Effects of dance movement therapy on children with autism spectrum disorder

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Osijek, 2021.

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Poslijediplomski specijalistički studij kreativne terapije,

Smjer terapija pokretom i plesom

Antonija Blažević

UČINAK TERAPIJE POKRETOM I PLESOM KOD DJECE U AUTISTIČNOM SPEKTRU

Završni rad poslijediplomskog specijalističkog studija

Osijek, 2021.

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Effects of dance movement therapy on children with autism spectrum disorder

ABSTRACT

This case study will present the effectivnes of dance movement therapy on the development of communication, reduction of self-aggressive behaviour and improving eye contact in children with autism spectrum disorder (ASD). ASD is a very complex neurodevelopmental disorder that covers all aspects of child's personality (communication, motor skills, behavior and learning), starting at early childhood usualy in the first three years and lasts for a lifetime. People with autism have trouble understanding what other people think and feel. This makes it hard for them to express themselves, either with words or through gestures, facial expressions, and touch. The number of children diagnosed with ASD is increasing 1 in 150 newborns, and the fact that every 21 minutes in the world a baby is born who will be diagnosed with some of the autism spectrum disorders.

The American Association of Dance Therapists - ADTA defines dance therapy as the application of movement and dance in the creative process with the aim of stimulating the emotional, cognitive, social and physical integration of the individual. Because dance movement therapy is based on a non-verbal communication it is a successful therapeutic modality for children in autism spectrum disorder whose behavior is non verbal, therefore they can express themselves easely on a non verbal level through dance and movement.

The study was conducted in the form of a case study with an autistic girl after attending 30 sessions leaded by a dance movement therapy student. An autistic girl is completely non-verbal with a pronounced autoaggression. Body movements are predominantly with the hands and always in the same place in space. Although she makes eye contact, in sessions she is made only through mirrors. The sessions were held once a week with various movement and dance therapy techniques. The results of this study showed the positive effects of dance movement therapy on the development of communication and the reduction of autoaggression in a girl with autism spectrum disorder. Eye contact was made without the use of a mirror. There has also been a slight shift in verbal communication. Autoaggression has been reduced but is still present. Full body mobility was achieved and the girl became aware of the sense of space in which the sessions took place.

Keywords: *autism, dance movement therapy, children*

Učinak terapije pokretom i plesom kod djece u autističnom spektru

SAŽETAK

Ova studija slučaja predstavit će učinak terapije pokretom i plesom na razvoj komunikacije, smanjenje autoagresije i uspostavljanje kontakta očima kod djece s poremećajima iz spektra autizma (ASD). ASD je vrlo složen neurorazvojni poremećaj koji pokriva sve aspekte djetetove ličnosti (komunikacija, motoričke sposobnosti, ponašanje i učenje), počevši od ranog djetinjstva uobičajeno u prve tri godine i traje čitav život. Osobe s autizmom imaju problema s razumijevanjem onoga što drugi ljudi misle i osjećaju. Zbog toga im je teško izraziti se riječima ili riječima, gestama, izrazima lica i dodirom. Broj djece s dijagnosticiranom ASD-om povećava se 1 na 150 novorođenčadi, a činjenica je da se na svijetu svakih 21 minuta rađa beba kojoj će biti dijagnosticiran neki od poremećaja iz autizam.

Američko udruženje plesnih terapeuta - ADTA definira plesnu terapiju kao primjenu pokreta i plesa u kreativnom procesu s ciljem poticanja emocionalne, kognitivne, socijalne i fizičke integracije pojedinca. Budući da je ples neverbalni način komunikacije, smatram odličnim izborom za djecu koja imaju poremećaj spektra autizma. Promatrajući njihove obrasce pokreta, oni ih se mogu vidjeti i razumjeti, te se na taj način potiču da se još više izraze plesom i pokretom.

Istraživanje je provedeno u obliku studije slučaja sa autističnom djevojčicom u trajanju od 30 seansi od strane studentice terapije pokretom i plesom. Autistična djevojčica je potpuno neverbalna sa izraženom autoagresijom. Pokreti tijela pretežno su sa rukama i uvijek na istom mjestu u prostoru. Iako ostvaruje kontakt očima, na seansama je on ostvaren samo preko ogledala. Seanse su se odvijale jednom tjedno uz razne tehnike terapije pokretom i plesom.

Rezultati ovoga istraživanja pokazali su pozitivan učinak terapije pokretom i plesom na razvoj komunikacije i smanjenje autoagresije kod djevojčice u autističnom spektru. Kontakt očima je ostvaren bez uporabe ogledala. Ujedno je ostvaren i mali pomak u verbalna komunikacija. Autoagresija je smanjena ali je još uvijek prisutna. Ostvarena je mobilnost cijelog tijela te je djevojčica osvjestila osjećaj prostora u kojemu su se izvodile seanse.

Ključne riječi: *autizam, terapija pokretom i plesom, djeca*

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1. INTRODUCTION

Movement is a fundamental fact of our existence, so much so that we lose awareness of its pervasive nature. We are always feeling, sensing, creating, connecting and transforming through movement. Breathing is a primary movement pattern of every individual. Upon birth, our first breath marks our entry into the world as a unique person. We are, by nature, social being. It is through the pattern of movement that we interact with others and express our individuality. Although we move as individuals, we also move together. Movement connects us all. The moving body is a foundation of human activity. In a world where technological advancement allows for instant global connections, we are becoming increasingly disembodied (Studd, 2013).

Being able to become aware of movement that is, to become aware of the body and bring it into harmony with the mind, is the essence of dance therapy. The body and the mind are inseparable. The basic premise of dance therapy is that body movement reflects inner emotional states and that change in movement behavior can lead to changes in the psyche, thus promoting health and growth. Helping individuals – those who are generally healthy as well as those who are emotionally or mentally disturbed, physically or mentally disabled – to regain a sense of wholeness by experiencing the fundamental unity of the body, mind and spirit is the ultimate goal of dance therapy (Levy, 1988).

Dance movement therapy (DMT) is creative therapy that uses various art forms for the purpose of therapeutic action, and offers a client the opportunity to find a new way of expression other than the verbal one. It is especially suitable for detecting the unconscious that lies behind the language. In DMT, the focus is not on the result, such as a choreography, but on the internal creative process aimed at new insights or behaviors.

The use of dance and movement as therapy goes back to early human history. Various cultures have used movement and dance in their rituals to achieve harmony of physical, emotional and mental health. Dance as a form of therapy strengthens positive mood, physical experience, interpersonal communication and reduces psychophysical tension. It has a positive effect on mental health, removes negative emotions, increases self-esteem and strengthens social skills.

According to Martha Grahm, “Movement never lies. It is a barometer telling the state of the soul's weather to all who can read it.”

Dance officially appeared as a therapy in the 1940s in the United States and Europe, but as a profession, dance movement psychotherapy was established in 1966 in the United States. The American Association of Dance Therapists (ADTA) defines dance therapy as the application of movement and dance in the creative process with the aim of stimulating the emotional, cognitive, social and physical integration of the individual (Levy, 1988).

The roots of dance therapy lie in modern dance of the 20th century. Almost all of the major dance therapy pioneers began their careers as accomplished modern dancers. It was their experiences as performers and teachers that lead them to realize the potential benefits of using dance and movement as a form of psychotherapy (Levy, 1988).

Marian Chase and Mary Whitehouse were among the pioneers of DMT. Both were professional dancers who noticed the therapeutic effects of dance on their students. In their work with dancers and later in collaboration with doctors and psychiatrists they began treating patients with mental illness and difficulties through the application of movement and dance.

Rudolf Laban also made a great contribution to dance movement therapy with his Laban Movement Analysis and Bartenieff fundamentals (LMA/BF). It is a comprehensive system for the observation and analysis of movement. His model consists of three observable categories shape, space and effort (Young & Wood, 2018).

- *Body shapes* - There are four basic body shapes: an arrow, a wall, a ball, and a screw. Body shapes can be static or they can change. Observation of body shapes is of great importance as it can let us know about emotional states, attitudes and energy capacities of a person.
- *Space* - There are different ways the body can move through space, whether it's forward, back, sideways, left-right, etc. It can also be observed whether a person uses a wide or narrow space for movement. An important component of motion observation is the kinesphere, or space around the body in which the extremities are at rest or moving.
- *Effort* - When people start their movement, their bodies move through space in the ways that offer significant qualitative differences that betray different personality types. These qualitative or dynamic aspects of movement, are described in terms of comfort. In this theory (Effort theory), there are four factors of movement: power, space, time and flow. Each of the four factors has two poles, so the polarities are:
  - power factors: strong and light,

- space: direct and indirect,
- time: fast and slow,
- flow: bound and free (Young & Wood, 2018).

Dance movement therapy can be used with people of different ages and different health conditions. It is used with children, adolescents, adults and seniors. Conducted in groups or individually, with couples or families. Due to its wide use, dance movement therapy is performed in hospitals, psychiatric institutions, schools, prisons, communities,... DMT is most often used for anxiety-depressive disorder, emotional and behavioral disorders (hyperactive, aggressive and withdrawn children), traumas (emotional and physical abuse), autism, neurological disorders (dementia, Parkinson's disease), addiction, eating disorders, oncological diseases. It is also used for the purpose of personal growth and development, in facilitating the learning process, building self-confidence and reducting stress.

Martinec (Martinec, Šiškov, Pinjatela, & Stijačić, 2014) say that dance movement therapy has a positive effect in the area of incentives positive mood, physical experience, interpersonal communication and reduction of psychophysical tension. In this sense, dance movement therapy could be considered as one of the appropriate methods in the process of conceiving holistic and interdisciplinary approaches in therapy a person with depressive but also other mental disorders.

Dieterich-Hartwell (Dieterich-Hartwell, 2016) in her work focus on the phenomenon of interoception in the recovery process from trauma and present a dance movement therapy application model that is grounded in empirical findings. In three steps, safety, regulating hyperarousal, and attending to interoception, she offer practical suggestions and guidelines for the treatment of trauma survivors in the beginning stage of their recovery.

Milliken (Milliken, 2010) considers that dance movement therapy group in a jail addictions program offers a mind body approach in dealing with issues and behaviors associated with addiction, including violence, trauma, and shame. For inmates in a jail addictions program, this creative arts therapy approach offers specific, anecdotal benefits that warrant further qualitative research in particular, research on potential longterm impacts, such as reducing recidivism rates. Experiential and physical paradigms not only help participants integrate what is being learned but also help them practice alternative behaviors (safely) in response to intolerable feelings.

What makes dance movement therapy different from other therapies is the use of body through a creative way of establishing a balance between body and mind. There is no mental condition that does not reflect on the body, just as there is no physical condition that does not affect the mind. Through the unity of the body, mind, and spirit, DMT provides a sense of wholeness to all individuals. The body refers to the "discharging of energy through muscular-skeletal responses to stimuli received by the brain." The mind refers to "mental activities...such as memory, imagery, perception, attention, evaluation, reasoning and decision making." The spirit refers to the "subjectively experienced state of feeling in engaging in or empathically observing dancing (Hanna, 2007).

Depending on the defined specific problem area, client motivation and structure of the therapy session, in within the therapeutic process following can be combined techniques:

Imitation - simultaneous physical imitation (reflection) of forms and elements so that the observer (therapist) enters into harmony with feelings and patterns of movement of a person in motion (client), through kinesthetic empathy.

Mirrorring - in mirroring, the therapist embodies the shapes and quality of movement, creating a mirror image of movement, and thus connecting with the emotional and motor underlying the client's movements. At the expressive level, the observer (therapist) can change, exaggerate or diminish some features of movement, but the general feeling and style of movement still remains present. Marian Chace describes empathic mirroring coming from her own intuitive experience of reflecting her patients in her intent to get into their world. Communication was her goal. She let them know that she was available and interested in their feelings, movements and thoughts. By making the spontaneous movements of the patients her own, acceptance showed in her body (Chaiklin & Wengrower, 2009).

Body symbolization - the use of specific positions, gestures, facial expressions and movements characteristic of experiencing and expressing one's own emotional states. Body symbolization allows a person to gain insight into physiological changes, motor patterns, posture, and bodily expression associated with a certain emotional and traumatic experience.

Motion research - refers to the analysis of the ways in which a particular movement, or series of movements, are associated with one's own feelings, associations, and memories. It can be used experimenting with a single movement in a resting position, repeating the movement, or by playing with elements of effort related to dynamics, time, space, weight and course.

Authentic movenent – Mary Whitehouse was developing n approach that wa based on Jung's active imgination. Sometimes called Authentic movenent or Movement in depth. (Chodorow, 1991) The use of free spontaneous movements. Impulse for the use of original movements arises from the needs of certain parts of the body, intrinsic motivation and the symbolic content of the emotional experience. The purpose of these movements is grounded on imagination and improvisation, creative liberation and self-expression (Martinec, Šiškov, Pinjatela, & Stijačić, 2014).

In addition to all of the above, kinesthetic empathy is an important starting point for achieving a successful therapeutic relationship with the client. Empathy is the ability of one person to understand another. It is a way to gain insight into inner life of other person, to understand what that person is feeling and how to approach and build a relationship. A successful therapeutic relationship is achieved with this approach through non-verbal communication, bodily movement and verbal expression. Using kinesthetic empathy, the dance therapist allows the client to self-develop when the process is blocked and interrupted. Being with the client „here and now“, connecting through movement in the present moment strengthens the therapist-client relationship. For successful therapeutic relationship it is necessary to have unconditional positive attitude, empathy and balance between internal processes and external behavior (Chaiklin & Wengrower, 2009).

The use of dance movement therapy with children is a creative form for self/expression, awareness of one’s body and creating a positive image of the body. It helps the child to express their emotions, to achieve or improve self-control and to strengthen their self-confidence. Dance allows the child to organize their thoughts and feelings through movement. Using verbal and nonverbal communication in dance it is easy to connect with the child and gain their trust.

But what if you work with a child in the autism spectrum who has communication and understanding problems. What if the child is living in their own world, as they are often described. Most of these children have problems with the expression and interpretation of verbal and gestural language, which can lead to unwillingness to share experiences. These problems, coupled with apparent inflexibility of thought, tend to result in a lack of understanding of the intentions and motivation of others as well as difficulties creating imaginary situations (Keay-Bright, 2006). Children on the autistic spectrum enjoy engaging in repetitive actions because of the opportunities this gives them to predict and potentially

control their environment (Jordan, 2003). They can spend hours engaged in monotonous and repetitive and it is difficult for others to involve them in more meaningful activities.

Moving with the child has been a well-established technique of DMT, the therapist reflecting the child's movement by shadowing, echoing, mirroring (Payen, 1992).

Dance is available to everyone, free from extreme physical demands or conflicts professional and amateur. Creative self-expression through dance is not an area reserved only for professional dancers. The pleasure that comes from dancing and personal movement is the only one criterion, not physical achievement and technical perfection (Škrbina, 2013).

In this sense, the purpose of this paper is to present the effectiveness of dance movement therapy on the development of communication, reduction of self-aggressive behaviour and improving eye contact in children with autism spectrum disorder.

2. THEORETICAL BACKGROUND

In 1943, an American child psychiatrist, Leo Kanner from the Johns Hopkins Clinic in Baltimore, described eleven children who appeared to be physically healthy but exhibited severe interference with communication and speech. The newly described disorder has been called infantile autism, infantile because it occurs at an early age of the child, and autism because the child has no communication with the environment. When he first described infantile autism and singled it out from the group of childhood mental disorders as a special phenomenon, he cited an emotionally cold mother who does not accept her child or accepts it inadequately as the causes.

Today, it is well known that the disorder is genetically conditioned by environmental factors. The disorder later appeared under names such as autistic disorder, autistic syndrome, Kanner's disorder, early childhood psychosis. Autistic disorder and similar disorders are classified as pervasive developmental disorders or autism spectrum disorders. Pervasive Developmental Disorders (PDDs) are a large and etiologically diverse group of cognitive and behavioral disorders that occur in early childhood (Bujas Petković & Frey Škrinjar, 2010).

Large number of professionals classify these disorders as disorders of the autistic spectrum due to common symptoms. There are five types of disorders in the autism spectrum disorder:

- Autism disorder
- Childhood disintegrative disorder,
- Rett disorder,
- Non-specific developmental-pervasive disorder, and
- Asperger's disorder.

Autism is the most common autism spectrum disorder. The differences appear before age three. The American Psychiatric Association’s Diagnostic and Statistical Manual, Fifth Edition (DSM-5) provides standardized criteria to help diagnose ASD. [1] For a diagnosis of autism, a child must have a specified number of symptoms in these areas:

- social interaction, including difficulties to build strong effective social-emotional bonds
- communication (including language delay)

- restricted range of behaviors, activities and interests (often called stereotypic behaviors)

The word autism comes from the Greek word „authos" which means alone. That term was introduced into psychiatry by the Swiss psychiatrist E. Bleuler. The definition of L. Bender that is still relevant today is: Autism is characteristic altered behavior in all areas of the central nervous system (CNS) - motor, perceptual, intellectual, emotional and social (Nikolić, 2010).

Autistic spectrum disorder (ASD) is described as one of the most serious pervasive developmental disorders in which all psychological functions are disturbed: emotional, social, motor and cognitive. Although it is evidently an organic disorder in most autistic children, its etiology is still unknown. It is probable that a variety of risk factors cause the different clinical pictures. People with autism have trouble understanding what other people think and feel. This makes it hard for them to express themselves, either with words or through gestures, facial expressions, and touch. The number of children diagnosed with ASD is increasing, 1 in 150 newborns, and the fact that every 21 minutes in the world a baby is born who will be diagnosed with some of the autism spectrum disorders (Bujas Petković & Frey Škrinjar, 2010).

The causes of autism are still unknown. There is no cure for autism. Only undesirable symptoms of autism can be treated, such as aggression, self-aggression, psychomotor restlessness.

Individuals with autism share three main areas of difficulty but the condition may affect people in very different ways. Some people on the autism spectrum need constant care while others can live a daily life. Individuals diagnosed with ASD manifest 'the triad of impairments' as outlined by the world health organization (Dubowski & Evan, 2001).

These are:

- Difficulty with social communication,
- Difficulty with social interaction and
- Difficulty with social imagination.

People who have ASD are generally limited in their perception of, and response to, the emotions of others. They may be unaware of, and find it difficult to control their own behavior which may not always fit with social norms (Dubowski & Evan, 2001).

Michel Rutter (Rutter, 1978), one of the world-renowned experts in the field of child psychosis, especially childhood autism, cites the following symptoms for autistic disorder:

- impaired social contact with many characteristics that deviate from the child's intellectual functioning,
- delayed and altered language and speech development; numerous specifics, which are less developed than the general intellectual level,
- insistence on uniformity and stereotypes, abnormal preoccupations and resistance to change (the child turns objects in his hands, swings, constantly arranges things in an imaginary order ...).

Children with autism see, hear, touch ... but they can hardly put those impressions together into a meaningful whole. So they retreat into their own world where they find security. An autistic child at the earliest age may show the first non-specific symptoms, which are sleep and eating disorders, prolonged unreasonable crying, expressed fear without a valid reason (Nikolić, 2010). For example, some children want to eat only certain foods or foods of a certain color. Some can enter a room outside the home (a classroom, dance gym) only if they are the first in that space. Then, most autistic children are very restless and constantly in some movement, which is most often manifested through some stereotypical movements such as swinging or rocking in a seat, clapping hands, uncoordinated hand movements while running and so. They often have atypical and unusual reactions to certain situations such as uncontrolled screaming as a sign of happiness and contentment. They are disturbed by loud music, but if they listen to a certain song it can be extremely loud. They often dislike physical touch and can be aggressive towards themselves and others. Often using monotonous and repetitive activity's they becomes upset, resists and resents if they are interrupted or hindered in performing these actions. These are just some of the peculiarities observed in the behavior of autistic children, whose spectrum of specificity and no specificity is much wider.

Encouraging normal development, independence and socialization, along with the weakening of negative forms of behavior (aggression, stereotypes, self - aggression) are the main goals of treatment, upbringing and education, i.e. the overall rehabilitation of a person with autism (Nikolić, 2010).

An autistic child in effect "creates" an autistic family, a family that is isolated and reclusive because it is focused on taking care of the child, but also because of the inability of the child to behave appropriately in other settings. Many factors play a negative role in the

external traits of autistic syndrome, which, in addition to verbal and nonverbal communication disorders, continue with pronounced behavioral disorders, aggression and self-aggression, destructiveness and more. With the development of the disease and insufficient stimulation of the child, as well as inadequate therapeutic and educational approaches, the intellectual functions and the person as a whole fail (Bujs Petković, 1995).

All of this can be prevented or at least mitigated by adequate therapy which is invaluable for the autistic child and his family. The most effective procedures and treatments are individually tailored to the child. It is important that they are implemented continuously, in the long-term and consistently. An autistic child, especially one with good intellectual abilities, can gain extensive knowledge and skills, and achieve good socialization. In addition to therapy, the participation of the whole family is important for the success of the child. A prerequisite for a successful treatment is certainly the creation of solid emotional connections and trust between the child and the therapist. Method modifications are based on the fact that if the responses of the environment are pleasant, the behavior will continue, and if they are repulsive, the behavior will change or adapt to the situation. This method seeks to maintain desirable behavior and remove undesirable behavior.

By using the body-mind connection and nonverbal communication, dance movement therapists can be effective in working with this population in ways that traditional forms of talk therapies cannot. DMT incorporates present moment movement in the body to provide connection and to promote growth and healing in the mind.

Levy (Levy, 1988) says that dance/movement therapists' approaches to working with autistic children vary but all agree that there is a "need to reach these children at their own developmental level, that is the primitive sensory-motor level". She cites mirroring as one technique commonly used which "leads to the development of trust and the formation of a relationship between therapist and child". Levy summarizes the goals for dance/movement therapists working with children with autism as "establishing contact, trust and rapport," as well as using touch to "define body boundaries," and finally reflecting the "movements, rhythms, and feelings of the autistic child".

The Ways of Seeing approach is a psychotherapeutic, dance/movement therapy technique that utilizes nonverbal movement analysis, dance, movement, and play for the purposes of assessment and intervention for the development of relationship (Tortora S. , 2006). Developed by Suzi Tortora, a dance/movement therapist, the approach to therapy uses

“implicit ways of knowing, nonverbal exchange and body movement-oriented experiences as primary modes to gather information and communicate” (Tortora S. , 2006).

The exploration is made through a four-part process:

1. Dynamic process I: Establishing Rapport and Trust: analyzing nonverbal movements, exploring multisensory experiences and educating parents to become aware of the impact of nonverbal behaviors. Especially when children can’t use words to express themselves due to their age, developmental issues or lack of emotional awareness.
2. Dynamic process II: Expressing Feelings: multisensory dance and play dynamics appropriate to the children’s level of understanding.
3. Dynamic process III: Building Skills: adding physical and cognitive skill development into the social-emotional relationship: increasing body coordination and balance, motor milestones, acquiring language and cognitive skills (equilibrium, execution of actions and planning sequences (this is mine))
4. Dynamic process IV: Healing Dance: moving one’s body for the pleasure of expression can be calming, energizing and organizing (Tortora S. , 2006).

Veronica Sherborne (Sherborne, 1990) has described developmental movement ideas that enable children, and careers, to develop relationships through physical play. Developmental movement has a crucial role to play in the lives of all children. Relating to oneself and relating to other people are essential for the satisfactory development of all of us. Developmental movement can be particularly beneficial to children with learning disabilities, children with physical disabilities and children who are emotionally and behaviorally disturbed. There is a relationship between the physical, emotional and social development of the child. The contact between the adult and the child can vary from a nurturing care of, to a challenge to initiatives in the child, until an agreement with the adult.

The things every child with autism wishes you knew:

1. *See me for who I am* - There is only one of me, just like there is only one of you in the world. Like you, I have lots of different skills and abilities as well as things I find difficult. Just because I have autism doesn’t mean I am the same as everyone else with autism. Love and acceptance from family, friends and everyone around me is the best way to help me to grow and thrive.

2. *I hear, see and feel the world differently to you* - I find some noises, smells, tastes or lights stressful, frightening or even physically painful. Touch can overwhelm me and I might not like hugs. But I can experience details that you might miss – that I can enjoy and find funny or exciting – so come and share these things with me. Read some of the books written by people with autism to learn more about how the world can feel.
3. *I want friends, just like everyone else* - But my social behavior might seem different from other people. For me, communication and interaction do not take place just through words. Some children with autism don't use spoken language and communicate in non-verbal ways. This can include taking your hand to the object I want, or looking at something of interest – so watch me and learn my language.
4. *My behavior is my way of communicating* - If I can't talk or express my thoughts and feelings I can become very frustrated, sad and angry. People see my behavior as difficult, naughty or deliberately challenging – but it's likely to be my way of communicating. Don't exacerbate these outbursts, help me say what I want to.
5. *Interact with me in ways I can understand* - low down and give me time. Be clear about what you say, and give me the chance to react – it takes up to 10-15 seconds for me to process what you say. Get to know my interests and my ways of communicating. And let my interests inspire your communication with me. Don't try to take over or control our interaction. Give me space and time to respond. When you learn to listen with all your senses you'll realize how much I have to say.
6. *I live in the here and now* - I don't always understand the bigger picture so understanding things in context may be difficult for me. Show me pictures and let me know what to expect and I can join in so much more easily.
7. *I am anxious and worry a lot* - This is because I have difficulties understanding the world and communicating my thoughts and needs. The way I see, hear or feel the world can be painful, and the world can be a frightening and confusing place for me. When something happens or changes suddenly, I may panic. People might think I'm being silly but I am really terrified.
8. *Routine is really important to me* - Because it makes me feel safe and helps me to cope. That doesn't mean I don't want to experience new things. I just need more support to join in with the world. If you help me, I can find activities and sports that I will enjoy and you can enjoy with me. Find out what helps to calm me. If I am less anxious I can cope with more.

9. *I need your help to access the world and learn* - Every child with autism can learn. You just need to take time to understand how I make sense of the world and make learning relevant to me. Everyone learns in different ways. I might need to move more and use visual resources but I love to achieve and learn – it's a great way to help me feel more confident.
10. *Think about what I can do, not what I can't* - I am a clever, sociable, whole person. I may be more interested in certain specific subjects and pick up on the detail more, but this is my interest. My brother may spend hours watching and playing football, my friend might like aliens, and I like talking about my videos and finding out people's names. Love me and work with me and enjoy what I bring to the world. [2]

Koch, Mehl and Sobanski (Koch, Mehl, & Sobanski, 2014) concluded that dance movement therapy based mirroring approach seemed to address more primary developmental aspects of autism than the presently prevailing theory of mind approach. Results suggest that dance movement therapy can be an effective and feasible therapy approach for autism spectrum disorder.

The rising number of Autism Spectrum Disorder diagnoses, in addition to the ability to recognize the disorder early, has led to much interest in early intervention tools. Dance/movement therapy might be applied to address the early developmental connections between social and communication challenges and early motor maturation in young children diagnosed with ASDs (Martin, 2014).

Dance therapy involves communication through body movement. It accompanies verbal communication, and since it exists in the absence of speech, is an effective therapeutic intervention for children with autism (Freundlich, Pike, & Schwartz, 2013).

3. METHODS

The method used for this final/specialist paper is a case study. Case study method enables a researcher to closely examine the data within a specific context. In most cases, a case study method selects a small geographical area or a very limited number of individuals as the subjects of study. Case studies, in their true essence, explore and investigate contemporary real-life phenomenon through detailed contextual analysis of a limited number of events or conditions, and their relationships (Zainal, 2007). Case study method enables a researcher to closely examine the data within a specific context. In most cases, a case study method selects a small geographical area or a very limited number of individuals as the subjects of study. Case studies, in their true essence, explore and investigate contemporary real-life phenomenon through detailed contextual analysis of a limited number of events or conditions, and their relationships (Zainal, 2007).

Yin (Yin, 1984) defines the case study research method "as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used."

Case study involves exploring a particular situation, describing and explaining findings (Newby, 2010), and presenting a reality which communicates the researcher's learning and a sense of understanding with their audience or readership (Cohen, Mnion, & Morrison, 2011).

There are several categories of case study. Yin (Yin, 1984) notes three categories:

- Exploratory,
- Descriptive and
- Explanatory case studies.

First, exploratory case studies set to explore any phenomenon in the data which serves as a point of interest to the researcher.

Second, descriptive case studies set to describe the natural phenomena which occur within the data in question, for instance, what different strategies are used by a reader and how the reader uses them. The goal set by the researcher is to describe the data as they occur.

Third, explanatory case studies examine the data closely both at a surface and deep level in order to explain the phenomena in the data.

Possible methods of data collection in the case study are: questionnaire, interview, observation and documentation analysis.

3.1. Study design

This case study was conducted as descriptive case study with an autistic girl. The girl was 5 years old when the study began. She lives in a family with her parents and an older brother (9 years old). She regularly attends daycare with peers who are not in the autistic spectrum. She also attends various therapies such as neurofeedback, occupational therapy, speech therapy and therapeutic horse riding. She is included in a dance class with a group of children in a dance studio. Parents are actively and carefully involved in all her therapies.

She is non-verbal, communicates only by hand movements and symbolic cards showing here needs. She displays pronounced self-aggression in moments of discontent. She has firm body movements that are predominantly in the arms. She is able to make eye contact with people whom she knows well, but in the beginning of the research the eye contact with dance movement therapist in training was only through the mirror. She understands directions, loves being in the environment with children and loves listening to recitals.

This case study was based on 30 therapy sessions conducted in the period between September 2018. And July 2019. The sessions took place in dance gym, once a week and lasted between 30 and 45 minutes.

The first assessment was made during observation in dance class with peers who are not on the autism spectrum. At the dance class, the girl had an assistant who encouraged her to perform activities and helped with them. She would spend most of her time with the assistant in the corner of the gym or in front of the mirror. She expresses a desire to interact with other children with loud screams and observes most of the exercises, sometimes trying to imitate other children on her own. The assistant would often encourage her to exercise and interact but she would mostly refuse. She expresses her dissatisfaction through self-aggression by hitting herself hard on the chest with fist. She communicates with the environment with hand movements and learned gestures and signs, for example if she is thirsty she will point her hand to her mouth.

She has firm body movements, mostly in a standing position. The movements are mostly in her hands. She accepts touch, both from the assistant and the other children (holding hands, leaning back to back), but does not stay long in it. She does not respond to music whether it is loud or quiet, of various styles. Working with props (scarves, balloons, hats) she shows interest but only if she has it for herself.

Observations prior to the study itself were conducted several times and the research was conducted in the same space where the dance class took place. Throughout the entire study, she participated in dance classes two times a week and once a week in dance movement therapy. She was mostly brought to the sessions by her mother, who is interested, friendly and outgoing.

A mitigating circumstance was that the girl was in the dance class before the start of the research; she spent full six months in the class and showed a certain security, relaxation and trust. That previous involvement of the girl in the dance class was a great advantage for subsequent individual and group observation of the child and an excellent starting point for forming a work plan and intervention.

After the observation, the goals of the research were set. The goal was to explore the effects of dance movement therapy with autistic children.

More specifically the aims were:

- to explore if dance movement therapy could reduce self-aggression in an autistic child
- to see if verbal communication in an autistic child can be improved using dance movement therapy
- to verify if the child could make eye contact outside the mirror after dance movement therapy interventions
- to observe if dance movement therapy helps an autistic child to use their whole body in the space

According to the set aims, the hypothesis was that: *dance movement therapy is an effective intervention in the treatment of children with autism.*

3.2. Procedure

Since the space where sessions took place was familiar to the autistic girl, there were no difficulties with entering the space and staying in it. The space was a large dance gym, with colorful walls and a mirror covering one entire wall. There were many props for practice and dance. The space is located at the end of a hallway and allows privacy for therapy sessions.

Various techniques were used during the DMT interventions, such as mirroring, imitation, polarities, use of props and use of voice as an extension of movement. Procedure of this case study and its time course is described in the table below.

	2018.				2019.						
	9	10	11	12	1	2	3	4	5	6	7
Phase 1: Initial observation of the child Initial interview with the mother and assistant											
Phase 2: Interventions Video register											
Phase 3: Final interview with the mother and assistant											
Phase 4: Data analysis											

Table 1. The course of case study.

3.3. Data collection and analysis

During the research the following instruments where used:

- interview with mother before and after the research,
- observation of an assistant from dance class in which the girl was involved for the duration of the study and
- observation diary of the therapist in training (author of this thesis).

I recorded sessions in the middle (16 sessions) and in the end (last session). The first session was not recorded due to technical problems. Data analysis was made by comparing videos from the middle and the end of the research, and a written diary from the introductory session. At the same time, interviews with the mother and the assistant that were done at the beginning and at the end of the research were compared.

As I gained deeper understanding of her movement experience, I began to comprehend what different gestures and movements possibly represented to her. It is worth noting that these representations are based on my assumptions because she could not verbally confirm my perceptions of her movement. However, knowing how she typically held herself provided me with a baseline in which to follow to better understand how she may be feeling during each session.

3.4. Description of interventions

3.4.1. Intervention 1: Mirroring

Mirroring is a technique often used in dance movement therapy and appears nearly in every session. In it, two people stand face to face with one person mirroring the other's movement. The effect is almost like one person is seeing themselves in a mirror, but instead they are seeing their movements done by another person (Payne, 2006). This process improves social understanding, trust and builds relationship between individuals and therapists.

Through a mirroring exercise, I established an opening routine with the girl. Opening ritual included standing side by side in front of the mirror and mirroring her through the mirror. This ritual consists of repeating various gestures with face and hands with a slight swing side by side. As soon as she entered the session, she would immediately stand in front

of the mirror and wait for me to join her. For this reason, it served as a baseline to start a session or to return to if she was not receptive or open to another intervention I tried.

This opening ritual provided a familiar starting point to help begin each session and comfort for her in knowing what to expect each week. There was also another benefit to developing a pattern to start each session with an opening ritual - it helped me find out in what condition she came to the session. The way she would go to the mirror and the way she would wait for me would reveal a lot about the situation before she arrived. If she got to the mirror quickly, stood still, I would know she wasn't in a good mood. When she approached the mirror and started the opening routine without me, she would show me that she wanted to come to session that day.

Using the technique of mirroring her movements in our opening ritual, we establish trust and strong relationship. It was extremely important to her that I mirror her. We made eye contact only through the mirror, but it was clear and direct. At the same time, she loved to observe herself and her movements in the mirror.

The opening ritual lasted from about 10 minutes to as much as 20 minutes. When I tried to finish the opening part and move on to the next intervention, she would express resentment through self-aggression. She expressed her anger and dissatisfaction with strong punches to the chest. She had to show when the opening part was over. Permission of the parents for using photos were obtained.

Picture 1. Opening routine in front of the mirror

The hand movements and gestures reminded me of a recitation of a children's song because they were rhythmically accentuated and accurate. In a conversation with her mother I established that it was a children's recitation from daycare. I noticed that she likes recitations

and songs showed with hands. She often played with her mother at home, but also with the daycare teacher.

In an attempt to add another recitation or poem she observes intently but refuses to participate. She always returns to one and the same recitation. This was a recitation she performed at a daycare event with her daycare teacher. As we always came back to that recitation I decided to stick to it. I find that she was extremely proud of it and that it gave her comfort and security. Reenactment of situations in which the child experiences success, and thus praise and approval from adults and other children, affects the development of self-confidence and a positive image in the child, but also their better acceptance among other children. Self-esteem is a potent indicator of mental health. Children and adolescents with autism spectrum disorder are at high risk for comorbid mental health problems, such as depression and anxiety (McCaule, 2019).

This was also her repetitive movement that is common in children on the autism spectrum. The categorization of repetitive behaviors is divided into two groups. So-called 'lower-order' repetitive behaviors are movements such as hand-flapping, fidgeting with objects or body rocking, and vocalizations such as grunting or repeating certain phrases. 'Higher-order' repetitive behaviors include autism traits such as routines and rituals, insistence on sameness and intense interests. Engaging in these behaviors provides comfort. But beyond that, repetitive behaviors may offer a way to calm their anxiety, generate or maintain awareness of their bodies, focus their concentration or deal with overwhelming sensations or emotions. They may also help autistic people communicate their mental or emotional state to others. The same behavior may serve different purposes in different people, or even in the same person at different times, depending on the situation or mood. [2] In this case it provided comfort.

Picture 2. An example of hand movements in opening ritual.

It was extremely difficult to move away from opening ritual and move to another intervention. When opening part lasted more than 15 minutes and when it seemed as if we were stuck in it, I offered her the same hand movements but with larger scale. She accepted increased movement and begun to combine hand movements with different magnitude of movement. Sometimes it seemed as if she couldn't stop the ritual on her own and start something else. She needed me to help and support her to stop. She would show satisfaction and playfulness and we started to use play in our dance movement therapy interventions.

3.4.2. Intervention 2: Establishing eye contact

Eye contact has a significant place in nonverbal communication behavior. It often means and indicates that people would like to communicate with other individuals. Also, eye contact is important in catching and responding to social cues from other people. [3]

However, one of the main signs and symptoms of autism spectrum disorder is that individuals generally avoid making eye contact. This behavior presents itself even when the individual is an infant. At early ages, they lack eye contact behavior.

Lack of eye contact does not have one single cause. There may be a lot of reasons why a child might not engage in eye contact. Autistic children may find more than one social stimulus overwhelming. They may not be able to focus both on spoken language and on other people's eyes at the same time. Children with autism may not understand the social cues from a person's eyes. They may not be able to understand that watching a person's eye may also provide information.

When given the chance, it is possible to interact and communicate with individuals with autism and establish eye contact without forcing them to make eye contact during their interactions. It is important to teach a new skill in small, manageable steps. Expectations should advance slowly based on the child's progress. Overwhelming the child into making eye contact at once would only bring about negative impact.

Eye contact can, therefore, be very intense and overwhelming in terms of sensory experience. They may feel overwhelmed and stressed, and avoid the practice.

The autistic girl makes eye contact with people she has known for a long time. At the beginning of the session, she makes eye contact with me only through a mirror. The eye

contact is direct and she can keep it for a long time. She also enjoys looking at herself in the mirror which includes direct eye contact with herself.

I always mirrored her in the introduction, but once, after a few sessions, I stopped in the middle of the ritual. She also stopped, made eye contact and expressed dissatisfaction through self-aggression. After that, I did not interrupt our opening ritual, but from that moment we established eye contact in every session. After establishing eye contact, the sessions continued in front of the mirror but now with a combination of direct eye contact and eye contact through mirror. Although we spent a lot of time in front of the mirror, until the end of the research and through it we had full and direct eye contact when we were in space. It signified an even greater connection and trust in our relationship.

3.4.3. Intervention 3: Play and playfulness

Play helps children develop gross and fine motor skills, language and communication skills, thinking and problem-solving skills, as well as social skills. Autism spectrum disorder can affect how play develops. Children with autism spectrum disorder enjoy playing, but they can find some types of play difficult. It's common for them to have very limited play, play with only a few toys, or play in a repetitive way. For example, a child might like spinning the wheels on a car and watching the wheels rotate, or might complete a puzzle in the same order every time. Simple games are a good way to build social interaction in play.

Winnicott suggested play was a way of reaching the authentic, creative, less-defended part of a person's personality, the "True" self, in terms of his True and False Self-distinction (Holinger, 2017).

Play is about what the player wants to do instead of what the player has to do. This means that play is an expression of freedom because the player is free to quit at any time (Gray, 2008). Play is an appropriate therapeutic mode because young children frequently have difficulty verbalizing their feelings. Through play, children may lower their barriers and better express their feelings. Additionally, play is an active process that may allow a child to play out stresses and trauma, and may eventually lead to a mastery over the stress or trauma (Mulherin, 2001).

Veronica Sherburne's developmental movement has a crucial role to play in the lives of all children. Central to her theory is the belief that relating to oneself and relating to other

people are essential for the satisfactory development of us all (Sherborne, 1990). Sherborne based her work on Development Movement approach mainly on Laban's theory and on her own experience from work with children with intellectual dysfunctions.

Due to all the above, and especially the impossibility of verbal communication, this intervention will build social interaction in play with others.

The opening routine was a great starting point. Because the routine was only in arms and gestures I slowly began to add leg movements. At first it was a small step forward or backward that she followed without noticing it. Over time, this turned into a chasing game, neglecting movements from our routine. It became a game following the leader, where the role of the leader alternated. Most of the time I would be the leader, but occasionally she knew how to take the initiative in the game.

We moved in space very directly, back and forth or from left to right. She would stand still, I would be the first to come to her and go back, after which she would do the same. She laughed out loud here and it was obvious she was having fun.

Since I knew from the interview with her mother that she liked to roll on the floor at home, I went down to the floor during this game and came to her rolling. She was thrilled, and after that this game took place exclusively on the floor. It didn't always involve rolling, sometimes we crawled to each other or we used duck walk.

Towards the end of study, our game spread throughout the space. We no longer moved only on direct paths. Moving through various indirect paths was on an unconscious level because she was focused on the game. If I invited her to come to me in the game by extending my hand, she would do so.

In this intervention, with occasional encouragement and motivation, she showed the highest level of involvement, as well as longer focus and attention than usual. This showed that intervention is extremely interesting and stimulating for her.

Over time, she stopped imitating my movements (how I get to her). She was relaxed and content, and had complete control of the game. It was extremely important to play this game, to move to each other and walk away. She used her whole body during the game as well as space and levels.

During the game, we made eye contact which we kept for a longer time. When she got tired of the game she would go to the mirror for our opening ritual. Sometimes we would

perform it in a sitting position only briefly. It was also an indication that we were done for that session.

3.4.4. Intervention 4: Voice - an extension of movement

Many autistic individuals have some difficulties or delays with communication and speech. But some people with autism may not speak at all.

The ability of children with ASD to communicate and use language depends on their intellectual and social development. Some children with ASD may not be able to communicate using speech or language, and some may have very limited speaking skills. Others may have rich vocabularies and be able to talk about specific subjects in great detail. Many have problems with the meaning and rhythm of words and sentences. They also may be unable to understand body language and the meanings of different vocal tones. Taken together, these difficulties affect the ability of children with ASD to interact with others, especially people their own age (Bujas Petković & Frey Škrinjar, 2010).

Adding a voice to a movement has the purpose of encouraging autistic child to speak and to express emotion. Gradually try to redirect the emotion of anger into voice instead of self-aggression.

Because she was nonverbal, I limited my use of speech to connect to her in a way that was familiar to her. I used simple sentences and gave her clear instructions.

As the opening ritual was a recitation I used it for adding voice to movement. At the end of each phrase I added voice as an extension of movement. For example, the long pronunciation of the vowel A included with a long hand movement. She expressed a desire to carry out the given instruction, but it all came down to opening here mouth without a voice coming out.

It wasn’t until I used the word mom in the recitation that she managed to add a long A to her movement. I tried to use other words but without success. The voice was heard only at the word mom. In conversation with her mother, I discovered that a long A sometimes means yes to her. I realized that it is her approval and satisfaction with our performance of the recitation, as well as her strong bond with her mother.

Then I started to use long A for communicating and understanding what suits her in sessions. Long A become yes. She also started to use this in dance class with other children. It was usually to a dance teacher and her assistant.

As we added voice to the movement, her focus was on observing herself in the mirror. Sometimes, on her own initiative, she would sit in front of the mirror and try to speak. It looked and sounded like a mumble. She performed various gestures with her mouth and face; sometimes she would look at me and mumble something shortly. According to her mother, she did this only in dance therapy and with her speech therapist. I often felt her sadness and helplessness then. Her desire to be able to speak and communicate in this way was obvious. We were unable to move beyond the letter A.

Picture 2. Attempt to pronounce vowels with movement.

3.4.5. Intervention 5: Use of props

Props are used primarily as a self-regulation tool for the child and occasionally as positive reinforcement for specific behaviors. Interactions with objects that offer repetition, pattern and similarity combined with colour and rhythm are regularly used by autistic children as methods to reduce anxiety (Keay-Bright, 2006).

In this research, the purpose of the props was to stimulate curiosity and use them for body awareness. Since she had firm body movements and mostly used her hands, I wanted to make her aware of other parts of her body. Using the props, I wanted her to tactilely experience her body.

In order to encourage full body awareness, I offered sensory objects with different textures and colors and engaged with her through these objects. Some of these objects

included balloons, scarves, various percussion instruments, yarn balls, a soft pillow ball, stress balls, art supplies, and stuffed toys, children's cloak, and so on.

When I put the box of props in front of her, she wouldn't even look at them. When I took them all out and put them on the floor, there was also no response. She paid no attention to the props, as they are invisible.

Since I had props such as rattles and bells, I would play with them and attract her attention. She would come to me and only then start researching the box. The first thing she took out was a scarf. She didn't keep her attention on the scarf for long, so I took another scarf and tried to encourage her to interact with me. She mirrored me in these movements. I tried to get her interested in other props from the box, but without success.

Then I reached for bigger props, such as a Pilates ball. We managed to perform various exercises with the ball. She showed great balance and dexterity. Some of the exercises we performed were rolling the ball on the floor with one or both hands, rolling on the ball, sitting on the ball without touching the floor, lying on the ball without touching the floor, pushing the ball on the floor with your head. She performed most of the exercises with assistance.

She had difficulty jumping with both legs and from one leg to another, so I used folding mats to encourage her to jump. I would place the mats around the space as a polygon and pass it with her. She would only jump if I held her hand. She needed support and security to jump. She did not like to perform this intervention but did not express self-aggression and resistance during the performance.

3.4.6. Intervention 6: Polarities

Influenced by Jungian Theory, Whitehouse put great stress on polarity and its effect on the mind and body. She reports that things are never black and white in life and the decisions we do not make will stay in our unconscious mind and pull us in different directions (Levy, 1988). Applied physically, it is astonishing that no action can be accomplished without the operation of two sets of muscles – one contracting and one extending. This is the presence of polarity inherent in the pattern of movement (Whitehouse, 1797).

We achieved polarities through the "stop and go" game. Because she was involved in a dance class with other children, the game was familiar to her. She did not participate in the game at the dance class, she watched the other children without involvement.

Since this dance class game included a musical background, when I played the music I got her attention immediately. During one part of the song, one should stand still in space, while during the other part of the song, one should move. Therefore, the first polarity was standing still or walking. After that, we gradually added various other polarities that would alternate with the musical background. Some of the polarities we used were moving up and down, moving only arms (upper body) and moving only legs (lower body), wide and narrow on the floor.

There could be only one polarity in a song. Sometimes we would repeat a song several times during the same session to pass several polarities, which was not a problem for her. Performing this intervention was reduced to imitating and following my movements. I find that there was no conscious level of task performance. Although she only followed me in movement, I think it is of great importance that she went through the movements with her body.

In the dance class, we also used the game musical statues in which you have to dance when you hear the music, and when the music stops, you have to freeze. She participated in this game with other children, but at the time I thought she was imitating them. When I tried the game at the session, she immediately recognized what was needed and played the game in front of the mirror by herself. She was enjoying herself and was happy. She would often let out loud screams and a long aaaa if the part where there was no music lasted longer. The parts of the game where you have to dance to the music were reduced to light swings side by side, but constantly in movement.

We managed to run these games in the middle of the space. Although she would often go to the mirror, I managed to bring her back into space.

3.4.7. Intervention 7: Reduce of self-aggression

Children with autism spectrum disorder don’t necessarily express anger, fear, anxiety or frustration in the same way as other children. They can sometimes express these feelings through aggressive behavior towards other children. Sometimes they are aggressive towards

themselves, they show self-aggression. They might hit, kick, throw objects or hurt themselves, for example by head-banging, pinching, plucking and so.

Children with ASD might behave aggressively or hurt themselves because they:

- have trouble understanding what's happening around them (for example, what other people are saying or communicating non-verbally)
- cannot communicate their own wants and needs (for example, they cannot express that they dont want to do an activity or that they want a particular object)
- are very anxious and tense
- have sensory sensitivities, like an oversensitivity to noise or a need for stimulation

want to escape from stressful situations or activities. [4]

Understanding what causes a child's self-injurious and aggressive behavior can help to change or reduce the behavior. There are „triggers" for the aggressive or self-aggressive behavior. By understanding them, we can prevent the behavior by avoiding situations that trigger it and teach a child to express needs in a more positive way.

It has already been mentioned that the girl in this case study expresses dissatisfaction and anger through self-aggression, with a strong punch to the chest. Sometimes it would be in response NO to the demands placed on her, but sometimes it would be an expression of helplessness. To redirect her aggression to the outside, I tried several interventions.

The first intervention was to redirect the punch from herself to some object, such as a pillow or mat. If she was in that condition, I would offer her a pillow, but that would result in even more aggression. Sometimes she would take a pillow and throw it on the floor, but even then the aggression would not diminish. I tried to mirror her by reducing the intensity of the punches and the speed. But it upset her even more. In those moments I would go to the mirror and start performing our opening routine, where she would join me and calm down. Opening routine was a safe place to always come back to in moments of frustration and negative tension.

In a conversation with her mother, she said that at home they solve self-aggression by ignoring and reward her when she expresses things in a more positive way. But she also revealed that this was not always a successful method.

4. RESULTS AND DISCUSSION

First analyzed data related to establishing eye contact with an autistic girl outside the mirror. During the first session the girl made eye contact with the therapist in training only through the mirror, and the data showed that eye contact was made in middle as well as in the last session. In the first interview, the mother said she could make eye contact only with people she felt safe and relaxed. The assistant also stated that she initially had difficulty making eye contact, but over time she gained the girl's trust and managed to make it happen.

According to this we can conclud that time and trust are really important for establishing eye contact (Hannah, 2001). Eye contact is a non - verbal skill that many children with autistic spectrum disorders do not develop naturally . In fact , children with autism may feel uncomfortable looking directly at you or not understanding how hard they are supposed to look, so care should be taken to build the skill gradually (Hannah, 2001).

By reviewing and analyzing the data related to the awareness of the whole body and space, a gradual increase was spotted. As Keay-Bright (Keay-Bright, 2006) explains, interactions with objects that offer repetition, pattern and similarity combined with colour and rhythm are regularly used by autistic children as methods to reduce anxiety. We can conclude that the use of props reduces anxiety and thus allows an autistic child to become more aware of his body (Keay-Bright, 2006). Also Siri and Lyons mention that by reflecting a child's movement nonverbally and then translating what is seen into simple language the dance movement therapist positively verbalizes how a child appears, inherently improving his/hers body awarenes or body image (Siri & Lyons, 2012).

The diary from the first session shows that the girl spent the entire session in front of the mirror. She used only her upper body, which was in an upright position. The hand movements were small with a slight swing from left to right. In the middle of the session, she uses the whole body in interventions that do not involve a mirror. This also includes the uses of space. At the same time, she would return to the mirror when she was not in the mood for interventions. At the beginning and end of the middle sessions, she returns to the mirror to the established pattern of behavior – opening ritual. In the final session, the opening ritual is still in front of the mirror, while all other interventions are in space. She fully uses the whole body. In addition to space, she uses both low and high levels. Although she uses her whole body, the movements are tiny and sustained. In the final interview, the mother described several movements she had not done at home before the research, and which she now began

to perform. At home, she would perform exercises with a scarf and a Pilates ball. The assistant didn't notice a greater awareness of the body, but she noticed a shift in the use of space. She would use the space on her own initiative.

Analysis of the data related to encourage verbal communication showed no major shift. A small shift in verbal communication was achieved at a later session. It refers to adding a voice to a movement, by pronouncing a long letter A. No mumbling was recorded in the last session but I consider it important to mention. According to written diaries of the therapist in training, in the last phase of the research, the girl mumbled in front of the mirror, observing herself. The mother indicated that she only murmured in therapy with her speech therapist. She didn't hear her that was what the speech therapist told her. Assistant did not notice the murmur.

Although there were no major changes in encouraging verbal communication, communication was achieved at another level. According to Marian Chace empathic mirroring coming from her own intuitive experience of reflecting her patients in her intent to get into their world. Communication was her goal. She let them know that she was available and interested in their feelings, movements and thoughts (Chaiklin & Wengrower, 2009).

The last data analysis referred to the reduction of self-aggression. In the first session, self-aggression was expressed by punching a fist on the chest. She would express aggression towards herself in situations when she did not want to do something - it was her answer "NO". Observation of the middle session shows that self-aggression was still present in the same intensity. The last session showed reduced self-aggression. Although the results show a decrease in aggression in the last session, it should be emphasized that this is due to the good relationship between the girl and the therapist and because of familiarity with the girl's pattern of behavior and the therapist's ability to predict situations which cause discomfort to the girl. It can be concluded that aggression is avoided by avoiding negative states. The mother and the assistant did not notice a reduction or absence of self-aggression it is still present.

Nikolić explains that encouraging normal development, independence and socialization, along with the weakening of negative forms of behavior (aggression, stereotypes, self - aggression) are the main goals of treatment, upbringing and education, i.e. the overall rehabilitation of a person with autism (Nikolić, 2010). Given this implementation

of dance movement therapy over a longer period of time would have a greater impact on the reduction of self-aggression in this case study.

	Changes after the research		
Themes:	**Mother**	**Assistant**	**Therapist in training**
Eye contact	Achieves eye contact before research.	Achieves eye contact before research.	Eye contact has been successfully achieved.
Body and space awareness	Notices new movements at home.	Did not notice a greater awareness of the body, but she noticed a shift in the use of space.	Shift in body and space awareness has been achieved.
Verbal communication	Did not notice improvement.	Did not notice improvement.	Small shift in verbal communication.
Reduce of self – aggression	Did not notice reduction or absence of self–aggression.	Did not notice a reduction or absence of self–aggression	A small shift in reduction self–aggression.

Table 2. Data analysi

5. CONCLUSION

The purpose of this study was to explore the effects of dance movement therapy with autistic children. The study is based on dance movement therapy sessions with an autistic 5-year-old girl. I documented our interactions over a period of 30 sessions using video, observation diary and interviews with the mother and the assistant. The research questions this study set out to answer were:

a) Is it possible to make eye contact with an autistic girl outside the mirror after dance movement therapy interventions?

b) Can verbal communication be improved using DMT aproach?

c) How do dance movement therapy interventions affect body and space awareness?

d) Can dance movement therapy reduce self-aggression in an autistic child?

Based on these issues, the following conclusions were drawn.

Without the ability of verbal conversation to exchange ideas to create a shared experience, moving together was the primary means to see, experience, and get to know each other. By moving together and mirroring, a secure relationship and trust has been developed between the autistic girl and the therapist in training. This relationship was key to making eye contact. We can conclude that by developing a connection and trust between an autistic girl and therapist in training, eye contact has been successfully achieved.

A small improvement in verbal communication was achieved. Using the intervention of adding a voice to a movement as an extension of the movement, the autistic girl was able to pronounce a long letter A accompanied by a movement. In the last phase of the research, the girl mumbled in front of the mirror observing herself. Although nothing more has been achieved in encouraging speech, I consider this a shift in communication, since the autistic girl is completely nonverbal. Her desire and effort to express herself verbally are obvious, they are seen in the muttering in front of the mirror. Although slight progress in verbal communication was noted in the sessions, the mother and the assistant did not notice any improvement.

Body and space awareness have been achieved with various interventions of dance movement therapy aproach. Interventions like polarities, use of propes and play helped autistic girl to use and move her whole body. The mother noticed changes in movement at

home, especially during play. However, the biggest shift in this part of the research was noticed in the use of space.

At the beginning of the research the space in front of the mirror was used most of the time during sessions, but in the last session this space was used only for the opening routine. After that, all interventions took place in space. The assistant did not notice a greater awareness of the body, but she noticed a shift in the use of space. She would use the space on her own initiative.

Self-aggression is still present, mother and the assistant did not notice a reduction or absence of self-aggression. Although the results show a decrease in aggression in the last session, this is due to the good relationship with the autistic girl. Because of familiarity with the girl's pattern of behavior and ability to predict situations which cause discomfort for her, the results show a reduction in self-aggression in the last phase of the study.

It is important to note that the assistant did not notice many changes due to need more training abut non verbal information in order to perceive those minor changes.

Given all the above, it can be concluded that dance movement therapy interventions have an effect in children in the autism spectrum.

Although the inclusion of the child in various peer groups was not the subject of this research, it is important to note that it helped the girl to interact with the children in the dance group. Creation of situations in which the child experiences success, and thus praise and approval from unfamiliar adults and other children, affects the development of self-confidence and a positive image in a child, but their better acceptance by other children. The assistant noticed greater involvement in the dance class as well as independence. She still needs encouragement for certain activities but shows more interest. The mother also notices greater involvement in the dance group as well as support and understanding of the group.

6. LIMITATIONS AND FUTURE STUDIES

A limitation in the research was the fact that only one autistic girl was involved in the case study. A larger and more detailed study in the future should investigate the effects that dance movement therapy interventions would have on other children in the autism spectrum.

The inability to establish continuity of sessions made it difficult for the therapist in training to achieve greater results. Continuity would be interrupted due to holidays, illness or other inability to come to the sessions. Often after 6 to 7 sessions there would be a break of a few weeks. The 30 sessions, which were attempted to be held once a week, were held over a period of one year.

I think that a smaller number of sessions in continuity would contribute more to this type of research in the future. Furthermore, involvement of a speech therapist who works with the child would be significant in future research related to encouraging verbal communication. Adding movement to vocal exercises used by a speech therapist would give more meaning to both movement and voice. Involving family in the sessions, especially mother, would allow a better connection and understanding of the child and her needs. Throughout the case study, the mother was interested and cooperative. The information I received from her during the case study was of great benefit. It influenced the course of interventions and helped better understand the process we were going through.

During this case study, I was most surprised by the level of connection with the autistic girl. I still follow her in dance classes today and I still feel that connection, even though the sessions have stopped. I also feel a strong connection with her family to whom I am immensely grateful for the trust and opportunity to work with their most sensitive family member. I look forward to future research on this topic as well as to following the autistic girl in dance classes.

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8. REFERENCES

Bujas Petković, Z., & Frey Škrinjar, J. (2010). *Poremećaji autističnog spektra: značajke i edukacijsko-rebabilitacijska podrška.* Zagreb: Školska knjiga.

Bujs Petković, Z. (1995). *Autistični poremećaj.* Zagreb: Školska knjiga.

Chaiklin, S., & Wengrower, H. (2009). *The Art and Science of Dance/Movement Therapy, Life is a Dance.* New York: Routledge.

Chodorow, J. (1991). *Dance therapy & depth psychology, The moving imagination.* Routledge; 1st edition.

Cohen, L., Mnion, L., & Morrison, K. (2011). *Research Methods in Education.* London, New York: Routledge.

Dieterich-Hartwell, R. (2016). Dance/movement therapy in the treatment of post traumatic stress: A reference model. *The Arts in Psychotherapy*, 38-46.

Dubowski, J., & Evan, K. (2001). *Art Therapy with Children on the Autism Spectrum: Beyond Words.* London: Jessica Kingsley.

Freundlich, B., Pike, L., & Schwartz, V. (2013). Dance and Music for Children with Autism. *Journal of Physical Education, Recreation & Dance* , 50-53.

Gray, P. (2008). The value of play I: The definition of play provides clues to its purpose. *Mind in Society: The Development of Higher Psychological Processes*, 92-104.

Hanna, J. L. (2007). The Power of Dance: Health and Healing. *The Journal of Alternative and Complementary Medicine*, 323-331.

Hannah, L. (2001). *Teaching Young Children with Autistic Spectrum Disorders to Learn.* Shawnee: Autism Asperger Publishing Company.

Holinger, P. (2017). Play: A Different Perspective, Affects of interest and enjoyment. *Psychology today*.

Jordan, R. (2003). Social Play and Autistic Spectrum Disorders, A perspective on theory, implications and educational Approaches. *PubMed*, 347-360.

Keay-Bright, W. (2006). ReActivities: autism and play. *Digital creativity*, 149-156.

Koch, S., Mehl, L., & Sobanski, E. (2014). Fixing the mirrors: A feasibility study of the effects of dance movement therapy on young adults with autism spectrum disorder. *Sage jurnals*.

Levy, F. (1988). *Dance Movement Therapy A Healing Art.* Virginia: Amer Alliance for Health Physical; Revised edition.

Martin, M. (2014). Moving on the spectrum: Dance/movement therapy as a potential early intervention tool for children with Autism Spectrum Disorders. *The Arts in Psychotherapy*, 545-553.

Martinec, R., Šiškov, T., Pinjatela, R., & Stijačić, D. (2014). Primjena psihoterapije pokretom i plesom u osoba s depresijom. *Socijalna psihijtrija*, 145-154.

McCaule, B. J. (2019). Self-Esteem, Internalizing Symptoms, and Theory of Mind in Youth With Autism Spectrum Disorder. *Jurnal of clinical cildren and adolescent psycology*, 400-411.

Milliken, R. (2010). Intervening in the Cycle of Addiction, Violence, and Shame: A Dance/Movement Therapy Group Approach in a Jail Addictions Program. *Journal of Groups in Addiction & Recovery*, 5-22.

Mulherin. (2001). The Masterson approach with play therapy: A parallel process between mother and child. *American journal of psychotherapy*, 251-72.

Newby, P. (2010). *Research Methods for Education.* London: Pearson Education.

Nikolić, S. (2010). *Autistično dijete.* Viškovo: Cipetić.

Payen, H. (1992). *Dance movemet therapy:theory and practice.* London, New York: Tavistock/Routledge.

Payne, H. (2006). *Dance Movement Therapy: Theory, Research and Practice (2nd edition).* London, New York: Routledge.

Rutter, M. (1978). Diagnosis and definition of childhood autism. *Journal of autism and childhood schizophrenia volume*, 139-161.

Sherborne, V. (1990). *Developmental Movement for Children.* Cambridge: Cambridge University Press.

Siri, K., & Lyons, T. (2012). *Cutting-Edge Therapies for Autism: Fully Updated Edition.* New York: Skyhorse.

Studd, K. C. (2013). *Everybody Is a Body.* Indianapolis, Indiana: Dog Ear Publishing, LLC.

Škrbina, D. (2013). *Art terapija i kreativnost, Multidimenzionalni pristup u odgoju, obrazovanju, dijagnostici i terapiji.* Zagreb: NAKLADA VEBLE d.o.o.

Tortora, S. (2006). *The Dancing Dialogue.* Baltimore: Paul H. Brookes Pub.

Whitehouse, M. C. (1797). Jung and dance-therapy: Two major principles. *Eight theoretical approaches in dance movement therapy*, 55.

Yin, R. (1984). *Case Study Research: Design and Methods.* Thousand Oaks: Sage Publications.

Young, J., & Wood, L. (2018). Laban:A guide figure between dance/movement therapy and drama therapy. The art sin psychotherapy. *The Arts in Psychotherapy*, 11-19.

Zainal, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan*, 1-6.

[1] Download: 06.08.2020.

https://www.autismspeaks.org/autism-diagnosis-criteria-dsm-5

[2] Download: 06.08.2020.

https://www.spectrumnews.org/news/repetitive-behaviors-and-stimming-in-autism-explained/

[3] Download: 09.08.2020.

https://theconversation.com/the-things-every-child-with-autism-wishes-you-knew-75491

[4] Download: 10.08.2020.

https://raisingchildren.net.au/autism/behaviour/common-concerns/aggressive-behaviour-asd

9. APPENDICE