2018

Dancing with Down Syndrome: A Look at the Effects and Benefits of Dance Movement Therapy on the Emotional Well-Being and Overall Quality of Life for Individuals with Down Syndrome

Jenna Snyder
Assumption College

Dancing with Down Syndrome: A look at the effects and benefits of dance movement therapy on the emotional well-being and overall quality of life for individuals with Down syndrome

By

Jenna Snyder

Faculty Supervisor: Robert Caron, Sc. D.

Human Services and Rehabilitation Studies

A Thesis Submitted to Fulfill the Requirements of the Honors Program at Assumption College

May 2018

Introduction

Imagine what it would feel like to stand on a stage and passionately dance in front of a cheering crowd. Feelings of exhilaration, happiness, and maybe even some nerves would overwhelm you. However, you would feel so good about the performance and all that you have achieved leading up to it. From technique and movement patterns to creativity and music, dance allows individuals of all ages and all walks of life to represent and externalize their individual feelings in a positive environment. These benefits of dance promote not only wellness and health, but also participation and involvement with others. Dance movement therapy (DMT), or dance therapy, furthers the emotional, cognitive, physical, and social integration of an individual. As a form of creative body-orientated psychotherapy, DMT uses movement and dance intervention with verbal expression to help people feel both emotionally and physically relaxed, as well as more energetic (Bräuninger, 2012). All of these factors of dance and DMT can be observed and explored in the population at large, but the benefits of DMT may be even more pronounced for those with disabilities, such as Down syndrome.

Down syndrome is the most commonly occurring chromosomal condition and it affects more than 400,000 people in the United States. The chances of having a child with Down syndrome increases as the mother ages (Clark, 2011). Children born with the condition are faced with developmental and cognitive delays that affect their ability to learn new concepts, skills, and activities (Albin, 2016). As children with Down syndrome enter adulthood, they encounter a new set of challenges, such as memory problems, a decline in vision and hearing, obesity, and depression (Clark, 2011).

Although they face a number of daily challenges, the life expectancy for individuals with Down syndrome has dramatically increased in recent decades. With this in mind, it is important to look at the healthy and beneficial ways that these individuals can continue to live longer lives. By combining the many benefits of dance and its creativity with the functionality of physical therapy, individuals with Down syndrome can be stimulated and challenged physically and cognitively to continue to lead very fulfilling and productive lives. While improving their physical fitness, these individuals can freely express their emotions. In addition to these positive effects that dance has on individuals with Down syndrome, the literature supports that DMT is an optimal approach to increase and improve emotional well-being and overall quality of life for this population (Barnet-Lopez, Pérez-Testor, Cabedo-Sanroma, Oviedo, & Guerra-Balic, 2016). The following thesis will explore this literature on emotional well-being and quality of life as it relates to DMT for people with Down syndrome. Specifically, the research will address the following questions: 1) How effective is DMT in improving the emotional well-being and overall quality of life for individuals with Down syndrome, 2) What are the optimal conditions or structures of a DMT program that yield the best results in emotional well-being and quality of life.

Method Statement

A comprehensive analysis of existing literature, consisting of 20 studies, and interview data were collected. The categories of literature that were obtained include: physical therapy for individuals with Down syndrome, the benefits of dance in general, dance movement therapy broadly applied, the effects of dance movement therapy on individuals with intellectual disabilities, dance for children and adults with Down syndrome, and the impact of music on an

individual with Down syndrome's dance experience. Due to the limited nature of literature on the topic of dance movement therapy and its effects on people with Down syndrome, the project was expanded to include data from interviews with dance movement therapists, Judith Nelson and Brigit Catalanotti.

Literature Review

Research has shown that physical activity benefits the well-being of individuals and it reduces the risk of chronic diseases (Lotan, 2007). There is an especially large focus on using physical activity to help with the variety of health problems that individuals with Down syndrome have. Children born with Down syndrome have a higher risk of developing hearing impairments, congenital heart defects, thyroid conditions, early onset Alzheimer's disease, obesity, and respiratory problems (Clark, 2011). They also experience hypotonia, or low muscle tone, loose ligaments that cause joint instability, and a small stature, which can cause slower development and influence the rate of gross motor development (Clark, 2011). Adults with Down syndrome experience a continuation of these challenges, as well as decreased cardiovascular capacity and osteoporosis, in which bones become weak and brittle (Clark, 2011). It is essential that individuals remain active and engaged as they age in order to help combat these health problems. Physical activity and therapy is often looked at as the outlet for these challenges.

However, many children and adults with Down syndrome do not participate in the recommended amount of daily physical activity per week (Barr & Shields, 2011; Dodd, Mahy, Shields, & Taylor, 2010). There was a 2009 report that found that 58% of children with Down syndrome do not meet the recommended 60 minutes of activity per day, which is roughly triple

the rate of their typically developing counterparts (Bryden, Fletcher, & Reinders, 2015). A study was conducted in which 20 parents of children with Down syndrome between the ages of two and 17 years were interviewed to examine what key factors are barriers to physical activity for their children, as well as the facilitators to their children's activity. The key factors that contribute to the hindering of participation in physical activity among children include conditions commonly associated with Down syndrome. These include obesity, congenital heart defects, and communication impairments. Congenital heart defects were identified as barriers to activity in younger children because of decreased energy levels and endurance. Parents also identified communication impairments as a barrier because their children had a limited ability to understand rules and interpret instructions. Other conditions, such as recurrent chest and ear infections, asthma, vision impairments, hearing deficits, arthritis, spinal problems, and leukemia were all identified as potential barriers to physical activity for this group of children (Barr & Shields, 2011).

Besides the physical characteristics of children with Down syndrome that caused limitations, environmental and social forces also contributed to the barriers of physical activity. Competing family responsibilities were identified, in which parents reported that they did not have the time to supervise their child's physical activity (Barr & Shields, 2011). This was due to their child's physical activity not being a top priority in comparison to the responsibilities of home, work, and the expenses of raising a child with a disability in general. Another barrier is the reduced physical or behavioral skills among children with poor motor skills, a lack of coordination, and those with non-compliance issues. Typical comments in accordance to non-compliance included increased frustration when engaging in challenging activities. The last barrier was a lack of accessible programs for the children. Parents reported that there was a lack

of mainstream programs that were willing to enroll their child. This was due to a lack of staff, time restraints, and a lack of education by these programs. The parents also indicated that preconceived ideas, stereotypes, and negative attitudes towards those with disabilities prevented their child's participation in formal activities. Children with Down syndrome were more likely to engage in physical activity when their parents and families served as ongoing encouragement, when the parents were actively involved, and when there was social interaction as part of the activity (Barr & Shields, 2011).

Similar reasons for a decreased interest in physical activity were found among adults with Down syndrome. In general, adults with Down syndrome are typically sedentary, and many do not participate in the recommended levels of physical activity per week, as is the case for children within this population. A research study by Dodd, Mahy, Shields, & Taylor (2010), investigated the facilitators and barriers to physical activity, in which semi-structured interviews were conducted from a sampling of 18 participants. Six of the participants were adults with Down syndrome and the remaining 12 were support people, which consisted of parents of adults with Down syndrome and employees of day programs that these adults attend. The three key themes that were identified as barriers included lack of support from others, simply not wanting to engage in physical activity, and medical and physiological factors that are associated with Down syndrome (Dodd, Mahy, Shields, & Taylor, 2010).

According to Dodd et al., (2010), support people reported that the biggest barrier to participation in physical activity for adults with Down syndrome was their need for other people to provide general support. Support people also said that participation was often generally restricted for these adults because of the availability of someone to transport them to an activity, supervise, and organize the activity. Most of the adults with Down syndrome in the study said

they did not want to engage in physical activity due to a lack of motivation, poor concentration, poor attention span, and just having a general dislike of exercise or activities that require physical effort. The health issues that were identified as being barriers to physical activity were obesity, heart conditions, and gout. The adults with Down syndrome also identified general uncomfortable and unpleasant bodily feelings as reasons for not engaging in physical activity. The results from the study suggest that support from other people plays a large role, both as facilitators and barriers, in the participation by adults with Down syndrome in physical activity (Dodd, Mahy, Shields, & Taylor, 2010).

Physical activity and physical therapy are both beneficial and successful for individuals with Down syndrome. However, they only address the mechanical needs of individuals and can become a very tedious experience. This is because physical therapy is often administered one-on-one as a continuous series of exercises and children, in particular, may become bored and neglect these exercises entirely (Clark, 2011). There is a consistent lack of motivation, lack of interest, and decreased levels of social participation identified in physical activity for individuals with Down syndrome. They need to be able to fully express themselves in an engaging and enjoyable setting, which physical activity and physical therapy may not be able to fully provide (Clark, 2011; Heah, Case, McGuire, & Law, 2007).

Dance as a performing act is valued as a means of self-expression and as an important way of exploring individuality across all cultures (Dunphy & Scott, 2003). It gives individuals the opportunity to increase their physical activity and social participation levels (Connor, 2000). Dance also allows children and adults to learn the cooperative effort necessary to produce a high quality work of art. This learning goes far beyond the applications in the dance class. Dancers enter society with creative thinking skills, the value of discipline, commitment, and work ethic.

Self-confidence is also exemplified through dance training, as individuals overcome challenges to master new goals, learn to apply themselves, and accomplish any task put before them. For children, dance teaches them about music, rhythm, and beat, which helps to develop a better understanding of spatial relationships. The skills presented in dance enhance a child's overall academic performance, as well as their physical well-being. Dance teaches the importance of movement and fitness through the coordination of muscles as a student dances through the proper positions and techniques (Fired Up Dance, 2015).

To investigate the benefits of dance on a general population, an exploratory research study was conducted by Bongard, Clift, Kreutz, & Murcia (2010), to understand the impact of amateur dancing on well-being. An online survey was given to 475 non-professional adult dancers who reported experiences in a broad range of dance genres. The survey sought to evaluate the participants' perceived benefits of dancing. The analysis of this study revealed that dancing has potential positive benefits on well-being in several dimensions, including emotional, physical, self-esteem, social, coping strategy, and spiritual dimensions. Based on the online survey results, the highest level of strong agreement among participants corresponded to the statement "dancing improves my balance and bodily awareness" (71%), while the lowest level of strong agreement was found in relation to the statement "dancing gives me a strong feeling of the spiritual dimension of life" (16%) (Bongard, et. al, 2010). The findings showed that dancing is widely perceived as having a meaningful influence on mood and most of the participants agreed that dancing positively contributes to their emotional well-being. In the physical dimension, dancing was perceived as positively contributing to the physical well-being of the participants. Furthermore, physical qualities such as flexibility, strength, balance, coordination, and speed were reported as being promoted by dancing. Dancing also seemed to help to reduce body pain

and it helped participants to deal with physical impairments. There was additional evidence from the study that dance activities have a positive impact on self-esteem, which is in line with previous assumptions that dancing contributes to positive self-perception, body image, and esteem. This is because dancing may give an individual a sense of self-mastery, as it allows the individual to be in charge of the body and its actions, physical health, and appearance. Further comments asserted the value of dancing for socialization, as it was perceived to facilitate sympathy and understanding towards other people and cultures, as well as dancing provokes strong feelings of togetherness and affiliation. Finally, dancing was perceived to play an important role as a coping strategy with regards to daily stress the participants faced and their on-going difficult situations (Bongard, et al., 2010).

Overall, dance is an enjoyable, multidimensional activity and form of art that positively contributes to several aspects of human well-being. It promotes emotional and physical well-being, as well as it acts as a means to cope with stress and improve self-esteem (Bongard, et al., 2010). Dancing is a way for individuals of all ages to build valuable social skills and it gives the opportunity for people to be a part of something larger than themselves. Taking turns, sharing attention, and cooperating with others in a group are all appealing life lessons that can be carried on throughout all of life's experiences and challenges (Fired Up Dance, 2015).

Since early human history, healing potential effects have been attributed to dance activities (Bongard, et al., 2010). It has not been until more recently in history that dance has been used as a therapeutic intervention for people with a wide range of problems, including those with Parkinson's disease, depression, neurotrauma, arthritis, cancer, and cardiac insufficiency (Bongard, et al., 2010). Known as dance movement therapy, or DMT, this type of therapy is defined as "the use of expressive movement and dance as a vehicle through which an individual

can engage in the process of personal integration and growth" (Payne, 1992, p. 4). DMT has been around since the 1950s, yet the field has expanded rapidly since and has been used in a wide variety of settings. However, a common thread has been found among theories of DMT, which is the focus on body movement as a manifestation of thoughts and feelings (Cohen & Walco, 1999). The benefits of incorporating movement and dance to any population includes an environment where individuals share much of their personal symbolism and where relationships become visible through dancing together. The therapist leading the class is able to create an atmosphere in which these feelings can be safely expressed, acknowledged, and communicated (Payne, 1992).

A recent research study by Barnet-Lopez, Pérez-Testor, Cabedo-Sanroma, Oviedo, & Guerra-Balic (2016), investigated the improvement of emotional well-being in regards of quality of life in adults with intellectual disabilities (ID), including Down syndrome. These authors set out to demonstrate that DMT can be an effective approach when working with adults with ID to increase their quality of life, and specifically their emotional well-being. The authors conducted a study to assess the changes on emotional well-being of adults with ID through 26 DMT sessions, in which an intervention and control group were observed and compared. The sessions consisted of a check-in, warm-up, transition-process, and check out. Elements of the activities included body scheme, rhythms, self-concept, relationship, identification of different types of emotions, balance, coordination, and free dance. All participants were asked to look at a pictogram before and after each session. The pictograms expressed either happiness or sadness, and were used to obtain the participants' moods. The human figure drawing (HFD) test was used at the beginning of the study and three months after the dance program was held to assess emotional well-being. Thirty emotional indicators illustrated worries and attitudes of the

participants. The authors stated that these emotional indicators allow for the observation of emotional patterns or difficulties, and higher scores on the HFD indicate higher numbers of emotional difficulties. Fourteen emotional indicators decreased in frequency following the study. These indicators emphasized an improvement in interpersonal relationships, self-concept, anxiety, self-confidence, the capacity to identify emotions, and body self-awareness, which also indicates an improvement in emotional well-being. The emotional indicator of tiny figure item improved, which related to self-confidence and self-concept. Another emotional indicator of face shading decreased anxiety and lack of own body acceptance for the observed participants. This evidence that the authors presented improved the emotional well-being of the participants by the end of the DMT program (Barnet-Lopez, et al., 2016).

The evidence provided in the Barnet-Lopez et al., (2016) study supported the conclusion that DMT allowed participants to discover new ways of communicating and expressing their own emotions, and has helped to make improvements upon their health problems. Different emotional aspects significantly improved for participants in the DMT program and the program has increased the emotional well-being of these participants. The authors further concluded that they consider DMT to be a program that empirically improved the emotional well-being of people with ID, which directly impacts their quality of life (Barnet-Lopez, et al., 2016).

The Barnet-Lopez et al., (2016) study opens the door for future studies to measure how DMT specifically affects the Down syndrome population, as it provides vital background information and it offers specific ways to assess the effectiveness in the dance therapy classroom. With that being said, there has been research on how DMT could be beneficial in improving the emotional well-being and overall quality of life in both children and adults with Down syndrome (Barnet-Lopez, et al., 2016). For children, a therapy program must be

specifically designed to fit the needs of each child, which would include participation by parents and family. When family members are involved, the child is more likely to become engaged because the child sees their parents or other family members as the best role models. The program would also have both an individual and group focus, as children with Down syndrome are motivated by peers (Albin, 2016). The DMT therapist should become familiar with the movement patterns that children with Down syndrome often develop, which include flat, turned-out feet, stiff knees, sitting with a rounded back, and walking with externally rotated hips. The program would have the goal of improving the everyday activities of the child by building strength in the muscle groups that are needed for efficient movement and posture. As mentioned above, physical activity is beneficial for children with Down syndrome; however, it only addresses the mechanical needs of the child and it can become very tedious while the child experiences these compensatory movement patterns. By easily adapting physical exercises into a special kind of choreography for the child, he or she can develop the muscles needed for proper movement development while also developing a sense of rhythm with the addition of music in a DMT setting. While the child is strengthening his or her muscles, he or she can also work on other crucial skills like balancing, jumping, skipping, and walking correctly, which activate multiple muscle groups and promote the involvement of the entire body (Clark, 2011).

These skills can be covered in a basic dance class for children with Down syndrome. The class would usually start with *barre* exercises. A *barre* is a horizontal wooden bar that is fastened to the walls of the classroom, which the child can hold onto for support, and it allows for the support and guidance of a therapist to target the child's correct muscles (ABT, 2016). As movement and coordination improves, the *barre* can be taken away and the child can move on to skipping across the floor or jumping in parallel in the center (Clark, 2011). An introduction to

dance class is structured tot involves routines comprised of breathing and core exercises. Students work on gross motor skills through galloping, skipping, hopping, jumping, and balancing, and then the skills are incorporated with partners. Ballet and jazz vocabulary are introduced, including first and second position of the legs. In first position, the feet form one line with the heels touching one another, and in second position, the feet are on the same line with a distance of one foot between the heels (Global Down syndrome Foundation, 2015). First *port de bras* is also introduced, which is an arm exercise where the arms move from the shoulder and pass through various positions (ABT, 2016). Dance concepts like speed, shape, names of various body parts, and direction will also be introduced so dancers can become aware of themselves and what they are doing. In the next level ballet class, gross motor skills are further developed on and more ballet vocabulary is being introduced. Terms like *pique* front and side are taught, which involve stepping on the working foot in a desired direction with the other foot raised in the air (ABT, 2016). *Tendus* are also taught at this point in the class, which is an extension of the leg while keeping contact with the floor, and while working through the foot until it is in a fully pointed position. *Tendus* as well as weight shifts could be very beneficial because they challenge the child to engage the entire body and negotiate space (Clark, 2011). Children can further explore dance concepts, like pathway, which is a pattern created in the air or on the floor by the body or body parts as a dancer moves in and through space (KET Education, 2018), size, the magnitude of a body shape or movement from small to large (KET Education, 2018), and rhythm, or the way in which the sequential factor of movement is organized or accented by beats (Contemporary Dance, 2018). These concepts are supported in an interview with Judith Nelson. She states that they are frequently used as “words of the day” and are focused on for an entire dance class through improvisation exercises (J. Snyder, personal communication, November 14,

2017). In the following ballet class, the skills the child previously learned become patterns and are a part of the warm up structure. They continue to refine their leaps, skips, jumps, and use these skills in more complicated patterns. Ballet vocabulary is further built on, and the children learn new combinations to perform using all of the skills they have learned (Global Down syndrome Foundation, 2015).

For adults with Down syndrome, Clark (2011) suggested that an alternative, interdisciplinary DMT approach be implemented due to the onset of new health related problems. This would entail having the movement therapist working with other doctors to create a care plan to address the specific health needs of the individual. By increasing awareness of age related health risk factors, there can be enhanced prevention throughout the dance program and most importantly, this can lead to a longer life expectancy. A decline in vision and hearing that many adults with Down syndrome experience creates a need for another outlet of communication. Therefore, it is important for the movement therapist to explore other ways of communicating with the body for these adults. A typical DMT class may include exercises containing activities that look at ways of making music with movement and feeling or creating rhythms with different body parts if hearing and seeing are not possible. Activities may include clapping, stomping, and freely dancing in general. By working with a therapist to create choreography or learn certain genres of dance like folk to portray how they are feeling, communication problems become much less frustrating because the adult does not have to solely rely on their vision or hearing to freely express their emotions. The DMT program that adults with Down syndrome participate in includes activities such as *sautés*, or small jumps, and skipping to encourage cardiovascular fitness. Without an emphasis on physical activity, cardiovascular capacity can continue to decrease with age, and could result in adults having the

inability to perform activities of daily living, which in turn decreases their quality of life. DMT can also focus on exercises such as *releves* that promote balance and strength in the ankles, which could help with weak joint problems. Specific ballet exercises like *plies*, or bending of the knees, and *battements*, or a beating action of the extended leg, can also help adults to control and strengthen their hip joints, which are typically weak due to low muscle tone. If both the hip and ankle are strengthened for increased stability through these exercises, the adult is able to have an easier time with daily activities, and is less likely to suffer from injuries such as falling, resulting in greater independence and increased quality of life (Clark, 2011).

Whether the individual receiving DMT is a child or adult, music plays a large and extremely important role in the program experience. The movement therapist can coordinate choreography and movement with music to strengthen individuals' muscles, and at the same time they can develop a sense of rhythm and tempo. Working with music has been found to bring forth positive feelings, especially in children, which makes the child easier to work with and more willing to learn. Therefore, the DMT sessions are more successful for both the therapist and the dancer (Clark, 2011).

A phenomenological case study was conducted by Bryden, Fletcher, & Reinders (2015), which explored the lived experience of a 21-year-old male with Down syndrome as he participated in a community dance class. Perspectives were collected from him, his parents, and his dance instructor through background questionnaires, interviews, field notes, and observations of the dance class. The authors concluded that participation in the dance program was highly beneficial for this young adult. It was observed that his self-confidence, body awareness, self-esteem, and encouragement to dance all improved, as well as it provided him with the opportunity to expand his social circle, engage him cognitively, and become physically active.

The authors also noticed that the influence of music was an integral part of the dance class and that the class would not have been as beneficial without the component of music. It was observed that the male with Down syndrome responded positively when the instructor played familiar songs and he was enthusiastic to move. The incorporation of music improved his rhythm and musicality, and he changed his movements in an appropriate way depending on the type of music. It was evident that music stimulated this male to dance and remember which movements he was expected to perform with each song, which is crucial in enhancing memory difficulties that many individuals with Down syndrome experience. The instructor of the dance class also observed that this male would be more likely to dance if there was music on, and that he danced more freely to the music with which he was familiar (Bryden, et al., 2015). As evidenced in this study, music has a positive effect on the overall experience that individuals with Down syndrome have in the dance class setting. By combining the creativity of dance with music in DMT sessions, these individuals can be stimulated and visibly enjoy themselves in a social context to improve their emotional well-being and overall quality of life.

Interview Data

Judith Nelson is a 10th year senior faculty member at the Mark Morris Dance Center in Brooklyn, New York. She was interviewed because of her extensive experience in instructing individuals with disabilities in a dance class setting. In her interview, she describes the variety of classes offered at the dance center. Additionally, she details what a typical special needs dance class she teaches is like.

The dance center consists of a few dance classes and programs specifically for individuals with disabilities, including a Helen Keller program for children ages two years to

four years, a Special Kids Dance class for children ages six years to ten years, and another class for students who are 11 years old and older. Judith adds that the inclusive creative dance class offered to four and five year olds occasionally has children in it with disabilities, but nothing that is too pronounced. A live pianist accompanies this class, which Judith says is highly supportive and beneficial to the children.

In the dance class with 11 year olds and up, there is currently one child with Down syndrome, and historically there are individuals with Down syndrome present in the class, as well as autistic individuals. There are some students with various developmental delays, but no specific diagnosis, and there are some children with focus problems, such as attention deficit disorder (ADD) and attention deficit/hyperactivity disorder (ADHD). One child has Rett syndrome, and once there was an older child who was blind and danced for about three to four years at the center. Judith states, "As they get older, we're allowed to do more with them because some kids are so delicate."

The ratio of staff to student varies based on the special needs class; however, it usually consists of Judith and one or two other teaching assistants. At the moment, there is six or seven students in the older class, which would mean there is one teacher to every two or three students. Parental observation is typically a large part of the student to teacher ratio experience, as multigenerational or family dance is a great bonding experience for everyone involved. However, as the children have gotten older, parents are not as comfortable dancing with them, they want their children to be independent, or they are simply too busy to attend. It usually depends on the child and the relationship he or she has with the parent.

In all of Judith's dance classes, she utilizes the Ann Green Gilbert five-part lesson plan, compromising of brain dance warm-ups, exploration, technique, creative dance, and rest time.

She uses the brain dance according to age level, as there are rhymes for the young children, but more advanced rhymes for the older students. Judith also incorporates a word of the day, such as pathway, body part, shape, rhythms, or focus. The students explore concepts and create improvisation often with partners, which is done by peer to peer support. Judith floats around as they work with each other. Afterwards, the students do some technique practice. This includes, *barre* work, consisting of articulations, *plies*, which students often need help with, feet *tendus*, *rondajoms*, and *piques*. Judith stresses that "ballet techniques are not about perfect techniques, but I do want to correct alignment, which helps with the rest of their lives." The students also focus on attitude swings at the *barre*, but if they prefer to not use the *barre*, they can do *plie* roll downs. Judith notes that *barre* exercises are for the children who are 11 years old and up, and not for the younger children. She says, the parents of the older students "like that we are doing real dance." Judith states, "The underlying philosophy behind this is that dance is an art form with these kids. I am not doing therapy, but it becomes therapeutic – socially and emotionally therapeutic – but that is not our purpose. Our purpose is to give them a dance class." She adds that the outlined lesson plan is similar to what she does in other classes.

Next, the students get into lateral swings, circle in arms with *sashes*, side *sashes* in each direction. Forward thinking is implemented here, and the students face their partners, holding hands with wide arms. Judith also has taught a basic *cha cha* dance and they do the *grapevine*, which includes the sequence of "step-together-step-together-step-together-touch." A varying combination is "step-touch-step-touch", combined with forward and back step touches, and patterns going into different directions to shift weight. There is an element called circle dancing, in which the students walk, clapping into and out of a circle. Furthermore, they do some folk dance by performing turning, twisting, and jumping patterns that connect the body parts, and

triplets that include the sequence “down-up-down-up down-up.” Judith mentions that her students love obstacle courses, like hoops, cones, and yoga blocks. During this element, students go one at a time and make sure to applaud one another after everyone takes a turn. Judith notes that besides obstacles, in the children’s group ages six to 10 years old, she especially uses instruments, such as shakers or sticks. There is also a bag full of interesting and handmade instruments. About three quarters of the way through or at the end of class, there is a rest time, especially for the younger children. During rest time, the students lay down and the lights are turned down. They lift their arms and let them drop, and lift their legs to manipulate hip and knee joints.

The creative stage, depending on Ann’s book, comes next. The students might practice a thematic idea, like a spring or holiday dance, involving a lot of props and hoops. Judith adds, “Sometimes if there is enough teacher support, we split into two groups with a good TA, have a theme, and show each group our made-up dance, or do it all as a big group.”

As a part of the lesson plan, Judith emphasizes on the fact that they review concepts, such as pathway and shapes, throughout the entire duration of the class. However, every single week is a different concept. Ultimately, the focus is on fun. The class is very positive and embracing, as Judith lets her students run around for a while, but then she gets them in line with the help of assistants. She notes that a community is created, which is “very important to me. We learn concepts, get stronger, and dance with each other. Even if parents are not dancing with us, they are talking to each other, and sharing ideas and resources.” Judith sees the parents and children become friends, and all of this established informal support within the program finishes with a party at the end of the year.

There is no concept of basic versus advanced at Mark Morris Dance center, rather there two different age groups, as there are two different brain dances, in which rhythm is focused on in the younger group of students and another brain dance is focused on in the older group of students. Although there is no distinction between basic and advanced in special needs dance classes, students who feel like they would like to be challenged more can join inclusive classes with their typically developing peers.

For the two classes for older students, each is one hour long. The inclusive Mark Morris creative dance class is 45 minutes long, and the Helen Keller program for the young students in 30 minutes in length. For warm-ups, all students participate in the brain dance, which warms up the brain and body, and then they engage in exploration. The brain dance warm-ups vary week to week, but is typically about 15 minutes long. The exploration exercise can vary from five to 15 minutes long, the technique section is 10 to 15 minutes, and then follows the creative section. Rest time is given for six to 10 minutes in class, but sometimes there is no rest time in the older class. Each part of the lesson plan is normally evenly spread out, but this also depends on what has been decided as the lesson plan for the day.

Following the end of class, students appear to be very happy. The brain dance alerts each student by warming up the body, and integrates the right and left brains. There is a community feel to it and an obstacle part of it that the students sense and enjoy. Most of them are not asking to go home because they are fully engaged and focused. Judith exclaims, “They enjoy when I come into the class. They are excited to be there – say hello.” Emotionally, the students are happy, as she sometimes gets a pair of friends who enjoy dancing together. Physically, the students are also enjoying themselves. They are doing well thought out dance, learning the concepts, manipulating the prop, and working on technique. Judith makes it clear; however, that

this dance is “so much more than technique – so much more expansive than just learning a dance. If it can have a creative component, then it’s so much more worthwhile and gratifying.” Judith believes that the concepts learned in class are the basic tools of dance and choreography, which can apply to life in the interconnected forms of time, space, and relationships. She says, “Everything in dance is connected to life… So I know they are happy afterwards. They’re having fun.”

Judith does not have any direct experience with DMT, and she believes that its utilization depends on how it is approached. She has extensively learned about the body, mind, and center, though, as her work is inherently therapeutic, and does see its value. Judith says, “From my experience, it gets into more psychological when I want to be more physical, minutely focused.” She has two assistants who do have therapy degrees and draws from their experiences. Judith believes that there are so many different branches where DMT can go, but “it can be a great thing if you’re into it.” (J. Snyder, personal communication, November 14, 2017).

Brigit Catalanotti, a 2011 Assumption College graduate and a registered dance movement therapist and counselor was interviewed because of her valuable insight into the expressive art form of dance movement therapy. Currently working as an early intervention mental health clinician at the Kennedy-Donovan Center, Brigit shares her experiences of working with children in her interview.

Brigit describes DMT as an up and coming field, which works for all populations, ranging from newborns to the elderly. However, with her Master of Arts degree in dance movement therapy and counseling, Brigit works mostly with children between the ages of four to 12 years old, and who have been exposed to trauma, neglect, and abuse. Many of Brigit’s clients have been diagnosed with attention deficit hyperactivity disorder (ADHD), anxiety, or post-

traumatic stress disorder (PTSD). In all of her sessions, Brigit explains that the main focus is providing a nonverbal outlet, especially for children, which is important for the children she serves. Brigit incorporates play, music, art, and dance to help children regulate anxiety and stress, and also frequently utilizes breathing strategies, body calming exercises, and mindfulness. Especially for children with anxiety, drumming to "drum" out their anger and squeezing stress balls are great activities to relieve stress. Brigit explains that DMT "benefits all types of populations, but one that is really essential is individuals with eating disorders." Brigit works with a 12-year-old girl in her dance session who has low self-esteem and body image issues, so they work on her posture by bringing her shoulders back and her head up. Through these exercises, the client is simultaneously working on becoming more confident with her body. In another circumstance, Brigit is seeing a girl with PTSD. She was exposed to trauma at a young age and also experiences ADHD. At the beginning of their relationship, the client would not completely look at Brigit, but then they began playing a simple game with balls, making the experience more playful and fun. By doing this, the client started to sense trust and became aware that the agency is not such a bad place. Brigit says it is important to build a therapeutic relationship in DMT, build trust, and then establish that trust. All in all, according to Brigit, DMT's main priority is providing that nonverbal outlet in which a positive therapeutic relationship is built, and where feelings can be openly discussed in a safe, nurturing, and playful environment.

Brigit touches upon the fact that being a dance movement therapist requires flexibility and innovation. She says that she provides DMT at agencies; however, she has created the position she is doing now, and a previous position she held at another agency. Brigit says, "you have to pave the way for yourself in your job" by getting your name out there and through word

of mouth. It takes someone who is willing to go into an agency, tell them what you are interested in doing, and then developing a position that fits everyone's needs. Brigit also adds that her title could fall under the name of recreational therapist.

Due to the flexibility of her job, how frequently Brigit provides DMT depends on her schedule, as well as her clients' schedules. In her last job, Brigit had 10 hours of client contact, and then her other hours were dedicated to paperwork, working on treatment plans, paying bills, communicating with caregivers, and working with the Department of Children and Families.

In a typical session with her two and three-year-old clients, she allots a half hour to 45 minutes for each session because of their attention difficulties. However, for the clients who are eight years old and up, they have one hour sessions. Brigit's sessions are typically herself and one child, thus the staff to client ration is 1:1. Group sessions are also available, as Brigit teaches two six-week group sessions. One of these groups consists of four children between the ages of six to eight years old, and they focus on movement and play. The other group consists of adolescent girls who experience self-esteem issues. In the group sessions, clients work on movements and dance with the use of props. Exercises are different each week, as coming in and interacting with other children of the same age and following directions takes a few weeks to adapt to. Brigit says she especially likes her one-on-one sessions, and for a four-year-old client who had a difficult time separating from her mom, as she witnessed domestic violence in her home environment, this individualized treatment plan worked for her separation and anxiety. In order for these sessions, no matter the size, to run smoothly and effectively, Brigit meets with the caregiver or parent prior to the session starting to see if there are any questions. Following the session, Brigit checks in with the caregiver or parent for any follow-up questions or comments.

Within the interview, Brigit explains the process of how she transitions her services. First, a client is referred, and then Brigit's calls a caregiver or parent to schedule an intake interview. At this interview, they collaborate to set three main goals for the client, which can include decreasing anxiety over transition exercises, decreasing trauma symptoms over coping skills, separating from caregiver, or decreasing stress. According to Brigit, goal achievement "depends on the client – for a separating issue child, it took three weeks to meet her goal." These goals are planned for the duration of a year, and clients transition to new goals after a year of work. In Brigit's experience, she has seen three clients for three years. She has worked with each of them on their shifting goals, and she has seen them all develop coping skills, taking steps forward, and some steps back. Brigit notes that in her work with foster care parents, she updates them every time a client's goal changes, all while helping and supporting them throughout every transition.

A major component of Brigit's therapy is music. She states, "music for everyone is wonderful, but even for children who are struggling with transitions at home." As a method of making music, singing is especially effective for Brigit's clients. Whether it is time to clean up, so they all sing "The Clean Up Song," or they come up with one on their own, singing is engaging for all of Brigit's clients. This is because singing means everyone is doing it together, and it is not a reprimanding practice. Brigit sings a lot of nursery rhymes or lullabies with her younger clients, which can transform to clients singing at night with parents or caregivers to calm their bodies down. These types of songs are always sung in a soft tone, allowing clients to become attune to their own bodies. According to Brigit, there are a lot of benefits of using music in dance movement therapy sessions. Besides bringing people together and creating unity, it gives Brigit's clients the ability to feel free and to feel comfortable and safe. She says that her

clients are “such happy people anytime they hear music or dance.” For children, music is essential for transitioning between movements, and for transitions of cleaning and putting props away. Instruments are inventive ways for clients to make their own kinds of music. Brigit will frequently use drums or shakers in her sessions, as they are outlets of creativity for individuals of all ages. One of Brigit’s clients is a seven-year-old girl with mild autism. To develop different sounds of weather, this client uses her fingertips on a drum to make rain sounds and the palm of her hand to make brushing noises. “She came up with a song about it all on her own – she’s so smart!” Brigit has been thrilled by her client’s effort and ability to make up a song related to a concept learned in her sessions all by herself. As a more traditional, “old-school” type of person, Brigit loves the use of instruments. Exposure to iPads means that children lack social interaction and eye contact, but with the incorporation of music, children become more engaged and bring their imaginations to life.

Finding improvements in clients’ social participation and self-esteem is a huge aspect of Brigit’s therapeutic intervention. While reflecting on all of her experience, Brigit says she has seen plenty of improvements in all of her clients, especially in the social and emotional piece. She has seen clients’ confidence and self-esteem grow, and children who are now able to vocalize their needs and feelings in comparison to when they first started taking DMT sessions. Brigit explains that her younger clients are now able to identify the basic feelings of being happy, sad, and mad. For those clients who have struggled with separation issues, many can now separate from their moms at the beginning of sessions. Brigit has also observed improvements in the area of peer relationships and obesity. With one of her clients, a 12-year-old girl who has gotten bullied at school and is overweight, Brigit worked with her on keeping her body healthy, being active, and making healthy recipes at home with her mother. Her client addressed the fact

that she wants to lose weight, so they did a lot of movement exercises, and discussed ways for this girl to get involved in the community by walking around her neighborhood or joining a soccer team. Brigit explains, "We would talk about it, and not me telling her 'you should do this.' It was more about let's discover this together, 'what do you like?'" Brigit also believes it imperative to bring the family into this discussion of discovering healthier options by way of open communication.

Brigit views DMT as a way for individuals from any population to make any measurable improvements. "Even if it's the littlest improvement, like bringing a smile to the child's day, with dance and movement and music it's that social piece. It's moving, singing, and dancing with someone else." One way to do this is through the technique of *mirroring*, in which Brigit will face the client and the client will face her. Without talking, the pair will just use their eyes and bodies to move in sync together, as someone leads and the other follows. Sometimes they will move with scarves, ribbons, or mirror each other while playing the drums. It is a great way for Brigit's clients to practice patience and turn taking, as well to practice focusing, paying attention, and listening. These are all vital skills that can be incorporated into what the individual is displaying.

To distinguish between DMT and dance, Brigit says DMT is flexibility within a structure and she is big on this because she is a very structured person who prefers flexibility. However, like dance, DMT sessions have an agenda, in which different levels of the body are being explored and stretched, and there is much movement around the room. Sometimes Brigit will have a group with a flat affect, and who do not want to move around that day. Therefore, she must think on her feet, be flexible, and change the session for the day. As a dance movement therapist, it is important to be attune to the individual's needs because therapists have to

constantly work with what they are being dealt with. No matter the case, if the child comes in crying or is ecstatic to be there, Brigit asserts that a dance movement therapists provides a safe and comforting outlet for clients just like any other music or art therapist can (J. Snyder, personal communication, March 18, 2018).

Conclusion

Individuals with Down syndrome are living much longer lives than they did decades ago. However, they also continue to face daily physical and emotional challenges. Health issues such as hypotonia, obesity, vision and hearing deficits, memory dysfunction, and depression interfere with everyday tasks and activities (Clark, 2011). Although physical activity is an option to address these health issues, studies have shown that there is a lack of motivation and general dislike for physical activity and exercise among this population (Dodd, Mahy, Shields, & Taylor, 2010). The various research studies and articles in the literature review bring awareness to the ways in which the expressive art form of dance movement therapy can be used as an alternative to alleviate these problems that individuals with Down syndrome experience, and at the same time, it encourages social participation and strengthens their self-confidence (Barnet-Lopez, et al., 2016). By being involved in DMT sessions, it is supported by the literature that these individuals can continue to live fulfilling and healthy lives. The interview data further strengthens DMT as being an optimal approach to increase and improve emotional well-being and overall quality of life for this population by offering firsthand professional experiences with special needs students who have a variety of disabilities, including Down syndrome, and providing the fundamental aspects of effective DMT sessions for clients. Significant improvements have been observed in both the emotional and physical aspects of clients in structured DMT sessions based on observations by Brigit Catalanotti, a clinical dance movement

therapist and counselor. Judith Nelson, a senior dance instructor, has also witnessed the emotional benefits of dance in her special needs students.

The intention of this exhaustive research was to bring awareness of the health risks associated with individuals who have Down syndrome and how dance movement therapy can lessen those problems. More research on the effects of DMT is needed for both people with Down syndrome and people of other populations. The intended outcome of this effort is to encourage dance instructors, dance therapists, and physical therapists to incorporate this form of therapeutic intervention into their own lesson plans, and to provide them the evidence and structure for developing these programs. By doing this, there is a potential for the expansion of accessibility and availability of DMT programs for individuals with Down syndrome.

References

Albin, C. M. (2016, June 13). The benefit of movement: dance/movement therapy and Down syndrome. *Journal of Dance Education*, 16 (2), 58-61.

American Ballet Theatre (2016). Ballet Dictionary. *Ballet Theatre Foundation*. Retrieved from http://www.abt.org/education/dictionary/

Barnet-Lopez, S., Pérez-Testor, S., Cabedo-Sanroma, J., Oviedo, G. R., & Guerra-Balic, M. (2016, November). Dance/movement therapy and emotional well-being for adults with intellectual disabilities. *The Arts in Psychotherapy*, 51, 10-16.

Barr, M., & Shields, N. (2011, November). Identifying the barriers and facilitators to participation in physical activity for children with Down syndrome. *Journal of Intellectual Disability Research*, 55 (11), 1020-1033.

Bongard, S., Clift, S., Kreutz, G., Murcia, C. Q. (2010). Shall we dance? An exploration of the perceived benefits of dancing on well-being. *Arts & Health*, 2 (2), 149-163.

Bräuninger, I. (2012, September). The efficacy of dance movement therapy group on improvement of quality of life: a randomized controlled trial. *The Arts in Psychotherapy*, 39 (4), 296-303.

Bryden, P. J., Fletcher, P. C., & Reinders, N. (2015, May 20). Dancing with Down syndrome: a phenomenological case study. *Research in Dance Education*, 291-307.

Clark, L. M. (2011, September). Movement patterns and quality of life for individuals with down syndrome: an overview of dance as physical therapy. *Logos: A Journal of Undergraduate Research*, 4, 37. Retrieved from https://www.missouristate.edu/assets/honors/logos_vol4_full.pdf

Cohen, S. O., Walco, G. A. (1999). Dance/movement therapy for children and adolescents with cancer. *Cancer Practice*, 7 (1), 34-42. Retrieved from http://occupationaltherapyanddance.yolasite.com/resources/DMT%20For%20Children%20and%20Adolescents%20with%20Cancer.pdf

Connor, M. (2000). Recreational folk dance: a multicultural exercise component in healthy aging. Australian Occupational Journal, 47 (2), 69-76.

Contemporary Dance (2018). Contemporary dance terms. Retrieved from https://www.contemporary-dance.org/dance-terms.html

Dodd, K. J., Mahy, J., Shields, N., Taylor, N. F. (2010, September). Identifying facilitators and barriers to physical activity for adults with Down syndrome. *Journal of Intellectual Disability Research*, 54 (9), 795-805.

Dunphy, K. F., Scott, J. (2003). *Freedom to move*. Sydney: Maclennan & Petty Pty Limited.

Fired Up Dance (2015). Why dance is important. Retrieved from http://firedupdanceacademy.com/classes/why-dance-is-important/

Global Down syndrome Foundation (2015). Be beautiful be yourself dance program. Retrieved from http://www.globaldownsyndrome.org/programs-conferences-grants/programs/be-beautiful-be-yourself-dance-class-2/

Heah, T., Case, T., McGuire, B., & Law, M. (2007). Successful participation: the lived experience among children with disabilities. Canadian Journal of Occupational Therapy. 74 (1), 38 (10).

Kentucky Educational Television (2018). Dance glossary. Retrieved from https://www.ket.org/education/resources/dance-glossary/

Lotan, Meir (2007, January 10). Quality physical intervention activity for persons with Down syndrome. *The Scientific World Journal*, 7, 7-19.

Payne, H. (1992). *Dance movement therapy: theory and* practice. London: Routledge.

Snyder, J. (2017, November 14). Phone interview.

Snyder, J. (2018, March 18). Phone interview.