

A Comparison Between American and Korean Music Therapy Treatment Practices for  
Children with Autism Spectrum Disorder

by

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## ABSTRACT

Music therapy literature provides evidence that the use of music is very effective in improving daily living skills for people with Autism Spectrum Disorder (ASD) all over the world. However, each country may have and use their preferred music therapy approaches and interventions for clients with ASD because of cultural differences although music therapy comes from the same origin.

The aim of this research was to discover the cultural differences between American and Korean parents of children with ASD by comparing two countries in various categories, such as care systems, benefits and challenges in raising children with ASD, and therapeutic approaches in music therapy and other therapies used for these children.

The data that was gathered from the survey consisted of 4 participant groups: American parents, Korean parents, American music therapists, and Korean music therapists. This study examined the differences and similarities in the parental perspectives of children with ASD and music therapy treatment practices for individuals with ASD between two countries through the survey methods, integrating quantitative (closed-ended) and qualitative (open-ended) survey questions.

The results of the findings indicated that there were several kinds of cultural differences in treating children with ASD, such as care systems, benefits and challenges in raising their children, and therapies used for children with ASD between American and Korean children. Overall, Korean parent participants reported experiencing fewer benefits than American parent participants in the question concerning country-level benefits. Statistically speaking, the study could not find any significant differences in

using therapies for children with ASD as well as music therapy treatment practices between America and Korea. However, the study found that there were some differences in the music therapy approaches and preferred music therapy interventions for ASD-diagnosed children which were summarized in responses from parents and therapists. The primary difference noticed that American music therapists preferred behavioral and neurologic techniques, while Korean music therapists preferred behavioral and Nordoff-Robbins techniques.

Because of some of the study limitations, the results may not be generalizable. In future research, many more participants need to be engaged with a narrow range of conditions.

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## Chapter 1

### INTRODUCTION

There is no doubt that music plays a prominent role in modern society. Music is flowing out of the radio, television, loudspeaker and everywhere. It is hard to imagine what it would be like if there were no music in the movies, at ceremonies, and in advertisements. Not only in our contemporary society, but from ancient times, human beings have used music for the purpose of rituals, entertainment, advertisements, and so on. Music has been closely connected with humanity and has affected human emotion.

Music has also served as a therapeutic tool for individuals with disabilities. A lot of music therapy literature has demonstrated that using music is very effective in improving daily living skills for individuals with Autism Spectrum Disorder (ASD). The various music therapy treatment practices have been studied and practiced in clinical settings by varied professional music therapists, educators, practitioners, and researchers.

Berger (2002) states,

Music therapy treatments for autism and many other diagnoses, when based on physiologic information, address: motor planning, vestibular and proprioceptive deficits, tactile defensiveness, auditory function, audio- visual coordination, physical coordination, communication, and language. Incorporated into and often resulting from adaptation in these areas are: creativity, self-initiative, social interaction, sense of self and other, body pacing and self-organization, task organization, and general functional adaptation to environment. (p.137)

Each country may have and use their preferred music therapy approaches for clients with ASD because of the cultural differences, although music therapy has the

same origin. To illustrate this point, Hahler and Elsabbagh (2015) present that the cultural, geographic, ethnic, and socioeconomic factors highly relate to utilizing services for individuals with ASD (p.59). Vinden (2011) provides an interesting finding that the authoritative Korean parents' parenting style shows negative outcome to the development of Anglo-American children, although the parenting skill is good for Korean children to develop their social skills. This inhibitory control may influence negatively on the development of Anglo-American children with ASD, whereas authoritative parenting style of Korean parents is reported as a positive influence on Korean children with ASD. He also states that to develop therapeutic approaches and achieve the goals for the ASD-diagnosed children, therapists and educators should consider the sociocultural behaviors and perspectives of the clients' (as cited in Yi, Grinker, & Mandell, 2012, p.516).

This research reviews the characters of Autism Spectrum Disorder (ASD) and the diverse treatments for them. It also reviews the effects of using music therapy for children with ASD. In addition, it compares the parental perspectives on children with ASD as well as the education for the ASD-diagnosed students in Korea and America. Then, the American and Korean music therapy treatment practices for children with ASD are compared. The aims of this research are to discover the differences between American and Korean parents of children with ASD by comparing the two countries in various categories, such as current care systems, benefits and challenges in raising their children, therapies used for children, and to discover how these "between countries" differences affect the use of music therapy treatment practices for ASD-diagnosed children. The perspectives of parents and music therapists are used to gain insights into differences in raising children with ASD and providing therapy for them based on

responses to the survey.

The survey data consists of four participant groups: (1) American parents, (2) Korean parents, (3) American music therapists, and (4) Korean music therapists. The study discusses the differences and similarities in the parental perspectives of their children with ASD and music therapy treatment practices for individuals with ASD in two countries, Korea and America, through survey methods, integrating quantitative (closed-ended) and qualitative (open-ended) survey questions.

## Chapter 2

### LITERATURE REVIEW

This chapter reviews the literature regarding the parental perspectives on individuals with Autism Spectrum Disorder (ASD) and many kinds of therapies for people with ASD, and music therapy approaches and the education for children with ASD in America and Korea to find the differences and similarities between the two countries. The review is comprised of six main sections; (1) Characteristics of children with ASD, (2) Types of therapies and services for children with ASD, (3) Education for children with ASD of America and Korea, (4) American and Korean parental perspectives of their children with ASD, (5) American and Korean music therapy (6) Music therapy treatment practices used for children with ASD in America and Korea.

#### **Autism Spectrum Disorder(ASD)**

According to the American Psychiatric Association (2015), the neurological disorder known as Autism stands as a disorder which influences the functions of the human brain. Approximately one out of every sixty-eight children emerge with a diagnosis of the disorder, frequently bearing such burdens for life. Since the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) was published in 2013, all autism disorders including autistic disorder, Asperger syndrome, childhood disintegrative disorder, and pervasive developmental disorder has been amalgamated into one of Autism Spectrum Disorder (“What is autism,” n.d.).

The Autism Society discloses, “Autism Spectrum disorder (ASD) is a complex developmental disability; signs typically appear during early childhood and affect a person’s ability to communicate, and interact with others” (“What is,” n.d.). The fifth

edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) states that individuals with ASD usually have communication deficits. Although individuals with ASD have different and various degrees of behaviors, people with ASD generally tend to misread nonverbal interactions, respond inappropriately in conversations, or have trouble in building friendships suitable for their age. The ASD-diagnosed children also tend to be overly sensitive to changes in their environment, or focus on improper items, and to be highly dependent on routines (DSM-5, 2013). Although clear causes of autism spectrum disorder have not been found yet, appropriate services or supports have been developed regarding early diagnosis and interventions for people with ASD, leading to improved outcomes (“What is,” n.d.). Parekh (2015) classifies the characteristics of ASD into three departments: children with ASD show communication problem in understanding and using language, they also show difficulties in relating with others, things, and events, and they do repetitive body movements such as hand flapping and repeating phrases and making certain sounds (“What autism,” n.d.).

### **Types of Therapies and Services for Children with ASD**

As the number of ASD-diagnosed children increases, various therapies and services in addition to music therapy have been studied and developed by professional specialists. This section discusses the frequently used treatments methods and therapies in alphabetical order.

**Animals and pet therapy.** Dogs and cats are usually used for this therapy. Pets inspire independence, support, and guard people with disabilities (Volkmar & Wiesner, 2009, p.545).

**Applied Behavior Analysis (ABA).** According to Maurice, Green, & Luce (1996), as well as Swanson & Sachse-Lee (2000), for approximately 40 years, the Applied Behavior Analysis (ABA) interventions have shown profound efficacy in decreasing inappropriate behaviors and increasing adaptive behaviors of individuals with ASD (as cited in Dillenburger, Keenan, Doherty, Byrne, & Gallagher, 2012, p. 112).

Ivy & Schreck (2016) state:

The discipline of applied behavior analysis (ABA) provides a comprehensive approach to understanding and improving human behavior..... behavior analysts create programs derived from basic learning principles (e.g., reinforcement) to promote the development of functional skills or to reduce challenging behaviors (p.57).

The ABA approach focuses on repeating behaviors that are followed by positive reward rather than ignored or unrecognized behaviors (Bhandari, 2016). Through ABA interventions, children diagnosed with ASD can experience the notable modifications and developments of adaptive behaviors such dressing, eating, and personal self-care as well as social behaviors, such as communication, reading and so forth (“Getting to know ABA,” 2010, para. 4).

**Art therapy.** Art therapy helps individuals with ASD express themselves through visual arts, like sculpture, painting, collage, etc. Volkmar and Wiesner (2009) states that art therapy includes counseling in sessions. The goals of art therapy are developing emotional and social skills, self-expression, tolerance of unpleasant stimuli, and addressing problem behaviors of children with ASD by using art materials (Lacour,

2015). This therapy focuses on improving individuals' deficits, such as communication, social interaction, sensory and confidence, instead of completing art works.

**Cognitive Behavioral Therapy (CBT).** According to Ollendick, King, and Chorpita (2006), cognitive behavioral therapy focuses on dealing with mood, depression, and anxiety disorders (as cited in Ames & Weiss, 2013, p. 61) by interpreting their feelings and situations, which helps clients with ASD deflect from their distorted thoughts (Anderson, 2012, para 3). Because CBT has time-limited structures and goal-directed interventions, it has greater effect on older children and higher functioning children than younger children (Anderson, 2012, para. 4).

**Complementary and Alternative Treatment/Therapy.** This treatment is also called "Complementary and Alternative Medicine (CAM)". The National Center for Complementary and Integrative Health (2008) defines CAM as "a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine." According to the Mayo Clinic (2014), "CAM focuses on the whole person and includes physical, emotional, mental and spiritual health" (Complementary and alternative, para. 2). Volkmar and Wiesner, (2009) classify treatments as alternative treatments and complementary treatments. Alternative treatments are the treatments that are used in place of usual or conventional medicine, while complementary treatments are the ones used in combination with traditional medicine (p. 519).

The treatments/therapies of CAM are sophisticated, educational, and diverse interventions and approaches (Volkmar & Wiesner, 2009). Although the obvious scientific evidence that CAM therapies affect people with ASD do not exist now, sensory

integration therapy, acupuncture, and massage record significant outcomes among CAM therapies (Brondino et al., 2015).

**Developmental, Individual-difference, Relationship-based (DIR) and DIR/Floortime.** Casenhiser (2011) explains that DIR is a comprehensive framework for reaching the challenges and strengths of children with ASD, while Floortime is a play based intervention (as cited in “DIR®/Floortime,” n.d.). Floortime interventions take place on the floor to play with a child with ASD, inviting a parent or a therapist. This intervention requires a parent or an educator to follow the lead of a child, which supports an ASD-diagnosed child to develop their communication, problem-solving, and learning skills. The priority consideration of the DIR/Floortime approach is the interaction between a client and a parent/educator because the lack of interest about varied objects, poor social engagement, and limited communication skills are the greatest challenges of children with ASD (“DIR®/Floortime: Developmental, Individual Difference, Relationship-based,” n.d.).

**Diet Intervention.** Brondino et al., (2015) state that “The rationale for this treatment is based on the frequently observed dietary deficiency of vitamins and micronutrients in children with ASD” (p. 6). Children with ASD tend to have noticeable food preferences, which means they may avoid ingesting a certain type of food that can lead individuals with ASD to be healthier (Volkmar & Wiesner, 2009, p.534). This intervention includes taking in Omega-3 (fish oil) as well as vitamins and avoiding Gluten (a protein in the seeds of wheat and other grain products) and/or Casein (a protein in milk products) (Volkmar & Wiesner, 2009, p.535).



**Drug Treatment.** To ameliorate the stereotyped behaviors of people on the autism spectrum such as attention span, anxiety, repetition behaviors and so on, a variety of pharmacotherapies are used by psychiatrists (Volkmar & Wiesner, 2009). Olanzapine (Zyprexa) that is prescribed by doctor, without the approbation of the FDA, is used for reducing children's aggression and other serious behavioral disturbances. Antipsychotic medications are used for severe behavior problems by decreasing the activity of the brain. However, it may cause several side effects like muscle stiffness, abnormal movements, and sedation. Stimulant medications such as methylphenidate (Ritalin®) are used for individuals with ASD who show attention deficit and hyperactivity (Grohol, 2016). Drug treatment is a highly controversial treatment. Although children may encounter the outstanding outcomes in a short period with drugs, it may also give rise to some side effects such as abnormal movement, depression and so on. These drugs should be used with caution.

**Equine-Assisted Activities and Therapy (EAAT).** This term includes therapeutic horseback riding, hippotherapy, Equine-assisted psychotherapy (EAP), Equine-assisted learning (EAL), and Equine-Assisted Activities (EAA). It is served to improve physical, emotional, and occupational abilities of clients with ASD with horse and other equines (“Equine-assisted therapy,” n.d.).

**Occupational Therapy (OT).** According to the American Occupational Therapy Association (2011), “Occupational therapy services focus on enhancing participation in the performance of activities of daily living (e.g., feeding, dressing), instrumental activities of daily living (e.g., community mobility, safety procedures), education, work, leisure, play, and social participation” (para. 2). The interventions of occupational

therapy involve various individualized techniques according to the results of the evaluation of each student with ASD (American Occupational Therapy Association, 2011).

**Physical Therapy (PT).** Physical therapy focuses on improving challenges of clients, such as poor muscle tone, respiratory control, and limited motor skills. This therapy performs with individualized goals (Vann, 2010, para. 1).

**Picture Exchange Communication System (PECS).** “The Picture Exchange Communication System (PECS) is a systematic way to teach a child how to communicate with someone else by handing them a picture of what they want” (“How PECS brings ‘speech’ to non-verbal children,” 2014, para. 1). PECS is an augmentative/alternative activity for children who are diagnosed with ASD, focusing on the development of communication. This intervention desires neither extravagant nor complicated materials (Bondy & Frost, 1992), which means not only therapist, but also teachers and parents can use PECS comfortably at home, classroom, or other locations. This therapy includes verbal reinforcement and verbal communication as well as pictures (“Treatments & therapies,” 2014, p. 45).

**Psychotherapy.** The American Psychological Association (2016) states, “Psychotherapy is a collaborative treatment based on the relationship between an individual and a psychologist. Grounded in dialogue, it provides a supportive environment that allows you to talk openly with someone who is objective, neutral and nonjudgmental” (para. 4). Psychotherapy helps children with ASD find their personalities by touching and understanding their deepest emotional stage (Vorán, 2013).

**Sensory Integration Therapy.** Children with ASD are more sensitive than typical children in processing sensory stimulations, such as sounds, smells, movements brightness, and tastes. Sensory integration therapy shows the efficacy in decreasing sensory difficulties and increasing daily functions (Dickie, Baranek, Schultz, Watson, & McComish, 2009). A research team states, “Sensory integration therapy, as practiced by occupational therapists, uses play activities in ways designed to change how the brain reacts to touch, sound, sight and movement. While the therapy is not new, it has remained somewhat controversial” (Dickie, Baranek, Schultz, Watson, & McComish, 2009, para. 4). Two kinds of sensory therapies are discussed as follows.

***Auditory Training.*** This treatment focuses on recognizing the frequencies of sound, and practicing to endure sounds to which the client is either excessively sensitive or insensitive (Volkmar & Wiesner, 2009).

Auditors Integration Training (AIT) and Tomatis method are the basic methods of Auditory therapy. Both methods use music and voice through the earphone with the quieter level of volume than ambient noises (Autism Research Institute, 2000). However, the AIT promotes clients to perceive sounds as a physiological approach, while Tomatis method focuses on developing clients’ listening and communication skills as an emotional approach (The Autism Society of Colorado (2011). Two methods have different aims. The AIT tries to decrease the clients’ hypersensitivity as well as to hear all frequencies equally. Whereas, the Tomatis method supports to increase listening skills of clients (Autism Research Institute, 2000).

***Visual/Vision Therapy.*** Vision problems commonly appear in individuals with ASD. According to Gallop (2016), general awareness easily ignores the importance of

vision of individuals with ASD although visual development leads overall development of other functions. Vision therapy supports to extend the clients' potential visual capacity. Behavioral optometrists often recommend lenses to clients. This treatment is served by the therapist to improve reading speed, prevent wearing prescription glasses, and decrease eyestrain (Volkmar & Wiesner, 2009).

**Speech-Language Therapy (SLT).** The goal of speech therapy is to promote oral motor capacities as well as speech and language abilities of children with ASD. Speech therapists help the ASD-diagnosed clients improve their listening, language, and speech clarity by teaching words and sentences. If clients are nonverbal, therapists utilize electronic equipment that speaks instead of clients ("Speech therapy," 2016, para. 2).

#### **American Education for Children with ASD**

According to Volkmar and Wiesner (2009), there was no appropriate educational program for children with ASD until 1975. As a variety of treatments for individuals with ASD have been studied and developed by researchers and educators since the year 1975, the schools in the United States provide free and appropriate programs for students with ASD (p. 8).

Although the appropriate education for the student with ASD has been developed and required to be provided for free by the law, the classes for special education are still not enough because the school budget is vastly insufficient to meet the needs of growing number of children with ASD (Smith, 2008). The size of the classroom for students with ASD is becoming larger with fewer resources and education, having the lack of staff and educators in the classroom due to budget cuts (Gould, 2013).

## **Korean Education for Children with ASD**

According to Kim et al. (2011), two-thirds of children with Autism Spectrum Disorder (ASD) are not identified, not cured, and do not receive any special education services in Korea (as cited in Yi, Grinker, & Mandell, 2012, p.504). The current Korean education tends to attach more importance to students with severe intellectual disorders or physical disabilities rather than mild impairments like Autism (Grinker& Cho, 2013). Lee and Jung (2005) found that only 42 percent of children with ASD attend the special education programs, and the rest of them enroll in the typical classes in the regular schools. Although Korean special education has tried to increase the classrooms for special education in the regular schools, the number of classrooms for special education for individuals with ASD is still not enough because of the lack of well-trained staffs (as cited in Yi, Grinker, & Mandell, 2012, p.515).

Teachers in Korea prefer having whole-class teaching, where students are not removed for special therapies and education, in order to underline the authority of the educator. By providing all the classroom learning by the same instructor, it ensures the completion of individual's work, and makes a clear classification between playing and working time (Lee and Jung, 2005). This preschool system of Korea that highlights the structure and routine in the classroom with rare changes are definitely recommend for Korean students with high functioning ASD (as cited in Yi, Grinker, & Mandell, 2012, p.518).

## **American Parental Perspectives**

According to Meltzer (2008), almost all of the parents of individuals with ASD suffer from increasing fatigue and stress because of their children's aperiodic sleep

patterns (as cited in Glazzard & Overall, 2012, p. 39). Yirmiya and Shaked (2005), and Altieri & Kluge (2009) also discover that those parents who have an ASD-diagnosed child find extreme difficulty with their restricted social life because they may put considerable time and effort into caring for their offspring with ASD (as cited in Glazzard & Overall, 2012, p. 39).

The least positive experience of parents who are raising children with ASD is the lack of support from professionals and their local authorities. American parents ranked the lack of public awareness of individuals with ASD, and the stigmas of autism, such as ignorance and insubordination, below the lack of support (Glazzard & Overall, 2012). Those parents who have children with ASD suffer from dilemmas like labels, rejection, and devaluation (Russell& Norwich, 2012).

### **Korean Parental perspectives**

Korean parents who have offspring with ASD experience the stigmatization of their child in various ways. Firstly, children who suffer from ASD often find themselves the target of malicious stereotypes ranging from being untrustworthy to causing trouble everywhere they go with a more pronounced libido than average.

Secondly, people with ASD tends to be socially isolated, which means they experience exclusion and segregation of politics and education from the society and even family. For example, some parents who have typical children have a tendency to dislike that their offspring and children with ASD are in the same classroom at the school. The complaints also appear from the general populace when individuals with ASD show up in public places. The parents who have a child with ASD also mention that they usually feel discrimination regarding support from the government and rehabilitation services.

Thirdly, approximately half of the parents of the students with ASD who attend regular schools answer that their children have a hard time with school violence (Kim, 2014). Grinker and Cho (2013) detect that Korean parents are reluctant to reveal the diagnosis and condition of their children. Korean parents tend to disavow that their children are diagnosed with ASD. Often, when no one else in the family has been diagnosed previously with ASD, parents tend to disbelieve their child's diagnosis. Although the parents do know that their child has ASD, they choose not to disclose that information to anyone, and enroll their children in regular schooling, having the same intellectual goals as the typical students have. The attitude of parents, such as negation and concealment regarding a diagnosis, might lead to fewer opportunities to have appropriate educational services for individuals with ASD.

### **Historical Overview of Music Therapy in America and in Korea**

According to the American Music Therapy Association (AMTA), Veterans' hospitals were the first institutions to officially use music therapy as a treatment to help veterans' recuperate from physical and emotional trauma following active military duty. In the early 1900s, several ephemeral music therapy associations were founded by the music therapists. In 1944, Michigan State University instituted the first music therapy program. Through collaboration between the National Association for Music Therapy (NAMT) and the American Association for Music Therapy (AAMT) that were founded in 1950 and 1970 respectively, the AMTA was established in 1998 by music therapists all over the United States (AMTA, 1998).

Yoon (1993) states that psychiatrists started discussing music therapy in Korea during the Korean war in the 1950s. Since 1982, music therapy has been provided in

psychiatric hospitals, and the journals of music therapy have been published by many psychiatrists. Korean music therapists instituted the Association for Music Therapy (KAMT) in 1992, and both educational programs and clinical practices of music therapy have been implemented. The KAMT has exchanged information of music therapy and interacted with the National Association for Music Therapy (NAMT) (as cited in Kim, 2012, p. 20). In 1997, Sook-Myung Women's University established the first music therapy program for graduate students (Jeong, 2001).

The American Music Therapy Association (AMTA) states, "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" (2012).

The Korean Music Therapy Association (KMTA) states that music therapy is the professional music field that leads to the change of clients' behaviors, improving psychic functions by using systematic music activities such as music making, singing, moving, creating, and reading besides listening to music (n.d.).

### **Music Therapy Treatment practices used for children with ASD in the USA**

A wide range of music therapy approaches have been studied and practiced in clinical music therapy settings by varied professional music therapists, educators, practitioners, and researchers. According to a pioneer music therapist, Alvin (1978), there are two kinds of techniques; receptive techniques and active techniques. Hearing and listening require auditory processing and are considered receptive techniques. As responses to hearing and listening activities, children with ASD show involuntary physical reflexes depending on the tempo, tone, and volume of music. The clients also



present emotions such as fear, withdrawal, happiness or disregard. Making vocal sounds, such as humming, singing, holding a sound, breathing, and pitching client's voice with AH or UH sounds, are highly effectual active techniques for clients with ASD who usually have the strange, rigid voice (Alvin, 1978).

Peters (2000) suggests that in the beginning stage of the music therapy, the music therapist may start with less-directive interventions, which leads open-ended responses from clients with autism. And then, the music therapist applies more directive music interventions, expecting interaction, responses, and attention of clients in the later stage of music therapy sessions (p.206).

Most of the music therapists in the USA are also adopting and using the electronic methods to music therapy treatment for a wide range of clients (Peters, 2000). This section discusses the treatment practices mostly used for children with ASD among several types of music therapy approaches in the USA in alphabetical order.

**Analytical Music Therapy(AMT).** Eschen (2002) states, "AMT is an analytically oriented approach to active music therapy. Therapists and patients improvise together and try after that using techniques of psychoanalysis to understand what they have done or what had come into their mind when they were improvising" (p.22). The goals of AMT are to help clients understand their problems by themselves, promote a healthy relationship with family and society, and reinforce the ability of self-healing (Eschen, 2002). Mahns (2002) suggests using the AMT approach for children who have difficulties in learning, social relationships, and in controlling emotions and behaviors, to increase skills of expressiveness of their inner freedom and in dealing with reality (p.98).

**Behavioral Music Therapy.** Peters (2000) mentions “Behavioral models focus on observable behaviors not underlying processes” (p. 400). In this approach, while the clients get positive rewards when they do desired behaviors, clients receive negative rewards when they show undesirable behaviors (Peters, 2000). According to the research of Standley (1996), contingent music is more practical reinforcement rather than continuous music. The contingent offering of music supports the increase of desirable behaviors of clients, whereas the contingent withdrawal of music activities, such as interrupting or stopping the music, withdrawing musical instruments and excluding from the group, helps the decrease of undesirable behaviors (as cited in Peters, 2000, p. 400).

**Neurologic Music Therapy (NMT).** Thaut (2015) expresses that Neurologic Music Therapy (NMT) is the research-based and scientific based clinical model through music interventions. NMT focuses on sensorimotor training, cognitive training, and language training. The therapeutic goals of NMT are to develop, to maintain and to rehabilitate the functional behaviors. NMT can apply to all of the populations not only autism spectrum disorders, but also strokes, cerebral palsy, Alzheimer’s disease, Parkinson’s disease and others (“NMT,” 2015).

**Nordoff- Robbins Creative Music Therapy.** Nordoff and Robbins (1968) states that improvisational music therapy proves fruitful in extracting responses of children who are unresponsive. The goal of the Nordoff- Robbins approach is to build a rapport between the client and the music therapist within the musical interaction. The music therapist establishes a musical and emotional environment to encourage the responses of clients (as cited in Peters, 2000, p. 387). Creative music therapy applies improvisation using mostly voice and/or piano to reflect musically to the client’s response, which

supports the development of musical skills, expressiveness, and communication of the client with ASD. Improvisation requires the free use of varied musical styles, such as meters, modes, scales, and structures, with minimal verbal instructions (Peters, 2000). The improvisation-based treatments are widely used for children with ASD by music therapists, expecting the individuals' improvement in creativity, the adaptation to reality, and the acceptance of order and cooperation.

### **Treatment practices used for children with ASD in Korea**

Both America and Korea have a similar music therapy history in that they have used the music as a therapeutic tool from the beginning stage of music therapy (Jeong, 2001). Korean music therapists also use diverse music therapy treatment practices for children with ASD. The common goals of music therapy are to develop social participation, and increase learning ability through musical activities because Korean children with ASD also tend to deliberately avoid and resist contact with others.

Various journals, theses, and dissertations published in Korea show music therapy settings for Korean individuals with ASD. The session periods are generally from 30 minutes to 40 minutes, and the clients have the music therapy services once or twice a week. The assessment tool, the Childhood Autism Rating Scale (CARS) is usually used by music therapists (Hong, 2011). And most Korean music therapists use repetition of simple rhythms, such as 2/4, 3/4, and 4/4, melodic contours within one octave, short songs, and major scale songs with few or no accidental marks. The lyrics mostly contain the educational contents (Kim, 1997).

To support the development of expressiveness of children with ASD, the Korean music therapists often use improvisational activities in the music therapy sessions. For

the example of the improvisation, when the client puts his right feet out, the therapist plays low C key, while the therapist plays an octave higher C key when the client put his left foot out. The music therapist matches the tempo with the client's step speed. And then, the therapist plays dominant and subdominant chord respectively when the client hunches down and lift his body, so called "rocking behavior" (Moon, 1991). All of the behaviors of clients, whether it is musical or non-musical are accepted in the improvisation intervention of music therapy. The clients don't need to consider musical elements, such as form, rhythm, tempo, tunes, structure, theme, and so forth, which makes the clients can express their feelings and thoughts freely (Eom, 2009).

To build the social interaction, the clients are encouraged to play appropriately by the music therapist when the music therapist intends the musical changes in tempo, dynamics, rhythm and theme. The children with ASD also lead the music by starting and stopping the music, and changing the tempo. They can experience the exchange by singing antiphonal songs and interchanging the rhythmic instruments (Yang, 2008).

By playing a variety of instruments from the small instruments like recorder and maraca to big instruments like drum and piano. Korean music therapists promote clients with ASD not only to participate in social interactions, but also to extend attention span. The clients can develop their language skills through song activities, and self-expression skills by doing improvisation. The music therapy treatment practices used for children with ASD in Korea are very similar to American's. It seems to the pioneer of Korean music therapy studied music therapy in the USA.

## **The efficacy of music therapy for children with ASD**

This section is an overview of the efficacy of music therapy reviewed from the American and Korean literature. Because music therapy has been widely researched, there is a large body of the literature in the use of music therapy with ASD in both countries. A diversity of literature presents the positive effects of music therapy on individuals with ASD with the report that people with ASD respond to and show an interest in music (AMTA, 2012). Music therapy approaches to children with ASD in a particular way that uses non-threatening language (Nordoff, Robbins, & Robbins, 2004, p. 85), providing varied music activities that facilitate the development of appropriate manners and various fields of skills. (AMTA, 2012). The roles of music therapy as a therapeutic tool for individuals with ASD are described below.

The stereotyped behavior of children with ASD is one of the main problems to be considered (Shin, 1999). Individuals with ASD also show stereotyped responses to music although the music is certainly part of the emotional language (Nordoff, Robbins, & Robbins, 2004, p. 85). However, children with ASD may often show a special talent in music (Gaston, 1968). Coleman (1976) also mentions that there are several kinds of evidence that music therapy is effective for individuals with ASD. Children with ASD tend to respond better to music rather than other stimulation because their auditory sense is the most sensitive among various senses organs (as cited in Lee, 2008). The individuals' with ASD interest in and abilities of music is almost universally true. They may even have better skills in imitating sounds, such as other people's songs and piano, rather than typical children (Kim, 2012).

Music therapy is one of the therapeutic methods that tries to change the behaviors associated with ASD from abnormal to normal by using music (Moon, 1991). Children with ASD can express their emotional changes by making music without any language capacities, which is the exclusive feature of music (Kang,1999). Music activities, like singing and playing instruments, help decrease the stereotypical behavior of children with ASD. Movement in music and singing activities decline the stereotypical behavior of individuals with ASD. Playing the instruments also helps the reduction in homologous behaviors of children with ASD (Shin, 1999). Because the clients need to use their hands to play the musical instruments, this activity may decrease the stereotypical behaviors of children with ASD, including rocking, hand-flapping, and lining up objects (Shin, 1999).

Before starting music therapy sessions with a new client with ASD, music therapists need to exactly analyze what the differences and deficits are between the client with ASD and typical children of the same age group in social attitudes, behaviors, language, and so on (Kim, 2012). And, music therapists need to develop extemporaneous musical skills and a wide repertoire to apply to individuals, because people who were diagnosed with ASD may have different reactions and behaviors (Moon, 1991).

**Communication Skills.** One of the most serious considerations of individuals with ASD is limited communication. Music therapy allows clients to nonverbally communicate, express, and perform themselves through music (Guy & Neve, 2005). Because of the merit of music, which is non-verbal communication, music therapy is appropriate especially for non-verbal children with ASD. People with ASD can communicate with others through music, and they have a chance to evaluate their environments by expressing their feelings through music (Moon, 1991).

Music therapy supports the progress of speech and language skills (Guy & Neve, 2005). Singing, action songs, and face-to-face interaction activities enhance both communication and social skills of clients' with ASD by singing along with the music therapist, following instructions of action songs, and having conversations with partners (Srinivasan, Eigsti, Gifford, & Bhat, 2016). Specifically, individuals with ASD can improve the fluency, the length of sentences, suitable speed, pitch, and volume of their speaking by singing activity. The rhythmic cueing promotes the improvement of clients' speech rate (Guy & Neve, 2005).

**Cognitive.** Two cerebral hemispheres of the brain manage and process music, which may stimulate the human's cognitive functioning. For this reason, music therapy interventions usually involve some techniques, such as counting, objects identification, and even mathematical problems, to reach varied academic skills. Music therapy also works in motivating clients with ASD to concentrate on the task and stay longer. It results individuals with ASD in extending their attention span (Guy & Neve, 2005).

**Sensory/Motor skills.** The stimulation provided by music therapy helps individuals with ASD develop more normal sensitivity and more appropriate reactions to stimulation. Musical interventions often stimulate the multisensory of clients diagnosed with autism, such as vestibular, auditory, tactile, proprioceptive and visual (Berger, 2002). Music therapy practices help individuals with ASD develop their sensory systems not only sensory motor skills, but also gross and fine motor skills. For example, music therapists apply the interventions which are focused on rhythm, to improve the gait styles of people with ASD because rhythm is predictable as well as structured (Guy & Neve, 2005). Because music therapy offers individuals with ASD opportunities to engage with

unique forms of stimulation, they are able to develop greater comfort and to endure over time with forms of stimulation that previously upset them.

**Social Skills.** Generally, children with ASD have difficulty in having relationships with others because they feel that they are the only one person who exists in the world (Kang & Kim, 2000, p. 73). Music therapy is effective to improve basic social life skills of children with ASD (Kim, 2012). Music activities, such as imitating the therapist by playing instruments or movements, improve imitation skills of children with ASD, which leads to the imitation of appropriate social behaviors (Kang & Kim, 2000, p. 86). These interventions which require the sequence of playing like one after another not only promote mutual interchanges and interpersonal behaviors, but also lead to socially appropriate behaviors (Moon, 1991).

The recognition of intentional behavior is that whether or not the client can perceive the music therapist's intention of interaction when the music therapist instantly imitates the client's behavior after the client does a certain behavior. As the client recognizes that the therapist is imitating him/her by drumming, the client becomes interested in music therapy. Music therapy activities propel social interaction between the music therapist and the child with ASD because the therapist shows empathy by reacting to each musical and nonmusical sound of the individual with ASD (Yang, 2008).

In the case of improvisation activity, it does not require the client any musical skills. Improvisational intervention helps the clients with ASD to better understand their inner world by themselves, and build a cooperative relationship with the music therapist within free and riskless music (Lee, 2008).



## Chapter 3

### METHODS

This research used survey methodology, integrating quantitative (closed-ended) and qualitative (open-ended) survey questions. By distributing questionnaires at music therapy clinics and through an online survey, this study achieved both qualitative and quantitative responses. The invitations included the IRB-approved recruitment and consent forms (See Appendix B) as well as the survey link.

The survey consisted of two parts with four different participant groups: (1) American parents and (2) Korean parents, (3) American music therapists and (4) Korean music therapists. The questionnaire (See Appendix C) asked parent participants about the challenges and perspectives on treating children with ASD, music therapy activities, and satisfaction with music therapy services, while asking music therapists about the used treatment practices for individuals with ASD.

#### **Participants**

Most participants answered through the online survey “Survey Planet,” and the other participants received the survey through the printed documents. All the participants were volunteer and a sample of convenience; responses were anonymous. Four different groups participated in this study: (1) Nineteen American parents of ASD-diagnosed children who had received music therapy service participated in the first group. For the first group, the researcher recruited the parents of children with ASD by writing the posts on parent groups through Facebook. The post included the IRB-approved recruitment and consent form as well as the survey link. The first post date was on August 24, 2016. The researcher also sent recruitments via email to eight parents. Furthermore, the researcher

arranged the printed surveys at a music therapy clinic in Arizona from September 9, 2016 to September 26, 2016. However, the last two questions that asked regarding the satisfaction of music therapy were excluded from music therapy clinic supervisor's request. Eight parents participated in filling out the survey that did not include the last two questions in the music therapy clinic in Arizona.

(2) Twenty Korean parents of ASD-diagnosed children who had received music therapy service participated in the second group. For the second group, the researcher recruited the parents of children with ASD by posting the invitations on several kinds of Korean parents' association websites. The post included the translated IRB-approved recruitment and consent forms as well as the survey link. The first posting date was on August 8, 2016. The researcher also sent recruitments via email to ten parents. Ten parents participated in the survey through printed documents at the music therapy clinic in Korea on August 29, 2016.

(3) Twenty American music therapists participated in the third group. For this group, the researcher recruited the American music therapists through Facebook by posting the recruitment twice on June 20 and September 16, 2016. The invitations included the IRB-approved recruitment and consent forms as well as the survey link on the group of music therapists. The researcher also sent recruitments via email to 15 music therapists in the USA.

(4) Sixteen Korean music therapists participated in the fourth group. For the fourth group, the researcher recruited the music therapists of children with ASD by posting the invitations on the three Korean music therapy association websites from July to October 2016. The posts included the translated IRB-approved recruitment and consent

forms as well as the survey link. The researcher also sent recruitments via email to seven music therapists in Korea.

In summary, American parents ( $N = 19$ ), Korean parents ( $N = 20$ ), American music therapists ( $N = 20$ ), and Korean music therapists ( $N = 16$ ) participated in this survey.

### **Procedure**

The study designed a survey and pretested and pilot tested the survey with peers and faculty input. After an Institutional Review Board (IRB) process was completed additional edits were made to the survey based upon recommendations from this board. The completed survey questions appear in Appendix C.

The survey consisted of two parts with four different participant groups: (1) American parents ( $N = 19$ ) and (2) Korean parents ( $N = 20$ ), (3) American music therapists ( $N = 20$ ) and (4) Korean music therapists ( $N = 16$ ). Both parts of the survey had two versions: An English version and a Korean version, with the same questions. The questionnaire had both closed-ended and open-ended questions. It asked parents regarding the challenges and perspectives on treating children with ASD, and music therapy activities and satisfaction of music therapy services. The survey asked music therapists about the music therapy approaches and musical interventions for individuals with ASD.

After the IRB approved the proposal and the recruitment form (See Appendix A), the researcher wrote the online survey using “Survey Planet.” The survey officially started on June 17, 2016. Invitations to participate in the survey study were posted on a Facebook groups of American parents who have a child with ASD, on the blogs of Korean parents who have a child with ASD, on the Facebook group of American music

therapists, and the websites of Korean music therapists.

All the responses were anonymous because all the participants who read the postings participated in the survey voluntarily through the survey link. As another recruitment venue, the researcher sent the invitations via email to not only American and Korean parents, but also American and Korean music therapists. The email addresses were gained from acquaintances, personal blogs and social media, which was a technique called snowball sampling, or chain referral (Lewis-Beck, 2012). This technique was helpful in situations where the primary responders to the survey were not easily accessible, in this case, due to language and culture. The email invitation also included the survey link, and the IRB-approved recruitment and consent form. Furthermore, the researcher distributed 20 printed questionnaires at the music therapy clinic in the USA and Korea respectively. For the confidentiality of personal information, the parents took the printed documents out of the paper box and put them back in the box by themselves, which means they didn't have any help or oversight by the researcher. In the USA, the last two questions regarding the satisfaction of music therapy were excluded from nine participants at a music therapy clinic supervisor's request. The survey officially closed on October 3, 2016.

### **Ethical consideration**

The participation in this study was thoroughly voluntary, and the participants could withdraw from the survey anytime without any penalty. Moreover, there was no risk or discomfort to participate in this survey.

Among the survey questions, the two questions regarding the satisfaction of music therapy faced the ethical problem with a music therapy clinic supervisor because of their

business consideration. The researcher decided to expunge the two questions for a certain participant group.

The survey collected only anonymous responses. The participants' information was confidential. Only the results of the anonymous results are used in this research, no names of participants are ever used. Only the researcher could access the data and completely protected all the results through the password. The researcher will destroy all the data records by December 31, 2016.

### **Method of analysis**

To compare Korean and American music therapy treatment practices for children with ASD, the study planned the survey consisting of four groups: American and Korean parents, and American and Korean music therapists. The study discusses the differences and similarities in the parental perspectives on children with ASD and music therapy treatment practices for individuals with ASD between two countries, Korea and America, through the survey methods.

The researcher recorded and compiled all the responses from the printed as well as online surveys through the format of Survey Planet (<https://surveyplanet.com>). For the quantitative data, the researcher refined and visualized the results of the collected raw data through the Microsoft office Excel. The researcher classified the results of open-ended responses through the Survey Planet. To discover the coefficient of rank correlation among therapies used or recommended for children with ASD between the American and Korean, the study used the Spearman's coefficient of rank correlation.

## Chapter 4

### RESULTS

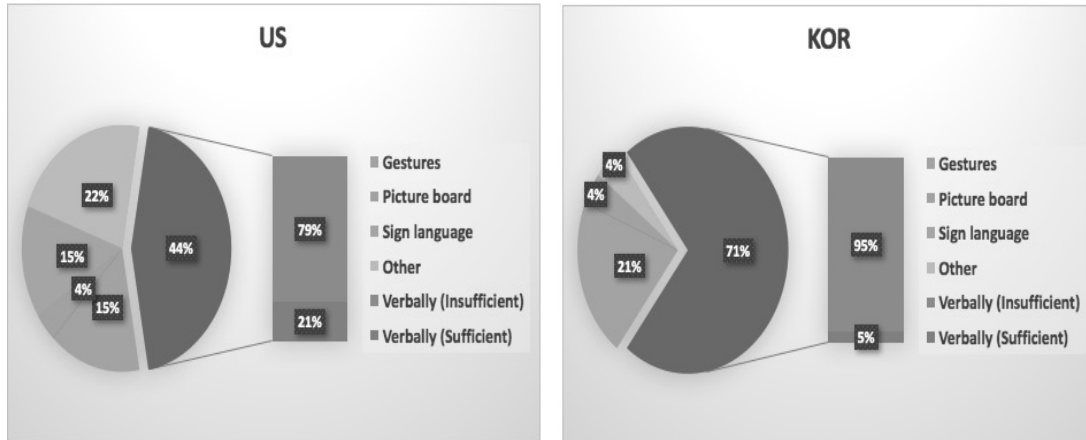
A total of 75 participants took the survey. Nineteen American parents of ASD-diagnosed children, 20 Korean parents of ASD-diagnosed children, 20 American music therapists, and 16 Korean music therapists. All Korean participants answered in Korean, and the researcher translated and paraphrased all the responses for the study to English. Quotation marks were used for Korean respondents because their exact words and meanings were translated as closely as possible. This research studied the rank correlations between American and Korean through closed-ended quantitative data as well as the perspectives between two countries through open-ended qualitative data to discover cultural differences.

#### **Demographic variable for children of parent participants**

The American children of parent participants' ages ranged from 3 to 19 years old. Korean children ages ranged from 4 to 22 years old. Both American and Korean parent participants indicated how their children with ASD communicate (See Figure 1). Forty-four percent of children of American participants usually communicated verbally although their verbal language capacities were insufficient (79%) for their ages. Those children communicated frequently through the gestures and/or the sign languages. They also used other communication method (22%), such as Nova chat app, Augmentative and Alternative Communication (AAC) device, and iPad for communication. Alternately, Korean children mostly communicated verbally (71%) although their verbal language rarely had sufficient for their ages (95%). Some children (21%) used gestures for communication.

Figure 1

Q. How does your child communicate?  
And, is verbal language sufficient for their age/needs?



### Demographic variable for music therapists

Total 20 American music therapists and 16 Korean music therapists participated in this survey. American music therapists had the bachelor's degree in music therapy three times more than Korean music therapists. Korean music therapists, however, had the master's degree in music therapy more than two times than American music therapists. No one had the Ph.D. among Korean music therapists. There were much fewer music therapy undergraduate and doctoral programs in Korea than the America, it probably resulted in the distinctions between American and Korean music therapists.

Some music therapists had certification related to music therapy. Seven American music therapists had a certification in Neurological Music Therapy (NMT). Other music therapists had a certification in Neonatal Intensive Care Unit (NICU), Guided Imagery and Music (GIM), and counseling. No one had a certification in NMT among Korean

music therapists, but 3 music therapists had a certification in counseling. Others had a GIM certification (See Table 1).

Table 1

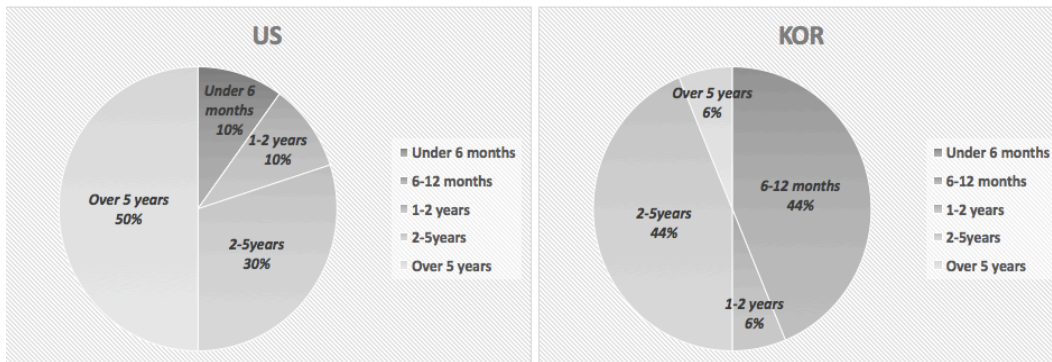
- Q1. Bachelor’s in Music Therapy?**
- Q2. Master’s in Music Therapy?**
- Q3. Equivalency in Music Therapy?**
- Q4. Six-month internship in Music Therapy?**
- Q5. Doctorate in Music Therapy?**

Degree Nationality	B.S		M.S		Ph.D.		Equivalency in Music Therapy		Internship (over 6 months)	
	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
US	18	2	6	14	2	18	4	16	18	2
KOR	6	10	13	3	0	16	8	9	15	1

The half of American music therapists who had worked over 5 years as a music therapist participated in this survey, while the half of Korean music therapists who had worked for less than 2 years participated in this survey (Figure 2).

Figure 2

How long have you worked as a music therapist?





Both American and Korean music therapist participants had worked with the clients ranged from under 2 to over 12 years old with all the levels of severity in ASD diagnosis. The levels of severity in ASD diagnosis complied the DSM driplines. American music therapist participants had worked all levels of client with ASD. Level 1 and level 2 had similar ratios with level 3 (approximately 30%) in the graph of American clients. Korean participants mostly had music therapy sessions with level 1 clients (See Figure 3 and Figure 4).

Figure 3

**Q. Chronological age range of your clients with ASD?**

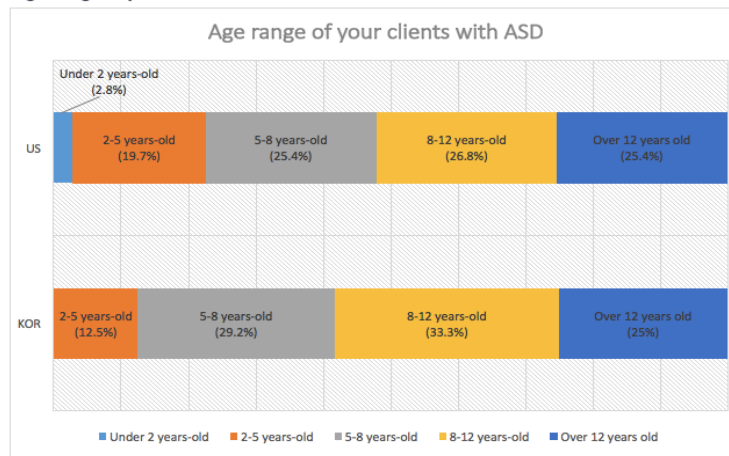
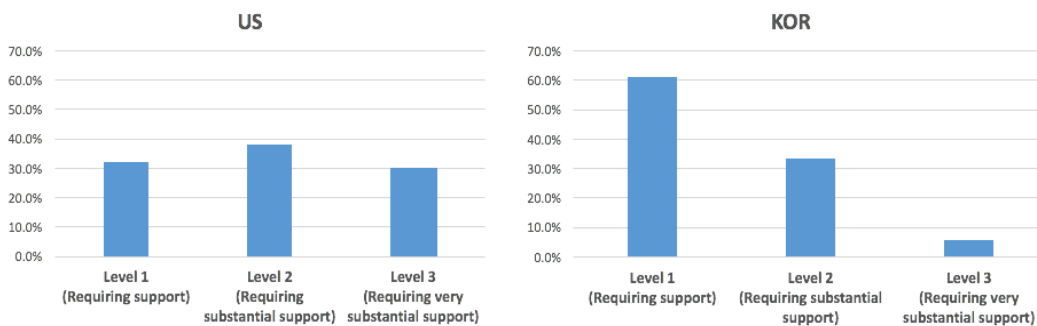


Figure 4

**Q. For the children with ASD that you are treating, what is the level of severity in their ASD diagnosis? (DSM5)**



Note. The level of severity in ASD diagnosis complied the DSM disciplines

## Cultural differences between American and Korean in raising children with ASD

To compare the perspectives of American and Korean parents in raising children with ASD, the survey asked questions regarding the current placements and benefits to raising children in their counties, allowing multiple choices.

Figure 5

What is your child's current placement?

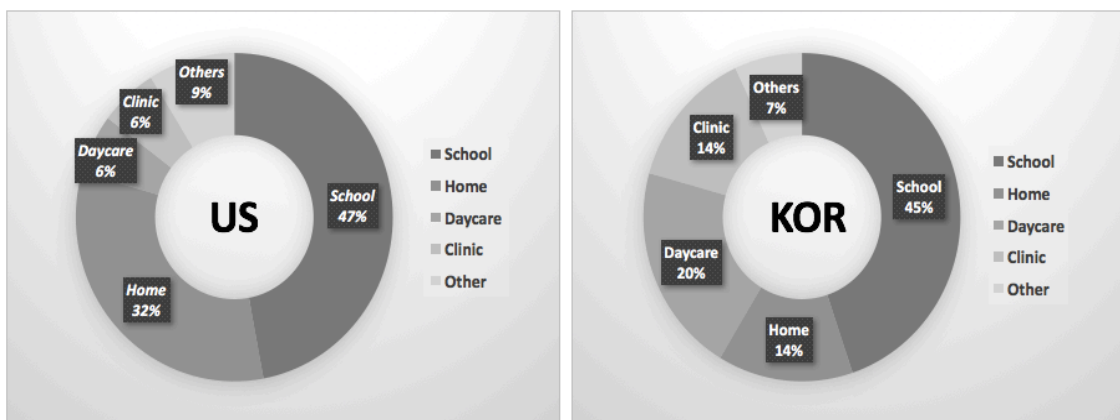


Figure 5 indicated that the school was the most common placement for both American and Korean ASD-diagnosed children among education, government support, services (public spaces, buildings, transportations, etc.), programs (health, social, etc.), and others. The considerable number of American children used home care (32%), while Korean children preferred going to daycare (20%) than home care (14%). Aside from that, both American and Korean parents answered that their children were also in after-school programs, 9% and 7% respectively.

Figure 6

What are the benefits to raising your child in the US or KOR?

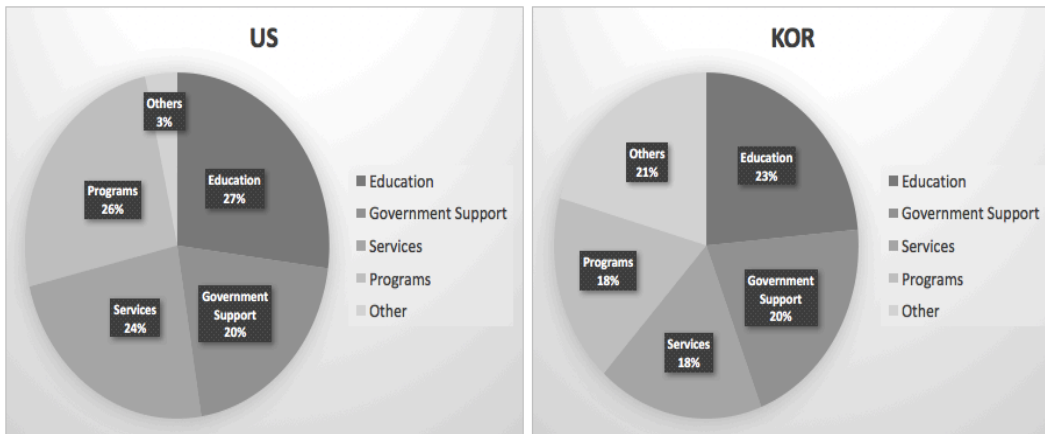


Figure 6 presented that American parents deemed education (27%) and programs (26%) for children with ASD as the benefits to raising children in the USA. The services (24%), such as public spaces, buildings, transportations, and government support (20%) followed. A certain participant who chose “other” said, “Increasing societal acceptance and integration; decreasing family and social stigmas.” Another parent who did not choose anything stated that “I do not know a comparison because we’ve always lived in the USA.”

Korean parent participants also reported that the education (23%) was the best benefit to raising children with ASD in Korea. Overall, Korean parent participants reported experiencing fewer benefits than American parent participants in the question concerning country-level benefits, showing slightly lower percentages in all sections than American’s ones with the exception of “others” section. All seven Korean parents who chose the “others” responded, “There is no benefit in Korea.”

These following three open-ended questions produced qualitative data. The study asked American and Korean parents about the difficulties and challenges in raising their child in the USA/Korea, whether people in general understand the needs and behaviors of children with ASD or not, and their experiences in the public places.

For the question, “What are the difficulties and challenges in raising your child in the USA?” the responses of American parents were divided into six themes as follows,

- Social issues

“It is hard to take her to certain places in the community because she doesn't really know the difference between a stranger and someone she knows. And, she gets overwhelmed by large crowds or noises.”

- Communication issues

“She cannot verbally communicate. It is difficult to juggle her school and therapies.”

- Behavior issues

“Inconsistent in understanding directions, inability to attend to tasks, distracted, inability to understand his own need through the communicate, and using the bathroom.”

- Personal issues

“I always watch out my child in public places, and I cannot leave her alone at home.”

“It is difficult to have a respite from babysitting, so parents don't have breaks to recreate or relax much. We constantly 'work' with our children. It never ends, we are exhausted”.

“It is difficult to tell younger siblings why the older brother/sister does behaviors like this.”

“Every day is therapy”

- Lack of support

“The poor nutrition in our food system and the fact that the government only cares about money so they won't get rid of toxins, etc. that are poisoning our children.”

“We have had difficulty getting approved for state services because we have a higher functioning ASD child.”

“I often have to fight for insurance and services.”

“Long wait lists for services”

“The school services are terrible.”

- Lack of understanding of autism by society

“Sometimes people are cruel and mock especially children of their age, they do not understand his problem. My goal is for my child to have a life as normal as possible.”

For the question, “What are the difficulties and challenges in raising your child in Korea?” the responses of Korean parents were divided into three themes as follows,

- Personal issues

“He is gluttonous”

- Lack of support

“There are fewer education and services for older children with ASD than young children.”

“It is hard to find the appropriate educational institution.”

“There is not enough educational institution for children with ASD, so it is hard to be educated in the special education class.”

“There are a few services in rural towns, and we can’t believe the efficacy of any services.”

“Much fewer systemized therapies and educational systems than other countries.”

“Wait lists for services due to lack of therapists.”

“Expensive service fee”

“The government requires intricate conditions and procedures to get the financial support. Moreover, we cannot get any supports if our income is above than the standard of government.”

- Lack of understanding of autism by society

“It is hard to have a relationship with others because of the stigma of autism”

“Poor understating of the general public”

American and Korean parents presented the same response that they have difficulties in having a relationship with others, with poor understating of the general public, long wait lists for services, and the lack of support from the government. Interestingly, Korean parents were mostly conflicted regarding the lack of government support, educational services, and therapies for children with ASD, whereas American parents were mostly conflicted regarding their children’s own challenges although the question was asking about the difficulties in raising their child in the USA. As seen in the

responses, Korean parents tended to compare with other countries' care systems and research great therapies used in other countries, whereas American parents showed the attitude that they didn't compare with other countries' care systems. A certain American parent left a comment, "This is a difficult question to answer, as my husband and I have not raised/traveled with our children to any other countries and cannot compare or contrast at this point."

The next question was "In general, do you think the average American/Korean understands the needs and behaviors of children with ASD?"

All American parents said "No," and some parents added comments as below,

- "They still think the reasons of autism are the lack of parenting or discipline with the old standard of ASD."
- "The average American is learning more as the number of children with ASD is increasing."
- "I think people have the general ideas and assumptions, but do not understand the long-term needs of ASD individuals or that diagnosis is different for each child. It's a spectrum."
- "Autism awareness has increased significantly in the past 10-15 years."

All Korean parents also said "No," and some parents added comments as below,

- "In general, the average Korean has a bias against children with ASD, and they do not understand that each child with ASD has different characters."
- "The average person has no knowledge about autism, so they cannot help individuals with ASD."
- "Worse awareness of autism than other counties"

- “Better than the past, but still general people think that individual with ASD is a quarantine people.”
- “People in general show negative attitudes.”
- “People in general don’t try to understand individuals with ASD.”
- “People in general have the stigma that children with ASD are stupid and harmful.”
- “People in general think that children with ASD have a lot of problems and sometimes give the parents a strange look.”
- “There are some changes to participate in social activities and awareness of autism was improved because of the law revision for the disabled.”

Both American and Korean parents indicated that ordinary people do not understand the needs and behaviors of children with ASD although the awareness of autism has been increased for the last 10 years. Compared with comments from two countries, Korean parents showed more negative perceptions toward this questions by using pessimistic words.

The last question was “Can you please comment on observations you have made regarding children with ASD when they are in public places, such as school or in the community, regarding how their living community understands their needs and differences?”

American parents answered as below,

- “Children with ASD still get stared at especially if they have the flapping and the rocking. People tend not to engage with them.”



- “People continue to stare. Not sure if they are trying to understand or are curious with behaviors.”
- “Outwardly, many ASD kids look like typical. People may stare when my daughter strums in public or makes movements and sounds”
- “If people know them, they seem more willing to be helpful. Normally they aren't really noticed and often strangers are in too much of a hurry to give them extra consideration.”
- “One has to be patient and I need to explain to him where he will go because transition for them are difficult, but in general we need to raise awareness what is Autism and tell them, just they act differently.”
- “Most people are great once children are verbal and wanting to interest. It's more difficult to get the understanding for tantrums, loudness, and bad behavior common to young kids.”
- “Sometimes they are very loud, not listen to their parents. If I tell people in public places that the kid has ASD, people will understand.”
- “People tend to think they're just being "bad" kids rather than understanding the behaviors.”
- “Some are very understanding and caring; Others are curious; and yet some are rude and give you looks of disapproval.”
- “As my son grows older I see more people are aware of ASD and are a little more tolerant.”
- “They don't understand and may stare or snicker, judging us.”

- “People stare because he's loud and sometimes unintelligible. When they stare long enough to realize he's special needs they'll smile at him or at me. Sometimes I will tell people who are staring that he has autism. When we are at familiar places- restaurants or stores we frequent, school, he is treated extremely well. People who see him regularly go out of their way to be kind.”
- “People look and stare when my son is having any behavioral issues. I guess it would be the same for a child without Autism, but I’m sure people might think he is too old to be doing things. My son has definitely had children make fun of him for wearing diapers still and asking why he doesn't talk, etc.”

Korean parent responded as follows,

- “People can’t understand at all, even they don’t try to understand the needs and differences of children with ASD.”
- “Educators in school and typical children tend to avoid children with ASD instead of helping them.”
- “Even educators don’t have enough experiences or knowledge with ASD. They just scold the children with ASD when the children don’t follow their instructions.”
- “The schools are better, but the society tends to avoid the children with ASD.”
- “Feel uncomfortable when the children with ASD show up in public places.”
- “Most people cannot appropriately cope with the children with ASD due to the lack of knowledge about Autism.”
- “Ordinary people stare a child when he shows tantrums.”

- “Ordinary people don’t realize that my child is diagnosed with ASD or not because most children with ASD look like typical. So, most people often blame the parent when my child is doing abnormal behaviors.”

The most common answer from these two groups was that people continue staring when the children with ASD are doing any behavioral issues, such as rocking, flapping, tantrum, and so on. Ordinary people might judge the children with ASD have no manners when they show the abnormal behaviors because people in general do not understand that sensory and auditory processing disorders often accompany a person with autism. Moreover, most children with ASD look like typical children, people cannot guess they are diagnosed with autism or not. Some parents showed a positive answer that more people are trying to help and consider the children with ASD than in the past, but the common comment of both parents was that the average person doesn’t try to understand the children with ASD.

### **Cultural differences between the American and Korean in using therapies for children with ASD**

The study asked both American and Korean parent participants to select the therapies that their children have used beside music therapy. The study also asked both American and Korean music therapist participants to recommend additional therapies beside music therapy. The study determined the ranking of all therapies that both American and Korean parents as well as both American and Korean music therapists chose (See Table 2 and Table 3).

Table 2

**Q. What kinds of therapies do you use for your child besides music therapy?  
(Multiple Choice)**

Kinds of therapies	US	KOR
Speech Therapy (ST)	1 (30.4%)	1 (28.3%)
Occupational Therapy (OT)	2 (28.6%)	5 (9.4%)
Physical Therapy (PT)	4 (10.7%)	9 (0.0%)
Psychotherapy	9 (0.0%)	8 (3.8%)
Horseback –Equine	5 (5.4%)	6 (5.7%)
The Picture Exchange Communication System (PECS)	8 (1.8%)	6 (5.7%)
Cognitive Behavioral Therapy	5 (5.4%)	4 (11.3%)
Sensory integration Therapy	5 (5.4%)	2 (18.9%)
Other	3 (12.5%)	3 (17.0%)
Total	(100%)	(100%)

*Note.* The Arabic numeral indicates the rank

Table 2 showed that slightly higher than the half the American children had received speech therapy (30.4%) and/or occupational therapy (28.6%) beside music therapy. Physical therapy (10.7%), horseback-equine (5.4%), cognitive behavioral therapy (5.4%), and sensory integration therapy (5.4%) followed. On the other hand, approximately one-third of Korean children had received speech therapy (28.3%), and quite a few children had received sensory integration therapy (18.9%) beside music therapy. Some Korean children also had received cognitive behavioral therapy (11.3%) and occupational therapy (9.4%). Apart from the options above, a few both American and Korean had received art therapy, rehabilitation, and ABA.

Table 3

**Q. What kinds of therapies do you recommend besides music therapy?  
(Multiple responses)**

Kinds of therapies	US	KOR
Speech Therapy (ST)	2 (17.0%)	3 (15.6%)
Occupational Therapy (OT)	1 (17.9%)	4 (12.5%)
Physical Therapy (PT)	8 (13.2%)	9 (0.0%)
Psychotherapy	5 (4.7%)	5 (9.4%)
Horseback –Equine	5 (10.4%)	7 (3.1%)
The Picture Exchange Communication System (PECS)	6 (9.4%)	7 (3.1%)
Cognitive Behavioral Therapy	6 (9.4%)	1 (25.0%)
Sensory integration Therapy	3 (14.2%)	1 (25.0%)
Other	9 (3.8%)	6 (6.3%)
Total	(100%)	(100%)

*Note.* The Arabic numeral indicates the rank

Table 3 indicated that a considerable number of American music therapists recommended occupational therapy (17.9%) and/or speech therapy (17%) among options above. They also recommended sensory integration therapy (14.2%) and physical therapy (13.2%). This table showed that American music therapists' recommendations were distributed widely throughout the options. While Korean music therapists highly recommended cognitive behavioral therapy (25%) and sensory integration therapy (25%) among options above. Speech therapy (15.6%) and occupational therapy (12.5%) followed.

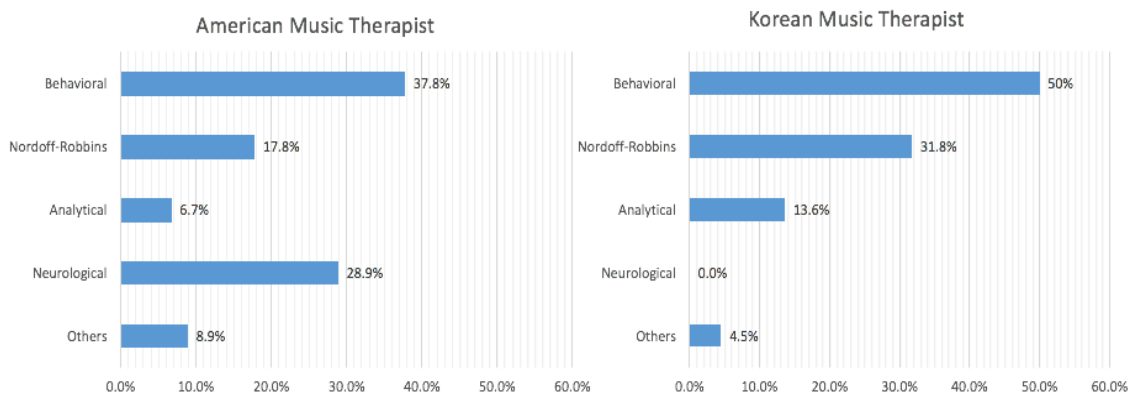
To discover the rank correlation between the American and Korean in used or recommended additional therapies beside music therapy for children with ASD, the study used the Spearman's coefficient of rank correlation. The test showed that there was no significant correlation between the American's and Korean's, considering table rho ( $r = .60$ ): Used therapies for children with ASD ( $r = .55$ ), and recommended therapies for children with ASD ( $r = .26$ ). The research found that there was no statistically significant correlation between the American and Korean in choosing therapies for children with ASD.

### Cultural differences between the American and Korean music therapy approaches

This section compared the music therapy approaches and interventions used for children with ASD between the Americans and Koreans. Furthermore, the study also compared the consequential efficacies and satisfaction with music therapy between the Americans and Koreans. Firstly, both American and Korean music therapists marked the music therapy approaches that they used for children with ASD (See Figure 7).

Figure 7

Q. What kind of music therapy approaches are you using for children with ASD?



American music therapists usually used Behavioral music therapy approach (37.8%) and/or Neurological music therapy approach (28.9%) for children with ASD. Whereas, a half Korean music therapists provided Behavioral music therapy approach, and approximately a third of music therapists used Nordoff-Robbins music therapy approach (31.8%) for Korean children with ASD. Interestingly, there was no music therapist who used Neurological music therapy approach among Korean music therapists.

Both American and Korean music therapists were asked to describe the musical interventions used for their clients with ASD and were asked to specify what interventions were typically utilized within the various music therapy approaches.

American music therapy interventions were classified by five themes. Similar answers were excluded from the researcher.

- Singing

“I use client singing to encourage imitating sounds/speech. Additionally, I may sing a familiar song with a client and play with dynamics/tempo to see if clients can adapt/be flexible to adjust their music to match mine.”

“Familiar songs with words left out to encourage speech, songs for social occasions (such as greetings) with dominant chords held to encourage contribution, often accompanied on piano”

“I use singing for speech production where the child is presented with a song that requires a response. The rhythm and structure drive the response.”

“Song choices are given. At times, visuals are presented for the child to choose from and hold or to complete a phrase. I use many original songs to discuss feelings, objects, and social questions.”

“Improvisation, reflection, tones or syllables both with and without words, standard songs, with ukulele, piano, drums or unaccompanied”

- Relaxation and listening

“Deep breathing exercises are sometimes used; I will sing a familiar or improvised song - "when I feel stressed, I take a deep breath" and then cue the client to take a deep breath. Sometimes I incorporate scarves so clients can visually see the impact of taking a deep breath.”

“Use recorded music with props such as scarves, parachute. I usually play my alto recorder for about 3 minutes at the end of each session”

“Listening exercises in identifying sounds and matching them to photos”

- Instruments

“Guitar to accompany, piano to accompany or improvise, percussion instruments to play/touch/manipulate”

“I use drums to facilitate social communication (two people play together and keep a beat). A variety of instruments are used to facilitate communication in terms of passing or requesting instruments (e.g. a student verbally requests an instrument before receiving it). I use shakers to learn concepts like high/low, fast/slow, over/under by singing to them with a shaker.”

“Auxiliary percussion is frequently used in playing games to work on following directions, impulse control, taking turns, sharing”

“Drum set (adaptive lessons) and Piano (colored stickers on keys with song charts that used the same colors)”



“A client can choose an instrument from a field of choices. Mostly original songs are used to encourage the client to play, then wait while music therapist plays, then play together. I use other songs where a client can choose how to play the instrument (high, low, slow, fast, etc.).”

- Movement to music

“I use a song called Let's Find a Beat ("Let's Find a Beat with our Feet,") which facilitates copying/listening/watching and with some clients, coordinating motor movements. In general, movement is used for sequencing, motor coordination, and as a social experience.”

“Dance used for following directions, sequencing, line dances taught sometimes to prepare a student for school dance.”

“Paddle drums (MT sings and holds paddle drums in different ways for the client to hit), egg shakers (sing a song that describes different ways to shake eggs), Piano (have client choose to do certain movements for certain riffs, then play riffs to signal movements).”

“Creativity intervention- students solo dancing to express themselves, picking who goes next. Students leading peers in to follow the leader.”

“We use scarves and streamers or just dance moves and sometimes use recorded music.”

“I use songs by Laurie Berkner, Raffie, and original songs. The prompts are used to choose different moves such as wiggling arms, stomping, clapping, etc. ,and also to provide movement breaks to "shake the sillies out" before moving on.

“Using bubbles and scarfs with background music.”

“Tossing softball, rolling drum”

- Others

“Flashcards, boards with Velcro, music puzzles”

“Songwriting - giving a student ownership of behavior, write songs about situations and how the student wants to respond.

“Reading books (characters are represented by instruments and client must play the instrument when prompted by the book)”

“I love to sing books and use a lot of visual aids to play music games and tell stories”

Korean music therapists also depicted their music therapy activities. And similar responses to American music therapists’ answers were excluded by the researcher.

- Singing

“Singing songs from memory”

“Signing while filling out the lyrics”

“Singing hello song and goodbye song for every session”

“Singing as the individual or as teams”

- Instruments

“Playing bells with colored music sheet”

“Improvisation in singing and playing instruments”

- Others

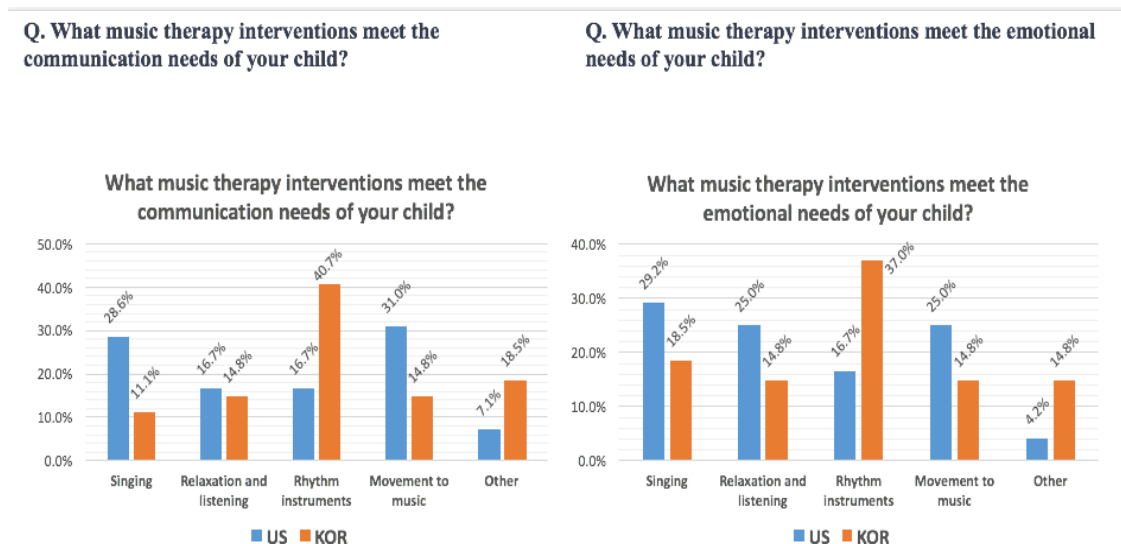
“Song analysis”

“Songwriting and rewriting”

“Discussion about the feelings and expressions by singing and playing instruments”

The American and Korean parents of children with ASD responded to two questions that asked what music therapy interventions meet the communication or the emotional needs of their children (See Figure 8).

Figure 8



Korean parents presented that playing rhythmic instruments (40.7%) was the best intervention to help their children improve communication skills, while American parents revealed that movement to music (31%) intervention or singing intervention (28.6%) were effective to increase children’s communication abilities.

Korean parents selected playing rhythmic instruments (37%) as the best intervention to support their children to meet emotional needs, whereas the selections of American parents were almost uniformly distributed to three kinds of interventions: singing (29.2%), relaxation and listening (25%), and movement to music (25%). Outside

those answers, a certain Korean parent responded that playing the cello and piano were effective to improve both communication and emotional needs of her child.

To gain the parents' inner perspectives about music therapy, the study asked parent participants to explain the child's improvements through music therapy services as an open-ended question. American parents' responses were divided into five themes by the researcher as below,

- Social skills

“He has to practice social skills such as turn-taking, asking nicely to use an instrument, etc.”

“It gets him to engage in an activity he ordinarily wouldn't do.”

- Communication skills

“He really enjoyed music therapy but I did not see any changes in his speech, which is what we were hoping for”

- Emotional stability

“Music motivates and relaxes my child.”

“It helped my son to be able to calm down and listen better. We can now walk together while out in public where he used to just elope.”

“I think it calms him and he's really good at it.”

- Cognitive control

“Music Therapy is effective because it assists with that executive functioning of my son's brain and helps him be more social.”

- Multi-function

“I have witnessed repeatedly the importance of rhythm and cadence in developing auditory processing, auditory discrimination, and basic communication skills through song, where patients were non-verbal. Music therapy has been essential in improving motor coordination, dexterity, and fine motor skills of my child and of children I have worked with.”

Korean parent participants of children with ASD believed that music therapy might help their children’s living skills as below,

- Social skills

“My child is playing with others”

“My child does eye-contact”

- Communication skills

- Emotional skills

“Development of emotional stability”

“Music therapy promoted relieving stress”

“My child is enjoying music and musical instruments although he is sensitive to sounds”

- Cognitive skills

“My child shows developed attention span and he becomes curious about others.”

“The music perception of my child was developed by reading the music.”

“My child is following instructions and rules”

- Motor skills

“My child shows developed fine motor skills and self-confidence by playing musical instruments.

- No efficacy

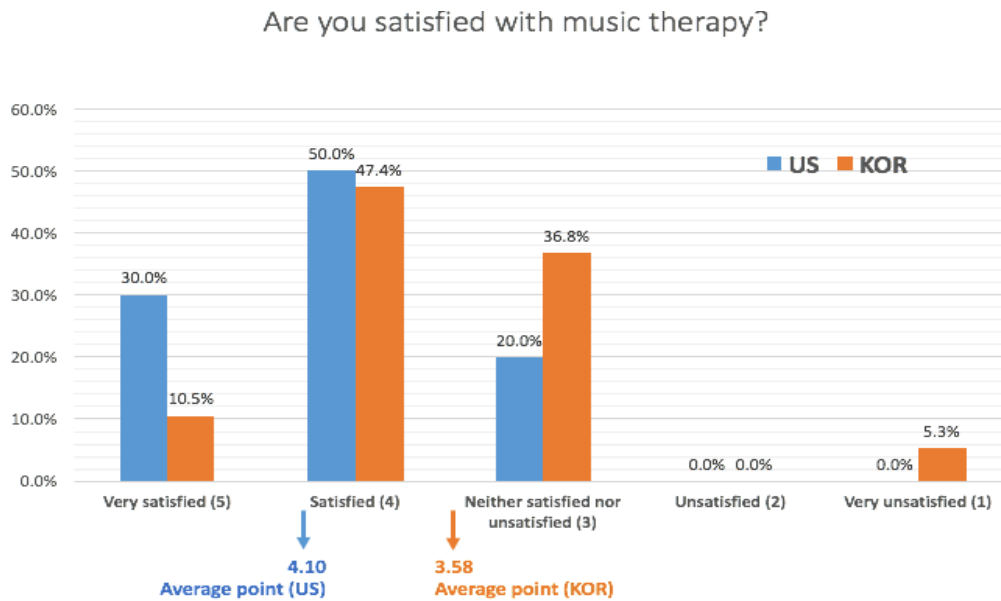
“We did not meet any efficacy of music therapy. There is no well-educated music therapists in Korea.”

“Nothing special. Music therapy is just one of the therapies.”

Both American and Korean parents were satisfied with music therapy because parents experienced the efficacy of music therapy. American children with ASD as well as Korean ones showed the developments in social skills (e.g. eye-contact, turn-taking), communication skills, motor skills (e.g. motor coordination, dexterity, and fine motor skills), and executive functioning (e.g. perception, auditory processing, and auditory discrimination). Both groups of parents also said that music therapy supported their children not only to calm down, but also to follow the instructions of the music therapist, the parents, and other educators. Two Korean parents and one American parent, meanwhile, did not experience the efficacy of music therapy.

As the last question, American and Korean parents of children with ASD answered the level of satisfaction (See Figure 9). Moreover, the study researched the correlation of satisfaction depending on the period of receiving music therapy to compare American to Korean (See Figure 10).

Figure 9



Respondents indicated their satisfaction on the scale ranged from one (very unsatisfied) to five (very satisfied). Eighty percent of American parent participants were satisfied with music therapy and 30 percent of them were very satisfied. Slightly less than 60 percent of Korean parent participants were satisfied with music therapy, while about 5 percent of Korean parents were very unsatisfied with music therapy. American parent participants reflected the satisfaction in music therapy with an average point of 4.10 while Korean parent participants reflected with an average point of 3.58 out of 5. American parents were more satisfied (+ 0.52) with music therapy than Korean ones.

Figure 10

*Satisfaction depending on the period of receiving music therapy*



The result showed that there was no significant correlation between satisfaction and the period of receiving music therapy with American's ( $R^2 = 0.11565$ ) and Korean's ( $R^2 = 0.15681$ ). Meanwhile, the result showed a tendency towards increasing satisfaction depending on the period of receiving music therapy.

**Limitations of the study**

This research encountered the number of limitations although the results were still interpreted. First, this study had the restriction in statistical analysis because a small number of participants but a wide range of respondents engaged in this study. Second, two questions were excluded from 9 participants among 19 respondents at a music therapy clinic supervisor's request. Third, the researcher needed to translate all the open-ended answers from Korean to English. It might not accurately reflect what the respondents mean. Due to those limitations, this study might not be generalized.



## Chapter 5

### DISCUSSION

The study compares American and Korean parents of children with ASD in various categories, such as current care systems, benefits and challenges in raising their children, therapies as well as music therapy interventions used for children. Furthermore, the research studies how these “between countries” differences affect the use of music therapy treatment practices for children with ASD. The perspectives of parents and music therapists are used to gain insights into differences in raising children with ASD and providing therapy for them based on responses to the survey. This chapter provides conclusions, implications, and recommendations.

#### **Conclusions**

The children with ASD of 19 American and 20 Korean parent participants present a wide range of backgrounds. They have different ages, communitive methods, and living skills. Twenty American and 16 Korean music therapist participants also have different lengths of clinical experiences, degrees, and clients. From the responses of all participants, this study meets several interesting results although a small number of participants are engaged in the survey.

Between the two countries, some modest cultural differences appear in raising ASD-diagnosed children. First of all, most American and Korean children with ASD use the school system. American parents, however, choose homecare as a subsequent preference while Korean parents prefer daycare to homecare.

Second, American parents deem education and programs for children with ASD

as the benefits to raising children in the USA. Korean parent participants also report that the education is the best benefit to raising children with ASD in Korea. Nevertheless, several Korean parents respond that there are no social benefits to living in Korea because of the lack of support groups, financial support, community-level understanding, and state-benefits, such as childcare assistance and specialty school programs. Overall, Korean parent participants report experiencing fewer benefits than American parent participants in the question concerning country-level benefits, showing slightly lower percentages in all sections than American's ones.

Third, both groups of parents have difficulties in having relationships with others, poor understating of the general public, long wait lists for services, and the lack of support from the government. Interestingly, Korean parents mostly are conflicted regarding the lack of government support, educational services, and therapies for children with ASD, whereas American parents are conflicted regarding their children's challenges although the question is asking about the difficulties in raising their child in the USA. This demonstrates a clear cultural difference. As seen in the responses, Korean parents tend to compare with other countries' care systems and research great therapies used in other countries, whereas American parents show the attitude that they do not compare with other countries' care systems. For example, a certain American parent writes a comment, "This is a difficult question to answer, as my husband and I have not raised/traveled with our children to any other countries, and cannot compare or contrast at this point."

Fourth, both American and Korean parents answer that ordinary people do not understand the needs and behaviors of children with ASD although the awareness of

autism has been increased during the last 10 years. Compared with comments from two countries, Korean parents show more negative perceptions toward the questions by using pessimistic words. Parents participants also describe their experiences when they were in public places with their children. The most common answer of the two groups is that ordinary people continue staring at when the children with ASD are doing any behavioral issues, such as rocking, flapping, tantrum, and so on. The general public might judge the children with ASD have no manners when they show the abnormal behaviors because people in general do not understand that sensory and auditory processing disorders that often accompany a person with autism. Moreover, most children with ASD look like typical children, so people can not recognize who are diagnosed with autism or not. Some parents show a positive answer that more and more people tried to help and consider the children with ASD, but the common comment of both parents is that the average person do not try to understand the children with ASD.

The study try to find cultural differences in using therapies/treatments for children with ASD. The researcher asks both American and Korean parents to select the therapies that their children have received beside music therapy and asked both American and Korean music therapists to recommend additional therapies to rank therapies used or recommended for children with ASD between the American and Korean. Most American children have received speech therapy and/or occupational therapy beside music therapy, while most Korean children have received speech therapy and/or sensory integration therapy. Meanwhile, a considerable number of American music therapists recommend occupational therapy and/or speech therapy besides music therapy while Korean music therapists highly recommend the cognitive behavioral therapy and/or sensory integration

therapy. In the quantitative analysis, the result of Spearman's coefficient of rank correlation test reveal that there is no statistically significant correlation between the two countries. The research shows that there is no significant correlation between Americans and Koreans in choosing therapies for children with ASD. However, the assumption should be carefully considered.

This study also compare the music therapy approaches and interventions used for children with ASD, and the consequential efficacies and satisfaction between American and Korean ones. Firstly, both American and Korean music therapist participants mark the music therapy approaches that they use for children with ASD. American music therapists usually use the Behavioral music therapy approach and/or Neurological music therapy approach for children with ASD. Whereas a half of the Korean music therapists provide behavioral music therapy approach, and approximately a third of music therapists used Nordoff-Robbins music therapy approach for Korean children with ASD. Interestingly, there is no music therapist who use neurological music therapy approach among Korean music therapists. The researcher surmise that no one use neurological music therapy approach because nobody has the NMT certification among Korean music therapists.

Secondly, both American and Korean music therapist participants describe the musical interventions used for their clients with ASD to specify what interventions are usually utilized in various music therapy approaches. Both groups of music therapists depict their music therapy activities in five themes, such as singing, relaxation and listening to music, playing musical instruments, movement to music, and songwriting. This study does not find any significant differences in this section.

Thirdly, American and Korean parent participants of children with ASD respond to the two questions that ask what music therapy interventions met the communication or the emotional needs of their children. Korean parent participants present that playing rhythmic instruments is the best intervention to help their children improve communication skills, while American parent participants reveal that movement to music intervention and singing intervention are effective to increase children's communication capacities. In addition, Korean parents select playing rhythmic instruments as the best intervention to support their children to meet emotional needs, whereas the selection of American parents is almost uniformly distributed to three interventions: 1) singing, 2) relaxation and listening to music, and 3) movement to music. Surprisingly, the different interventions are ranked as the best music therapy intervention for each question between American and Korean parent participants.

Fourth, both American and Korean parents are satisfied with music therapy because both groups of parent participants experienced the efficacy of music therapy. American as well as Korean parent participants of children with ASD believed that music therapy might help their children develop social skills, communication skills (e.g. eye-contact, turn-taking), motor skills (e.g. motor coordination, dexterity, and fine motor skills), and executive functioning (e.g. perception, auditory processing, and auditory discrimination). Both American and Korean parent participants also present that music therapy help their children not only calm down, but also follow the instructions of the music therapist, parents and educators. On the other hand, two of the Korean parents and one of the American parents have not experienced the efficacy of music therapy.

Respondents indicate their satisfaction on the scale ranged from 1 (very unsatisfied) to 5 (very satisfied). Eighty percent of American parent participants are satisfied with music therapy, whereas approximately 60 percent of Korean parent participants are satisfied with music therapy. American parents reflect the satisfaction in music therapy with an average point of 4.10 while Korean parent reflect with an average point of 3.58 out of 5. American parent participants are more satisfied with music therapy than Korean parent participants. Lastly, the study researches the correlation of satisfaction depending on the period of receiving music therapy to compare American to Korean ones. The result shows that there is no significant correlation between satisfaction and the period of receiving music therapy in both countries. However, the result tends toward improved satisfaction depending on the period of receiving music therapy.

### **Implication**

Analyzing all responses of four participant groups ( $N = 75$ ) presents several intriguing findings. The aim of this research is to discover the cultural differences between American and Korean parents of children with ASD by comparing two countries in various categories, such as care systems, benefits and challenges in raising children with ASD, and therapeutic approaches in music therapy and other therapies used for these children. In addition, the study tries to find the influence of cultural differences between America and Korea in using music therapy treatment practices for children with ASD.

As the literature review shows, the study also discover that two countries have similar issues in raising children with ASD. Both America and Korea need to improve the general public's awareness of ASD because both parent groups have difficulty in raising

children with the lack of understanding of ASD by the general public. Furthermore, Korean parent participants tend to have conflicts with the lack of government support, educational services, and therapies for children with ASD, whereas American parent participants are mostly conflicted with their children's own challenges. From the responses, the study finds that Korean parents show a tendency to compare with other countries' care assistances and search great therapies used in other countries, whereas American parents show the attitude that they do not compare with other countries' care assistances. Korean parents may believe they are receiving less support and care systems than other countries by comparing with advanced countries, while American parents are content with their systems without comparing their situation to other countries' care systems. The Korean government needs to improve the care systems for individuals with ASD, consulting the other countries' systems.

The analysis through the Spearman's coefficient of rank correlation shows that there is no statistically significant correlation between American and Korean parent participants as well as music therapist participants in choosing therapies besides music therapy for children with ASD. Although a different therapy is ranked first by the American and Korean groups, the result indicates that both countries showed overall similar.

The music therapy interventions/activities and the efficacy of music therapy between America and Korea show similar views and perspectives with the exception of music therapy approaches. American music therapist participants usually use the Behavioral and/or Neurological music therapy approach for children with ASD. On the other hand, Korean music therapists mostly use the Behavioral and Nordoff-Robbins

music therapy approaches for Korean children with ASD. Although both American and Korean music therapist participants provide the Behavioral music therapy approaches for children with ASD, none of the Korean music therapists use the Neurological music therapy approach. The researcher surmises that is because nobody has the NMT certification among Korean music therapists, so it may be hard to generalize that it is a cultural difference.

The result presents that American parent participants are more satisfied with music therapy than Korean parent participants. A couple of Korean parents express their disappointment with music therapy. Korean parents may need more well-trained and well-educated music therapists. Another finding presents that there is no significant correlation between satisfaction and the period of receiving music therapy with the results of the American and Korean one. However, the researcher detects the slight tendency towards increasing satisfaction depending on the period of receiving music therapy. Although this result cannot be generalized because of the limited participants, it shows that the longer these clients received music therapy, the more satisfied they were with the efficacy of music therapy. Music therapy professionals who participated in this study need to develop better music therapy interventions that can encounter the outcomes in a short period for numerous potential clients.

To conclude, the study cannot find any statistically significant differences in using music therapy treatment practices for children with ASD between America and Korea. However, there are some interesting differences in parental perspectives, preferred musical interventions, and satisfaction with music therapy between two countries. These findings may help further researchers and music therapists who consider the music



therapy interventions for clients from Korea or who have clinical music therapy sessions in Korea.

### **Recommendations**

As mentioned in the above limitation section, this research encountered several restrictions, such as a small sample number but a wide range of conditions of respondents, exclusion of two questions from one parent survey, and limitations of translation. The results of this study cannot be generalized because of such limited factors in carrying out the statistical analysis. Future studies need more participants, so their findings are generalizable and future studies need to be more selective with participants to examine a narrow range of conditions.

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APPENDIX A

ASSURANCE IRB APPROVAL



## Notification of Approval

**To:** Jiye BAE

**Link:** STUDY00004279

**P.I.:** Robin Rio

**Title:** A comparison between Korean and American music therapy treatment practices for children with ASD

**Description:** This submission has been approved. You can access the correspondence letter using the following link:

[Correspondence\\_for\\_STUDY00004279.pdf\(0.01\)](#)

To review additional details, click the link above to access the project workspace.

APPENDIX B  
CONSENT FORM

A comparison between Korean and American music therapy treatment practices for children with Autism Spectrum Disorder (ASD)

Jiye Bae

I am a graduate student under the direction of Professor Robin Rio in the Department music therapy at Arizona State University. I am conducting a research study regarding a comparison between Korean and American music therapy treatment practices for children with ASD to understand better cultural perspectives in music therapy practices.

I am inviting your participation, which will involve a survey to gather information about the practice of music therapy interventions and outcomes. It will take approximately 15 minutes of your time. You have the right not to answer any question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. You must be 18 or older to participate.

There are no foreseeable risks or discomforts to your participation.

Your responses will be anonymous. The results of this study may be used in reports, presentations, or publications but your name will not be used.

If you have any questions concerning the research study, please contact the research team at:

Jiye Bae (602) 390- 2445 or by email at [Jbae20@asu.edu](mailto:Jbae20@asu.edu)

Robin Rio (480)727-6749 or by email at [Robin.Rio@asu.edu](mailto:Robin.Rio@asu.edu)

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. Please let me know if you wish to be part of the study.

APPENDIX C

SURVEY QUESTIONS

## For Parents

1. At the time of this survey, what is your child's chronological age?  
Years \_\_\_\_\_, Months \_\_\_\_\_
2. What is your child's current placement? (You may choose multiple)  
(e.g. school, home, daycare, etc.)  
\_\_\_\_\_
3. How does your child communicate? (You can choose multiple).  
\_\_\_\_\_ My child communicates verbally  
\_\_\_\_\_ My child communicates through gestures  
\_\_\_\_\_ Picture board  
\_\_\_\_\_ Sign language  
\_\_\_\_\_ Other forms of communication
4. Is verbal language sufficient for their age/needs?  
Yes \_\_\_\_\_ No \_\_\_\_\_
5. Can you describe your child's social abilities and needs? My child relates to others in the following ways:
  - 1) Plays with other children  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Everyday \_\_\_\_\_
  - 2) Shares toys  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Everyday \_\_\_\_\_
  - 3) Eye contact  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Everyday \_\_\_\_\_
  - 4) Asking and answering to others  
Never \_\_\_\_\_ Sometimes \_\_\_\_\_ Often \_\_\_\_\_ Everyday \_\_\_\_\_
6. What kinds of therapies do you use for your child besides music therapy?
  - 1) \_\_\_\_\_ Speech Therapy (ST)
  - 2) \_\_\_\_\_ Occupational Therapy (OT)
  - 3) \_\_\_\_\_ Physical Therapy (PT)

- 4) \_\_\_ Psychotherapy
- 5) \_\_\_ Horseback –Equine
- 6) \_\_\_ The Picture Exchange Communication System (PECS)
- 7) \_\_\_ Cognitive Behavioral Therapy
- 8) \_\_\_ Sensory integration Therapy
- 9) \_\_\_ Others: \_\_\_\_\_

7. What are the benefits to raising your child in the USA?

- 1) \_\_\_ Education
- 2) \_\_\_ Government support
- 3) \_\_\_ Services (public spaces, buildings, transportations, etc.)
- 4) \_\_\_ Programs (health, social, etc.)

8. What are the difficulties and challenges in raising your child?

9. In general, do you think the average American understands the needs and behaviors of children with ASD?

10. In general, how do you feel your child is treated?

- 1) \_\_\_ Very good
- 2) \_\_\_ Good
- 3) \_\_\_ Neither good nor bad
- 4) \_\_\_ Bad
- 5) \_\_\_ Very bad

11. Can you please comment on observations you have made regarding children with ASD when they are in public places, such as school or in the community, regarding how their living community understands their needs and differences?

12. How long has your child attended music therapy sessions?

- 1) \_\_\_ Less than 3 months
- 2) \_\_\_ 3-6 months
- 3) \_\_\_ 6-12months
- 4) \_\_\_ 1-2 years
- 5) \_\_\_ Over 2 years

13. What music therapy interventions meet the communication needs of your child?

- 1) \_\_\_ Singing
- 2) \_\_\_ Relaxation and listening
- 3) \_\_\_ Rhythm instruments
- 4) \_\_\_ Movement to music
- 5) \_\_\_ Others: \_\_\_\_\_

14. What music therapy interventions meet the emotional needs of your child?

- 1) \_\_\_\_\_ Singing
  - 2) \_\_\_\_\_ Relaxation and listening
  - 3) \_\_\_\_\_ Rhythm instruments
  - 4) \_\_\_\_\_ Movement to music
  - 5) \_\_\_\_\_ Others:
- 

15. Are you satisfied with music therapy?

- \_\_\_ Very Satisfied
- \_\_\_ Satisfied
- \_\_\_ Neither Satisfied nor Unsatisfied
- \_\_\_ Unsatisfied
- \_\_\_ Very Unsatisfied

16. Talk about why you think music therapy is effective or not with you child.



**For Music therapists**

1. Bachelor's in Music Therapy (yes/no) \_\_\_\_\_
2. Master's in Music Therapy (yes/no) \_\_\_\_\_
3. Equivalency in Music Therapy (yes/no) \_\_\_\_\_
4. Six-month internship in Music Therapy (yes/no) \_\_\_\_\_
5. Doctorate in Music Therapy (yes/no) \_\_\_\_\_
6. Other education and or certification in Music Therapy  
\_\_\_\_\_

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7. How long have you worked as a music therapist?
  - 1) Under 6 months
  - 2) 6-12 months
  - 3) 1-2 years
  - 4) 2-5years
  - 5) Over 5 years
8. Chronological age range of your clients with ASD? Check all that apply.
  - 1) Under 2 years-old
  - 2) 2-5 years-old
  - 3) 5-8 years-old
  - 4) 8-12 years-old
  - 5) Over 12 years-old
9. For the children with ASD that you are treating, what is the level of severity in their ASD diagnosis? (DSM5) (Check all that apply)
  - 1) Level 1 (Requiring support)
  - 2) Level 2 (Requiring substantial support)
  - 3) Level 3 (Requiring very substantial support)
10. Do you provide Music therapy sessions for the children with ASD once a week, twice a week, or thrice a week? And, what is the average time in minutes for one session? \_\_\_\_\_

11. Are the Music Therapy sessions held in a group, individual, or both? If a group, how many children?

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12. What kind of music therapy approaches are you using for children with ASD?

(Check all that apply)

- 1) \_\_\_\_\_ Behavioral
- 2) \_\_\_\_\_ Nordoff-Robbins
- 3) \_\_\_\_\_ Analytical
- 4) \_\_\_\_\_ Neurological
- 5) \_\_\_\_\_ Others (please specify)

13. What kinds of music therapy interventions do you use?

(Check all that apply and provide any details on how you present the intervention, including prompts, song or composition names, genre, accompaniment, etc.)

1) \_\_\_\_\_ Singing (please describe procedure)

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2) \_\_\_\_\_ Relaxation and listening (please describe procedure, and recordings if used) \_\_\_\_\_

3) \_\_\_\_\_ Instruments (please name instruments and describe how they are used)

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4) \_\_\_\_\_ Movement to music (please describe procedure, and recordings if used)

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5) \_\_\_\_\_ Other (games, activities, visual aids, please specify)

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14. Do you find your interventions effective? (Yes / No)

15. How do you evaluate your client progress?

Do you primarily measure individual goals to measure progress? \_\_\_\_\_

Do you primarily measure group goals? \_\_\_\_\_

Do you measure progress equally between individual and group goals? \_\_\_\_\_

16. Please summarize the client's progress and typical outcomes seen after treatment.

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17. How much time in treatment do you expect the client will need in order to meet the anticipated outcomes? Feel free to provide a range of time.

One on one Session:

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Group Session:

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18. If you do not see outcomes (client doesn't reach goal(s)) within a set period of time, what do you typically do?

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19. What kinds of therapies do you recommend besides music therapy?

- 1)\_\_\_ Speech Therapy (ST)
- 2)\_\_\_ Occupational Therapy (OT)
- 3)\_\_\_ Physical Therapy (PT)
- 4)\_\_\_ Psychotherapy
- 5)\_\_\_ Horseback –Equine
- 6)\_\_\_ The Picture Exchange Communication System (PECS)
- 7)\_\_\_ Cognitive Behavioral Therapy
- 8)\_\_\_ Sensory integration Therapy
- 9)\_\_\_ Others: \_\_\_\_\_

20. Can you please comment on observations you have made regarding children with ASD when they are in public places, such as school or in the community, regarding how their living community understands their needs and differences?

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