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## Social Goals in Adults with ASD: The Case for Ballroom in Dance/ Movement Therapy

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Social Goals in Adults with ASD: The Case for Ballroom in Dance/Movement Therapy

Capstone Thesis

Lesley University

May 5, 2019

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M. A. Clinical Mental Health Counseling & Dance/Movement Therapy

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### Abstract

The author explores the challenges experienced by adults with Autism (ASD) and their families, especially once they have left the public school system and are faced with entering college, a job, and any other goals they may desire. Adults with Autism generally are not researched nearly as much as children with Autism, but there is even less research using the modality of Dance/Movement Therapy as treatment for this population. The author explores how Dance/Movement Therapy might benefit from the incorporation of Polyvagal Theory with this population as well as elements of ballroom dancing. Specifics concerning why elements of social ballroom dancing would benefit this population are included based primarily on the author's phenomenological experience.

*Keywords:* adults with Autism, Dance/Movement Therapy, social ballroom dancing

## Social Goals in Adults with ASD: The Case for Ballroom in Dance/Movement Therapy

### **Introduction**

Most research in the field of Autism Spectrum Disorder (ASD) concerns children, with few studies examining adults on the Spectrum. As a result, the Centers for Disease Control and Prevention (CDC) focus on diagnosis from an early interventionist perspective with treatment focusing on Applied Behavior Analysis (ABA), Occupational Therapy, Sensory Integration Therapy, Speech Therapy, the Picture Exchange Communication System (PECS), changes in diet, and medication to manage symptoms. There is also a very small section on Complimentary and Alternative Treatments (CAM) with few treatments listed in the description (2018).

While early intervention is crucial and these treatments can work wonders, we have a crisis on our hands. Allied organization Autism Speaks notes that “Over the next decade, an estimated 500,000 teens (50,000 each year) will enter adulthood and age out of school based autism services” (“Autism Facts and Figures,” 2019) like the ones mentioned above. This can create a time of uncertainty and anxiety for adults on the Spectrum, and their families, as they experience a sharp decline in available programs (Autism Speaks, 2019; C. Sicile-Kira & J. Sicile-Kira, 2012). Most students can take advantage of many if not all of these treatments as part of their school system, with subsequent day programs offering few if any of these services. If an adult does not have access to such a program, pricing all of these services individually can be quite taxing to arrange as well as an economic strain.

Another concern seen as graduation approaches, is that the Individual Education Plan (IEP) goals set with the student, their parents, and the team at school haven’t been met. Students and parents find themselves lamenting that their expressed needs were not met by the school planners and unsure of where to go next (C. Sicile-Kira & J. Sicile-Kira, 2012). Although every person

with Autism is unique, many find that social difficulties, problems initiating hygiene, and repetitive behaviors can make it difficult to obtain or keep employment (Perry, 2009).

Fortunately for these graduates and their families, Dance/Movement Therapy (DMT) is a wonderful way to increase attunement and empathy which can serve people with Autism in social settings. One addition to be considered in this field is the inclusion of some elements of ballroom dancing. This paper will address specific challenges experienced by many adults with ASD, literature on using DMT with this population, and how social ballroom dancing can potentially aid the field of DMT. This author will investigate how ballroom dance can be utilized as a strengths-based approach for this population to make therapy more enjoyable, interesting, and to work on additional social goals which might be desired in this population.

### **Can Ballroom Dancing Help Adults with ASD?**

Chantal and Jeremy Sicile-Kira (2012) stated that although teaching social skills to adults on the Spectrum has not been greatly researched, it is obvious that working in groups to gain these skills is beneficial (p. 62). This corresponds to my own experience teaching ballroom dancing to one 25-year-old man with Autism, and then another. In fact, “Social skills training in groups helps develop comfort and confidence in social interactions, teach some basic skills, and reduce social anxiety” as well as developing relationships with others who are experiencing similar challenges (C. Sicile-Kira & J. Sicile-Kira, 2012, p. 62). Ballroom dancing teaches new students proper social etiquette in the ballroom. This can give people with ASD a structure to learn good social skills, in a more controlled environment than a typical public interaction with someone they do not know. The basic skills learned through ballroom are proprioception, stamina, muscle memory, and muscle control as clients repeat the steps shown to them in a group. All of these physical and social skills when accomplished in a social setting like a

ballroom dance studio, can be a great unifier because everyone has a common goal of learning to dance.

Additionally, social ballroom provides a unique environment where neurotypical adults and adults with ASD can have the opportunity to interact and learn from each other while going through the shared experience of learning a new skill. Educating the public about their individuality is considered highly important to many in the ASD community who feel that they have not been represented accurately on television shows (C. Sicile-Kira & J. Sicile-Kira, 2012). These portrayals create an image that all people with ASD are brilliant savants or that they perform undesirable behaviors in public such as stimming (C. Sicile-Kira & J. Sicile-Kira, 2012). The phenomenon of group work aiding this population, is further backed by Joanne Lara and Keri Bowers (2016) in their Autism Movement Therapy technique. Being in a group setting with neurotypical people (especially a learning environment) can be rare for this population, and as such, is extremely beneficial. Behavior challenges with this population are common and “Behavior issues make it difficult to make and maintain friends” leaving many people with ASD to spend their years after high school on the computer or watching favorite movies (Lara & Bowers, 2016, p. 92); both of which tend to be solitary activities with limited social potential. Ballroom dance provides the means for community engagement while decreasing the likelihood of negative behaviors in adults with Autism.

The causation of negative behaviors in people with Autism can be examined using the Motivational Assessment Scale (Lara & Bowers, 2016). This scale claims that there are four functions of negative behavior including: attention-seeking, avoidance, trying to get something, or sensory activation (Lara & Bowers, 2016). Ballroom dancing cuts off the need to seek attention as each person has a partner to dance in close proximity. Even if one is focusing on

their own dancing, they cannot help but tune into their partner as well to avoid stepping on them or banging heads because they are looking down at their feet. As for avoidance, generally people do not come to a dance class if they do not have a desire to learn to dance on some level.

Ballroom studios are sparse, the focus is on the dance floor, which might deter clients who misbehave to obtain something because there isn't much there to take. Lastly, clients learning to dance are already feeling sensory stimulation as they walk, march, rock, and many other actions.

While a client with ASD might march with particularly Heavy Weight, on the floor to get additional sensory reaction or Light Weight to avoid such stimulation, this sensory element is already in play which eliminates the need to act out in an effort to find it. All of these factors make it likely that negative behaviors will at least be decreased when experiencing this type of environment. Before we cover my unique perspective as a ballroom instructor to neurotypical and Spectrum adults and the research with this population, allow me to state my definition of social ballroom dancing, and experience in the field.

#### **Author Positioning in the Discourse.**

As a dancer I grew up performing ballets twice per year for thirteen years, in a non-traditional ballet studio. The goal was to achieve personal growth and have fun, not to become a professional. A few from our studio did go on to work professionally, but with a sense of gratitude toward self, others, and the dance community we had formed, continuing to come back and visit long after they had left for college. For myself, this is the way I prefer to think of dance. In college, I was part of the Moving Company dance troupe where we did student led productions which were mostly modern dance or jazz. These were far outside my comfort zone, so I took some intro classes and added ballroom and teaching of dance classes to increase my movement vocabulary.

**Credibility and Experience.** I taught ballroom dance professionally for approximately four years. This took place at two different ballroom companies and three different studio locations overall. At my last company, I was averaging approximately 35 - 41 private lessons and group classes per week, with 45 minutes in each class. Although trained to teach new and advanced students, my last company paired me mostly with brand new or trial students, because of my ability to welcome them to the studio and make them feel progress as a method of positive reinforcement. I was a Specialist Instructor, trained to break down patterns into basic components that we use in everyday life so that someone with zero experience could feel success in the ballroom.

My training dictated that I come into each lesson prepared to teach a step, by being able to say it 14 different ways. My job was to notice when something wasn't working and steer the session to something that was meaningful for the client. Another technique we were trained to use, is called funneling. This technique consists of asking a client open ended questions about themselves to see what is important to them to determine how best to teach them and how dance might make a difference in their life or what need it could fulfill. This enables instructors to learn what is important to the client in order to help them create and achieve goals, which are usually social in nature, as well as gain information about the client's learning style in an effort to better serve their needs. All of this together provides a supportive environment in which to experience movement, learning physically and socially.

As a former ballroom instructor, I can say that the behind the scenes culture in that industry, believes that students do not come in the door solely for dance. They are using dance to fill a need in their life, and as instructors it is our job to discover that need. Some common needs a client might come in for include: loneliness, lack of friendship or relationship, empty

nesters reconnecting and rediscovering life without kids, couples on the rocks unwilling to go to marriage counseling, a desire for physical exercise, depression, trying to find self or reshape identity, divorce, death of a loved one, etc.; the list goes on and on. Three of the most notable populations I worked with include a career army veteran with PTSD so severe he brought a gun to our early lessons and danced the bouncy East Coast Swing with it on his person, a gentleman in his late eighties who had lost two wives and had a plan for how and when to commit suicide, and 25 year old with Autism who was dismissed at home and craved a 'real' relationship. After teaching so many students at various levels how to ballroom dance, I was acutely aware of the difference dance can make in a person's life when I found Dance/Movement Therapy.

**Definition of Ballroom Dancing.** When Americans think of ballroom dancing, we have this picture of fancy outfits in opulent ballrooms, basically Dancing with the Stars. Usually as outsiders to this community, the typical person may view this type of dancing as expensive and for the elite. They might even consider it old-fashioned and outdated. Therefore, access to this type of dance is limited and costly. Musically, when Americans think of this style of dancing, they are remembering waltz music, or tango music which again are not played on the radio nearly as often as other types of music and come across as snobbish to some.

In contrast, Europe has kept ballroom dancing accessible to the masses. Instead of focusing on private lessons, they have chosen to run group classes with literally hundreds of people in them, many times each day. As business owners, their strategy is to make this accessible for everyone by charging a few dollars per hour long class and packing the room as full as possible. As a result, ballroom is a part of the culture in Europe and something to pick up instead of an elite, obsolete skillset.

Europeans and Americans differ on the tempo, styling, and technique in the same dances as well. To be clear, when I discuss ballroom dancing, I am referring to American Style. This means that I prefer slower music that is easier to dance to, with technique that is for social dancing, not the competition level. In fact, PBS (2015) wrote an article based on their hit dance show America's Ballroom Challenge claiming that certain American Styles give "More creative freedom and leads to a distinctly different style of expression" and "Free-wheeling style" ("Ballroom Dance Styles," para. 3, 19). Which indicates that while structured through the learning process, self-expression is still available in this dance style.

Additionally, I am defining ballroom dancing as any dance between two partners. This means I include rhythms such as East Coast Swing, West Coast Swing, Hustle, Rumba, Salsa, Cha Cha, as well as the smooths like Fox Trot, Waltz, Viennese Waltz and many others. In the studios I taught at, over 26 social dances were classified as ballroom dancing and we taught other styles as well including line dancing and period piece dancing.

**Teaching Structure.** While the opportunities for learning are available in this modality, they are not forced blindly. American Style, Social Ballroom dancing uses an interrelated system of teaching. This means that the basic step in a style of dance is the same as at least one other dance style. The only difference is the execution of a slower or quicker timing when completing the step. A person with ASD may not pick up on the difference in timing at first, choosing to focus on their own body control and awareness (Bridges, 2015, p. 63) before being able to focus on this next layer, but the opportunity is there.

Another example is the rotation of partners in the dyads. The close proximity and 1:1 attention are conducive two benefits of dancing in dyads. A participant may switch partners and execute everything exactly the same as before until they pick up on a nonverbal cue and make a

change or ask for assistance in solving a problem with the step. Noticing these details and then asking for help are great milestones for people with ASD and the fact that partners are not switched until a step is already explained and practiced, adds a layer of security to allow the client to explore that next layer of discovery.

Ballroom dancing is unique to other types of formalized dance in that most studios offer a free lesson, or discounted lessons for less than a quarter of the actual price, in order to draw customers in to experience this style before being pressured to buy a full package. This means that their teaching style must be effective in order for the person trying it out to feel progress through positive reinforcement and potentially reframing, which creates enthusiasm for continuing on.

Additionally, filming the combination at the end of the session is common in group classes and as a tool on private lessons to show the client what they actually look like. Filming allows the student to practice at home by reviewing the footage but also gives student and teacher a chance to discuss the discrepancy in execution vs. reality (Lara & Bowers, 2016) on something as simple as posture. This can aid the client in devising their own solution or the two working together to find better verbal cues to accomplish the desired effect. It empowers the adult with ASD to know what they look like during movement, how it feels in their body, and then implement new strategies to adjust the movement repeating the process. As adults, it can be hard for someone to stick with something new if it has any degree of difficulty and filming also shows proof of progress which enables any adult to be proud of their progress, boosting self-image.

With dance in particular, many people are worried about looking silly or that they will not be able to learn any new skills, which is why ballroom starts with basic motions that can be found in everyday life. For adults with ASD, there are all the same challenges plus potentially

more physically and cognitively, so it is essential that the simplistic teaching style of ballroom be maintained. It serves to support and encourage the participant as the movements are basic and repetitive in the beginning, with options for self-expression and personal flair demonstrated as the steps are learned and muscle memory is built. While these techniques are helpful to every adult ballroom dancer, they must be particularly important and attractive to adults with ASD, as they tend to prefer known activities and trying new ones might be particularly hard.

Ballroom is different from other types of dancing as well in that most or all first-timers walking into the studio are adults, which changes how they have to be taught. In my experience, adults prefer to know why something is happening before they are willing to just do it, whereas a jazz class of underage dancers might just follow the combination a teacher sets forth and give it their best shot. While that works for some students, usually a ballroom instructor must distract the client from focusing on the actual dancing by asking questions to get to know them better or explain that what we learn today is not meant to be perfect that the focus is just on learning some basic steps in time to the music. Learning progresses from knowledge of self, to awareness and attunement of the dance partner, with technique coming much later.

In the early stages, learning is scaffolded in various stages. Students are broken down in group classes by experience level so that only beginners are with beginners, etc. The teacher focuses on a basic pattern with one or two other patterns to form a basic amalgamation. Once there is some muscle memory with that two or three step combination, then the instructor will attempt to teach the same thing in another dance. Social ballroom is based on an interrelated system, so the instructor chooses a dance that is usually the same exact footwork but with different timing of the steps. The students feel confident that they already know what is coming next because of their success in the first style of dance and the new timing presents a fun

challenge to work on while still re-enforcing their muscle memory of the basic pattern or amalgamation.

Many people with Autism have a smaller corpus callosum which could indicate difficulty communicating between the two sides of the brain (Lara & Bowers, 2016). Dancing to music uses both sides of the brain (Lara & Bowers, 2016), so a person with Autism could get a challenging mental workout just by doing a basic step multiple times, strengthening the corpus callosum highway to each hemisphere. For this reason, the layered teaching style of providing instructions on basic movement with no technique (in the beginning) is essential to beginners and to this population in particular, may maintain interest in the topic.

Additionally, ballroom is modified and broken down into smaller pieces for the new mover to excel. These pieces are called the basic elements of dance and will be further detailed in their own section. This process is usually done in a private lesson but could easily be translated to a group setting and often is for corporate events. Instructors are taught to acknowledge the difficulty of starting this process as they step on the actual dance floor with the student for the first time which can be validating for a new client and serve to create a supportive atmosphere. Next students are jokingly given three basic rules of ballroom, which help create known social expectations or rules to help clients know what to expect which is a great technique for working with people on the Spectrum. These basic rules of ballroom are things you can always count on in this environment including: when a leader offers a hand that the person being offered that hand will take it because everyone in this environment came to the dance studio because they wanted to dance, that when lifting their arm that the follower will always go under it in a turn, and that whatever way the leader looks the follower will also look nonverbally during

the dancing process. Next the students will learn the basic elements of ballroom, a beginning dance frame or posture and some basic patterns with no technique instructions.

**Basic Elements of Social Ballroom.** First the group forms a line facing the mirror, typically linking arms or holding hands, and the instructor teaches the elements in a humorous way to help the clients remember the elements. Typically the men lead and the women follow but any and all instructions should be modified for whomever is choosing to lead and follow. In the beginning, the instructor will ask everyone to walk forward toward the mirror with their left foot, sometimes letting their left arm drop to left leg beforehand to help them feel the left leg if there is confusion. After walking up to the mirror the group will be directed to walk back starting with their right leg.

The instructor uses humor, visual and kinesthetic cuing, and physical touch to demonstrate the leader and follower's starting foot. This overview helps comfort a person who cannot discern right from left or who is nervous and cannot remember the instructions as they can refer back to the joke. Typically an instructor will joke with the men that the lady is always right, so she starts with the right foot, or that at dinner the men have to take what's left; which is usually the check, or left foot. Physical cueing can be accomplished by directing the client to lift the corresponding arm as the desired foot, and let it drop onto their thigh for a physical reminder of which foot to start with. Some adults on the Spectrum have a tendency to pace (Regan, 2016, p. 31). So directing them to move close to their natural preferences may provide familiarity in the learning process. An instructor might introduce traveling dances, which involve traveling across the dance floor while walking at different tempos, to utilize this movement preference and meet the client where they're at for a strengths-based approach.

Next in the learning process is developing a shared language for movement by learning the excuse me step. The instructor will have the clients face the mirror again and ask what kind of movies they like to see in theaters. If they don't like movies, the instructor will ask about sporting events, plays, etc.; everything can be modified to suit the client and customize their experience. Then the instructor and students will pretend they are in the movie theater (or other venue) and side stepping down the aisle to get to their seats singing excuse me pardon me, repetitively. The instructor will compliment them and name that step the excuse me step/movie theater step/side step depending on the language the client is gravitating toward. Subsequently the instructor will ask what types of food they like to eat at the venue or pretend the group has to use the restroom to get the group to side step back the way they came from. By this time clients are usually laughing and feeling comfortable in the space, knowing that this is a playful environment. This is exceptionally beneficial because while an occupational therapy session or other treatment might work on some of the same things, it is still an environment of seriousness to some extent. Usually a client's repetitions are constantly being recorded and measured against their last session. In this environment, everyone is learning something new instead of trying to beat a past record, feeling silly or adventurous, and trying basic skills accomplished in a fun and novel way.

The next piece of vocabulary is the rocking horse step. This is usually the hardest for students to learn because it can feel like falling backwards. In reality the client will be asked to lift one leg and rock forward fully onto that foot before returning weight backward to the other, like a rocking chair or rocking horse. Then the students will be asked to repeat the step using the other foot, again rocking forward and backward. While this step seems marginally complex for the average person, we don't normally go backwards, this might be easy for a person with ASD

to accomplish depending on their normal movement patterns like trunk rocking forward and back or side to side (Regan, 2016, p. 31). Taking in knowledge about a student's movement preferences is essential to determine which dances they might enjoy learning and play to their strengths.

Finally, we end the basic elements with learning how to march. The instructor will ask the student to lift one leg and shake it all around like the hokey pokey or another joke then let them drop it and repeat with the other leg. The instructor demonstrates while the client is following verbal instructions, providing a visual cue as well as continued verbal instruction that the desired result is just basic marching. After the perceived difficulty of a rock step or rocking horse step, marching feels like a breeze and boosts the student's confidence while providing comedic relief in the stressful situation of learning a new skill. For someone on the spectrum, this joke may or may not land depending on the student's conversation skills and preferences (Regan, 2016). However, the fact that the body part is being named in combination with a verbal directive and visual cue are all skills the students are becoming familiar with and for students with ASD, skills they are learning (Lara & Bowers, 2016) which makes ballroom dancing a great way to develop social and movement skills.

### **Literature Review**

Social ballroom is by its very definition, a way to engage with others, and the popular music can be a draw to anyone, more importantly this population. Further examination may demonstrate this as a viable alternative to many of the traditional ASD therapies because it can work on several functional domains at one time while also implementing many of the core strategies of Dance/Movement Therapy or DMT. Determining this hypothesis requires

identifying areas of opportunity faced by people with ASD including typical behaviors, communication challenges, and social difficulties.

### **Characteristics of Adults with Autism Spectrum Disorder**

As we know it today, Autism Spectrum Disorder is defined by The Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (also known as DSM-5) as exhibiting “Persistent deficits in social communication and social interaction across multiple contexts” as well as “Restricted, repetitive patterns of behavior, interests, or activities,” and finally “Symptoms must be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life” (American Psychiatric Association, 2013, p. 50). As with any other mental health diagnosis, the DSM-5 gives additional criteria that must be met with this diagnosis. In regard to the above quotations from the diagnostic manual DSM-5, a common theme presents where a variety of differences contribute to a perceived difficulty with socialization. Other sources consider ASD a developmental brain disorder which can affect sociability, behaviors, and communication (Rosenberg, 2017). ASD affects people through “A wide range of symptoms, level of impairment, and disabilities” (Rosenberg, 2017, p. 163) experienced to any degree large or small.

As previously stated, the author presumes that every person with Autism is a unique individual facing their own challenges and empowered with different strengths physically, emotionally, and cognitively. New research is surfacing and as Theresa M. Regan (2016) reminds us, people with this diagnosis are constantly undergoing re-categorization with each new version of the Diagnostic and Statistical Manual with some people with ASD diagnosed for the

first time as older adults. It is becoming quite obvious that we have yet to realize the full extent of this diagnosis in our society.

### **Communication and Autism Spectrum Disorder**

Communication and other social norms can be very difficult for this population. Rosenberg notes that it is common for people with ASD to “Have difficulty communicating normally, not only with people in their everyday life, but also with their caregivers and with people trying to treat them” (2017, p. 183). This can understandably lead to difficulties in understanding communication skills, social skills, social competencies, and safe interdependence (C. Sicile-Kira & J. Sicile-Kira, 2012, p. 64) as well as limiting their lives to the dismay of family and caretakers alike (Rosenberg, 2017, p. 183). Typical social cues such as eye contact, comprehension, active listening, empathy, and being present in the room can be scarce or nonexistent for people with ASD (Rosenberg, 2017). Lacking any of these in conversation can be distracting for a neurotypical person, but to converse with someone not displaying any visible cues of interest in the topic must be daunting when speaking to someone with ASD. Ultimately, communicating with person on the Spectrum can be challenging in many respects for all parties involved.

### **Social and Community Support for those on the Spectrum**

Perceived difficulties with communication become increasingly important as adults with Autism age. Parents and adults with ASD grow concerned about what will happen when parents pass, especially if there is only one sibling to assist the adult with ASD, or no siblings at all (C. Sicile-Kira & J. Sicile-Kira, 2012). Chantal and Jeremy Sicile-Kira (2012) refer to the Circle of Supports stating that while most of us have been developing relationships in all circles, people with ASD maintain fewer relationships as well as fewer types of relationships. The four types of

supports include the: Circle of Intimacy, Circle of Friendship, Circle of Participation, and Circle of Exchange (C. Sicile-Kira & J. Sicile-Kira, 2012); all of which are deemed necessary to live our most supported, balanced life.

To further explain, The Circle of Intimacy is usually for immediate family members and consists of those people we can be emotionally vulnerable with who play a primary role in our lives (C. Sicile-Kira & J. Sicile-Kira, 2012), the people we really trust. The Circle of Friendship is made up of the extended family and peripheral friends we might meet up with occasionally to do something, but who do not reside in our everyday lives (C. Sicile-Kira & J. Sicile-Kira, 2012). The Circle of Participation consists of people we know through a mutual interest such as a job, church, school, or charitable organization where we interact together in a particular setting but do not see each other outside of that. With time, these relationships can develop into Circle of Friendship or Circle of Intimacy relationships (C. Sicile-Kira & J. Sicile-Kira, 2012, p. 22-23). Finally, relationships in the Circle of Exchange are made of people whom we pay for service or whom we see in a professional capacity such as doctors, therapists, teachers, and personal care workers (C. Sicile-Kira & J. Sicile-Kira, 2012, p. 23).

A neurotypical adult is likely to have relationships in all four circles of relationship while an adult with ASD usually utilizes two: the Circle of Intimacy and the Circle of Exchange (C. Sicile-Kira & J. Sicile-Kira, 2012). This leads to emotional and financial stress for the family members closest to that adult (C. Sicile-Kira & J. Sicile-Kira, 2012). Chantal and Jeremy Sicile-Kira (2012) dictated that the best way to alleviate this stress on the internal family unit is to create opportunities where the adult with ASD might develop relationships in the Circle of Friendship and the Circle of Participation. This can benefit adults on the Spectrum in many ways, but especially in the event of a parent, guardian, or caretaker's death. While beneficial,

encouraging an adult with ASD to expand their support network must be daunting for parent and adult child alike. It means disrupting their schedule and trying new things with new people.

Looking at it from this aspect, creating relationships in these two additional circles seems vital for the social emotional development and support of adults with ASD.

### **Polyvagal Theory**

Polyvagal Theory posits that our understanding of the nervous system is flawed and overly-simplified to the point of misrepresentation. Polyvagal theorist Stephen Porges, believes that the autonomic nervous system has more tasks and states than previously thought based on the influence and travel path of the vagus nerve (Rosenberg, 2017). Getting stuck in one of these states or dysfunction in the vagus nerve may affect our sociability, mental state, and health conditions (Rosenberg, 2017). This idea of a person sticking in one state for an extended period of time could explain the rigidity commonly noted in people with Autism.

Our new understanding of the autonomic nervous system from youngest to oldest are the three circuits: the ventral vagus branch, the spinal sympathetic chain, and the dorsal vagal circuit (Rosenberg, 2017, p. 52). The ventral vagus branch “Promotes peaceful immobilization and a sense of well-being” which contributes to every person becoming open to social engagement. Unblocking this nerve branch is essential for the acceptance and enjoyment of social encounters in the ASD population. The spinal sympathetic chain governs the fight or flight response which can be due to danger or even from stimulation such as that experienced when “Playing violent video games” (Rosenberg, 2017, p. 51). The dorsal vagal circuit is the fear or freeze response which can manifest as “Depressive behavior, social isolation, feelings of helplessness and hopelessness, apathy, lack of empathy, sadness, and grief, as well as some cases of post-traumatic stress and many cases of anxiety” (Rosenberg, 2017, p. 88). This could manifest as a

person not wanting to leave the house or participate in favorite hobbies and in people with ASD, reports of lacking empathy and being apathetic toward doing activities are common.

While being in the spinal sympathetic chain can be very activating and cause extreme response, the activation of the dorsal vagal circuit can send a person into a state of too little response, making the ideal state the activation of the ventral vagus branch promoting homeostasis of response and sociability. Rosenberg stated that the only way to move out of the fight/flight activation or freeze activation, is to trigger the ventral branch of the vagus nerve with social activities that benefit self (Rosenberg, 2017, p. 52-53). The social center overrules the other two states. Next the fight/flight response, triggered by exercise, overtakes the freeze response, which is why physical activity can aid clients struggling with depression (Rosenberg, 2017, p. 53). All of this makes sense, especially from a Dance/Movement Therapy perspective as utilization of a wide range of movement is considered essential to the well-being of any client.

Another point of interest in Polyvagal Theory is when Rosenberg (2017) links dysfunction in the trapezius and sternocleidomastoid muscles with a lack of social engagement and serious health problems. The reason for this, is that these two muscles are not activated by the spinal nerve like most other muscles, but a cranial nerve (Rosenberg, 2017). Because of the placement of the sternocleidomastoid (SCM) muscles, stiffness here can cause tension not only in this cranial nerve, but usually the vagus nerve as well (Rosenberg, 2017). We know humans typically develop so that “The eyes focus on an object of interest, and center it in the visual field; then the eleventh cranial nerve innervates the fibers of the trapezius and SCM muscles in order to turn the head in that direction” (Rosenberg, 2017, p. 107). These nerves and muscles all work together as a system so that we can respond to stimulus to visualize an object and turn our head to better focus on it. If someone has a problem turning their neck or raising their head, it doesn't

seem likely that they would focus very well, have good posture, or make eye contact in conversation; like people with ASD are observed to have difficulty doing. ASD is “The most rapidly growing developmental disability” in the US and increasing ten to seventeen percent each year (Rosenberg, 2017, p. 164). If this theory proves credible with additional, unbiased testing, its remedies must be implemented especially with people on the Spectrum.

**Polyvagal Theory and Ballroom.** When speaking of people with ASD, Rosenberg (2017) states it is possible “If we change a person’s emotional state, we can change their behavior” based on the idea that some cases are due to an autonomic nervous system disorder (p. 163). Many people with ASD, are reported to have poor posture and have difficulty focusing on someone during social interaction which is mentioned above as an indicator of poor muscle function surrounding the social nerves, which indicates that Polyvagal Theory might be able to help this population. While people with Autism might be trapped in a fight/flight state or a freeze state, others may just switch rapidly causing confusion to caretakers trying to attune to them (Rosenberg, 2017, p. 165); which can make interactions frustrating for both parties. Rosenberg (2017) recommended many things for the ASD population including: fixing auditory problems, using craniosacral techniques to relieve tension and reshape the cranium, and exercises to stimulate social engagement through increasing functionality of the cranial nerves.

Interestingly enough, the way that a social ballroom dancer holds themselves in dance frame or their posture with another partner, is actually one of the exercises recommended. Dance frame is actually “Trapezius twist with elbows lifted” in Rosenberg’s exercises (2017), where the middle and lower trapezius muscles are engaged but not strained and the head is pulled back to form a straight-backed posture as though the dancer was standing back against a wall. Also, the upper body movement in several ballroom patterns follows the exercise “Trapezius

twist to the right” (Rosenberg, 2017) where the head and feet stay facing the same direction but the torso rotates to create contra-body positioning. The dance frame is designed for the purpose of supporting self and providing a socially approved, physical boundary between self and other as a means of comfort and safety. This ballroom concept of supporting self (posture and weight) while in relation to another, seems to fit well with the concept of Rosenberg’s exercises for increasing social engagement (2017).

**Attunement & Self-Regulation in Relationship.** Ballroom dancing is a partnered activity, each person is paired into a dyad. For a person with Autism, this enables them to get one-on-one attention even within the context of a group class or possibly group therapy. Pairing a person with Autism with a caregiver, parent, or friend in this type of activity could greatly aid in empathy and attunement as each partner adjusts to the physical cues of the other. Another byproduct of this dyad could be self-regulation. Rosenberg noted that “Social interaction with people who are in a state of balance and social engagement is perhaps the most natural and helpful way to achieve self-regulation” (2017, p. 134). Typically, partners that come in together will start the group together as they learn basic steps which re-enforces this idea of supported self-regulation in dance partners with ASD.

Once the instructor sees the entire group understands the step or has filtered through offering individual support, the dyads are rotated so that each person has a new partner. This serves two purposes. First, it adds interest to a step which might seem easy at this point which allows the brain to build muscle memory by continued practice and interest. Second, rotating partners encourages each individual to adjust to the nonverbal cues of a new person, thus building attention and vocabulary in attunement for all people with ASD or without. Holly Bridges (2015) noted the importance of facilitating “Conditions where there are ample

opportunities to perceive differences” on a regular basis so that people with ASD may develop this skill first and then at increasing levels (p. 69), which Ballroom provides.

**Structuring Social Engagement.** While most people with Autism have limited circles of support usually including trusted confidants like parents, and their working relationships with a paid professional (C. Sicile-Kira & J. Sicile-Kira, 2012), the rotation of dyads and general atmosphere of social ballroom dancing creates a diverse environment which some members of this population might not otherwise have access to. This is the Circle of Participation which Chantal and Jeremy Sicile-Kira (2012) spoke of where a shared interest can develop acquaintances into the Circle of Friendship or occasionally meeting friends.

This type of group setting offers a huge advantage to this population as a typical group therapy session might only include people with ASD. Joanne Lara and Keri Bowers (2016) note that “Studies indicate that inclusive settings offer role model awareness and opportunities that cannot be replicated in a setting where there are only individuals with autism or related disabilities” (p. 42). Being around other adults who are not in their usual two circles of connection, might be the model needed to catalyze adults with ASD to take better care of their hygiene, learn social skills, or develop skills such as punctuality which hold back many in this population from working, attending college, and other aspirations (Perry, 2009).

### **Dance/Movement Therapy and Adults with Autism**

In searching through the literature on Dance/Movement Therapy and people with ASD, it was difficult to accurately trace this history in our field for two reasons, consistent terminology and lack of data. Most of the information concerning Dance/Movement Therapy and clients with ASD is done with children, especially early-intervention work. For example, Suzi Tortora (2011) and others have done a wonderful job using the Kestenberg Rhythms, Laban Movement

Analysis, creating their own techniques, and treating children with Autism in school systems (Levy, 1995). Additionally, Helen Payne (1992) and others have labeled their work with the common language at the time the source was written, which lends much confusion to those sifting through categorizations like MR for Mentally Retarded, learning difficulties, autistic-like movements, and other outdated language.

While sections of these works discuss people with special needs in these terms, the terminology as it was written is too vague in its understanding of what we classify as Autism today for us to differentiate which statements concern Autism vs. a person with a learning disability, or someone with a degree of mental disability. As such, most of the research used here is recent, 2006-2019, and limited. Benefits of using Dance/Movement Therapy with this population are estimated to be the same as other populations: increasing empathy through mirror neurons and encouraging greater self-expression through increased range of motion.

**Increasing Empathy.** Dance/Movement Therapy has long used the technique of mirroring defined as “Empathic reflection of the clients’ expressive motor behavior on the therapist’s side (and vice versa) to build a mutual relationship” (Koch, Mehl, Sobanski, Sieber, & Fuchs, 2015, p. 339). In other words, mirroring consists of a therapist following their client’s movements and reflecting them back to the client, before leading to expand the movement as a means of kinesthetic empathy or emotional understanding (McGarry & Russo, 2011, p. 178). With the discovery of mirror-neurons, science has validated what generations of Dance/Movement Therapists have known, that the technique of mirroring works wonders in developing empathy (Berrol, 2006) and creating relationship during therapy.

As McGarry and Russo (2011) explained “Mirror neuron research suggests that simply viewing another person being emotionally expressive while remaining still will activate the same

movement areas in the viewers brain, which will in turn activate emotion areas due to the emotionality of the movement” (p. 180). It seems that even if a person with ASD is not actively mirroring back a movement, that the client will be experiencing emotions evoked by the therapist’s movements. Simply the act of being taken through a cycle of emotions in movement in a self-regulated, contained way could be therapeutic for a client with limited emotional range enabling the client to experience emotions they do not regularly indulge in or may have difficulty identifying. Following the therapist as she shows how to navigate the extremes of an emotional scale, returning to a baseline or homeostasis is beneficial as well in modeling emotional self-regulation.

In addition to being able to convey emotions to a client, the technique of mirroring is reciprocal as well. By mirroring back the client’s motions, a therapist can convey nonverbally a sense of understanding and emotional attunement to the client (McGarry & Russo, 2011, p. 180). This occurs without having to find just the right combination of words, which can be so crucial in a population such as this, where communication is a more difficult skill. Furthermore, McGarry and Russo (2011) note that activation of the Mirror Neuron System, ability to empathize, and social mimicry in daily activities of living “Are all inter-related” (p. 180). The authors further stated that those with ASD show “Mimicry deficits” early on and that this is at odds with highly empathetic people who show body language mimicry in social settings and extreme levels of activity in their mirror neuron areas when observing emotion (2011, p. 180). It stands to reason, that adults with ASD, can benefit greatly from the effects and practice of mirroring which a trained Dance/Movement Therapist can offer.

While there are few evidence-based studies examining adults with ASD and Dance/Movement Therapy interventions, the technique of mirroring has been found effective for

this population in a randomized controlled trial, using a recently created “Manualized form” of DMT for this population (Mastrominico et al., 2018, p. 4). Reported benefits include increased: psychological well-being, body awareness, self-other distinction, and social skills in comparison to other adults with ASD receiving no treatment (Mastrominico et al., 2018, p. 4). Interestingly, the study reports that there was a slight increase in empathy when compared to the control group and baselines of the group that received treatment, but that the degree was not statistically significant (Mastrominico et al., 2018, p. 4). Mastrominico et al. (2018) noted that while the increase in empathy was ranked “Nonsignificant,” that the results might still hold clinical significance calling for additional standardized trials (p. 4). Other studies referenced within the same article showed similar results, noting that DMT interventions cause “An improvement for emotion inference but not for empathic feelings” (Mastrominico et al., 2018, p. 4). Given the science behind mirror neurons and why mirroring can engage empathy, this seems puzzling indeed.

Of course more research is needed, but could there be a confounding variable as well? Something researchers must consider with the idea of mirroring, is that the best scenario for optimal results is a skilled DMT therapist working with a person with ASD to mirror back their movements but also to increase the range of motion and build upon what that person is already doing. This idea counts on neurodiversity and movement diversity between a DMT therapist and client in a 1:1 session.

One question that seems important here is if these studies were done in group formats, who did the mirroring with the clients? In Mastrominico et al.’s article (2018), it seems that their particular study was based off of a graduate student’s work in Germany. And while the paper is very specific in its’ methodology, a few factors may have been over looked which could be

deemed confounding variables. The study indicates that two DMT therapists (one per location) were trained in the manualized version of treatment assisted by two DMT students or psychology students (Mastrominico et al., 2018, p. 6). Here is the first possible confounding variable, while these are good choices to assist DMT therapists, a DMT student or a psychology student could easily make a choice in a group setting which a trained DMT therapist would not make which could skew the empathy results in the study.

An even greater variable concerns the formatting of the study. Clients experienced a ten minute warmup within a Chacian circle, utilizing “Elements of mirroring” (Mastrominico et al., 2018, p. 7). Having worked with people of varying muscle tones under the diagnosis of Cerebral Palsy, this author is torn between wondering if this adapted mirroring was in an effort to take these client’s movement patterns into consideration or if it sent an immediately contradictory message to the clients about what mirroring is. More discussion is required to determine why the authors chose to immediately call for mirroring of observed group movement immediately followed by a directive to make the movement individualized when this immediate call for creativity could be stressful for this population. Perhaps starting off with a group mirroring exercise without the creative elements would have made sure that everyone understood exactly what mirroring was for the next activity of mirroring in dyads (Mastrominico et al., 2018, p. 7).

There are so many variables here that could be critiqued as each Dance/Movement Therapist has individualized training and experience. However, another piece of this study which must be examined for possible confounding variables is the Dyadic movement section where participants mirrored each other if they were not paired with one of the two assistants or the leading Dance/Movement Therapist (Mastrominico et al., 2018, p. 7). As previously stated, mirroring is theoretically most beneficial when administered by a trained DMT therapist, but also

when a partner has great range of movement and emotion to encourage the client. In this study, the maximum level of empathetic gain might have been administered if each dyad contained two people of opposite movement qualities and preferences. In today's world, we know the power of diversity and this author wonders if the participants would not have tested with greater degrees of empathy increase if each participant in the treatment group was not paired with a neurotypical person.

It stands to reason that if most people with ASD are considered to have difficulty with empathy, that pairing them with each other is not going to gain major change in their knowledge of empathy. Even considering what we know about mirror neurons, this seems obvious that a great increase in empathy was not likely because neither party in the participant-participant dyad would be experiencing great emotions or emotional range to activate the other party's mirror neuron system and the conclusions in Mastrominico et al. (2018) concur that this type of dyad did not yield great results in improving empathy. Further testing is needed to see the full empathetic capabilities of this method, first with strangers as the partner in the dyad experience, then in future studies even with parents, siblings, or caregivers to measure the effect on familial relations, empathetic understanding, and attunement.

**Polyvagal Theory & DMT.** While Polyvagal Theory is a recent discovery, Dance/Movement Therapists have begun integrating it into the field. Current use of this theory seems to have been devoted primarily to trauma theory, attachment (Gray, 2017), and investigating connections with the mirror neuron system (Homann, 2010). No research studies concerning DMT and Polyvagal Theory were found, quantitative or otherwise. Hopefully additional research will be conducted into triggering the ventral vagus branch as a method of calming adults with ASD and opening them to the idea of social interaction.

### **Discussion**

More research is needed to determine the best methods to use Dance/Movement Therapy with adults who are on the Spectrum. Additionally, more research about the therapeutic benefits of social ballroom by ballroom instructors might lend additional techniques to the field of Dance/Movement Therapy. Additional areas of research which social ballroom uses, that the field of Dance/Movement Therapy could benefit from, include the study of which rhythms appeal to this population, what those rhythms can evoke in terms of increased attention or perception of rhythm and overall musicality.

### **Conclusion**

People with Autism face many challenges in society. As young adults with Autism leave the high school setting, parents and students may be shocked by the decrease in resources and services as well as the disparity between their vision of life after school and what they were actually prepared for. As adults with Autism grow older, they and their parents can begin to worry about support networks dwindling after the parents have passed. For these reasons and more it is essential to develop skills and create opportunities where the adult may be exposed to people with similar interests, who may become friends in the future.

While the field of Dance/Movement Therapy has done much to aid people with Autism over the years, their primary focus is on early intervention work with very young and then school age children. While this early intervention work has principles and structure of ideas to work toward, Dance/Movement Therapy is just now attempting to create structure within group settings for teens and adults with ASD. Utilizing the rigidity found in so many with ASD is important to attune to them and create a safe space for them to grow in session. It will be interesting to see how Polyvagal Theory and elements of social ballroom dancing could benefit

this population. Further research is required, but the connections discussed here sound promising.

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***THESIS APPROVAL FORM***

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**Student's Name:** \_\_\_\_\_ Stacey Crimans\_\_\_\_\_

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In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

**Thesis Advisor:** \_\_\_\_\_Michelle Napoli\_\_\_\_\_