autism.html)

What Causes Autism?

Although autism has no single cause, The Autism Society of America believes that there may be a hereditary basis to autism. "In many families there appears to be a pattern of autism or related disorders, which suggests there is a genetic basis to the disorder – although at this time no gene has been directly linked to autism. The genetic basis is believed by researchers to be highly complex, probably involving several genes in combination." (http://autism-society.org) "Medical researchers are exploring different explanations for the various forms of autism. Although a single specific cause of autism is not known, current research links autism to biological or neurological differences in the brain." (http://autism-society.org)

Recent research, also, theorizes that there may be a link between gene structure and autism. The Associated Press reports, "Researchers believe several genes, as well as environmental factors such as viruses or chemicals, contribute to the disorder. Studies of people with autism have found abnormalities in several regions of the brain, including the cerebellum, amygdala, hippocampus, septum and mamillary bodies. Neurons in these regions appear smaller than normal and have stunted nerve fibers, which may interfere with nerve signaling. These abnormalities suggest that autism results from disruption of normal brain development early in fetal development." (www.mhsource.com/hy/autism.html) To continue, The Associated Press, relates, "a study of 57 autism patients conducted by the University of Rochester found that forty percent carries a mutated version of the HOXA1 gene, which plays a crucial role in early brain development." (http://special.northernlight.com/autism/researchers_gene.htm) "Scientists have long theorized that about 15 different genes play a role in who is born

with the severe brain disorder autism—and now they've finally found one of those genes."(http://special.northernlight.com/autism/researchers_gene.htm)

Overview of Music Therapy

Evolution of Music Therapy

> While the Bible was one of the earliest literary works providing evidence of the use of music treating illness, it was not until the 18th century that reasonably well reported anecdotes appeared in the professional literature and the 19th century that controlled experimentation was recorded. The 20th century witnessed mankind engaged in global warfare, which, in turn, provided a need to utilize alternative forms of treatment, including the use of music, to effectively manage the sick and wounded. This was especially true in the field of psychiatry. The profession of music therapy was organized "with attendant interest in accreditation, certification, dissemination of information and coordination of research efforts. (www.musictherapy.ea/content/history.html)

Dr. Richard Browne, a physician, published the oldest English text regarding medicine and music. The book was called *Medicina Musica.*

> This *Medicina Musica* is extremely important to music therapists for the following reasons:

- It is the first English language book to deal directly and extensively with the topic of music therapy.
- It presented the case for music therapy almost at the inception of modern medicine.
- It applied the most modern scientific principles then recently developed by the famous philosopher and mathematician, René Decartes, to music therapy.
- It articulated fundamental principles, which to this moment constitute the foundations for music therapy practice.

(www.musictherapy.ca/content/history.html)

What is Music Therapy and What are Its Goals?

The Joint Declaration of the 1982 International Symposium of Music Therapists defines music therapy as follows:

> Music Therapy facilitates the creative process of moving toward wholeness in the physical, emotional, mental, and spiritual self in areas such as: independence, freedom to change, adaptability, balance and integration. The implementation of Music Therapy involves interactions of the therapists, client and music. These interactions initiate and sustain musical and non-musical change processes, which may or may not be observable. As the musical elements of rhythm, melody and harmony are elaborated across time; the therapist and client can develop relationships,

> which optimize the quality of life. We believe Music Therapy makes a unique contribution to wellness, because man's responsiveness to music is unique. (www.warchild.org/projects/centre/musi-ther.html)

As stated by The Pavarotti Music Center, "the overall aim of music therapy is to actively engage individuals in their own growth, development and behavioral change and for them to transfer musical and non-musical skills to other aspects of their life, bringing them from isolation into active participation in the world." (http://www.warchild.org/projects/centre/mus-ther.html) "Music therapy facilitates creative expression in people who either are non-verbal or have deficits in communication skills. It provides the opportunity for experiences that open the way for and motivate learning in all domains of functioning." (http://www.warchild.org/projects/centre/mus-ther.html) "Music," affirms the Center for Music Therapy, "influences human behavior by affecting the brain and subsequently other bodily structures in ways that are observable, identifiable, measurable, and predictable, thereby providing the necessary foundation for therapeutic applications." (www.centerformusictherapy.com) The Pavarotti Music Center points out the long-term goals of music therapy.

They are:

- To improve self-image and body awareness
- To increase communication skills
- To increase the ability to use energy purposefully

- To reduce maladaptive (stereotypic, compulsive, self-abusive, disruptive, impulsive) behaviors
- To increase interaction with peers and others
- To increase independence and self-direction
- To stimulate creativity and imagination
- To enhance emotional expression and adjustment
- To increase attending behavior
- To improve fine and gross motor skills
- To improve auditory perception.

(http://www.warchild.org/projects/centre/mus-ther.html)

What is the Difference Between Music Therapy and Music Education?

According to Betsey King - Brunk (1999), what distinguishes music therapy from music education, music lessons, and recreational music is that it concentrates on non-musical goals. "Music therapy usually will not focus on a single instrument – it will provide a variety of music strategies" (King – Brunk, 1999, p. 103).

"Learning about music and learning to play an instrument can have positive effects. Studies have shown the learning to play the piano has helped some children improve their test scores on specific parts of the standard IQ tests. Other studies have indicated that the discipline involved in learning an instrument carries over into other parts of the student's life" (King-Brunk, 1999, p. 4).

King – Brunk (1999) asserts, "When a child with autism shows an interest in playing an instrument and is able to participate in 'regular' music lessons (perhaps with

some modifications), he or she should be encouraged and supported in doing so. Singing and playing instruments can be a path towards increased inclusion" (p. 4).

As declared by King – Brunk (1999), music therapy does not replace music education. In fact music therapy may be included with music lessons as part of a child's life. "Music therapy uses a person's interest in, and enjoyment of, music to help that person makes changes in specific, non-musical areas of his or her life" (King - Brunk, 1999, p. 4).

Conclusion

Karen Sewell states, in her article "Educating Children With Autism" (www.autism-society.org),"what people with autism have in common is a developmental disability, a disorder of communication, which manifests itself differently in each person. Some individuals with autism may be of average to above intelligence, while others may be below average." In addition, Sewell maintains that, "academic goals need to be tailored to that individual's intellectual ability and functioning level." (www.autism-society.com) The Center for Music Therapy articulates that music is useful in a therapeutic setting because it "triggers whole brain processes and functioning which directly affect one's cognitive, emotional and physical function and abilities."(http://centerformusictherapy.com)

"Educational programming for students with autism," Sewell states, "often addresses a wide range of skill development including: academics, language, social skills, self-help skills, behavioral issues and leisure skills." (www.autism-society.org) King - Brunk (1999) concurs with Sewell by sustaining that "in special education settings goals likely to be addressed by a music therapist include improving attention span, fine motor

skills, self-care skills, academic work, social skills and expressive and receptive communication" (p. 5).

As claimed by the Center for Music Therapy, "Music can be used in a education/resource room to motivate, reinforce, teach, shape behaviors and increase social skills and expression." (http://centerformusictherapy.com) The following chapter will focus on how and why music can be used to educate autistic children.

Chapter III

A REVIEW OF THE LITERATURE: THE APPLICATION OF MUSIC IN AN EDUCATIONAL SETTING AS A COMMUNICATION CHANNEL FOR AUTISTIC CHILDREN

Background

Ellen Griggs – Drane and John Wheeler (1997) assent, "The diverse social and communication styles displayed by individuals with autism can pose challenges to teachers and therapists unless such professionals are trained to understand these idiosyricrasies and use interventions that are appropriate" (p. 87). "Music stimuli have often been used as therapeutic media in treating children with autism and other pervasive developmental disorders" (Nelson, Anderson and Gonzales, 1984, p. 100). As stated by Griggs –Drane and Wheeler (1997),

> The use of music has been shown to be an efficacious treatment with individuals with autism. Treatment techniques have included: (1) a background listening component, (2) a re-enforcer to increase positive behaviors and speech patterns, and (3) a support to demonstrate that many children with autism have comparable or better music skills than their "normal" peers (p. 87).

Griggs - Drane and Wheeler (1997) comment that different environments with different musical settings, where various instruments are used, will illicit different responses from an autistic child.

> Because the music environment is typically reinforcing for the individual with autism, a different set of behaviors is often demonstrated from behaviors that are seen in a non-musical environment. Not only may behaviors differ between musical and non – musical environments, but also within the musical setting when different musical styles and different instruments are used. Positive behaviors such as social interaction, attending skills and self – expression may be enhanced by the music played, and, likewise, negative behaviors decreased. With a functional assessment to monitor both the behaviors and the music, the clinician is able to obtain objective data for interpreting client preferences, comprehension and compliance to treatment protocol (p. 88).

With this in mind, the review of literature for this perlustration will concentrate on the nine therapeutic characteristics of music and provide examples that support how music is used as a communication tool.

The Nine Therapeutic Characteristics of Music

Betsey King- Brunk (1999) maintains there are nine therapeutic characteristics of music. They are as follows: Music: (1) captivates and maintains attention; (2) structures

time; (3) is success – oriented; (4) provides a safe place to practice social skills; (5) makes repetition and memorization enjoyable; (6) lets children control their environment; (7) can create oremphasize a routine; (8) can reflect and adapt to each individual; and (9) is moveable.

#1) Music Captivates and Maintains Attention

King– Brunk (1999) declares that it is a challenge to find an environment that an autistic child can tune into without being over – stimulated. In addition, she asserts that music – structured activities can be an answer to this problem.

As stated by King–Brunk (1999),

> The rhythm of music provides a focal point for attention; current research indicates that we may sense rhythm at a cellular level. Providing a steady beat may help a child organize his or her environment. Changing rhythm to match a child's activity level may help the child stay with a task longer (p. 16).

> A learning environment can be a chaotic place for a child in the autism spectrum and the first step in learning and communication is assisting the child to focus on the information that is important. Music is a potent cue, especially when it is chosen to be distinct from the sounds already in the environment (p. 18).

King - Brunk (1999) illustrates this notion in the following case study:

> I recently completed an assessment in a life – skills class at a local high school. The students, all of whom had severe disabilities, were called to the morning orientation session with a tape recording of a bugle call. As the tape started, I noticed that several students looked towards the music, others got up and began moving toward the area for the activity. Almost every student demonstrated that he or she recognized that another part of their day was about to begin. The pitch and quality of the bugle sound, while not piercing, was distinct from the rather considerable ambient noise of the classroom, it was age – appropriate for the class (as opposed to a children's song), and it was brief – it did not last long enough to become just another sound in the overall environment (p. 18).

Another use of music to attract and maintain the attention of a child within the autism spectrum is a contact song. According to King - Brunk (1999), the contact song might be "a pre – planned song, a song composed on the spot reflecting something the student is doing, or it might be a song that the therapist has been told is one of the student's favorites" (p. 19). This term represents, "the music that accompanies the first connection with a student: the moment when reciprocal communication first takes place. That communication might be eye contact, the acceptance of a touch, singing, smiling: any signal the child chooses that indicates his or her active participation" (King - Brunk, 1999, p. 19).

There are three words that King - Brunk (1999) believes are important in order to achieve goals: rhythm, discretion, and silence. "Rhythm, the arrangement of notes around a steady beat, provides an important focal point" (King - Brunk, 1999, p. 21).

King – Brunk (1999) demonstrates how rhythm can be used in the following sample:

> I saw a demonstration of this when I did an assessment for a student who was not meeting a goal of reading aloud. I read him a book that had short phrases that could be presented rhythmically. As I read, I snapped my fingers to create beat. When I was finished, I gave him the book and asked him to read aloud. I tried a variety of verbal and gestural prompts but, although he was looking at the book and turning the pages, he was not speaking. I turned the book back to the first page and, without saying anything, began to snap my fingers. Immediately, he began to read out loud (p. 21-22).

As asserted by King - Brunk (1999), when working with an autistic child, it is important to be discreet with music. Sometime certain sounds are so familiar and constant that most of us have blocked it out of our conscious attention. "If you want a child with autism to be able to use music for learning and communication, make sure that music doesn't become part of the background and lose its potency as a stimulus and focal point" (King – Brunk, 1999, p. 23). "Alvin (1978) cautioned that music therapists must be careful not to let children become 'hypnotized' by music to the exclusion of other environmental stimuli" (Nelson, et al, 1984, p. 108).

Music and silence provide a powerful nonverbal cue. "If you have been listening to the radio and had the station go off the air suddenly, you've experienced one aspect of

this phenomenon. Sudden silence can be more of a stimulus than the music was" (King - Brunk, 1999, p. 23). An example of how silence and music can help encourage autistic children to respond is to stop playing before the song is complete. "This makes us uncomfortable and it creates a motivation for us to finish the song" (King - Brunk, 1999, p. 24). King - Brunk (1999) makes the point that, "when working with a group of children, there will inevitably be ebbs and flows of their attention. Once they are familiar with a song, however, sudden pauses can be used to startle them into refocusing." (p. 24)

"Silence in the midst of music can also create a cue for communication or social behavior" (King - Brunk, 1999, p. 25). The following instance exemplifies how silence creates a cue for communication:

> I have a greeting song that I use at the start of most school sessions. After the students learn the song, I pause after I sing 'Hello, (name), Hello.' In this pause, depending on the student, I put out my hand for a handshake or say 'hi' and wait for a verbal response. We do not go on until the students participate, and the silence reminds them of this (p. 25).

#2) Music Structures Time

"When confronted with completing a particular part of a routine (e.g., a workout), people find themselves listening to music to see how much longer they have to go" (King - Brunk, 1999, p. 37). King- Brunk (1999) writes,

> Children do the same thing when their learning and communication tasks are structured with music. For children who have difficulty maintaining focus or who are easily frustrated, the knowledge of exactly how long they will need to work is invaluable. For children, music is a way that they can understand the passage of time (p. 37).

"Consider a repetitive task" as requested by King – Brunk (1999). "For many children with developmental disabilities, one of the effective methods of teaching is through repetition. Yet a difficult task, done over and over again, can cause frustration, even when the teacher is careful to provide positive feedback and encouragement" (p. 38).

King - Brunk (1999) suggests that, "Within a song, however, you can present a piece of information several times without it becoming boring and if you have let your students help you find a piece of music that they enjoy, you will see that they adjust their concentration and participation to match the length of the song" (p. 38). King - Brunk (1999) makes this concept evident in the following example:

> I have seen students for whom a goal was the act of holding their heads upright. One would not consider these students "musicians", and yet they understand the structure of the songs well enough to maintain their head control for exactly the length of the song, no more, no less (p. 38).

"Music therapists also use the concept of music structuring time when they program a music therapy session. As students become familiar with the sequence, it provides them with the security of knowing what is coming, and how long it will take. Many students develop an internal clock that allows them to work at their highest level for a consistent period of time" (King – Brunk, 1999, p. 41).

#3) Music is Success – Oriented

> If you can hear music - or even sense its beat and vibrations – you can participate in music experiences. If you can produce a single note, you can have a pivotal role in the production of music. Music therapists use these facts to involve children with disabilities in music, when an observer might assume that these children do not have the skills required for musical expression (King - Brunk, 1999, p. 46).

King - Brunk (1999) attests that when a student who has difficulty in achieving goals, and finds success with music, music becomes a highly motivating and preferred activity for this person. "They may be willing to spend more time working on non - musical tasks if they are structured by music" (King – Brunk, 1999, p. 46).

King - Brunk (1999) proves that music is success - oriented through the following paradigm:

> I have a student who has severe cognitive and physical disabilities. She has one fairly consistent voluntary motor skill: she can move her right hand in an up – and – down motion. Her head control is inconsistent, she is not ambulatory, and she does not demonstrate the use of any communication system. One would not expect her to be an important member of a musical group, or to participate effectively in a group with students who have significantly higher-level goals. When we sing the "Parrot" song, however, I place a single – click switch under her right hand. The switch allows me to record a short phrase, and I record myself singing the last two words of the song: "Big Mouth!" Then I sing the song to/with the group. When we reach the end, I stop abruptly after "gee that little parrot has a–" Unless she presses on the switch, we cannot finish the song. There is usually a short pause, and then we hear the final two words. The other students clap, and she gets a big smile on her face (p. 47).

"Perhaps the most common use of music in the specialized classroom is the group sing – along, often used in conjunction with action games. Such activities provide a mixture of repetition and novelty which often structures groups of children with constricting them, while simultaneously enriching communication and socialization between group members" (Nelson, et al, 1984, p. 111).

#4) Music Provides a Safe Place to Practice Social Skills

One of the primary issues for children with autism is socialization and interpersonal skills. "Music therapy strategies can provide a safe place to practice social skills" (King – Brunk, 1999, p. 55).

King–Brunk (1999) articulates, "Songs and other musical experiences can assist a child with autism in practicing social skills and learning to initiate them as well" (p. 55). "Songs are consistent: they sound the same day to day. This provides security for students when they are working on socialization. Using music also helps the parent, teacher or therapist stay consistent in their interactions and presentation of information" (King–Brunk, 1999, p. 55).

As highlighted by King - Brunk (1999), "Children can use songs to express their feeling, desires, and to initiate conversation" (p. 59). For example:

> Near the end of the school year, an aide from another classroom in which I provided music therapy services approached me. She was also a bus driver for the district and transported some of the students in my Total Communication class. She told me about her experience with one of them, who I'll call Chris. The previous afternoon, Chris came up the steps of the bus as usual. This time, however, he stopped in front of the driver and began to sing:
>
> Hello, I'd like to sing to you.
>
> I'd like to shake your hand.
>
> My name is Chris –

And your name is:

At this point, Chris extended his hand. The driver/aide shook his hand and said "Janelle". Chris immediately released her hand and began singing again.

How are you, Janelle?

How are you?

Chris had learned the "rules" of greeting someone from the opening songs of our sessions" (King – Brunk, 1999, p. 57).

"Music has always been a part of rituals and rites in various societies. In the society of autism, music can help a child remember some of the complicated 'rules' of interaction" (King–Brunk, 1999, p. 56).

#5) Music Makes Repetition and Memorization Enjoyable

Music can facilitate a child in recalling information. Music can be a pungent apparatus in summoning information because "melody, harmony and rhythm provide a concrete, memorable association for the information contained in a song" (King – Brunk, 1999, p. 63). "When it is important that a child learn a particular piece of information (a name, address, or phone number), music may be an effective tool" (King – Brunk, 1999, p. 63). As maintained by King – Brunk (1999), "While the ultimate goal is for the student to be able to produce the information without a musical cue, the use of music can accelerate the acquisition of the information and provide an enjoyable way for the student to practice using it on a daily basis" (p. 63).

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ever, King – Brunk (1999) enunciates, "if a child with learning and
ficulties learns important information through music, the information
l correctly" (p. 64).

gyback" songs are those in which new lyrics are sung to a familiar
dy. (e.g., the days of the week set to "The Battle Hymn of the
iblic"). If you try to sing the words that are given to the song that has
suggested, you find yourself changing the emphasis of words,
ng phrases in an awkward way, and holding out single syllables over
al notes. (p. 64).

–Brunk (1999), "Such songs may be harmless (and even helpful) for
classroom, but if a child learns and retains information primarily
mispronounced words and strange phrasing can be a problem" (p.

case, King– Brunk (1999) uses the following instance:

is one commonly used piggyback song: a greeting set to the tune of
dnight Ladies".

He–llo Suzy

He–llo Suzy

He–llo Suzy

I'm glad you're here today.

> The problem is "hello". In regular speech, the emphasis is on the second syllable. If you sing it in this tune, however, the emphasis is on the first syllable. If a student learns to say hello with his song, a transition from using music to speech will be more difficult (p. 65).

"Another concern in selecting and adapting songs is the issue of where the most important information appears in the song. The best placement for a key word is at the end of a phrase. If an important word is placed on the final note/chord of a song, then the notes and chords that lead up to it will provide a powerful cue" (pgs. 65-66).

King – Brunk (1999) discusses one more final consideration. She states that if songs are going to be a regular element in a student's life, it is important to select songs that are appropriate to the student's to age. "If a song is going to be a regular part of a student's life, it is important that, if possible, it be appropriate to his or her chronological age" (p. 66). As argued by King –Brunk (1999), "Familiarity with popular musical styles can facilitate inclusion with peers. On the other hand, a junior high student who sings only pre – school songs will stand out as 'different'. It is possible to present the information simply and repetitively without placing it in a 'childish' context" (p. 66).

#6) Music Lets Children Control Their Environment

According to King – Brunk (1999), there are three primary ways children can use music to control their environment. "First, they can choose sound recordings or music

manner. Music on this day, as it has on many others, provided this student with a safe, predictable place to be when he most needed it (p. 81).

#8) Music Can Reflect and Adapt to Each Individual

King – Brunk (1999) asserts that one of the wonderful things about using music with a group of children is that you can change it from "moment to moment to reflect their behavior and reactions" (p. 86). King – Brunk (1999) states that one might slow down or lower the volume on music when a student is over - stimulated, or how you might leave longer pauses at certain points to allow a student with a slow response time the opportunity to participate (p. 86).

"Other ways in which music can reflect and adapt to a child are 1) changing the lyrics of a song to spontaneously comment on a student's behavior; 2) sings back to a student those words or sounds he produces; and 3) accompanying a child's repetitive, self-stimulating behavior so as to make a connection and draw him out" (King – Brunk, 1999, p. 86).

King – Brunk (1999) defines strategic music therapy as "songs that are composed for specific purposes and students have particular responses that they provide" (p. 87). "Another form of music therapy intervention uses improvisation" (King – Brunk, 1999, p. 87). As spelt out by King – Brunk (1999), "Improvisation is the production of music 'on the spot'. Improvised music may follow a certain chord progression and it will usually have a steady beat, but it will sound different every time it is played. In therapy, improvisation can be used to reflect clients' behavior, giving them instant feedback as to what they are doing, providing acceptance, and offering alternatives" (p. 87).

King – Brunk (1999) illustrates how improvisational music therapy can be helpful to people with autism through the following case history:

> Another example of improvisational music therapy comes from a case of my own. Several years ago, I worked with a 36 year old man with a dual diagnosis of autism and mental retardation who was living at home with his elderly mother. She had been reluctant, in the past, to placing him in a group home or state institutional setting, but was now going to have to do so. However, her son's behavior was uncooperative, and often violent, and she was having trouble finding a place that would accept him. On the advice of her caseworker, she brought in several therapists to work with him, to try and get him to cooperate with others and adapt to different routines.
>
> This client (who I will call Robert) had loved playing music as a boy, in fact, he had at one point been able to play the melody for "The Star – Spangled Banner" on the piano. At the time I started seeing him, however, the only auditory input he allowed besides his mother's voice was the television. He spent most of his day sitting at the kitchen table, picking at his meal and watching TV. Often, he was not fully clothed or properly dressed.

When I began coming to the house, Robert did not allow me to sit at the table with him and protested loudly (and unintelligibly) if I tried to interrupt his routine. Therefore, for the first few weeks that I saw him, I sat in the living room, about 20 feet from him, eventually strumming my guitar quietly. Gradually, over a period of several sessions, he allowed me to move closer and closer until I was sitting at the table with him. I had begun singing improvisational songs about whatever he was doing. One day, after I had been seeing him for about two months, I was singing about him chewing his sandwich and he suddenly stopped mid-chew, and started to laugh. We had found our contact song and Robert had accepted my place in his environment.

Within 3 weeks, Robert was coming into the living room for his sessions, following a picture schedule for several activities, and had begun to attempt to play "The Star Spangled Banner" again (p. 88).

#9) Music is Moveable

Once a child has learned a song and associated it with an activity, mood, behavior, or skill; that song can accompany the child into a variety of environments and provide a familiar, comforting and compelling cue. In this way music therapy can meet one of the goals of any therapy: to

generalize the skills that are taught into a wider environment (King – Brunk, 1999, p. 90).

King – Brunk (1999) phonates, "Music and the skills they accompany can be taken from school to home and from home to unfamiliar settings. Music is a way of 'taking the rules with you' and gently but effectively reminding a child about new and old skills that they can use no matter where they are" (p. 90).

For example, King – Brunk (1999) tells us that one of her clients has a severe visual impairment. For this client she composed songs that would cue her for the proper use of her cane and using buttons and snaps.

As instructed by King – Brunk (1999), "When making a song mobile, you may at first teach it by rote. The students will learn the lyrics and follow instruction simply through imitation and repetition. If you want the song to be effective as a generalizing tool, you will have to take it into a functional environment" (p. 91).

Conclusion

"Music therapy literature generally supports music as an effective way for autistic children to work on their special problems with creativity and initiation of activities" (Nelson, et al., 1984, p. 110). "Studies show that individuals with autism respond well to a highly structured, specialized education program, tailored to their individual needs."(www.autism-society.org) Sewell asserts, "Whatever the level of impairment, the educational program for an individual with autism should be based on the unique needs of the student and thoroughly documented in the individualized education program."

(www.autism-society.org) The Autism Society of America states, it is "more important to understand that autistic children can learn and function productively and show gains from appropriate education and treatment." (www.autism-society.org)

As noted by King - Brunk (1999), "Saying or signing the final word in a phrase; playing a rhythm instrument; keeping eye contact with a picture song book – these are all ways in which students can participate in music" (p. 47). "When music is used effectively it orients students toward a teacher; therapist or parent; alerts students that important information is coming; and helps students refocus if their attention wanders" (King - Brunk, 1999, p. 17).

"In sum, the music therapist must make sure that music enhances the child's ability to cope with change and the quality of the child's overall relationship with his or her environment" (Nelson, et al., 1984, p. 108).

Chapter IV

A SURVEY SEEKING PUBLIC OPINION ON MUSIC AND EDUCATION

The author conducted a survey to gain a better idea of how the public views the affect music has on education. The objective of this survey was to obtain quantitative and qualitative information with regard to the themes of music and education. The results from this survey are contained throughout this chapter.

Description of Survey

The survey (see Appendix A) had 10 statements on music and education. The following rating scale was used to measure responses:

SA: Strongly Agree

A: Agree

N: Neutral

D: Disagree

SD: Strongly Disagree

Each of the 10 statements had a general stance pertaining to music and education. The intention of the author was to solicit a positive, neutral or negative reaction on the role music plays in education and learning.

Sample

The goal was to survey 25 to 75 individuals in order to receive qualitative and quantitative information that would be relevant to this study. Each of these individuals

was either a musician, parent of a child who studied music, or had no background in music. The qualifications were used to obtain a sample of individuals that: a) had prior knowledge of music, b) experienced the effect music has on a person, whether it be themselves or someone they know and c) had no formal musical training but still held an opinion on music and education regardless.

Purpose of the Survey

The author's intent in conducting this survey was to access how certain individuals view music and evaluate their perceptions of how music can affect learning. The purpose of this survey was to confirm or deny the points of view that were revealed in the research literature.

Calculation of the Survey

In two months the author distributed and collected the data coined by the survey. The surveys were circulated via email or handouts. Responses were either written out or received through email. Survey participants answered all 10 statements. Many of the respondents took the time to provide the author with their thoughts and perceptions on music and education. After all answers were obtained the author tallied up the responses for each statement according to the scale illustrated in the beginning of this chapter (see Description of Survey). Once tallied, the author calculated the percentage of responses in relation to how each participant answered the statements through utilizing the scale (see Appendix B).

Quantitative Analysis

Statement 1: Music has a beneficial and therapeutic effect on people.

In reviewing the results for statement one, 43 respondents (86 percent) strongly agreed that, "Music has a beneficial and therapeutic effect on people." Seven respondents (14 percent) agreed with this statement. This survey statement did not receive any "neutral", "disagree" or "strongly disagree" responses.

There was a unanimous vote among contributors. One hundred percent of the survey participants vehemently confirm that they believe, "Music has a beneficial and therapeutic effect on people."

Statement 2: Music is an important element in the growth and development of a person.

With regard to this statement, 26 respondents (52 percent) strongly assented that, "Music is an important element in the growth and development of a person." Twenty respondents or 40 percent also agreed with the second statement. The neutral viewpoint received 4 responses (8 percent) while the viewpoints of "disagree" and "strongly disagree" received none.

Since the majority of respondents (92 percent) either strongly agreed or agreed, it is safe for one to assume that there is a well-supported belief that, "Music is an important element in the growth and development of a person."

Statement 3: Children should have music lessons starting at an early age.

In reviewing the responses for the third survey statement, 24 respondents or 48 percent strongly agreed that, "Children should have music lessons starting at an early age." Twenty-one respondents (42 percent) agreed with the third statement and 4 respondents (8 percent) were neutral. Only 1 out of the 50 participants (2 percent) disagreed with the statement and no one strongly disagreed.

Overall, the majority of participants in the survey (90 percent) either strongly agreed or agreed when responding to this statement. Therefore, it is safe to suggest that the consensus is in agreement that, "Children should have music lessons starting at an early age."

Statement 4: Music is probably a very effective way for a child with a disability to communicate.

The results for the fourth statement were as follows: Twenty-two respondents (44 percent) adamantly agreed that, "Music is probably a very effective way for a child with a disability to communicate." Fifteen survey participants or 30 percent agreed with the fourth statement and 13 respondents (26 percent) were neutral. The other perspectives (disagree and strongly disagree) did not receive any replies.

Overall, when the 50 survey contributors were presented with this statement 74 percent believed that, "Music is probably a very effective way for a child with a disability to communicate." One can assume, through the beliefs and perceptions of the survey participants, that "Music is probably a very effective way for a child with a disability to communicate."

Statement 5: Music could have an effect on the brain that could result in higher test scores.

In analyzing the fifth statement, 10 respondents (20 percent) strongly agreed with statement five. Twenty-seven contributors (45 percent) agreed that, "Music could have an effect on the brain that could result in higher test scores." Twelve respondents (24 percent) chose a neutral stance. Only one respondent (2 percent) disagreed with the fifth statement and there were no replies for the "strongly disagree" answer.

The majority of participants in the survey, 65 percent strongly agreed or agreed that, "Music could have an effect on the brain that could result in higher test scores." Therefore, one can ascribe that the consensus of the respondent sample thinks that, "Music could have an effect on the brain that could result in higher test scores."

Statement 6: More money should be allocated in school budgets for music education programs.

The dissection of responses for statement six is as follows: Twenty-seven respondents or 54 percent strongly agreed that, "More money should be allocated in school budgets for music education." Sixteen respondents (32 percent) agreed with statement six. Statement six had four respondents (eight percent) that were neutral, two respondents (four percent) that disagreed and one respondent (two percent) that strongly disagreed.

Since the majority (86 percent) of the survey participants either strongly agreed or agreed, one can conclude that there is an intense belief that, "More money should be allocated in school budgets for music education programs."

Statement 7: Music can help foster meaningful interpersonal relationships.

Upon examining statement seven, the results were as follows: 20 respondents (40 percent) strongly agreed that, " Music can help foster meaningful interpersonal relationships." Twenty-one respondents or 42 percent agreed with statement seven. The neutral viewpoint received 9 or 18 percent of the responses. No one disagreed or strongly disagreed with statement seven.

In analyzing this statement, the majority of respondents (82 percent) exhibited either strong agreement or agreement when presented with the view of "Music can help foster meaningful interpersonal relationships." One can determine from this analysis that a considerable amount of partakers vigorously affirm or affirm that, "Music can help foster meaningful interpersonal relationships."

Statement 8: Educational institutions should stress the benefits of music to parents.

With regard to statement eight, sixteen participants or 32 percent strongly agreed. Fifty-eight percent (29 respondents) from the survey agreed that, "Educational institutions should stress the benefits of music to parents." Five participants (10 percent) were neutral towards this statement, while there were no responses for the "disagree" or "strongly disagree" viewpoints.

Overall, the majority of survey participants (90 percent) were in strong agreement or agreement when responding to the declaration that, "Educational institutions should stress the benefits of music to parents." Therefore, it can be implied that the consensus of the survey participants believe that the benefits of music should be stressed to parents by their child's educational institute.

Statement 9: Music can assist and motivate a person to perform functional tasks.

In assessing statement nine, twenty survey participants or 40 percent strongly agreed that, "Music can assist and motivate a person to perform a functional tasks." Twenty-five respondents (50 percent) agreed with statement nine and 4 participants (8 percent) identified a neutral position. Only one person disagreed with statement nine. There were no responses of "strongly disagree".

Overall, the majority of the respondents (90 percent) either strongly agreed or agreed that, "Music can assist and motivate a person to perform functional tasks." Hence, one can imply from the beliefs and perceptions of the survey participants that they are in agreement that music can facilitate and inspire a person to perform functional tasks.

Statement 10: Music can help a person feel comfortable in a learning environment.

For this statement, 17 participants or 34 percent strongly agreed that, "Music can help a person feel comfortable in a learning environment." With regard to statement 10, 23 respondents (46 percent) agreed, 10 respondents or 20 percent took a neutral stance and no one strongly disagreed or disagreed.

Overall, there was profound agreement (80 percent) that, "Music can help a person feel comfortable in a learning environment." Thus, one can infer that the general population concurs that, "Music can help a person feel comfortable in a learning environment."

Qualitative Analysis

At the end of the survey, the author seized the opportunity to ask contributors to furnish additional related thoughts, opinions and insights. Some generous individuals took a few minutes of their time to supply this valuable qualitative information. The author wishes to dedicate this section to the thoughts and perceptions of the survey participators.

While the author was gathering survey responses a few of the contributors provide great quotes that were born from their beliefs, perceptions and experiences with music and learning. A quote from one partaker says, "Music is strong medicine." Another affirms that, "Music is an amazing tool that can be used to open up creative outlets individuals never knew they had." Someone else declares, "I think that music generally puts people at ease and many find comfort in the familiarity of certain music." One participant from the survey sample states, "I was watching something on TLC about this subject and I thought it was interesting that they said that music stimulates the mind in a way that no other art can. (The programs affirms) that music therapy has worked the best in getting through to autistic and other mentally challenged children."

Only one survey participator shared a personal experience that they had with music. "I took piano lessons as a kid. My parents thought it would calm me down. I had a bad temper as a child. And it worked. I was more relaxed and loved pounding on the keys to let out my frustration."

Additional comments that were received declared, "Music helps people to cope with daily events and relax." Another contributor states, "Music is essential to growth and development in children 0 through adulthood." Finally, one of the last participators in

the survey concludes that, "Music develops the creative instincts which make children make more perceptual decisions in their school work."

Conclusion

Fifty people from various backgrounds participated in this survey giving the author valuable qualitative and quantitative information. The survey was well received by many individuals who were interested in the subject matter.

Three particular statements generated the most agreement in the survey. The first statement of the survey had 100 percent of the respondents either intensively agreed or agreed that, "Music has a beneficial and therapeutic effect on people." The second statement of the survey had ninety two percent of the participants stating that they strongly agreed or agreed that, "Music is an important element in the growth and development of a person." The final statement from the survey that generated profound agreement was statement nine. Ninety percent declared that, "Music can assist and motivate a person to perform functional tasks."

Some comments that survey participants ceded reinforced the survey results. One respondent states, "I believe that music is important to someone's life because it could express emotion and thoughts of an individual." Another participant believes, "Music plays a vital role in the development of an individual. The absence of formalized music in a youngster's life is nothing more than a denial of educational opportunities." In total, the author believes that the combination of the review of literature, survey results and quotes, which were born from the beliefs, perceptions and experiences of the survey contributors,

reinforces that music is an efficacious medium for autistic children to communicate with their environment.

Chapter V

SUMMARY AND CONCLUSION

Once there was a 10-year-old girl named Sam, who, during her visit with relatives, was bit by the music bug. Her older cousin brought out records to entertainment her and among them was Led Zeppelin's 1971 album, "Led Zeppelin IV". After listening to "Stairway to Heaven", Sam told her cousin that she wanted to learn how to play it. Her cousin assumed she wanted to learn how to play the guitar portion of the song. Much to her cousin's dismay, she wanted to learn the short flute sections throughout the song. She loved how the music was soft and lulling. Unfortunately for Sam, her cousin didn't know how to play that instrument. However, he suggested that when she returned to school she should join the school band and there she could learn how to play the instruments of her choice.

Upon her return home, Sam found out that there were no music lessons offered where she attended elementary school. At one point in the school's history there had been a music program, however, due to budget cuts and lack of interest over the years the program was pruned from the curriculum. When she found out that the school already had the instruments, Sam circulated a petition to start up the music program again. At 10 - years - old, no one can grasp the concept of budget cuts and educational politics and how it relates to them as an individual. All Sam knew was that there were instruments available and enough people who were interested and dedicated in learning music that something should be done. A majority of the student body and town residents signed this petition to reinstate the music program. Since there was such a demand from the students, the high school band teacher, who is sedulous in his allegiance to music and education

even to this day, generously volunteered his knowledge of the subject for the time being. The following year the Board of Education allocated enough money in the budget to have a proper music program installed in the school.

At the time Sam had no idea the benefits music could bring. She just had a passion and determination to learn an instrument and wanted others who loved and bonded with music to have the same opportunity to learn. To this day, the music program at this elementary school is still in existence and it is thriving more than ever. It wasn't until when Sam was older that she realized how important and influential music can be to the development and growth of another person.

Dr. Leo Kanner, a well - known psychologist from Johns Hopkins University in Maryland, first described autism in one of his research papers in 1934. One out of 500 individuals are affected with this disorder. There is no known cause or cure. Autism is a pervasive developmental disorder that affects verbal and non-verbal communications along with social and play activities. Since Kanner's discovery, several treatments have been developed to help remedy symptoms of autism. For autistic children who have an affinity for music, music therapy was their answer.

Individuals who are withdrawn from the world can use music therapy to transfer musical and non – musical skills to other parts of their life in order to bring them out of seclusion. Some goals of music therapy are to increase communication skills, interaction with their peers, and independence. According to Nelson, et al. (1984), "For those children demonstrating an aptitude for music, the world of music with its rich heritage and its many varieties can provide a socially valued arena for the expression of competence and the attainment of self – worth" (p. 113).

Due to its therapeutic characteristics, music is very influential in the education of autistic children. These characteristics, as based on King - Brunk's research, are as followed: Music: 1) captivates and maintains attention; 2) structures time; 3) is success-oriented; 4) provides a safe place to practice social skills; 5) makes repetition and memorization enjoyable; 6) lets children control their environment; 7) can create or emphasize a routine; 8) can reflect and adapt to each individual; and 9) is moveable. King – Brunk (1999) states that "Music is a unique path to communication and learning for children with autism. Its effectiveness as a therapeutic and learning tool comes from its ability to provide two distinct frameworks for therapy and teaching. Music can create a consistent, stable, predictable environment. Melody, harmony, and rhythm from a favorite song can provide familiar cues and bring comfort in an unfamiliar or stressful setting." (p. ii)

Conclusion and Recommendations

When the author began graduate school she was told to start thinking about issues that interested her that could be turned into possible thesis subjects. She knew that she wanted to write on a matter that she was passionate about and personal to her. The discussion of whether or not music can facilitate communication for autistic children was always interesting to the author and was in the back of her mind as a possible theme. When the time came to start researching and writing, the author ran with the topic not knowing where the thesis journey would take her.

Working in the music business can take its toll. After suffering the daily trials and tribulations of the industry the author started to wonder why she went to work in this crazy world of music. The author needed something to get her back on track.

At first this thesis was just a requirement in order to graduate. However, it quickly turned into something inspirational. It reminded the author that music is about expression of the emotions that lie within one. As asserted by a survey participant, "From before we are conscious, our hearts beat; laying down the rhythm of our lives. It awakens us, drives us, comforts us, and finds us when no one or nothing else can. It brings us together; it ticks and in doing so, makes us tick. It is no wonder why music affects us the way it does." Music is about sharing and fostering interpersonal relationships. Most people, who work in the music industry, including the author, got into this business for these and other reasons. It is not all about platinum sales status or the "diva" treatment.

At the end of this journey the author has learned that music in itself is healing. It's a raw expression of sentiment. Music is cathartic in its structure. It's something we are all touched by. Music is the universal language that knows no social, ethnic, language or racial limits. It finds a way to touch each person in a unique way and is boundless in its meaning.

For the athlete who needs inspiration to complete that tough, rigorous competition; for the person who cannot express to another how much they love them; for those who have trouble relating and communicating to their outside world, they can choose music as their means to express their thoughts and emotions. Béla Bartok was once quoted saying "I cannot conceive of music that expresses nothing." (http://members.ozemail.com.au/~musicke/music.html) At the moment when the music

one is playing is received by another and evokes an emotion or response everything takes on a new meaning. The author cannot think of a more creative, meaningful way to express oneself.

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Appendix A

Survey

Survey Statements: An evaluation of the relevance of music and education

Procedural Guidelines: Interview 25 to 75 individuals who have studied music, have children studying music or have no musical background; asking them 10 statements regarding their opinion on music and education.

Please rate your beliefs and perceptions relative to these 10 statements using this scale:

SA: Strongly Agree
A: Agree
N: Neutral
D: Disagree
SD: Strongly Disagree

Statements:

1.	Music has a beneficial and therapeutic effect on people.	SA	A	N	D	SD
2.	Music is an important element in the growth and development of a person.	SA	A	N	D	SD
3.	Children should have music lessons starting at an early age.	SA	A	N	D	SD
4.	Music is probably a very effective way for a child with a disability to communicate.	SA	A	N	D	SD
5.	Music could have an effect on the brain that could results in higher test scores.	SA	A	N	D	SD
6.	More money should be allocated in school budgets for music education programs.	SA	A	N	D	SD
7.	Music can help foster meaningful interpersonal relationships.	SA	A	N	D	SD
8.	Educational institutions should stress the benefits of music to parents.	SA	A	N	D	SD
9.	Music can assist and motivate a person to perform functional tasks.	SA	A	N	D	SD
10.	Music can help a person feel comfortable in a learning environment.	SA	A	N	D	SD

Additional related thoughts, opinions and insights:

_____

_____

_____

AppendixB

Analysis of the Survey

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Results
Question#1	43 2 % x 43 = 86%	7 2 % x 7 = 14%	0 2 % x 0 = 0%	0 2 % x 0 = 0%	0 2 % x 0 = 0%	43+7+0+0+0=50 100/50 = 2% PER RESPONSE
Question #2	26 2 % x 26 = 52 %	20 2 % x 20 = 40%	4 2 % x 4 = 8%	0 2 % x 0 = 0%	0 2 % x 0 = 0%	26+20+4+0+0=50 100/50 = 2% PER RESPONSE
Question#3	24 2 % x 24 = 48%	21 2 % x 21 = 42%	4 2 % x 4 = 8%	1 2 % x 1 = 2%	0 2 % x 0 = 0%	24+21+4+1+0=50 100/50 = 2% PER RESPONSE
Question #4	22 2 % x 22 = 44%	15 2 % x 15 = 30%	13 2 % x 13 = 26%	0 2 % x 0 = 0%	0 2 % x 0 = 0%	22+15+13+0+0=50 100/50 = 2% PER RESPONSE
Question#5	10 2 % x 10 = 20%	27 2 % x 27 = 54%	12 2 % x 12 = 24%	1 2 % x 1 = 2%	0 2 % x 0 = 0%	10+27+12+1+0=50 100/50 = 2% PER RESPONSE
Question#6	27 2 % x 27 = 54%	16 2 % x 16 = 32 %	4 2 % x 4 = 8%	2 2 % x 2 = 4%	1 2 % x 1 = 2%	27+16+4+2+1=50 100/50 = 2% PER RESPONSE
Question#7	20 2 % x 20 = 40%	21 2 % x 21 = 42%	9 2 % x 9 = 18%	0 2 % x 0 = 0%	0 2 % x 0 = 0%	20+21+9+0+0=50 100/50 = 2% PER RESPONSE
Question #8	16 2 % x 16 = 32 %	29 2 % x 29 = 58 %	5 2 % x 5 = 10%	0 2 % x 0 = 0%	0 2 % x 0 = 0%	16+29+5+0+0=50 100/50 = 2% PER RESPONSE
Question #9	20 2 % x 20 = 40%	25 2 % x 25 = 50%	4 2 % x 4 = 8%	1 2 % x 1 = 2%	0 2 % x 0 = 0%	20+25+4+1+0=50 100/50 = 2% PER RESPONSE
Question # 10	17 2 % x 17 = 34%	23 2 % x 23 = 46%	10 2 % x 10 = 20%	0 2 % x 0 = 0%	0 2 % x 0 = 0%	17+23+10+0+0=50 100/50= 2% PER RESPONSE