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Models of Music Therapy: Section I

Communication in Children with Autism Spectrum Disorder

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The purpose of this literature review is to explore the use of the Nordoff Robbins Music Therapy approach. This approach is mostly used for children with Autism Spectrum Disorder. This population has goals regarding improvements in social and emotional domains. The use of improvisation and precomposed music is explored. Many musical elements and instruments are utilized too. Melodic Intonation Therapy and intersubjectivity approaches are often paired with Nordoff Robbins Music Therapy (NRMT) sessions. The different techniques and skills are mentioned in order to become aware of the different skills and areas to best fit the client.

Many children in society are diagnosed with Autism Spectrum Disorder (ASD). It is identified through observed behavior and diagnosed on a spectrum which determines the level of functioning. ASD itself is diagnosed through, “persistent deficits in social communication and social interaction across multiple contexts and restricted, repetitive patterns of behavior, interests, or activities” (American Psychiatric Association, 2013, p. 50). These symptoms must be present in the early developmental period and could impair occupational, social, and current functioning. Characteristics of the disorder could also include deficits in language, play, and behavior. These features are seen through the child’s narrow range of routines or interests (Dempsey & Foreman, 2001). In a diagnosis, some characteristics can fall within ASD whereas some fall within the neurodevelopmental disorder category. Neurodevelopmental disorders are “a group of conditions with onset in the developmental period” (American Psychiatric Association, 2013, p. 31). These conditions impair occupational, academic, personal, and social functioning through impairments within social skills or intelligence (American Psychiatric Association, 2013).

Within ASD, Attention-Deficit/Hyperactivity Disorder can be seen as a neurodevelopmental disorder since it displays levels of inattention, hyperactivity-impulsivity, and disorganization. Sometimes stereotypic movements such as repetitive, purposeless motor behavior and lack of coordination can be seen. A learning disorder could also be perceived if an individual cannot process information accurately. This would be seen within the first year of formal schooling. Intellectual and communication impairments along with speech sound disorder can be seen within both neurodevelopmental disorders and ASD (American Psychiatric Association, 2013). The main cause of ASD is unknown; however, many types of cognitive impairments result in the development of this disorder. Unfortunately, there is no cure for ASD. For children with ASD differences are celebrated while weaknesses are improved upon through interventions (Ockelford, 2013).

In addition to communication, sometimes parting can be a difficult concept for children with autism. Children often become very excited about music therapy sessions since music therapy brings them hope, pleasure, and security. When ending therapy, the child could feel abandoned. Songs with simple words that remind the child of the forthcoming separation and reunion was found to help the children ending therapy. Playing a song of choice and instruments with the therapist helped the child express his feelings regarding closure. Playing instruments and singing involves the participant's emotions, body and mind which are crucial component in trauma intervention. These difficult issues are shown through the mutually and spontaneously expressing, responding, synchronizing, and regulation process of joint improvisation. This process functions as a powerful model of transformation against the trauma of parting (Kim, 2014).

Children diagnosed with ASD often display challenges within areas of communication and social and emotional learning. According to the DSM-V, language includes the form, function, and use of a conventional system of symbols, whereas communication includes any verbal or nonverbal behavior that influences the behavior, ideas, or attitudes of another individual” (American Psychiatric Association, 2013, p. 41). Communication disorders are broken down into five categories: “language disorder, speech sound disorder, childhood-onset fluency disorder (stuttering), social (pragmatic) communication disorder, and other specified and unspecified communication disorders” (p. 41).

Sometimes hearing impairments affect language and speech in a child diagnosed with a disorder (American Psychiatric Association, 2013). Communication disorders can cause social isolation, problematic behavior, and deficits in academic performance (Mendelson et al., 2016). Within communication alone, impairments consist of “odd and repetitive speech patterns, markedly delayed speech and language skills, and lack of spoken language” (Fisher et al., 2011, p. 402). Impairments in social interactions are seen through eye contact and relationships with peers. There can also be abnormalities within patterns of behavior in repetitive or restricted interests or activities (Fisher et al., 2011).

Human communication falls into two categories: receptive and expressive. Receptive communication is classified as non-aware and aware statements while expressive communication is classified as contains non-intentional and intentional. The two categories come together in symbolic, formal, and pragmatic elements. Communication is one of the determining areas that distinguishes high-functioning and low-functioning levels of ASD. Children on the high end of the spectrum have normal or near to normal linguistic and cognitive development. However, they often do not detect social clues such as nonverbal facial expressions (Polischuk, 2016). The

English language itself also causes confusion for these individuals since it is comprised of semantics, syntax, similes, metaphors, standpoint, sources, sequence, sound, spoken quality, shared knowledge, and social context. Most importantly, language itself is universal but varies from culture to culture (Ockelford, 2013). Since music is also a language, musical experiences have been found to help communication among nonverbal patients with autistic disorder (Gattino et al., 2011).

To improve children with ASD's quality of speech, language training and play skills are often used. These allow the children to have fun while increasing their communication skills. In treatment, high-preference stimuli choices are used to increase a child's motivation. Structure is also used in the sessions to meet a child's restricted interest (Wimpory & Nash, 1999). Within Polischuk's (2016) study of Autism Spectrum Disorder, the researcher included four steps: "an intentionally structured classroom, a visual schedule of the day's activities, an explanation of the type and length of the schoolwork expected, and instructions presented both visually and verbally" were used in the treatment, education programs, and related communication-handicap children (p. 17). For the learning opportunity to begin, the therapist and client took turns interacting to imitate social interactions. Certain target language skills related to the goals were reinforced while non-target related skills were ignored. This kind of training can be applied in many types of services such as play therapy, speech therapy, counseling, and music therapy (Fisher et al., 2011).

Although there are many services to help improve communication and speech for the ASD population, music affects the brain in a unique way. Musical interventions can change the brain functionally and structurally (Hyde et al., 2009). For instance, when someone is playing music or participating in rhythmic tasks, the Broca area of the brain is activated (Baker, 2011).

Learning rhythm and meter impacts cerebral language processing, memory, learning, and brain plasticity (Altenmüller et al., 2012). Thus, music helps promote communication and social skills among children with developmental disabilities (Mendelson et al., 2016). Perception of speech can also be improved through receptive musical experiences (Koelsch, 2012). Both music and language are strongly impacted by the child's culture. For example, when interacting with children, adults use music-like speech to display feelings and to promote a social bond. As their skills develop, adults use language to display a wide range of thoughts and feelings through their improvised speech (Ockelford, 2013). Music itself also influences one's mind, body, and relationship with others since participation in music involves participation from the whole brain (Altenmüller et al., 2012). Because of the effects of music, music therapy services are often utilized for this population.

Within the field of music therapy, different approaches are utilized depending on the client's needs and goals. Music therapy approaches are derived from psychotherapeutic models and medical models. A few popular methods include Guided Imagery and Music, Applied Behavior Analysis, and Nordoff Robbins Music Therapy (NRMT) (Darrow, 2008). Music therapists have the option to become professionally trained in either domain depending on their population or personal music therapy philosophy. Each approach uses different styles, session plans, and musical interventions. One common approach used for children with ASD who display a lower level of communication and lack of social skills is the NRMT approach.

The NRMT approach began with Paul Nordoff and Clive Robbins. The two investigated the realm of human experience within music and determined that every child has an innate musical expression. This is referred to as the *music child* (Aigen, 1996). By providing and imitating the child with musical resources, the child can reach his fullest potential through music.

Active music making promotes interest and motivation which leads to joint attention and tolerance of shared engagement (Wigram & Gold, 2006). Many music therapists believe they can reach a connection with the most isolated individuals (Birnbaum, 2014). This result displays that music becomes the prime motivator in sessions for the client-therapist relationship (Ritholz, 2014). In addition to the therapeutic relationship, interventions within this approach are focused on the relationship between words and music in songs for children with developmental challenges especially in communication. The approach also involves a collective layer where the client and therapist make music together. NRMT can also be used to uncover and activate healthy areas of functioning (Birnbaum, 2014).

Within the official Nordoff-Robbins Center for Music Therapy, music therapy services are given to children, adolescents, adults with a wide range of needs, psychiatric disorders, sensory impairments, behavioral disorders, developmental delays, and autism spectrum disorder. The center also provides workshops, musical materials, and information of other music therapists. In addition to services and materials, the center offers training programs for music therapists to become licensed within the NRMT domain (Nordoff-Robbins Center for Music Therapy, 2017).

To become a certified Nordoff Robbins music therapist, one can participate in many different programs. The training consists of many levels of fieldwork, internship, postgraduate certification, and continuing education courses within the NRMT approach. Training can occur at the center or within colleges including but not limited to New York University and Molloy College (Heller & Petersen, 2017). It is also important for therapists participating in this training to conduct and publish research in order to understand the original and updated NRMT process. Presenting at conferences or workshops also occur within training in order to share the new

dynamics and nature for other therapists. Many Nordoff Robbins music therapists create their own music with clients. Music therapists often write and record music in order to share resources. Sharing clinical information gives other music therapists the resources they might need with clients. (Heller & Petersen, 2017).

The beginning Nordoff Robbins music therapy began at Sunfield Children's Home. Paul Nordoff was a pianist at the home while his future partner, Clive Robbins, was a student teacher for children with disabilities. After seeing a performance, Nordoff was inspired to use music to evoke speech. Nordoff began by playing piano within the sessions while Robbins directed the child. The sessions continue with two therapists. One therapist normally stays at the piano while the other directs the client. This allows the child to make interactions musically and socially amongst the two therapists (Youngshin, 2004). As the approach developed, the use of guitar helped make the therapy process occur with one therapist present (Soshensky, 2005).

In the NRMT approach, the child and therapists usually participate in improvisational experiences. Music therapists match the client's style using musical elements as they occur in the moment. Any elements or instruments that engage a specific child through music is encouraged. Areas or elements that bring out conflict should be avoided or altered. According to Aigen "mediate on the child before you come to the session, think about him, take five minutes, three minutes, have him in your mind, remember how he looks, remember what he did, remember how it feels to be in the room with him" (1996, p. 10). This allows the focus of the NRMT session around the child. Based on the observation, therapists create the general direction for the child to progress musically and verbally (Aigen, 1996).

For goals regarding communication and social skills, the NRMT approach gives opportunity for language to be brought out simply and consistently through music. Since

music helps express what words fail to do, music often forms its own language of feelings (Aigen, 2005). Music through improvisation can be used as an attractive medium allowing the child to have his own space in a safe environment (Birnbaum, 2014). Improvisation through vocal and instrumental domains help the client improve within verbal and nonverbal communication (Knapik-Szweda, 2015). Vocalizing and beating in a steady tempo and matching the client's tempo also help improved communication within sessions. In addition to matching the client's style, the musical elements were used to mimic the non-verbal interaction between mother and infant (Markworth, 2014). Aigen also claims that "we can only help children develop relatedness and communicativeness if we creatively offer them ourselves" (1996, p. 24). Bringing out the therapists' emotional response within the music, helps the child express themselves. The increase of music the client makes also increases the amount of vocal sounds and level of pre-speech displayed (Ockelford, 2013).

In addition to communication, NRMT creates a way to develop the child's inner personality, motivation, and capacity for human experience. Emotions, feelings, and relationships are brought out within these music therapy sessions. Not only does language develop through music, physical development and relationships are also strengthened and improved (Streeter, 1993). One strong relationship seen in sessions relates to the relationship between the client and therapist. This connection begins when the therapist matches the client musically as well as when the client and therapist make music together (Ritholz, 2014). Children also can lead in a music therapy session which helps motivate their social interaction (Kim et al., 2009). The process allows not only the client to grow, but gives the therapist an opportunity to learn from the client (Birnbaum, 2014). Matching the child's style using musical elements gain his trust, promote connection, and build a relationship.

Music therapy methods are measured through both quantitative and qualitative measurements. Qualitative research is often holistic, empirical, naturalistic, descriptive, interpretative, and emphatic. Quantitative research, on the other hand, is systematic and mathematical. Sometimes the research emphasizes spontaneous interpretations or immediate observations within the research (Ruud, 1998). Within qualitative, measurements are arranged through session interviews, description of client's feelings, field notes from therapist, and musical improvisations. These areas of measurement are clear and consistent to display appropriate and trustworthy results (Abrams, 2004). Quantitative measurements are gathered through measurements of quantity. Normally, music therapy measurements are taken through scales of assessment (Cooper, 2010). Because of the field, music therapy research falls more into the qualitative category than quantitative category, however, quantitative data is often gathered in order to give valid findings.

Even though there are many areas of strength within music therapy, research and documentation are often seen as weaknesses within the field. Since music therapy is an interpretative science, the research occurs through interactions between therapists and the client within behavioral, experiential, and musical areas which falls within the qualitative category (Ruud, 1998). Some music therapists argue that goals and objectives within NRMT cannot be measured accurately within this approach since sessions are created on the spot often through the client's attitude and response. However, sometimes therapists have preconceived ideas regarding sessions outcomes. This can block creativity from forming around the child's response (Baker, 2011). To provide valuable data, sessions are often recorded and analyzed allowing the therapists to see the client's progression overtime. NRMT can be used with many populations; however, it is often used for children with autism or development disabilities. The main purpose

of the approach is to increase communication for that population (Baker, 2011). Even though Nordoff Robbins music therapy can be used with other populations, there are more articles regarding the approach with children than any other population. To provide valuable data, sessions are often recorded and analyzed allowing the therapists to see the client's progression overtime. Training and research includes resources for music therapists to prepare for NRMT sessions in order to provide the client with an open environment for creativity.

In addition to the NRMT, Melodic Intonation Therapy and Intersubjectivity are also used within music therapy to promote communication. Melodic Intonation Therapy facilitates the production of language in people with mild to moderate non-fluent aphasia. Within this process ten common words are placed at the end of phrases. Each phrase is sung with a distinct melody aligned with the client's vocal range. The three sets used in this process consist of the therapist singing phrases while the client listens, inviting the client to sing with the therapist, and having the client speak the phrases in a normal conversation without musical cues (Baker, 2011). Even though this type of therapy is beneficial for clients with goals regarding the communication domain, the music therapy approach used depends on the clients' needs.

Intersubjectivity is used to represent the psychological relationship between people. This process often occurs through an individual experience inherent to social being. The concepts within intersubjectivity are used in music therapy especially in Nordoff and Robbins work. Even though during the start of NRMT psychotherapy and intersubjectivity were not conceived, many modern-day therapy sessions intertwine the three approaches. Within intersubjectivity, there is a difference between transference and counter-transference. Both areas apply to the therapist's unconscious process which then relates to the therapy goals in the session. Within the sessions, a loop occurs where the client and therapist notice that they are being heard by one another when

the two make music (Birnbaum, 2014). Mixing the two theories can help benefit the client and meet their needs.

Music centered thinking is another area that coincides with NRMT. This concept is a broader realm which is broken down into many factors such as personal dimension, theoretical dimension, an autonomous foundation for practice, and developments in the profession of music therapy. Music-centered music therapy also emphasizes mechanisms in the forces, experiences, processes, and structures of music as the therapist seeks to enhance musical expression and experience. Music-centered thinking can be used in nonclinical and clinical areas. It can be used to explain the effects of the tonal, rhythmic, harmonic, and stylistic components of music in a clinical session. This practice was found to bring out aesthetic experiences for many clients since it promotes self-growth, self-knowledge, and enjoyment (Aigen, 2005).

Through music-centered music therapy, the therapist seeks to develop and enhance capacities for musical expression within the experience. To obtain this goal, the therapist's responsibility is to involve the client in music making. Music-centered dimensions can create an interaction between musicians which causes a relationship between therapist and client. Music-centered music therapy also helps benefit many other areas for clients within society. This process also removed barriers between learning among those who have disabilities. The unique dimensions of NRMT display great expansions within clients and allow them to grow (Aigen, 2014).

Prior to arranging musical selections, the music therapist must examine the client's autonomy and variability profile. The client's autonomy profile deals with the different relationship roles formed between improvisers (Wigram & Gold, 2006). This can be seen through the musical interaction between the client and therapist. It is also seen within the

musical elements in the child's musical and non-musical behavior (Kim et al., 2009). The client's variability profile relates to the structure or variety within the child's musical production. Music relating to the child's musical feedback displays what is best for the client. Sometimes using a free formed improvisation could leave the child struggling to generate their own music (Wigram & Gold, 2006).

Since music is a prime component for motivation, musical elements are very important within this approach. For the client to feel stable, music with a constant pulse and meter is often used. Sometimes Broadway and show music is utilized within improvisations. Tonal and atonal improvisations are also seen within an improvised jazz duet (Mahoney, 2016). A balance between structure and free form must be arranged to best fit the client. Improvisation is often used as play because of its virtuosity (Aigen, 2001). The interactions between the client and therapist within improvisation not only display a therapeutic tool, but it also aids in the aesthetic aspect of musical communication (Ruud, 1998). This allows most clients to feel secure within music therapy sessions. Music with a stable pulse and meter is often seen within jazz, baroque, and Spanish styles (Wigram & Gold, 2006). Even though jazz has an element of improvisation, music therapy improvisations have different dimensions.

Within music therapy improvisation, there are fewer musical rules which allow the improvisation to be free of musical conventions. This causes the experience to be playful and unpredictable. It also makes change possible without therapeutic consequences (Ruud, 1998). The flow within the improvisation gives an, "organic way without our conscious participation" (Ruud, 1998, p. 122). Improvisation has aesthetic values since the music used reflects the client's place within their world. The spontaneous creation alone can create a therapeutic structure (Aigen, 2005).

In Nordoff-Robbins sessions, piano is the main instrument used. Within the music therapy field, guitar was found to reach clients more personally through musical style and intervention. Since the guitar can display more variety than a piano, guitar can be used to connect to the client within this diverse style of playing. For instrumentation, the guitar is a perfect instrument for expressing many styles. The size of the guitar benefits client since the therapist can move as well as connect one on one with the client. The guitar also allowed many ornamental opportunities and an assortment of rhythmic strumming as well as consonant chords. Alternate tuning is also an option on guitar that engaged the client. Different strumming techniques like plucking, pick, or hand were also beneficial. This variety was beneficial to the client and can help many other clients within NRMT (Soshensky, 2005).

Music alone is focused around rhythm, tone, scales, idioms, dynamics, tempo, harmony, and melody. Sometimes specific elements like keys, intervals, and styles are used and adapted. In Markworth's article, it was noticed that dynamics, timbre, touch, and tempo employed communicative interactions between therapist and client (2014). Themes of music language, music expression, and music as a shared experience were used for unique self-expression in both the therapist and client. Musical language and expression was displayed through body movements, vocalization, or presentation. The range of musical styles helped the client bring out authenticity in the music while reflecting his or her expressions (Markworth, 2014).

Nordoff Robbins music therapists use rhythmic patterns, melody, beat, phrasing, tempo, intonation, harmony, and dynamical expression to influence the subject's developmental areas. Improvisation allows a musical structure and a clear systematic approach to engage the child (Knapik-Szweda, 2015). When analyzing music, register of pitch, tempo, and dynamics relate to the client's emotional state. High registers, fast tempos, and loud dynamic levels display

excitement where low notes display more serious feelings. Slow tempos usually mark tranquility. Soft dynamics tend to represent fear or grief. In addition to these elements, pitch, loudness, timbre, and duration are also observed since these elements identify the melody. Musical conversations can help children understand language. Musical phrasing and answering can be arranged through musical games in music therapy. The combination of musical elements, improvisations, and the client-therapist relationship motivates children to use language both receptively and expressively (Ockelford, 2013).

Music for sessions should be determined through intuition and the personal reaction of the child through the therapeutic relationship. Classical music often targets certain frequencies which can impact sensory processing, balance, learning, language, play, and executive functioning (Gee et al., 2014). Within classical pieces, harmony moved toward tonic elision and away from tonic retrogression. The arrangement of the tones and chords relate back to the tonic key. Pieces that fall within the Romantic or Classical period focus around major and minor tonalities. Within 20th century pieces, wider key ranges, modulations, chromaticism, secondary dominants, and altered chords are seen. Harmonic modulations of major thirds and tempered fifths also helped represent emotional significance for clients' (Salzeman, 2002).

Improvisational experiences could bring out aesthetics of musical interactions (Ruud, 1998). Within sessions, the child can choose the instrument he would like to play. The child can also participate in improvised singing as well. When applying musical elements, therapists should be open regarding their own feelings toward the child and the music itself. Clinically, musical contact should be maintained to push the child toward a premature self-awareness. The therapist's role is mostly to lead the child out of his pathology by inviting, challenging,

charming, or questioning the child (Cooper, 2010). Reacting to the child musical should be looked as enhancing their expression rather than imitating (Aigen, 1996).

When choosing pieces, it is important to realize that most children's songs are in a major key, consisting of two or three different chords: the tonic, dominant, and sometimes subdominant. This was found to be restricted and could limit the musical-emotional experience. Music with a wider range of expression helps children experience warmth of consolation and find expression they cannot normally feel. Western classical music and popular music including blues, jazz and pop, and world music also help expand the effectiveness of therapy. In order to promote expression, the "Crying Song" was written by Paul Nordoff and Clive Robbins to help children express distress. The lyrics are simple to communicate about experiences at hand. The melody and harmony emphasize the words, "Oh, when you feel like crying, oh, when you feel like crying, just cry, just cry" (Ritholz, 2014, p.12). The song is in a major key, slow and lyrical with ascending melodic phrases for the first statement and then contrasting descending melodic octave on the words "Just Cry" (Ritholz, 2014).

In the piano part, Nordoff sustains the fifth tone C in the bass for the first four measures, delaying the tonic F in the bass until the word "cry". When the lyrics change to "Oh, when you feel like singing, just sing" Nordoff inverts the melody for the last two words to create a leap of an ascending octave to demonstrate the impact of melodic intervals and directions of tones. Variations include glissandi, chromatic tones, and a triplet feel which contracts a 4/4 meter. The melody contains the structure of the musical framework. Within the song, seventh chords, tension and relaxation, and ornamentation in the melody are included to give a variety in expression. This song helped the child display facial expressions and exciting vocal squeals (Ritholz, 2014).

In addition to children with ASD, NRMT can be used for clients with brain injury, dementia, palliative care, hospice, and family group sessions. It also can be paired with clients participating in occupational therapy. Some goals for clients with brain injury include cognitive functioning, understanding speech, participating in speech, and improvement in movement. Emotional support, motivation, and creativity are also focused on. Within the music therapy sessions, repetitive exercises are utilized. For clients with dementia, NRMT focuses on social interaction, strengthening family connections, and joy within music making. The sessions can be tailored to improve movement, vocal sounds, and breathing. Promoting expression and creativity are goals used in NRMT hospice sessions. The approach can also be used in a family group music therapy session (Spiro et al., 2011).

In addition to music therapy sessions, music lessons are used for therapeutic purposes as well. It was also found that musical training and learning to play an instrument can help adults who suffer from neurological diseases and children in areas enhancing neuroplasticity and developmental disorders. Taking music lessons helped children improve their fine and gross motor skills. It also caused the clients to improve their melodic and rhythmic tasks. Within the brain, growth was shown through the children's right precentral gyrus and corpus callosum. Auditory brain areas also displayed structural differences (Hyde et al., 2009).

Repeating basic elements within musical structure or using precomposed songs creates form. This process can be used within the Nordoff Robbins approach since these elements were created based on the child's present mood. Repeating the material can meet the developmental needs or level of stability that child. As the child's mood changes, precomposed songs can be adapted through musical resources. Songs developed within a session can also be used continuously to become a part of the unique therapeutic process for the child (Aigen, 1998).

Sometimes timbres represent familiar sounds such as church bells, a door bell, or a fire alarm (Bhatara et al., 2013). Melodies can represent a television show introduction which could be aesthetically pleasing for children with autism (Ockelford, 2013). Since musical motifs represent symbols or programs, motifs can be created within sessions to represent emotions or words such as days of the week. A few interventions that can be used consist of drumming, tambourine, clapping, rattles, chimes, xylophone, bongos, singing and improvisations (Streeter, 1993).

Music therapy treatment can be done through triadic interactions or dyadic interactions. Triadic interactions are when music is made through a mutual process by both the client and therapist. Dyadic interactions are when no music is made. Even though music therapy works mostly around musical interventions and musical experiences, verbal process can be just as vital. Verbal processing is not seen within communication goals; however, it can sometimes be used if feelings or trauma arises. Non-verbal and musical aspects of joint improvisation between the therapist and the child and the use of musical attunement by the therapist heighten a sense of self in relation to another at the most fundamental preverbal level. This causes the child to become intensely attached to the music therapist. It also causes the child to discover pleasure by creating music with the therapist (Kim, 2014).

When working toward the goal of communication, improvisation allows a musical dialogue to occur within a session. The relationship that develops is built through the musical experience, the feeling of participation, and a sense of togetherness. Social relationships and interactions can be determined through the musical dialogue. Studying the musical communication within improvisation helps to better understand communication in general. The musical elements used can also relate to the client's early communication style. Aesthetics within communication is achieved when play and fantasy occurs within the improvisation (Ruud,

1998). Music alone also contributes to everyday aesthetics. According to Ruud, “music often takes people somewhere above ordinary life” (1998, p. 91). Music itself also creates an idealistic conception of humankind through its strong emotional effect (Ruun, 1998).

Music positively impacts the mind, body, and general well-being for many individuals. Elements within sounds, notes, and chords can be perceived by individuals easier than words alone. When working toward different goals, music is often used within the therapeutic process. For goals within communication, musical songs, elements, and styles are often utilized since music and communication have a similar process. Motivational elements and creativity in a safe environment provide amazing results. Since NRMT includes several methods in addition to a variety of musical characteristics, the approach can be seen when working with children in addition to many other populations. The variety, creativity, research, process, and style behind NRMT displays great growth within aspects of communication especially for children with ASD.

Models of Music Therapy: Section II

Creativity Approach Regarding Nordoff Robbins Music Therapy

Creativity is less theoretical and relies on commonsense notions of the creative process. Rules are taught as a guideline for the generation of creative solutions to problems. Creativity is largely innate (Amabile, 1982). This relates to Paul Nordoff and Clive Robbins theory that every child has an innate musical expression (Aigen, 1996). The creative process within Nordoff Robbins Music Therapy (NRMT) occurs within improvisations and music making. When providing the child with musical resources, he can reach his fullest potential. This process allows the child to obtain his communication and interaction goals.

Social-psychological facts have an impact on the productivity and creativity of individuals. Creativity-enhancing displays goals toward something for the individual. Creativity-undermining displays goals toward something for an external goal. Intrinsic motivation is encouraging for creativity. Teresa Amabile points out that, "People are primarily motivated to do some creative activity by their own interest in and enjoyment of that activity" (Amabile, 1982, pg. 15). This can display more imaginative elements to gain personal satisfaction.

Participating in NRMT for child can bring out their intrinsic motivation. As stated in the first section of this paper Shippen quotes Lim as he explains that, "age appropriate and well-facilitated musical experiences can provide powerful motivational variables and ongoing reinforcing activities for establishing such rapport between peers" (Shippen, pg 1, 2013). Establishing rapport could be both an intrinsic or extrinsic variable. Music itself provides a motivational variable for intrinsic motivation since musical stimuli increases attention through

active participation. This promotes the clients to reach their goals (Lim, 2010). Within improvisational experiences, the child plays or sings to his liking.

Motivation, creativity, and emotional support are carried out through the repetitive exercises within NRMT (Spiro et al., 2011). The music therapist then matches the child through musical elements. After receiving personal satisfaction, the child is then encouraged to explore more leading to an increased interaction with the therapist (Aigen, 1996). The interaction and music making from the therapist could change the motivational component for the child into an extrinsic level.

Unlike intrinsic, extrinsic motivation can be negative. When motivation arises from outside of an individual, the creative process could fluctuate. Extrinsic motivation could focus on competition, recognition, and reward. Sometimes the result could be influenced by society's demands. The process itself could be altered to meet a time constraint. This changes the creative development and affects the results (Amabile, 1982). Even though it is not stated, the child could change their music making or being to change the therapists' reaction.

Gestalt psychologists think creativity and insight arise when the thinker grasps the essential features of a problem and their relation to a final solution (Amabile, 1982). This philosophy relates to improvisation sessions. Child can improvise with the therapist to find an aesthetic solution. Anything that engages a specific child through music is encouraged (Aigen, 1996). Improvisation helps the child have his own space in a positive and safe atmosphere (Birnbaum, 2014). Vocal and instrumental playing allows the solution of verbal and nonverbal communication (Knapik-Szweda, 2015). The improvisation sessions allow the child to express their emotional response in the music providing them with a solution.

When examining music, the relationship between a melody's fame and its originality developed a completely reliable and objective method for quantifying originality. Dean Simonton was known for using the first six notes of each theme to determine its originality. Within the theme, each note was paired with a succeeding note which yields the five two-note transitions. The originality of a melody increases relative to the entire classical repertoire. The more frequent the piece is performed causes an increase followed by a decrease in popularity. The least favored theme ends up being remembered more often than the original one. The theme within NRMT sessions could be derived from classical music. The melody within classical music in sessions can improve executive functioning, balance, learning, play, language, and sensory processing (Gee et al., 2014).

Simonton also described the creative process as a new and workable idea since it gives a person an opportunity to problem solve. This idea is supported by Quetelet's study regarding age and creativity. Quetelet examined the creative process by writing dramas and discovered that creativity is an observable behavior when seen through productivity (Simonton, 2001). When making music in a NRMT session, the child is problem solving with the therapist. Improvisations in sessions also allow the client to generate products throughout their creative process. The improvisations not only influence the child to create a new idea, it also shows their production within music displaying their creativity.

Simonton also explained measurements behind creativity and psychologically elements. He claimed that these fell into two categories: psychometric and historiometric. The psychometric category is an assessment of intelligence. It assesses the mental process behind one's creative thought. Historiometric, on the other hand, examines society's progress or one individual's progress over time. The measurements of both approaches are seen in poems, plays,

paintings, symphonies, or scientific journal articles (Simonton, 2001). The two categories can be seen when music therapists and clients create and write music within the session. The act of the child falls into the psychometric approach. When reviewing video recordings of sessions, the historiometric approach is utilized. These approaches in addition to documentation advocate NRMT to professionals in other fields of study.

Different types of cognitive processing can positively affect creative feedback. Within the divergent thinking model a variety of responses can be achieved through a given set of stimuli. This can be seen when the therapist provides the child a given a set of musical elements. The therapist can also be given a set of stimuli from the client as well. Simonton also points out that creativity requires a distinctive cognitive process. The cognitive process can promote language and linguistic processing within music therapy sessions. Other psychologists believe there are distinct non-cognitive characteristics within a creative process as well (Simonton, 2001). These include critical thinking, motivation, perseverance, self-control, coping, resilience, and work ethic (Kryssov, 2016). The areas considered non-cognitive can be seen within NRMT since goals within this area are divided into measurable objectives. For example, the goal of self-control can be achieved by the objective of having the client play their drum three times only during appropriate periods within a session.

Another creative process that relates to NRMT is described by Mark Runco. He explains influences behind creative performance and creative potential. Within creative performance, observers can see and judge the results given. Creative potential is harder to observe since it focuses on one's potential instead of their result. Based on his findings, everyone has a range of creative potential which is influenced by cultural values, parenting styles and choices, investments, practice, and education. In order to fulfill one's creative potential, opportunities for

expressive creativity should be given (Runco, 2016). Areas for expression are arranged throughout a NRMT sessions. By giving the child more opportunity for improvisation, the child has a larger opportunity to display his creativity. This creativity can then manifest into creative performance.

Runco believes innovation is very important for creativity since it can be seen as an implementation for the process. He claims that the creative process involves “discretion and choice, intentions and intrinsic motivation, and the construction of original interpretations of experience” (2016, p. 1). This process is seen within NRMT sessions. Children within the session have an opportunity to choose their own instrument and musical selections. Musical elements also provide a motivational variable for intrinsic motivation. Participating musically within sessions increases the child’s attention and interest as well. Interpretations of the experience can be based on the child’s feelings, the therapists’ feelings, or the direction of the entire experience.

Another creativity theory developed by Maslow, Rogers and Fromm discusses that humans have six basic needs. These needs must be met before we can thrive. Once these needs are met we can reach self-actualization and are now free and comfortable enough to express ourselves in a creative manner (Stephen, 2014). Through improvisation, NRMT sessions give the client the resources needed for them to reach self-actualization. This is seen through musical imitation (Aigen, 1996). It also helps one grow and learn to advance one within society. Believing in self-actualization allows people to live a meaningful life (Stephen, 2014).

Within his theory, Maslow divided creativity into three types, “Primary creativity, Secondary creativity and Integrated Creativity” (Stephen, 2014, pg. 1). Primary creativity allows

one to escape from the stress of day to day life. Maslow goes on to explain that this creativity could be channeled through creative art such as painting, drawing, sculpture and writing. Music can also be a way for primary creativity to occur. Within the improvisational sessions, the child can create music with the therapist to generate a safe environment and express their primary creativity (Birnbaum, 2014).

The Secondary and Integrated domains build upon the Primary creativity. Secondary creativity requires a higher level of thought to be achieved since it is more involved than the Primary creativity. This form is more thought out prior to beginning. Integrated creativity on the other hand comes from combining both Secondary and Integrated. Although it may be spontaneous, this often contains a higher level of thought. Integrated creativity is believed to be the basis of most of the great art, philosophy and scientific discoveries or achievements (Stephen, 2014). By beginning through improvisational interventions, Primary, Secondary, and Integrated creativity is achieved for the child.

The humanist school of thought is used to prevent defensiveness, and develop trust, acceptance, lack of judgement and freedom of expression. Within psychological sessions peer review, brainstorming techniques, and group activities are used to develop creativity with the humanistic approach (Stephen, 2014). As stated above, believing that every child has a natural musical expression displays the humanistic creativity model. Providing the child with musical resources gives him an area free of judgement. This allows the child to reach his goals. Within NRMT, those goals consist of exploration, empowerment, and self-esteem (Streeter, 1993).

Alfred Adler argues compensation for physical or intellectual disabilities can be one's main motivation for creativity is to compensate for a perceived physical or intellectual disability

(Stephen, 2014). Because many children in NRMT sessions have physical or intellectual disabilities, creating music gives them a way to express themselves. It also provides them with a way to communicate to the therapist. Music within sessions provides motivation for creativity to occur. It also helps the child reach their goal through a fun and stress less experience.

Another popular theory of creative process is the theory of honing. Honing is, “the process whereby the creative individual changes his thoughts and feelings of the world around him or of their project as their understanding improves” (Stephen, 2014, pg. 1). Working on a project helps people gain information and ideas. These ideas improve the quality of creativity. When making music with the therapist, the client poses ideas to the therapist. The therapist uses these ideas to create songs and interventions. Sometimes, the therapist’s views affect the client’s musical arrangement. As the two work together, the quality of creativity is improved and restructured as new ideas are introduced.

When participating in a creative task, a back and forth relationship is formed between the creative task and the world view. The creative task fluctuates as the worldview is observed and vice versa. Changing the views within a creative task reflects how the therapist and child move back and forth within their music making. This provides the client with security as well as builds the client-therapist relationship (Ritholz, 2014). Throughout the session, the therapist listens to the child’s music, to the child’s being, and to themselves. This listening occurs on a spiritual level (Mahoney, 2016). By observing the client and therapists’ musical contributions, creativity grows within the session.

Going back and forth through this process results in a successful conclusion since the composition is fine-tuned until a solution is reached. In NRMT, many therapists can reach a

connection with even the most isolated individuals. This allows the child to uncover and transform through the creative process. A connection occurs when the therapist matches the client musically in addition to creating music together. The client often teaches the therapist by leading or participating in the session allowing both the client and therapist to grow (Birnbaum, 2014).

Models of Music Therapy: Section III

Levels of Constraint

Based on the information in Graziano and Raulin's Research Methods book, levels of constraint in research are defined based on the level of control the researcher has over the behavior of their subjects (2004). These levels include naturalistic observation, case study, correlational studies, differential, and experimental research designs. Each fall under the categories of quantitative or qualitative research. Qualitative research is primarily exploratory research. It is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem and helps develop ideas. This creates a hypothesis for potential quantitative. The levels that fall under this category are correlational, differential, and experimental research. Quantitative research methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. The levels that fall under this category are naturalistic and case study research.

Each level of constraint contains observational and rational inferences. The existing knowledge of research, the practical and ethical areas, and the nature of the research question are factors observed within the levels of constraint. After determining the level of constraint, the area should be used throughout the entire research model. Levels within the research should not be mixed since this could cause distortion. Levels of constraint change depending on the setting and subjects selected. As the level of constraint rises, more of a constraint is placed on the aspects of the research. This causes the procedure itself and the results to be more precise. As the level of constraint rises, the process becomes less general and more false.

When carrying out research, a research hypothesis is created. This is a precise and formal statement of a research question. It is constructed by adding operational definitions of each variable in order to state the problem. In addition to the research hypothesis, generalization also occurs within research. This is when the findings of one's study apply to other situations, places, or times. In addition to these factors, research is broken down into naturalistic observation, Case-Study Research, Correlational Research, Differential Levels, and Experimental Research

Within Naturalistic Observation, the observer watches the behavior of the research subject. This allows a natural flow of behavior to occur in the participants. The goal here is to allow their natural environment to be displayed within any manipulations. This is considered to be the lowest level of constraint since the researchers' hypothesis is not strong. The researcher must be flexible to shift their attention to a specific point in research. This allows a hypothesis to be created based on the knowledge gained.

Case-Study Research is the second level of constraint. This level usually focuses on one participant. It is used since minimal constraints are placed on participants' behavior. A shift of attention can occur within the research as well. Case Study Research provides a rich source of ideas about the nature and cause of the behavior.

The third level of constraint is Correlational Research. In this level, behavior is measured. Research in this case is designed to quantify the relationship between two or more variables. No manipulation occurs and there is no attempt to draw causal inferences. This allows researchers to determine the strength and direction of a relationship between the variables, however, the result does not determine causation of the variables.

Differential levels of constraint are the fourth level. This level compares two or more groups of participants. The measurements in this level must be consistent regarding setting, observational procedure, and process. Because of the consistence, the variable that defines the group is preexisting and under the researcher's control. the same is when research in which two or more groups defined based on a preexisting variable are compared on a dependent measure. These preexisting variables could include sex, socioeconomic class, IQ, and clinical diagnosis.

The fifth level of constraint is Experimental Research. In this level, subjects or groups of subjects are compared throughout different conditions. Experimental Research is similar to Differential Research, however, the subjects in Experimental Research are assigned to groups randomly. This allows no bias and at least one dependent variable can be measured. At the experimental level of constraint, the research provides adequate controls for most confounding variables and therefore allows researchers to draw causal inferences.

Ideas are generated within lower levels of constraint while starting points occur within a higher level of constraint. Researchers should examine their new concept within a lower level of constraint. This allows the researcher to learn more about their concept. The research question should be answered through a higher level of constraint. This allows factors mentioned above to be determined (Graziano & Raulin, 2004).

Models of Music Therapy: Section IV

Good Morning Song

Paul Nordoff
Clive Robbins

Warmly ♩ = 52

We want to say good morn - ing, good morn - ing, good morn - ing. Oh,

Figure 1. Musical example #1 "Good Morning Song" improvisation.

³For more information on Bjarne, see *Creative Music Therapy*, pp. 260–263.

Music

What's That?

Paul Nordoff
Clive Robbins

Pertly ♩ = 104 *f*

What's that? What's that? That's Pat - ti's dress. that's

(mm.13-17) *rit.* *a tempo*

That's Pat - ti's hair, that's Pat - ti's fin - ger, that's Pat ti! That's Pat - ti!

rit. *a tempo*

Figure 2. Musical example # 2 "What's That?"

Crying Song

Paul Nordoff
Clive Robbins

Gently ♩ = 60

p

Oh, when you feel like cry - ing, oh, when you feel like

p

cry - ing, just cry, just cry!

Figure 3. Musical example # 3 "Crying Song."

⁴For more information on Elisa, see *Creative Music Therapy*, pp. 149–171.

Thank You for the Music

Carol Robbins

Brightly

Thank you, thank, you, thank you for the mu - sic.

(measures 13-17)

Good - bye. (Good - bye) Good - bye (Good - bye) Good - bye. (Good - bye, good - bye.)

Figure 5. Musical example # 5 "Thank You for the Music"

Models of Music Therapy: Section V

Session Plan

STUDENT NAME: Megan Aslanian

POPULATION: One child with Autism Spectrum Disorder who lacks spoken language. He also displays delays in some motor movement.

CLIENT DESCRIPTIONS:

Client 1: Willie is a 5-year-old boy who attends public school. Based on the therapist's observation and the teacher's comments, Willie lacks social and communication skills. He also displays delays in motor movement. Willie loves working independently and enjoys using his fine and gross motor skills when playing with toys. He loves the sound of the drum, bells, and piano. Willie also enjoys listening and playing music in his general music class. Unfortunately, Willie becomes agitated when he is forced to go outside of this typical environment or comfort zone.

MUSIC EXPERIENCE NO. 1:

A) Description

- a. Client will participate in the "Good Morning Song." This song was written by Paul Nordoff and Clive Robbins. The client will be encouraged to sing within the song and play the bells. The song will be played by the therapist.

B) Therapeutic Rationale for First Experience

- a. This experience was chosen to welcome the client to the music therapy session. This will open the clients to the music experience after coming from a previous event. The freedom heard within the melody of this song helps promote the client to use his voice. The structure of the musical framework avoids a strict pulse in the music in order to encourage the client to vocalize. Bells were chosen because the client enjoys the timbre of the instrument.

C) Goals and Objectives for Client 1

- a. Goal: 1.0: To increase vocalization
 - i. Objective 1.1: Client will vocalize three times within piece
- b. Goal: 2.0: To increase physical movement
 - i. Objective 2.1: Client will play bells three times within piece

D) Method of Presentation

- a. In this experience, one therapist hung poles with the bronze bells for the client to play. This allows the client to play the bells in a variety of different ways. The other music therapist will improvise a variation imitating the client's

vocal or instrumental playing. The music therapist playing the piano will create dramatic contrasts within the piano playing in order to reflect the client's movements.

MUSIC EXPERIENCE NO. 2: "What's That?"

A) Description

- a. The therapist will begin singing while the other therapist plays on piano. The client is given a drum to play. The one therapist will begin by commenting on the client's outfit or instrument in order to bring them into the session. That therapist will then allow the client to comment regarding their actions or feelings during the blanks. After singing the song, the other therapist will play a section B part are piano allowing the client to improvise through singing or playing.

B) Therapeutic Rational for Second Experience:

- a. In this experience, the client will relate through music and display pleasure. Variations within the song include chromatic tones, a triplet feel, and glissandos. A drum is given to the client for him to be able to beat a response in addition to singing. The drum was chosen because it is a strong instrument. The client also likes the timbre of the drum as well. The client will adapt the musical elements in order to motivate the client to use his fine and gross motor skills at appropriate times during the session. The melody of the song creates a mild dissonance to provoke the client to respond during the blanks. The therapist will be playing piano while the other therapist sings.

C) Goals and Objectives for Client 1

- a. Goal 1.0: To increase reciprocal communication
 - i. Objective 1.1: Client will respond during the blanks three times within the session
- b. Goal 2.0: To increase motor movement
 - i. Objective 2.1: Client will use fine motor skills to play the drum two times
 - ii. Objective 2.2: Client will use gross motor skills to play the drum two times
- c. Goal 3.0: To increase speech
 - i. Objective 3.1: Client will respond verbally 35% of the time

D) Method of Presentation

- a. In this experience, the client will be able to sing and play with the client. The therapist will first begin by singing the song and commenting on the client's mood while the other therapist plays piano. This will be used to welcome the client into the session. The therapist will leave blanks after the phrase "That's..." This gives the client an opportunity to respond. The silent breaks also gives the client to play the drum.

E) MUSIC EXPERIENCE NO. 3: "Crying Song"

A) Description

- a. The client will be able to express themselves through the melody and musical elements of the song. This song was chosen through the list mentioned in the Ritholz article. This song introduced the idea of crying to the client. The “crying” lyrics will be replaced “jumping,” “laughing,” “singing,” and “playing.” The changes in emotions will be reflected by a change in tempo and articulation in the vocal and piano part.

B) Therapeutic Rational for Third Experience:

- a. This experience allows the client to display their emotions. The lyrics are emphasized by the melody and harmony. The major key is slow and lyrical as it descends to allow the client to let out their emotions during the “crying” section. The tempo will increase and become more staccato during the “jumping” section. For the “laughing” section, the musical elements will be heavy and strong. For “singing”, the therapist on piano will play more lyrical and for “playing”, the therapist will play and sing normally. The change in character reflects the lyrics mentioned and the emotions displayed with each lyric. This piece will be played on piano and sung. The client will be singing within the song.

C) Goals and Objectives for Client 1

- a. Goal 1.0: To increase expression
 - i. Objective 1.1: Client will reflect emotion through their vocalization 35% of the session
 - ii. Objective 1.2: Client will display movement 35% of the time
- b. Goal 2.0: To increase vocalization
 - i. Objective 2.1: Client will sing 40% of the time during the session

D) Method of Presentation

- a. In this experience, the client’s attention will be captured through the quality of the music. In addition to singing the music, the client will have an opportunity to express five different types of emotions through physical and verbal vocalization. The one therapist will begin by starting with the emotion that best fits the client’s state. After meeting the client where he’s at, the therapist will move the intervention into emotion. The therapist on piano will play to reflect the emotions displayed within the session. This will allow the client to have the opportunity to express a few different types of emotions as well as strengthen his physical ability.

MUSIC EXPERIENCE NO. 4: “Thank You for the Music”

A) Description

- a. The client will be guided through a farewell song allowing them to end the session. The song itself comes from the Ritholz article. The song will be

played in an ABA format. The A section will contain the song itself, while the B section will be an improvisation.

B) Therapeutic Rationale for Fourth Experience:

- a. This experience was chosen to ease the client into the end of the session. The client will continue working toward their goals by singing within the song. The mixolydian mode used allows the client to become more alert and aware of the upcoming change. Piano and voice will be used in this experience since it was used within the entire session. There will be an opportunity for the client to improvise vocally within the B section.

C) Goals and Objectives for Client 1

- a. Goal 1.0: To increase vocalization
 - i. Objective 1.1: Client will say “Good Bye” two times within the song
 - ii. Objective 1.2: Client will say “Thank you” two times within the song
 - iii. Objective 1.3: Client will vocalize within B section of piece.

D) Method of Presentation

- a. The client will be asked to sing along within the ending song. The therapist will begin by singing while the other therapist will play the song on piano. After playing the song once, the therapists and client will improvise. The therapist not playing piano will be improvising vocally along with the client. This will allow the client to vocalize within the B section of the piece. The two therapists will follow the client’s vocalizations through their piano playing and singing. This intervention will allow the client to become ready for the end of the session.

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