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The American Music Therapy Association National Conference Presentations Regarding Autism Spectrum Disorder and Inclusion: A Content Analysis

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THE AMERICAN MUSIC THERAPY ASSOCIATION NATIONAL CONFERENCE

PRESENTATIONS REGARDING AUTISM SPECTRUM DISORDER AND

INCLUSION: A CONTENT ANALYSIS

By

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ABSTRACT

Autism Spectrum Disorder (ASD) is one of the largest-served populations in the field of music therapy. The purpose of this study was to investigate and analyze presentations given at the American Music Therapy Association (AMTA) National Conference regarding autism, 7 preceding and 7 years following the definition change in the DSM (2006-2019). This content analysis looked at the different categories of presentations, as well analyzed the national presentations by key words, looking at how many presentations included (in the title or description) only ASD ($n = 199$), only inclusion ($n = 36$), or both ASD and inclusion ($n = 7$). Overall, presentation sessions had the highest number and Continuing Music Therapy Education courses (CMTEs) had the fewest presentations. Additionally, this content analysis sought to discover any trends in numbers of presentations based on the DSM-5 definition change of autism spectrum disorder, noting no significant trends. The results of this content analysis suggest more research as well as more presentations done at the AMTA national conferences. Approximately 40% of music therapists reported working with individuals with ASD (AMTA, 2018), suggesting that more options be available for music therapists seeking more information about ASD and inclusion.

CHAPTER 1

INTRODUCTION

Autism Spectrum Disorder

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder impacting a person's social skills, communication, and behavior. It is one of the fastest growing developmental disorders affecting one in every 54 U.S. children (CDC, 2020). In a 2016 study, the Autism and Developmental Disabilities Monitoring Network (ADDM) discovered that rates have increased 10% since their report in 2014, and a 175% increase since the report in 2000 and 2002. Within the prevalence of diagnoses of ASD, it has been noted that boys are four times more likely to be diagnosed with ASD than girls (CDC, 2020). While there is no cure for ASD, symptoms have shown to decrease and become more manageable with appropriate therapies.

Along with the growing number of diagnoses comes a greater understanding of ASD. Since it is qualified as a spectrum disorder, it is commonly known that no two individuals with ASD are alike, and there are varying strengths and challenges for each individual with this diagnosis (Adamek & Darrow, 2018, p.261). Autism spectrum disorder appears in all socioeconomic, racial, and ethnic disparities. Causes of ASD have been linked to genetic as well as environmental influences.

History of Autism Spectrum Disorder

The concept of autism was initially coined in 1911 by Eugen Bleuler, a German psychiatrist. The term autism was used and defined as the subjects' "inner life" and was supposedly not readily accessible for observers (Zeldovich, 2018). In 1943, psychiatrist Leo Kanner identified autism as a neurological condition and named the syndrome Early Infantile Autism because it generally appeared in the first few years of life. Before this new name, children were diagnosed as emotionally disturbed, schizophrenic, or psychotic. During the 1950s, mothers were blamed if their child had autism. The term "refrigerator mother" was used to describe these women, presuming that they must be cold, distant, and did not love their child enough. Continuing into the 1970s, the term 'autism' was used to describe a complete lack of an unconscious symbolic life (Evans, 2013). In 1964, Bernard Rimland published a book entitled

Infantile Autism: The Syndrome and Its Implications for a Neural Theory of Behavior. He later founded the Autism Research Institute and is considered to be a pioneer for modern autism research and education (Evans, 2013).

Definitions, Symptoms, Diagnosis

Autism spectrum disorder is a developmental disorder of variable severity that is characterized in difficulties in social interaction and communication by restricted patterns of interest or behavior. Diagnosis can occur throughout a lifetime, but signs generally begin early in childhood, even showing in the first few months of life. Symptoms may begin showing as early as six months with little eye contact, and infrequent smiles or joyful expressions (Autism Speaks, 2020). Failure to point at a stimuli in the environment by age one is seen to be a potential sign for autism.

The Diagnostic Statistical Manual for Mental Disorders (DSM) is the standard evaluation tool used when diagnosing ASD. The DSM received an update in 2013 regarding the definition of autism. Previously, in the DSM-IV, autistic disorder, Asperger syndrome, pervasive developmental disorder-not otherwise specified (PDD-NOS), and childhood disintegrative disorder were listed as separate diagnoses. The DSM-5 combines all of those disorders and lists all under the one name of autism spectrum disorder (American Psychiatric Association, 2013). The DSM-5 diagnostic criteria for autism spectrum disorder are as follows:

Must meet all criteria under A and at least two criteria under B

- A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history:
 - 1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
 - 2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits

in understanding and use of gestures; to a lack of facial expressions and nonverbal communication.

3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or making friends; to absence of interest in peers.

B. Restricted. Repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypes, lining up toys or flipping objects, echolalia, idiosyncratic phrases).
2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day).
3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or pervasive interests).
4. Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

Severity is based on social communication impairments and restricted, repetitive patterns of behavior.

- C. Symptoms must be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life).
- D. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.

- E. These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder frequently co-occur; to make comorbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level.

Along with the criteria listed above, the DSM-5 includes three existing levels indicating severity levels in the diagnosis: Level 1 – “requiring support,” Level 2 – “requiring substantial support,” and Level 3 – “requiring very substantial support” (American Psychiatric Association, 2013, p. 52; Adamek & Darrow, 2018, p. 262). It is common to see children with a diagnosis of ASD have comorbid disorders. The most common comorbid disorders being: epilepsy, intellectual disabilities, sleep disorders, fragile X syndrome, anxiety disorders, depression, and attention deficit hyperactivity disorder (APA, 2013, pp. 56-58)

School-Aged Children and Autism Spectrum Disorder

There were several landmark cases that led to the development of the Individuals with Disabilities Act (IDEA); the first of which being *Brown v. Board of Education*. This case ruled it unconstitutional for educational institutions to segregate children by race. In 1971, *Mill v. Board of Education* made it unlawful for the D.C. Board of Education to deny “exceptional” students access to publicly-funded educational opportunities. In 1975, President Ford signed the Education for All Handicapped Children Act (Public Law 94-142); this law required that states who received money from the federal government must provide equal access to education for children with disabilities. President Reagan signed the Handicapped Children’s Protection Act in 1986, which was revised in 1990 to include Traumatic brain injuries (TBI) and autism as new disability categories (U.S. Department of Education, 2020).

The Education for all Handicapped Children’s Act became the Individuals with Disabilities Act in the year 1997. President Clinton reauthorized IDEA with several amendments emphasizing providing all students with access to the same curriculum. The most recent revision to IDEA occurred in 2004, calling for early intervention for students. Over 6 million students received special education services under IDEA in 2017, 10.1% of those students being students with autism spectrum disorder (IDEA, 2020).

Inclusion for Children with Autism Spectrum Disorder

Neither federal nor state law uses the term *inclusion*. However, both laws indicate a clear preference for educating students with disabilities in general education classrooms with typically developing peers (Florida Department of Education, 2005). In an Inclusion Brief published in the state of Florida, data indicated supporting inclusive education is beneficial in many regards. Studies have shown that when children with disabilities have opportunities for repeated interactions with their typically developing peers, they have demonstrated improvements in the skill areas of communication, socialization, reading, mathematical problem-solving, writing, and spelling, as well as skills of everyday living. When typically developing students have the opportunity to assist or tutor others, they have been found to have more positive attitudes towards human differences, show greater tolerance for others, improved self-esteem, and are more likely to engage in relationships with individuals with disabilities in their adult lives (Carrico, 2000).

Music Therapy and Autism Spectrum Disorder

Music therapy is the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program (AMTA, 2020). People of all ages, cultures, backgrounds, and degrees of abilities respond to music in everyday life. The engaging nature and accessibility of music often elicits positive responses of individuals with ASD (Kern, 2014). Music therapy interventions focus on addressing and enhancing social, communicative, motor, sensory, emotional, academic, and cognitive goals with individuals with a diagnosis of ASD. Music therapy interventions are informed by research evidence and incorporate many of the identified ASD-specific evidence-based practices in each session (Kern, Rivera, Chandler, & Humpal, 2013).

In the 2018 AMTA member survey and workforce analysis, infants/children, pre-teens, and teens made up 38% of the populations served in the music therapy community. Many music therapists serve many different populations in their professional work. In a section of the survey where the respondents indicate populations they serve—they were allowed to mark as many populations as they served—and 37.9% said they serve autism spectrum disorders, and 20.4% responded that they serve school-aged children.

AMTA National Conference

The American Music Therapy Association hosts a national conference annually. Presentations must be submitted and reviewed before being selected to be a presentation at the conference. There are presentations, workshops, continuing education courses, poster sessions, and opportunities for expanding knowledge within the field of music therapy.

Purpose

The purpose of this study was to investigate and analyze presentations given at AMTA National Conference regarding autism 7 preceding and 7 years following the definition change in the DSM (2006-2019). This content analysis looked at the different categories of presentations, as well analyzed the national presentations by key words, looking at how many presentations included (in the title or description) only ASD, only inclusion, or both ASD and inclusion. Additionally, this content analysis sought to discover any trends in numbers of presentations based on the DSM-5 definition change of autism spectrum disorder. This study also aimed to explore future implications for music therapists who present at AMTA national conferences in the future.

Research Questions

- (1) Of the presentations at the AMTA national conference, which are presentation sessions, CMTEs, posters, or another type?
- (2) How many presentations used only the keyword ASD/autism in the title or description?
- (3) How many presentations used only inclusion/inclusive in the title or description?
- (4) How many presentations had both terms in the title or description?

CHAPTER 2

REVIEW OF LITERATURE

Introduction

Throughout the years, there have been many changes to the Diagnostic Statistical Manual (DSM) regarding the diagnostic criteria for autism spectrum disorder (ASD). There are also many aspects of ASD that have been confused throughout history. This review of literature sought to discover how ASD has been diagnosed over the decades, the trends of numbers in diagnoses, the American Music Therapy Association's (AMTA) standards of practice with ASD, and what music therapy interventions have been used with individuals with ASD.

Previously Diagnosed

Many diagnostic descriptions draw a straight, direct, and conclusive line to the result. Autism spectrum disorder, however, has taken a less direct path to clear diagnosis with several “detours,” according to Dr. Jeffery Baker, professor of pediatrics at Duke University (Zeldovich, 2018). Eugene Bleuler coined the term “autism” around 1911, using it to describe the inward, self-absorbed aspects of schizophrenia in adults. Later, Kanner (1943) embellished the term coined by Bleuler, and referred to ASD as “infantile autism” in a paper entitled *Autistic Disturbances of Affective Contact* which went on to become a classic piece of literature in the field of clinical psychiatry. Kanner described a distinct syndrome instead of previous depictions of such children as feeble-minded, retarded, moronic, idiotic or schizoid (Fischbach, 2019) and did not consider infantile autism an onset or early form of schizophrenia. One year after Kanner's publishing, Hans Asperger described children that he also called “autistic,” but who seemed to have a higher non-verbal intelligence as well as a larger vocabulary than the initial group the term referenced (Kanner, 1943). This developed what was known as Asperger syndrome, which became a diagnosis in the DSM-IV up until the definition change of ASD in the DSM-5.

In the first and second series of the DSM, published in 1952 and 1968 respectively, “childhood schizophrenia” appeared in reference to what researchers know today as ASD. The DSM-III (1980) changed the definition describing Infantile Autism (referred to as IA) as a

pervasive developmental disorder which was a group name used to describe childhood onset pervasive developmental disorder (COPDD), and atypical pervasive developmental disorder (APDD) as well (Zelovich, 2018). Residual autism and COPDD were diagnosed in individuals who once met the full criteria for the disorder but no longer do so (Volkmar, Cohen, & Paul, 1986). While prior versions of the manual left many aspects of the diagnostic process open to clinicians' observations and interpretations, the DSM-III listed specific criteria required for a diagnosis. These criteria were: a lack of interest in people, severe impairments in communication and bizarre responses to the environment, all developing in the first 30 months of life (Zeldovich, 2018).

The DSM-III was revised in 1987, known as DSM-III-R, and altered the criteria for diagnosing autism. The revised manual also broadened the concept of autism, adding diagnosis for pervasive developmental disorder-not otherwise specified (PDD-NOS), and released the requirement for onset before 30 months. Although the manual did not include the term spectrum yet, the changes began to reflect the growing understanding among researchers that autism is not a single condition but rather a spectrum of conditions that can present throughout life (Zeldovich, 2018). The updated manual listed 16 criteria across the three previously established domains, eight of which had to be met for a diagnosis. Furthermore, adding PDD-NOS allowed clinicians to include children who did not fully meet the criteria for autism but still required developmental or behavioral support.

In 1994, the DSM-IV was released and was the first edition to categorize autism as a spectrum. The DSM-IV, listed five classifications for ASD, PDD-NOS, "Asperger's disorder," "childhood disintegrative disorder (CDD)," and "Rett syndrome." This breakdown reflected the research hypothesis at the time that autism was rooted in genetics. The DSM-IV-R was released in 2000, and did not include any changes for autism-related diagnoses.

This hypothesis proved true when researchers the Human Genome Project (HGP), which was completed in 2003 to identify a number of genes associated with a diagnosis of ASD. Studies of people with autism have found irregularities in several regions of the brain (Nicotera, Hagerman, Catania, Buono, Nuovo, & Liprino, 2019; Hardan, Keshavan, Sreedhar, Vemulapalli, & Minshew, 2006), while other studies suggest that people with autism have abnormal levels of serotonin or other neurotransmitters in the brain (Barak & Feng, 2016; Syed & Brašić, 2019).

These abnormalities indicate that autism usually results from the disruption of normal brain development during fetal development caused by defects in genes that control brain growth (National Human Genome Research Institute, 2019).

In the release of the DSM-5 (2013), the five previous diagnoses under autism-related disorders were condensed, placing them under the name of autism spectrum disorder (ASD). The main two criteria for diagnosis are: 1) persistent deficits in social communication and social interaction across multiple contexts and 2) restricted, repetitive patterns of behaviors, interests, or activities (American Psychiatric Association, 2013). Within each of the main criteria, there are further breakdowns of ways ASD manifest. Since the definition in DSM-5 was made so inclusive, the numbers of individuals with autism spectrum disorder seemed to increase somewhat drastically. This increase in diagnosis-rates has been questioned in the last decade. Research shows that the DSM definition change only had a slight influence on the trends in numbers; early monitoring and assessment in children has become more readily available (Autism Speaks, 2018).

Trends of Numbers

The first diagnoses of autism were extremely rare, and evoked great fear in family members, particularly the mother of the child, as they were blamed if their child had any sort of disability. In the '50s and '60s they were known as the “refrigerator” mothers (Evans, 2013) because of their perceived coldness toward their children with the disability. The first studies regarding prevalence in autism were conducted in the 1960s and 1970s in Europe and the United States. These studies reported occurrence estimating in the range of 2 to 4 cases per 10,000 children leading to the impression that autism was a rare childhood disorder (Lotter, 1966; Lotter, 1966; Treffert, 1970).

In a study by Nevison, Blaxill, and Zahorodny (2018), the researchers analyzed prevalence trends of autism from 1931 to 2014 in California. Specifically, they examined ASD data from IDEA and the Autism and Developmental Disabilities Monitoring (ADDM) Network. The prevalence of autism in the California Department of Developmental Services (CDDS) dataset increased from 0.001% in the cohort born in 1931 to 1.2% among 5 year-olds born in

2012. This increase began around 1940 at a rate that has gradually accelerated over time, including notable change points around birth years 1980, 1990 and, most recently, 2007. Additionally, CDDS autism prevalence has risen dramatically over the last 35 years. The available data, which extended back to 1931, showed a very small initial prevalence and slowly increased from 1940 to 1980, at which time the first of several change points occurred, in and around 1980, 1990, and 2007, each associated with a new upward trend in the rate of growth (Nevison et al., 2018).

ADDM offers that about one in 54 or 1.85% of children were identified with ASD in 2016, based on tracking in multiple areas of the United States including: Arizona, Arkansas, Colorado, Georgia, Maryland, Minnesota, Missouri, New Jersey, North Carolina, Tennessee, Wisconsin (ADDM, 2020). While researchers caution this estimate is based on 8-year-old children living in these 11 communities and does not represent the entire population of children in the United States, they did find that ASD occurs among all racial, ethnic, and socioeconomic groups. Additionally, ADDM found no overall difference in the number of African American children identified with ASD compared to Caucasian children; the first results of its kind; the number of Hispanic children identified with ASD is still lower compared to white or black children. Finally, the researchers found that almost half of children identified with ASD have average or above average intellectual ability, which is higher than a decade ago, when one-third of children identified with ASD had average or above average intellectual ability (ADDM, 2020).

From 2004, the prevalence was one in 166 children trending steadily upward until 2018 where it was one in 59 children with the diagnosis (CDC, 2018). A particular note being the 15% increase in ASD diagnoses between 2012 and 2014. The trends in numbers are reported differently from different agencies, but on average, the diagnosis rate tends to sit at one in 50-60 children. This justification for the data regarding prevalence can come from many perspectives. Throughout the years, the DSM diagnostic criteria for ASD has seen many revisions. Since the scope has become broader for receiving a diagnosis of autism, this fact could potentially lead to the increasing trend in numbers that have been seen over the last few decades. With the increased understanding of autism being a spectrum, rather than a “one size fits all” diagnosis, more individuals fall under the umbrella of an autism-related diagnosis.

AMTA and Training for ASD

The earliest known reference to music therapy appeared in 1789 in an unsigned article in *Columbian Magazine* titled "Music Physically Considered." In this article, a fiddler was allowed to play for a patient that had a "nervous fever" and lost his speech. The author referenced how the patient's mood had shifted, and eventually regained his speech (Music Physically Considered, 1789). The author stated: "I am of the opinion, that music will be found, if not superior, at least equal to any article we know to be made use of in the *Materia Medica*" (Music Physically Considered, p. 93, 1789) Interest in music therapy developed more of a following during the early 1900s, where the continued support led to the formation of several associations, many of which were short-lived. The National Society of Musical Therapeutics was founded in 1903 by Eva Augusta Vescelius (Gracida, 2018). In 1926, Isa Maud Ilsen founded the National Association for Music in Hospitals. Finally, in 1941, the National Foundation of Music Therapy was founded by Harriet Ayer Seymour (AMTA, 2020). These organizations contributed works to the first journals, books, and educational courses for music therapy. However, they unfortunately were not able to develop an organized clinical profession such as the one seen today.

In the 1940s, three individuals began to emerge as innovators and key players in the development of music therapy as an organized clinical profession. Ira Altshuler, MD, a psychiatrist and music therapist, promoted music therapy in Michigan. Willem van de Wall created the first "how to" music therapy text, *Music in Institutions*, in 1936 (Gracida, 2018). Later, E. Thayer Gaston was a key leader in cultivating the profession in regards to education. She influenced the development of the first music therapy college training program created in the 1940s.

The modern American Music Therapy Association (AMTA) was formed in 1998 as a merger between the National Association for Music Therapy (NAMT) and the American Association for Music Therapy (AAMT) (AMTA, 2020). The AMTA united the music therapy profession for the first time since 1971. Being the premier professional association in the United States, the AMTA serves professional music therapists, students, faculty members, graduate students, and other supporters. Representing music therapists in the United States and in over 30

countries around the globe, the AMTA is the largest professional association for music therapists (AMTA, 2020).

The AMTA has set standards in terms of the education and clinical training for future music therapists to follow in the process leading up to becoming a Board-Certified music therapist (MT-BC) and has created detailed standards of practice in regards to this process. Regarding standards for educational and clinical curriculum, AMTA has created a template for university-affiliated schools. Musical foundations should make up 45% of the curriculum for an undergraduate music therapy degree. Within this category, classes noted by AMTA are: (1) Music Theory, (2) Composition and Arranging, (3) Music History and Literature, (4) Applied Music Major, (5) Ensembles, (6) Conducting, and (7) Functional Piano, Guitar, Percussion, and Voice Improvisation. AMTA suggests that Clinical foundations should make up 15% of academics. The classes specified are: (1) Exceptionality and Psychopathology, (2) Normal Human Development, (3) Principles of Therapy, and (4) The Therapeutic Relationship. Music therapy courses should make up another 15% of academia, listed as: (1) Foundations and Principles, (2) Assessment and Evaluation, (3) Methods and Techniques, (4) Pre-Internship and Internship Courses, (5) Psychology of Music, (6) Music Therapy Research, (7) Influence of Music on Behavior, and (8) Music Therapy with Various Populations. General education courses are suggested to make up around 20-25% of the curriculum. The classes for general education may be: (1) English, (2) Math, (3) Social Sciences, (4) Arts, (5) Humanities, (6) Physical Sciences, etc. AMTA then indicates that around 5% of the studies should be electives (AMTA, 2020).

Within the recommended curriculum for a music therapy program leading to a six-month internship, there is no requirement of having a class on the topic of working with individuals with disabilities. AMTA suggests “Music Therapy with Various Populations,” but not specifically individuals with disabilities. While many credentialed institutions include a course involving music therapy with this population, it is not a direct AMTA requirement to do so.

Music Therapy Interventions for ASD

There have been many studies involving music therapy and individuals with a diagnosis of ASD over the years. Since ASD is known to impact many areas of an individual's development, music therapy has been proven successful in many areas. Music therapists have been known to target communication, cognitive skills, academic, stigmatized/stereotyped behaviors, social behaviors, as well as other areas, in individuals with ASD. A comprehensive fact-sheet released by AMTA in 2010, and revised in 2012, included intervention methods, and research studies done in support of each method.

In 2004, Whipple conducted a meta-analysis that investigated music intervention with adolescents with autism spectrum disorder. The researcher found that in all studies, music intervention was found to be highly motivational and effective in treatment. Specifically, the researcher found that music: 1) increased appropriate social behaviors and decreased the inappropriate, stereotypical, and self-stimulatory behaviors, 2) increased attention to tasks at hand, 3) increased vocalizations, verbalizations, gestures, and vocabulary comprehension, 4) increased echolalia, moving toward increased communication, and decreased echolalic percentage of total utterances, 5) increased communicative acts and engagement with others, 6) enhanced body awareness and coordination, 7) improved self-care skills and symbolic play, and 8) reduced anxiety. Whipple notes the most important thing for music therapists is to be cognizant of, is that all music interventions analyzed have been shown to be effective for children and adolescents with autism; she also states that the efficacy of these interventions must continue to be explored and tested, calling for evidence-based interventions.

In an analysis done by Kaplan and Steele (2005), the researchers analyzed data related to goals and outcomes over two program years for 40 music therapy clients with a diagnosis of autism, ranging in age from 2-49 years old. They investigated music therapy interventions, session types, and formats most frequently used, and also observed which goals most frequently addressed. They found the most common session type was individual, followed by partner, small or large groups, peer model, or a combination. Primary goal areas were ranked from language/communication (41%), behavioral/psychosocial (39%), cognitive (8%), and musical (7%), to perceptual/motor (5%). They found that 100% of subjects reached their initial objectives in these goal areas within one year or less. The most frequently utilized interventions were

interactive instrument playing, musical instrument instruction, interactive singing, instrument choices, and song choices. Lastly, 100% of parents and caregivers surveyed indicated the patients' were able to generalize the skills/responses acquired in music therapy to non-music therapy environment (Kaplan & Steele, 2005). Finally, the researchers note that it is crucial to keep record of the interventions done with individuals with disabilities as well as highlight the importance of researching effectiveness of specific interventions.

In 2013, Kern, Rivera, Chandler, and Humpal conducted a research study was done to discover and evaluate the status of music therapy practices for serving clients with ASD, the implementation of national ASD standards and guidelines, the awareness of recent developments, and training needs of music therapists. At the time of this study, 43.8% of the music therapists indicated that more than half of their clients are on the autism spectrum, and serve clients with ASD primarily in public schools serving K-12. However, the researchers noted that there appears to be a trend toward providing music therapy services in a variety of community settings beyond private practice. The music therapists that were surveyed identified training needs in the following areas: 1) implementation of evidence-based practices, 2) behavioral, sensory, and neurologic approaches to ASD, 3) services for adolescents and young adults with ASD, and 4) recent research outcomes related to ASD and music therapy (Kern, Rivera, Chandler, & Humpal, 2013).

The importance of developing "evidence-based" interventions has become important in gaining substantial recognition with music therapy in the field of medicine. The Rational-Scientific Mediating Model (R-SMM) developed by Thaut (2000), is a systematic method of conducting high quality research in music therapy to establish these evidence-based interventions and develop the theoretical foundations needed for baseline information. The researcher begins by investigating a specific physiological, neurological, or psychological response to music (Musical Response Model) and then connects this response with an analogous nonmusical response (Nonmusical Parallel Model). Once the researcher has determined if the musical responses can be generalized to a non-music setting, the effects of music on behavior are systematically studied to develop an empirically supported hypothesis (Mediating Model). Finally, the researcher studies a specific intervention or treatment protocol that is based on the developed hypothesis (Clinical Research Model) (Thaut, 2000).

The researchers concluded from this survey that: “music therapists have a solid understanding of providing services for individuals with ASD, but would benefit from advanced online training and improved information dissemination to stay current with the rapidly changing aspects pertinent to this population.” (p. 301). They also stated: “less understood or recognized are inclusion practices and latest developments in the field of ASD” (Kern, Rivera, Chandler, & Humpal, 2013, p. 301).

CHAPTER 3

METHODOLOGY

Content Analysis

A content analysis is a research technique that has three different approaches: conventional, directive, or summative (Hsieh & Shannon, 2005). All three approaches are used to interpret meaning from the content of text data. A summative content analysis involves counting and comparisons, usually of keywords or content, followed by the interpretation of the underlying context. The results for a summative approach are interpreted only after gathering the frequency or usage of the keywords, making this research method a qualitative technique (Hsieh & Shannon, 2005)

This study sought to discover how many presentations were given at national conferences were about autism, inclusion, and how many were on the topic of both autism and inclusion. A content analysis was done on the American Music Therapy Association's (AMTA) national conference programs from the years 2006-2019. The presentations cover seven years before, as well as seven years after, the most recent definition change to autism in the DSM-5 done in 2013. Past programs were found by going to the AMTA website and searching "past national conferences" in the search bar. This search brought up a link to a list of past AMTA national conferences beginning in 1998; the search included PDF links to national conference programs since the founding of AMTA. The link to the conference program was embedded in the year and city it took place in, listed chronologically: the top of the list being the oldest conference, and the bottom being the most recent. To find the conference presentations including autism-related topics, specific criteria must be met.

Inclusion Criteria for Autism-Related Presentations

In order to find how many presentations specifically focus on autism throughout the years of 2006-2019, the researcher searched key words by using the feature *command-F* to search for specific words throughout the document. These key words included:

- 1) Autism
- 2) ASD
- 3) Asperger
- 4) Pervasive Developmental Disorder not Otherwise Specified/(PDD-NOS)
- 5) Childhood Disintegrative Disorder

Inclusion Criteria for Inclusion-Related Presentations

In order to find inclusion-related topics throughout the years of 2006-2019, the command-F feature was used to search for key words throughout the PDFs. These key words included:

- 1) Inclusive
- 2) Inclusion
- 3) Mainstream

How the Data were Categorized

Data were included if the key word appeared in the title of the presentation, the description of the presentation, or both. Data were organized into four main categories: 1) presentation session, 2) Continuing Music Therapy Education (CMTE), 3) poster session, and 4) other. The “other” category included exhibitors, special trainings, pre-conference agendas, pre-conference institutes, clinical practice forums, and trending topic panels.

The information gleaned from the initial analysis were broken down by year. This showed the data broken down for each individual year, and gave a clear look at potential trends. The data were then separated to begin the analysis of which key word appeared the most and in which presentation type. This looked at autism/ASD-related presentation (having only autism/ASD in the title or definition), inclusive/inclusion-related presentations (having only inclusive/inclusion in the title or definition), and autism and inclusion presentations (having both key words appearing in the title or definition).

Boundaries for Content Analysis

The researcher went through the conference programs searching for each keyword once to compile the data. After all key words had been searched, the researcher applied the same technique again to make sure no presentation was missed. However, there is no way to know that the programs supplied were entirely comprehensive in their information. Because of the pre-made conference schedule, there is a potential margin for error in finding the data for the content analysis.

In the search for inclusion-related topics, the researcher also excluded the term “inclusion/inclusive” if it was used in a context outside of the educational definition of inclusion: “Regarding individuals with disabilities and special education, inclusion secures opportunities for students with disabilities to learn alongside their non-disabled peers in general education classrooms” (Special Education Guide, 2014). This exclusion may also leave room for error in the results and performing the true content analysis.

Target for Inferences

Inferences drawn in the study aimed to:

- 1) Analyze how many presentations have been presented on the topic of ASD and inclusion over the last 14 years
- 2) Extrapolate the specifics of ASD-specific and inclusion-specific presentations
- 3) Secondarily explore if any potential trends occurred in conference presentation numbers due to the DSM-5 definition change
- 4) Use the findings to inform the profession about how many national conference presentations that included the topics
- 5) Include the current and future implications of inclusion and ASD presentations at AMTA national conferences, and their valuable need in the profession

CHAPTER 4

RESULTS

The AMTA national conferences used for analysis in this study were from the years spanning from 2006 to 2019. The annual AMTA national conference is held in a different major city each year to accommodate travelers from around the nation. To meet the criteria for this study, the keywords used to search within the conference program were: autism, ASD, Asperger, pervasive developmental disorder not otherwise specified (PDD-NOS), childhood disintegrative disorder, inclusive, inclusion, and mainstream. The first research question addressed looked at what types of presentations were used when the criterion were met. Presentations are live conference sessions where there a presenter(s) leads a presentation on a specific topic and conference attendees can come and listen. A Continued Music Therapy Education course, or CMTE, is a credentialed training class to meet the requirement for MT-BC membership maintenance. Many times, a CMTE serves as an extensive training course on a specific topic in the field of music therapy. Poster sessions are also used at AMTA national conferences; poster sessions are where students, faculty, and professionals have the opportunity to present research they have been completing. Frequently, the poster presentations are exhibited in a large conference room all at once, so conference attendees can walk the room and read the displayed research. The presentations that fell into the “other” category were miscellaneous aspects of the conference including exhibitors, special trainings, pre-conference agendas, pre-conference institutes, clinical practice forums, and trending topic panels.

Of the Presentations at the AMTA National Conference, Which are Presentation Sessions, CMTEs, Posters, or Another Type?

A total of 248 presentations in the AMTA National Conference Programs from the years 2006-2019 fit the inclusion criteria for autism spectrum disorder-related topics. Of the total presentations, 8.5% ($n = 21$) were CMTEs, 53.6% ($n = 133$) were live conference presentation sessions, 28.6% ($n = 71$) were in poster presentations and 9.3% ($n = 23$) were in other categories. Overall, there did not seem to be a distinctive trend in the numerical data explaining the number

of presentations regarding autism-related topics. See Table 1 for a breakdown of presentation types by year.

Table 1
Number of Autism-Related Presentations by Type and Year

Year	CMTE	Presentations	Poster	Other
2006	3	6	3	1
2007	4	9	2	1
2008	1	5	1	0
2009	1	8	5	2
2010	0	8	8	2
2011	0	10	10	1
2012	1	10	10	3
2013	3	8	6	0
2014	2	9	6	3
2015	4	16	3	4
2016	1	16	3	2
2017	1	13	4	3
2018	0	11	7	1
2019	0	4	3	0
TOTAL	21	133	71	23

Of the 248 presentations spanning over 14 years, 199 of them had the keyword ASD/autism in the title or description of the conference presentation. This constitutes for approximately 80.2% of the total 248 presentations. Of the presentations which included only inclusion/inclusive in the title, there were 36, making up 14.5% of the total. The conference presentations that included other key words was around 2.4% of the total, or six of the 248.

How Many Presentations Used Only the Keyword ASD/Autism in the Title or Description?

The first research question sought to discover how many of the total presentations meeting the inclusion criteria had only ASD/autism in the title or description. The total number

of presentations at the AMTA national conference that only included the keyword ASD or autism was shown to have the highest prevalence at 80.2% ($n = 199$). The live session presentations were the highest occurring presentation type. See Table 2 for the breakdown of types of presentation.

Table 2
Only ASD/Autism in the Title or Description

CMTE		Presentations		Posters		Other	
Σ	%	Σ	%	Σ	%	Σ	%
16	6.5	102	41.1	58	23.4	23	9.3

How Many Presentations Used Only Inclusion/Inclusive in the Title or Description?

The number of presentations which only had the inclusion criteria of the keywords inclusion or inclusive had significantly fewer presentations that the number including ASD/autism. These presentations had the keywords in the title or description, without the terms ASD or autism. These presentations made up approximately 14.5% ($n = 36$) of the total 248 presentations at AMTA national conferences. Over the last 14 years of national conferences, only 36 presentations in various types have been given that only had the terms inclusion/inclusive. See Table 3 for the percentages of each presentation type out of the 248 sessions.

Table 3
Only Inclusion/Inclusive in the Title or Description

CMTE		Presentations		Posters		Other	
Σ	%	Σ	%	Σ	%	Σ	%
2	0.08	24	1.7	10	4	0	0

How Many Presentations Had Both Terms in the Title or Description?

Perhaps the most relevant to the conference topic analysis is the number of presentations that included the keywords autism/ASD as well as inclusion/inclusive in the title or description

of the presentation. Out of the 248 presentations meeting the inclusion criteria between the years 2006-2019, only 7 presentations included both of the terms inclusion/inclusive and ASD/autism. That makes up a little less than 3% of the total presentations meeting the inclusion criteria. See Table 4 for the percentage of the total each other sessions made up.

Table 4
Both ASD/Autism and Inclusive/Inclusion in the Title or Description

CMTE		Presentations		Posters		Other	
Σ	%	Σ	%	Σ	%	Σ	%
2	0.08	4	1.6	1	0.4	0	0

Lastly, only six presentations included only one key word with the exclusion of ASD/autism and inclusion/inclusive where they keyword stood alone in the title or description. Of the 248 total presentations, this makes up around 2% of all of the presentations. See table 5 for the other keywords that met inclusion criteria.

Table 5
Other Key Words the Title or Description

CMTE		Presentations		Posters		Other	
Σ	%	Σ	%	Σ	%	Σ	%
1	0.04	3	1.2	2	0.08	0	0

CHAPTER 5

DISCUSSION

Results from this study indicate that, while there are presentations being given about ASD at the national AMTA conferences, the number that cover inclusion in regards to ASD are very few. In 2017, 6 million children received services under IDEA, and 10.1% of those children were children with ASD (IDEA, 2020). Even though legislation does not make reference to “inclusion,” it does make the case for serving the child in the least restrictive environment (Florida Department of Education, 2005). In the 2018 census report for AMTA, nearly 38% of music therapists that responded served children on the autism spectrum. The AMTA national conference is designed to encourage professional learning and development within the field of music therapy. In the description for the 2019 AMTA national conference, the headings “Innovate!,” “Integrate!,” “Motivate!” are seen (AMTA, 2020). Since much a high number of music therapists report working specifically with children with ASD, it seems surprising that there would not be more resources for the MT-BCs working with these clients. This study revealed that there have been seven presentations over the last 14 years at the national AMTA conference having included ASD and inclusionary information.

The fact that the most of the data only includes the criteria of only ASD/autism can be interpreted as a logical result. Music therapists work in a variety of different settings where they might interact with an individual with ASD, including, but not limited to, schools, adult homes, assisted living facilities, and individual one-on-one sessions. Since such a great number of practicing music therapists encounter individuals with a diagnosis of ASD, it is comprehensible that there would be the most number of presentations including only the keyword ASD/autism (AMTA, 2018). Out of the 248 presentations meeting the inclusion criteria for analysis, 199 of them fell into this category.

While “music therapy in special education,” or a class of similar content is frequently built into music therapy curriculum, music therapy students are not required to take a course specific to special education. Even if a student had taken a class of similar nature to a music in special education course, there are many disabilities that are covered in that type of course. So,

although students may be learning information about children with ASD, they may only spend a week or two out of the traditional semester to cover an autism diagnosis and how to treat those individuals in a music therapy setting. Under AMTA's clinical standards, there is no requirement for a music therapy course in relation to special education. Musical foundations should make up 45% of curriculum, clinical foundations are 15%, music therapy courses are 15%, general education make up 20-25%, and electives should fall in around 5% (AMTA, 2020). AMTA does not specify or denote any course for special education.

Inclusion is an educational practice where students with special needs are fully integrated into the general education classrooms at a school. Conversely, mainstreaming is when a child within a special education structure is put into classes with their typically developing peers for only part of the school day or only for certain subjects. The inclusion philosophy rests on the idea that every individual, regardless of his or her disabilities, has the right to be incorporated fully into the fabric of society, or in their least-restrictive environment (Pinantoan, 2013). Research has shown that inclusive settings hold many benefits for both the child with a disability as well as their typically developing peers. The term "inclusion" is largely used in educational settings. Perhaps music therapy conferences are not covering the topic of inclusion for that reason. However, even though the term inclusion is largely education-based, music educators are also often not required to take courses related to special education. In fact, most music education programs only offer special education classes as an elective course. Both music therapists and music educators encounter students with disabilities in their careers, and neither are required by their organization to take a course to train them for those interactions. Music therapists are often used as resources for educators, as well as music educators, to facilitate inclusion practices and using the Universal Design for Learning.

Several questions were raised during the analysis of the conference presentations. Firstly, presentation proposals must be sent to an AMTA review board before being selected to present at conference. Perhaps music therapists are submitting proposals and inevitably are not being selected to present their topic at the national conference. The monetary component of attending an AMTA national conference also comes into consideration; AMTA requires maintenance of membership fees as well as a conference fee. The national conferences often take place in large cities, and may involve airfare depending on a therapists' given location in relation to the

conference city, so traveling fees and hotel accommodations are also a consideration. Many music therapists depend solely on their clinical work as income, and may not be able to travel in order to present during a conference. Many factors and considerations may come into play when considering potential reasons for the lack of presentations on inclusion and ASD over the last 14 years. Another potential reason for the low number of presentations is the nature of the contracting role of music therapists in schools. It is common for music therapists to contract with individual children in the school system, addressing the child's Individual Education Program (IEP) goals. Because of the nature of the individualized sessions, music therapists may not have a need to expand their knowledge on inclusion in the education setting.

During additional analysis of the number of presentations over the years, the question of a potential trend in presentations related to ASD arose. Since the conferences being analyzed were seven years before the DSM-5 definition change in 2013 and seven years after, analysis was done to see if there were a significant trend in the number of presentations. There was a brief spike in posters from 2008-2012, but the numbers significantly tapered off after. The live presentations endured an increase from 2014-2016, but then decreased after. The CMTEs and "other" category maintained a fairly similar average with no significant increases or decreases in numbers. No trend in numbers seemed to be parallel or trending in any specific, explainable way.

REFERENCES

- 2018 AMTA Member Survey A Descriptive, Statistical Profile of the 2018 AMTA Membership and Music Therapy Community & Workforce Analysis. (2018). <https://www.musictherapy.org/assets/1/7/18WorkforceAnalysis.pdf>.
- About Autism*. Genome.gov. (2019, May 19). <https://www.genome.gov/Genetic-Disorders/Autism>.
- Adamek, M. S., & Darrow, A.-A. (2018). In *Music in special education* (p. 261). essay, American Music Therapy Association.
- American Music Therapy Association. (2010). Autism Spectrum Disorders: Music Therapy Research and Evidence Based Practice Support . https://www.musictherapy.org/assets/1/7/bib_autism10.pdf.
- American Music Therapy Association*. Becoming a Music Therapist, Working in Music Therapy | A Career in Music Therapy | American Music Therapy Association (AMTA). <https://www.musictherapy.org/careers/employment/>.
- American Music Therapy Association*. History of Music Therapy | History of Music Therapy | American Music Therapy Association (AMTA). <https://www.musictherapy.org/about/history/>.
- American Psychiatric Association. (2013). In *Diagnostic and statistical manual of mental disorders: DSM-5* (pp. 56–58). essay.
- AMTA in the ATL: the 2011 Conference of the American Music Therapy Association. (2011). https://www.musictherapy.org/assets/1/13/11FinalProgram_web.pdf.
- Barak, B., & Feng, G. (2016). Neurobiology of social behavior abnormalities in autism and Williams syndrome. *Nature Neuroscience*, 19(5), 647–655. <https://doi.org/10.1038/nn.4276>
- Carrico, M. L. (2000). The placement dilemma: least restrictive environment.
- Catching Waves to the Future: the 2009 Annual Conference of the American Music Therapy Association. (2009). https://www.musictherapy.org/assets/1/7/09_program_final.pdf.
- CDC increases estimate of autism's prevalence by 15 percent, to 1 in 59 children*. Autism Speaks. (2018, April 26). <https://www.autismspeaks.org/science-news/cdc-increases-estimate-autisms-prevalence-15-percent-1-59-children>.

- Centers for Disease Control and Prevention. (2020, March 25). *What is Autism Spectrum Disorder?* Centers for Disease Control and Prevention. <https://www.cdc.gov/ncbddd/autism/facts.html>.
- Come To The Source: the 2006 Conference of the American Music Therapy Association. (2006). https://www.musictherapy.org/assets/1/7/06_final_programR.pdf.
- Continuum of Growth: AMTA's 2015 Annual Conference. (2015). <https://www.musictherapy.org/assets/1/7/2015FinalProgram.pdf>.
- Evans, B. (2013). How autism became autism. *History of the Human Sciences*, 26(3), 3–31. <https://doi.org/10.1177/0952695113484320>
- Expanding the Gateway to Music Therapy: The 10th Anniversary Conference of the American Music Therapy Association. (2008). https://www.musictherapy.org/assets/1/7/08_final_program.pdf.
- Fischbach, G. D. (2019, April 2). *Leo Kanner's 1943 paper on autism*. Spectrum. <https://www.spectrumnews.org/opinion/viewpoint/leo-kanners-1943-paper-on-autism/>.
- Gracida, L. S. (2020, March 28). *History of Music Therapy: From Antiquity to Today*. Sam's Fans. <https://samsfans.org/history-music-therapy/>.
- A Guide to the Theory and Practice of Inclusion*. Special Education Guide. (2014, October 13). <https://www.specialeducationguide.com/pre-k-12/inclusion/whats-inclusion-theory-and-practice/>.
- hanging Winds-Innovation in Music Therapy: the 2012 Conference of the American Music Therapy Association. (2012). <https://www.musictherapy.org/assets/1/13/12ProgramFINALweb.pdf>.
- Hardan, A. Y., Keshavan, M. S., Sreedhar, S., Vemulapalli, M., & Minshew, N. J. (2006). An MRI Study of Minor Physical Anomalies in Autism. *Journal of Autism and Developmental Disorders*, 36(5), 607–611. <https://doi.org/10.1007/s10803-006-0103-4>
- Harness the Spirit: 2007 Conference of the American Music Therapy Association. (2007). https://www.musictherapy.org/assets/1/7/AMTA_2007_final_program.pdf.
- Hsieh, H.-F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, 15(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Inclusion Brief*. Florida Department of Education. (2005, April). <http://www.fldoe.org/core/fileparse.php/7690/urlt/0070123-clu-brief.pdf>.

- Individuals with Disabilities Education Act (IDEA)*. Individuals with Disabilities Education Act. (2020). <https://sites.ed.gov/idea/>.
- Innovate! Integrate! Motivate! 2019 Annual Conference. (2019). https://www.musictherapy.org/assets/1/7/2019ConferenceProgram_web.pdf.
- Kanner, L. (1943). Autistic Disturbances of Affective Contact. *Nervous Child*, 2, 217–250.
- Kaplan, R. S., & Steele, A. L. (2005). An Analysis of Music Therapy Program Goals and Outcomes for Clients with Diagnoses on the Autism Spectrum. *Journal of Music Therapy*, 42(1), 2–19. <https://doi.org/10.1093/jmt/42.1.2>
- Kern, P., Rivera, N. R., Chandler, A., & Humpal, M. (2013). Music Therapy Services for Individuals with Autism Spectrum Disorder: A Survey of Clinical Practices and Training Needs. *Journal of Music Therapy*, 50(4), 274–303. <https://doi.org/10.1093/jmt/50.4.274>
- Kern, P., Rivera, N. R., Chandler, A., & Humpal, M. (2013). Music Therapy Services for Individuals with Autism Spectrum Disorder: A Survey of Clinical Practices and Training Needs. *Journal of Music Therapy*, 50(4), 274–303. <https://doi.org/10.1093/jmt/50.4.274>
- Laws & Guidance*. U.S. Department of Education. <https://www2.ed.gov/policy/landing.jhtml?src=image>.
- Learn the Signs of Autism*. Autism Speaks. (2020). <https://www.autismspeaks.org/signs-autism>.
- Lotter, V. (1966). Epidemiology of autistic conditions in young children. *Social Psychiatry*, 1(3), 124–135. <https://doi.org/10.1007/bf00584048>
- Lotter, V. (1966). Epidemiology of autistic conditions in young children. *Social Psychiatry*, 1(3), 124–135. <https://doi.org/10.1007/bf00584048>
- A Mindful Approach to Music Therapy: 2017 Annual AMTA Conference. (2017). https://www.musictherapy.org/assets/1/7/2017FinalProgram_sm.pdf.
- Music Physically Considered. (1789). *Columbian Magazine*, 90–93.
- Music Therapy for a Growing World: The 2018 Annual Conference of the American Music Therapy Association. (2018). https://www.musictherapy.org/assets/1/7/2018ConferenceProgram_web.pdf.
- Nevison, C., Blaxill, M., & Zahorodny, W. (2018). California Autism Prevalence Trends from 1931 to 2014 and Comparison to National ASD Data from IDEA and ADDM. *Journal of Autism and Developmental Disorders*, 48(12), 4103–4117. <https://doi.org/10.1007/s10803-018-3670-2>

- Nicotera, A. G., Hagerman, R. J., Catania, M. V., Buono, S., Nuovo, S. D., Liprino, E. M., ... Musumeci, S. A. (2019). EEG Abnormalities as a Neurophysiological Biomarker of Severity in Autism Spectrum Disorder: A Pilot Cohort Study. *Journal of Autism and Developmental Disorders*, 49(6), 2337–2347. <https://doi.org/10.1007/s10803-019-03908-2>
- Pinantoan, A. (2013). The Effect of Parental Involvement In School and Education. *InformedED*. <https://www.opencolleges.edu.au/informed/features/the-effect-of-parental-involvement-in-academic-achievement/>.
- Pursue Your Passion for Music Therapy: 2014 Conference American Music Therapy Association. (2014). <https://www.musictherapy.org/assets/1/13/2014Program.pdf>.
- Rock Out the Past and Roll Into the Future with Music Therapy: 2010 National Conference of the American Music Therapy Association. (2010). <https://www.musictherapy.org/assets/1/7/2010FinalProgram.pdf>.
- Syed, A. B., & Brašić, J. R. (2019). Nuclear neurotransmitter molecular imaging of autism spectrum disorder. *AIMS Molecular Science*, 6(4), 87–106. <https://doi.org/10.3934/molsci.2019.4.87>
- Thaut, M. (2000). A scientific model of music in therapy and medicine. *Music Therapy Perspectives*.
- Treffert, D. A. (1970). Epidemiology of Infantile Autism. *Archives of General Psychiatry*, 22(5), 431. <https://doi.org/10.1001/archpsyc.1970.01740290047006>
- Under the Canopy-The Music Therapy Profession: 2016 Annual AMTA Conference. (2016). https://www.musictherapy.org/assets/1/7/2016ConfProgram_final.pdf.
- Voices of the Sea-Music Therapy at Florida: The 2013 Conference of the American Music Therapy Association. (2013). https://www.musictherapy.org/assets/1/13/13Final_Program.pdf.
- Volkmar, F. R., Cohen, D. J., & Paul, R. (1986). An Evaluation of DSM-III Criteria for Infantile Autism. *Journal of the American Academy of Child Psychiatry*, 25(2), 190–197. [https://doi.org/10.1016/s0002-7138\(09\)60226-0](https://doi.org/10.1016/s0002-7138(09)60226-0)
- Whipple, J. (2004). Music in Intervention for Children and Adolescents with Autism: A Meta-Analysis. *Journal of Music Therapy*, 41(2), 90–106. <https://doi.org/10.1093/jmt/41.2.90>
- Zeldovich, L. (2018, May 9). *The evolution of 'autism' as a diagnosis, explained*. Spectrum. <https://www.spectrumnews.org/news/evolution-autism-diagnosis-explained/>.

BIOGRAPHICAL SKETCH

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