

# Review on Art Therapy and Autism

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## Abstract

This paper evaluates the utilization of art therapy within the population of children diagnosed with autism spectrum disorder. Studies detail different strategies in art therapy including puppetry, theatre and painting as a way for children with autism to gain control of maladaptive behaviors, learn to empathize with others, and integrate better in their environment as a whole. Also included are parent perceptions of art therapy and how this mode of therapy looks within different populations such as children with autism in India, sexually abused girls, and a child who struggled with growing up. Together, these studies illustrate how autism presents differently within everyone.

Autism Spectrum Disorder presents with a wide array of symptoms/behaviors that can be disrupting to the children experiencing them. Art therapy can be an exceptional tool in assisting these children in managing/expressing the thoughts and feelings they cannot otherwise articulate. Art therapy has been well documented throughout recent years and has proven helpful for this population of children

struggling with maladaptive behaviors.

According to [autismspeaks.org](https://autismspeaks.org), in 2016, in the United States, approximately “1 in 54 children were diagnosed with autism disorder” and more specifically, 1 in 34 boys and 1 in 144 girls.

(<https://autismspeaks.org/autism-statistics>, para. #1).

Due to this, the economic costs are exponential; in 2015, \$268 billion was spent on the needs of those with autism with \$61-66 billion utilized for children’s services alone.

(<https://autismspeaks.org/autism-statistics>, para. 42).

Some of the associated symptoms that can arise in children with autism include being nonverbal, having eating and sleeping difficulties, self-injury, ADHD, epilepsy and even bullying from peers.

(<https://autismspeaks.org/autism-statistics>, para. #18-23).

Frielich and Shechtman (2010) illustrated the benefits of art therapy for students with different learning disabilities. Forty-one children were included in art

therapy while 51 were “in academic assistance” where therapists utilizing art therapy provided students with appropriate materials to be creative in their expression. Often, what comes up in art therapy coincides with a real experience the child had in their life but could not express appropriately (Frielich & Shechtman, 2010, p. 98). This study found that the children with learning disabilities enrolled in art therapy showed positive outcomes for overall adjustment and exemplified how important it is to delve into difficult thoughts, emotions and experiences the child had so they may learn to effectively advocate for themselves. The purpose of this paper is to illustrate how different strategies of art therapy can assist in decreasing maladaptive behaviors in children with autism. Topics to be covered include autism spectrum disorder prevalence and symptomology, general techniques of art therapy for children with autism, and treatability of children with autism.

### Autism Spectrum Disorder Prevalence and Symptomology

#### History of Autism

In 1802, Itard launched research into autism through his book entitled *An Historical Account of the Discovery and Education of a Savage Man or of the First Developments, Physical and Moral, of the Young Savage Caught in the Woods Near Aveyron, in the Year 1798*. Within this, Itard detailed his interactions and perceptions of a seemingly feral boy, between the ages of 11 or 12, who exhibited symptoms that today, coincide with autistic behaviors (as cited in Thompson, 2013, p.90). This young man lived among the woods and mountains, with brief encounters with others who placed him in a village and then in a “dwelling-house in the Canton of St. Sernin where he was cared for 2-3 days. From here, he was placed within the “hospital of St. Afrique, afterwards to Rhodéz, where he was kept for several months” (1802, p. 14). Seventeen ninety-nine marked an important year for the child however, when he was taken to Paris to live with an old man who

would become a father-figure in the boy’s life. Observations of the child, who was referred to as savage throughout the text, from “Citizen Pinel” (p. 20) included wandering eyes, making noises for speech, inattention, mood dysregulation and an inability to connect to those around him (pp. 21-22

Kanner (1943) continued research on autism, specifically in children, through a published pathology study. Before Kanner explained his observations through case studies, he stated that, since none of the children of this group has as yet attained an age beyond 11 years, this must be considered a preliminary report, to be enlarged upon as the patients grow older and further observation of their development is made. (Kanner, 1943, p. 217)

In 1938, Kanner worked with five-year old Donald T. who exemplified little interest in eating, an inability to ask or answer questions unless specified to rhymes he was familiar with and preferred to spend his time alone, was fearful of object including tricycles and did not engage with children of the same age (1943, pp. 217-220). The most extensive observations of Donald came from Dr. Eugenia S. Cameron and Dr. George Frankl at the “Child Study Home of Maryland” (1943, p. 219).

Here, they saw that Donald would engage in significant word repetition stimulation such as repeating the word “dahlia” three times in a row and other words that he may have heard from others and would ask for things in statement form, exactly as he had heard them either from his parents or others around him. For example, when wanting to take a bath, he would say, “Do you want a bath?” (1943, p. 219). When asked direct questions, he was initially unable to give yes or no answers, instead, he would repeat the question in the same tone and intonation.

However, Donald was able to vocalize yes to mean he wanted to be put onto his father’s shoulders without repeating the question as before (1943, p. 220). After

Donald's departure from the Child Study Home, his mother provided an update on his behaviors, stating that he had better capabilities in reading, had learned to answer questions with "yes" or "no", though not every time, and had learned to play simple songs on the piano; Donald did still struggle with the proper utilization of pronouns as well as spelling (1943, p. 220). When Donald visited for a check-up in 1939, he exhibited more appropriate behaviors in comparison to what had been previously observed such as acknowledging people around him and improved concentration/attention (1943, p. 220).

However, maladaptive behaviors were still present during this visit, Donald would engage in putting food in his hair, putting books in the toilet and temper tantrums (1943, p. 221). Following this check-up, Donald's mother continued to provide updates from 1939-1941 where she detailed Donald's improvement in basic self-care such as feeding and dressing himself, although he would need insistence, and was invited to participate in first grade where he excelled as evidenced by his ability to follow directions, interact appropriately with peers, and answer questions without repeating them back as he once had (1943, p. 221).

The second case Kanner detailed was that of Frederick, who presented with much of the same behaviors Donald had, such as ignoring individuals who were around him and repeating questions asked to him in the exact tone and inflection the individual had used, and an inability to properly use pronouns. His mother also reported that he was afraid of mechanical objects such as elevators and the vacuum cleaner they had at home (1943, pp. 222-223). In May 1942 Frederick was admitted to the Harriet Lane Home, where his first interactions with staff consisted of ignoring their presence and repeating their questions back to them instead of answering them (1943, p. 224).

Tests were given to Frederick who was uncooperative, therefore making results hard to be fully obtained; it

was noted however that he had exhibited concentration in completing some tasks required of the tests administered (1943, p. 224). Kanner went on to detail nine more cases of children who presented with what we now know as autistic behaviors and stated that all the children (eight boys and three girls) presented with a unique set of characteristics. Kanner explains, "these characteristics form a unique 'syndrome', not heretofore reported, which seems to be rare enough yet is probably more frequent than is indicated by the paucity of observed cases" (1943, p. 242).

Three of the eleven children observed remained mute but were observed by their parents to have the capability to learn nursery rhymes and identify certain objects although their communication was not utilized for engagement with others and often could not be understood (1943, p. 243).

In his discussion, Kanner reiterates that many of the children had difficulty in the proper utilization of pronouns, referring to themselves as "you" instead of "I" when requesting things from caregivers, exhibiting echolalia when repeating questions back to the individual who had asked them, presented with eating issues and aversions to loud noises (pp. 244-245). The children also had trouble with change and would therefore disengage from anything spontaneous and if they were able to detect something was different, would immediately exhibit rejection (1943, p. 246). The following quote by Kanner summarizes the observed children with autism, their world must seem to them to be made up of elements that, once they have been experienced in a certain setting or sequence, cannot be tolerated in any other setting or sequence; nor can the setting or sequence be tolerated without all the original ingredients in the identical spatial or chronologic order. (1943, p. 249) Kanner's observations and accounts of those children provide an excellent introduction to more recent studies regarding children with autism.

Also pertinent to the rise of research within children

with autism was the creation of the “intensive behavioral intervention (EIBI)” and “the Autism Diagnostic Interview and Observation Schedule (ADI and ADOS)” (as cited in Thompson, 2013, p. 81). In 1973, DeMyer, Barton, DeMyer, Norton, Allen and Steele published a follow-up longitudinal study relating to Kanner’s findings that included 85 autistic boys and 35 autistic girls, aged 5.5 to 12 years old. In the follow-up study presented by DeMyer et al., the children were evaluated for their overall life outcome surrounding their autism (1973, p. 200). The total number of children with autism in this study was 126, all who had been diagnosed with infantile autism, and thirty-five children labelled “nonpsychotic subnormal” (1973, p. 200) were used as the control group. The authors noted that the children with autism exhibited three distinct characteristics, “(1) Serious emotional withdrawal, (2) non-communicative speech or muteness, (3) non-functional object use” (1973, p. 200) and were also placed within three categories of autism functioning: high, medium or low (1973, p. 200).

The children in the control group mainly presented with negative behaviors including “immaturity such as negativism and over-dependency on parents, lack of inhibition with other adults, and quarrelsome behavior with other children” (1973, p. 201). Parents were interviewed for four hours to provide extensive history of their children for the purpose of the study. Ninety-four of the cases were able to be conducted in person while the remaining fifty-two interviews were conducted via the telephone where measurements evaluating “(1) psychiatric (behavior) diagnosis, (2) Conversational Speech, (3) Social skills, (4) Work/school rating and years of schooling, (5) Family adequacy and marital status” (1973, p. 204) as well as “(1) Neurological status, (2) Electroencephalographic findings, (3) Family neurological disease history, and (4) Chronological age” were administered (1973, p. 205). The conclusions found that the children with autism “remained educationally retarded” (p. 82) and at least 42% were institutionalized (as cited in Thompson, 2013,

p. 82).

According to Thompson (2013), “autism becomes apparent around the age at which immunization typically occurs, so the temporal proximity of the two events appeared suspicious to parents” (Thompson, 2013, p. 91).

For years, parents were given misinformation regarding the measles-mumps-rubella vaccine and therefore refused to have their child immunized for these illnesses (p. 91). There was also misinformation published regarding diet and how consuming certain foods such as gluten could directly contribute to autistic symptoms although, according to Batista et al. (2012), “there has never been an established link between coeliac disease (Gluten allergy) and autism” (as cited in Thompson, 2013, p. 91). As technology became more sophisticated, “the Autism Diagnostic Observation Schedule (ADOS) and its sister research instrument, the Autism Diagnostic Interview Revised (ADIR-R)” were created by Lord, Rutter, Goode, Hemsberger, and Jordan in 1989 (as cited in Thompson, 2013, p. 87).

The emergence of magnetic resonance imaging (MRI) allowed professionals to observe specific regions of the brain that are affected while symptoms are presenting within children with autism (p. 88) and helped support the idea that behaviors and symptoms of autism do not have a direct cause related to vaccinations or diet.

When evaluating children with autism, it is also important to note the theorists who described significant developmental stages and developed theories that helped outline how a child grows throughout their lifespan and the different milestones through which they should pass.

These theorists include: Montessori, who founded “the Orthphrenic School” (p. 94) that trained teachers to specifically work with children experiencing disabilities (p. 94); Bowlby who illustrated the importance of



ttachment (p. 95), and Skinner/Lovaas who took a behavioral approach (pp. 96-99). Thompson (2013) provides an historical view of autism and just how far the field has come in recognizing autism and treating symptoms accordingly. Importantly, according to Thompson, children with autism are no longer being placed in institutions and are being provided with appropriate resources both inside the schools and within the community (p. 102).

### Stigmatization of Children with ASD

This section will illustrate the stigmatizations and fears of caregivers/parents surrounding having a child with autism and reasons for either wanting an autism diagnosis or opting out of a diagnosis. The conceptualization of stigma was created by Goffman in 1963 and described in his book “Stigma: Notes on the Management of a Spoiled Identity” (as cited in Russel & Norwich, 2011, p. 3).

Russell and Norwich (2011) wanted to gain the perspectives of seventeen (total) parents who either were open to getting an autism diagnosis for their child and those who were fearful and opted out of a diagnosis which comprised the two groups. Russel and Norwich interviewed, eight who were in the group not wanting a diagnosis and the remaining nine having pursued an active diagnosis of autism for their child 2011, pp. 1 ,4).

The age range for children diagnosed with autism for parents who actively sought one, ranged between three and eleven years old. Parents who felt uncomfortable pursuing a diagnosis were recruited by individuals in the child’s environment who suspected autism (p. 3). Russell facilitated most of the interviews, while Norwich conducted the others, with open-ended questions, initiating a conversation with the parent of the child’s full history (p. 4).

The accounts of the parents in group one, those resistant to an autism diagnosis, were as follows: they felt

strong/mixed feelings towards doctors voicing their child’s autistic tendencies and would often want specific examples to validate the autism diagnosis (p. 4).

One mother in our study commented: “I believed it, I mean, I didn’t not believe it”, revealing an often unconscious battle that left mothers in an “uncomfortable” place. To them the diagnosis itself was synonymous with the loss of normality, an official confirmation of difference; the label ASD (p. 5).

The authors also noted that within this group of parents, they utilized words that signified a “violation of the child” (p.5) upon either receiving an autism diagnosis or being told it was suspected. These parents were terrified of their child being labelled and therefore stigmatized for their behaviors and presenting symptoms, they did not want their child placed in a box and forever looked at differently than other children (p. 5).

The mothers who willingly adopted an autism diagnosis for their child differed significantly in how they discussed it; they stated that having the diagnosis allowed them to come “to terms with their child’s behavior, allowing them to research, manage and ‘understand’ it” (p. 9). One mother explained that having the autism diagnosis better allowed her to explain negative behaviors while out in public rather than accepting judgement from others and thinking they are simply bad parents with an out of control child (p. 9). Numerous resources were also opened to parents after accepting a diagnosis including education and social services (p. 10). In 2004, Mansell and Morris suggested that for parents, there are four stages when facing an autism diagnosis: “pre-diagnosis, diagnosis, post-diagnosis, and a final stage of acceptance and adaptation” (as cited in Russel& Norwich, 2011, p. 13).

### Moderate-Severe Symptoms of ASD/Onset of These Symptoms

Individuals and children with autism can

exhibit a wide range of symptoms/behaviors depending upon the severity of their diagnosis. These symptoms/behaviors can be exacerbated by comorbidity with other mental health conditions. When looking at the specifics of autism-spectrum disorder, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) provides information needed to accurately diagnose ASD. The DSM-5 divides the disorder into three levels, (1) “the individual can function fairly independently on their own without supports in place and experiences mild symptoms including difficulties in social interactions, organization and transitioning between activities; (2) here, the individual requires “substantial support” due to significant problems in social situations (verbal/nonverbal communication) even with support as well as behaviors that are outside the “norm” enough to be noticed while in public and inability to easily focus their attention on other activities/interests; (3) this is the most severe level where the autistic individual requires substantial supports in their everyday life and are unable to communicate effectively in social situations and their delays impact essentially all aspects of their life (p. 52)

“Social-emotional impairment is also a significant marker in children with autism as they present the inability to empathize with other’s emotions and typically do not initiate interaction among peers” (p. 53).

Further illustrating the different levels of symptoms children with autism as specified in the DSM-5, Dominick, Davis, Lainhart, Tager-Flusberg and Folstein (2007) conducted a study to further investigate behaviors in 107 children, 67 of whom were diagnosed with autism spectrum disorder when compared to 39 children with learning impairment (p. 148).

The behaviors of the children with autism experienced included: eating, sleeping, self-injurious behavior, aggression, and temper tantrums (pp. 146-147). Within these categories, behaviors may present themselves in instances like: food texture aversion or a general refusal to eat; inability to obtain quality sleep;

self-injury is found more in populations experiencing both autism and severe cognitive delays; destruction of property/general aggression; and temper tantrums as seen in younger autistic populations “(pp. 146-148).

Results illustrated that the atypical behaviors occurred more frequently in the autistic children; eating  $p < 0.001$ ; sleeping  $p = 0.03$ ; temper tantrums  $p < 0.001$ ; self-injurious behavior  $p = 0.01$ , all statistically significant, while aggression did not differ across the two groups with a significance of  $p = 0.2$  (p. 151). These findings suggested that there are no clear-cut behaviors children with autism will engage in as each case will vary. However, the above study helped to outline prominent behaviors that may be presented within this population of children.

#### Comorbidity with Other Disorders Specified in DSM-5

This section will provide statistical evidence regarding the comorbidity of other intellectual/mental disorders commonly found in adults and children with autism. Intellectual impairment and structural language disorder are most commonly found in individuals with ASD as well as one (70%) or two (40%) mental disorders; anxiety and depression have also been found among this population (American Psychological Association, 2013, pp. 58-59). While having other disorders may affect the severity of autism in children, environmental factors also play a significant role in how the children’s behaviors/symptoms develop.

#### Importance of Environmental Factors in Autism

This section will illustrate how the difference in environment (stable vs. unstable) can influence a child with autism’s potential to gain access to services and thrive despite their difficulties. The DSM-5 explains that risk factors such as “advanced parental age, low birth weight, or fetal exposure to valproate, may

contribute to risk of autism spectrum disorder” (American Psychological Association, 2013, p. 56). Modabbernia, Velthorst and Reichenberg (2017) further explored environmental factors in their study by searching Pubmed to find various studies regarding the influence of environmental factors on children with autism. Modabbernia et al. (2017) found that there was an 18-21% increase of a child being born with autism for every ten-year age increase of parents (2017, p.2). Complications from birth also presented as a factor such as low birth weight, as mentioned in DSM-5, breech birth, umbilical cord complications and more (Modabbernia, Velthorst, & Reichenberg, 2017, p. 2). One medication used to treat bipolar disorder and epilepsy, Valproate, was shown to increase the risk for autism and other neurodevelopment disorders in infants/children (2017, pp. 3-7). There has also been evidence to support environmental mercury exposure and risk of autism (2017, p. 9). A recurring topic within this article is the argument that immunizations cause autism, the database (Pubmed), illustrated no association between vaccines and autism. For example, a study conducted by Taylor, Swerdfeger and Eslick (2014) (as cited in Modabbernia et al., 2017, pp. 10-11) looked at the measles-mumps-rubella vaccine, as historically, this was pinpointed as causing autism and again found no significant increase in rates of autism (as cited in Modabbernia et al., 2017, pp. 3-11). Overall, what the search produced was evidence to support possible risks of autism from the environmental factors mentioned in the DSM-5 whereas other factors such as maternal smoking, immunizations, and even immigration held little bearing on being risk factors.

### Neurology-Brain Differences in Individuals with Autism

The following studies illustrated the difficulty in pinpointing a specific, active area of the brain within individuals with autism. However, images have shown that certain areas of the brain are activated in correlation with specific autistic behaviors/symptoms.

Jeste (2011) detailed three prominent “neurological comorbidities” associated with autism spectrum disorder to include: “motor impairment, sleep disorders, and epilepsy” (2011, p.1). Specifically, when looking at motor development deficits, studies have been performed looking at the areas of “praxis, motor planning, gait, coordination and postural control” (2011, p. 2). Ozonoff et al. (2008) studied home videos of three categories of infants (autism spectrum disorder, developmental delay and typically developing infants) within their first year of life to evaluate “gross motor functioning and gait”. Results from this study found that the infants with autism exhibited delayed movement “including lying supine, sitting and walking” when compared to the one-year-olds with developmental delay and those who were neurotypical (as cited in Jeste, 2011, p. 2).

Goldman, Wang, Salgado, Greene, Kim, and Rapin (2009) conducted a comprehensive study of repetitive behaviors in 277 total children aged two to eleven that included children with autism (who were then divided into high functioning (42 total) and low functioning (85) and then matched for cognitive abilities with “non-autistic developmentally disordered (NADD) comparison children divided into developmental language disorder and non-autism, low IQ (NALIQ) sub-groups” (Goldman et al., 2009, p. 30) (as cited in Jeste, 2011, pp. 2-3). Videos were utilized in order to observe the children and evaluate repetitive behaviors. This study found that among the ASD children, those with the lowest IQs presented with the highest volume (70%) of these behaviors (as cited in Jeste, 2011, p. 3) while the high functioning group of autistic children engaged in these behaviors 63% of the duration of the study (as cited in Jeste, 2011, p. 3). Due to this result, Goldman et al. (2009) proposed that “aberrant cerebellar as well as fronto-striatal circuitry” may be only found in autistic children with cognitive impairment (as cited in Jeste, 2011, p. 3).

Green et al. (2009) conducted a study looking at the

ability to learn movement in 101 high-functioning autistic children aged 10-14 years old (89 males and 12 females) (2009, p. 311). Results yielded that while the ASD children were high functioning, there were still deficits in all movement domains. Green et al. then performed another study where ASD children (aged 11-14) with a wide range of IQ scores were assessed for movement capability and found that those children with IQs lower than 70 struggled most with skilled movements such as sitting and walking (as cited in Jeste, 2011, p. 3). These findings may suggest a neurological abnormality (as cited in Jeste, 2011, p.3).

Mostofsky, Burgess, and Gidley (2007) studied how motor movement is influenced by the neurological processes of 8-12-year-old children in the following categories: high functioning autism (2); typically developing children (36); and ADHD children (20) (Mostofsky et al., 2007, p. 2118) (as cited in Jeste, 2011, pp. 3-4). The authors found that “increased left motor cortex and pre-motor cortical white matter volumes were predictive of poor motor performance on the Physical and Neurological Subtle Signs (PANESS)” (2011, p. 4). The authors also looked at brain images of children with autism and neurotypical children as they finger tapped to assess regions of the brain that were activated while this activity was performed. (2011, p. 4). Results of these images indicated that children with autism, in comparison to neurotypical children, “showed reduced activation in a variety of cerebellar regions and also decreased functional connectivity between cerebellar and cortical regions” (2011, p. 4).

## Art Therapy

### General Methods of Art Therapy for Treating Autism

Art therapy encapsulates a wide range of techniques to engage the individual. The following section will detail therapists' views on art therapy as a modality for assisting autistic children with maladaptive behaviors. Schwiezer, Spreen, and Knorth conducted a study

evaluating art therapists' perceptions on the strategies utilized with autistic children and the outcomes associated with these strategies. Schweizer et al. selected 8 art therapists who had at least 2 years of experience working with autistic children aged 8-12 years old (p. 184). They completed 90-minute interviews consisting of topics including: why children were referred for services, “conditions of treatment, including duration and phasing, methods used; therapists' behavior and activities; and treatment results” (p. 185). There was also a focus on why the therapists felt their strategies were appropriate for their clients and the “sensory experiences” (p. 185) of the children and were encouraged to present the authors with artwork clients had completed (p. 185). The results found three prominent topics that within therapeutic art materials/expressions, engagement of art therapists with their clients, and art therapeutic materials and expressions, therapists saw positive changes in behavior. When engaged in sensory art, by exploring different shapes/volumes, children were able to learn different ways of coping with difficult situations, and with stereotyped images, self-esteem, focus, and planning/choice skills were attained. Following this, the therapeutic behaviors of the therapists were used to evaluate how they made the artwork engaging for the children to include: “active attunement, structuring activities and time, sharing experiences, and connecting words to experiences” (p. 187). Context encapsulated why the child was referred to art therapy; it was noted that social workers and teachers would make referrals for the child based upon adverse behaviors (pp. 187-188). The last topic therapists were asked to discuss was their perception about the outcomes of art therapy for children with autism (p. 18). What the art therapists saw overall was an increase in the development of positive skills including the ability to be more flexible, have greater self-esteem, and better coping ability (p. 186).

### Art Therapy in the Classroom

This section will illustrate the benefits of using art



therapy within schools, specifically for children with disabilities, including those children with autism. The following two studies will outline different strategies in integrating art therapy that helped students to decrease maladaptive behaviors despite their disabilities. Since 1979, the Clinical Art Therapy Department within the Miami-Dade School system has integrated therapeutic art services to children experiencing emotional/behavioral issues.

Isis, Bush, Siegel, and Ventura (2010) were art therapists who published an article related to their perceptions of the implementation of art therapy within this school system/population (p. 56). According to the U.S. Department of Education (2000), Public Law 94-142 was created in 1975 that allowed for more adequate services to be rendered to children with disabilities (as cited in Isis et al., 2010, p. 56). Due to this, in 1979-1980, one of the researchers, Janet Bush, formulated a pilot study within this Miami-Dade School system that would bring “several departments together to provide local school funding, treatment, and educational services for four student populations severely in need of special education” (p. 57) to include children with autism. The study was specifically intended for the afore mentioned student’s art teachers to present better strategies in contending with difficult behaviors (p. 57). Following the first year of the pilot study, the school system motioned to continue into the next school year, recognizing the ample benefits it provided and even hired new art therapists who specialized in special education to work within the schools (p. 57). Due to the nature of their work within the classroom, art therapists became part of a treatment team for disabled children and met with various members including parents, peer art therapists, and school psychologists to discuss the children’s cases (p. 57).

As the program grew within the Clinical Art Department, 21 art therapists were working by 1989-1999; however, it was soon noticed that art therapy specifically within schools was not provided as a

training and that the newly hired art therapists were all utilizing varying modes of art therapy which could prove difficult for children who changed therapists (Isis, Bush, Siegel & Ventura, 2010, p. 58). A “common language” (p. 58) needed to be created among the therapists; thus, came the creation of the “Levick, Emotional and Cognitive Art Therapy Assessment (LECATA)” (p. 58) by Myra Levick in 2009.

Another important point in the study’s timeline was in 1992 at the first implementation of The Florida Comprehensive Assessment Test (FCAT) within the school system; the test was later revised to include reading and math in 1998 (p. 58). With the push for students to take the FCAT, art therapists saw a rise in maladaptive behaviors as well as anxiety related to test taking (p. 59). Due to this, emphasis was placed upon techniques that promoted relaxation and other methods such as imagery relating to fears surrounding the test (p. 59). The Miami-Dade School system also experienced high drop-out rates within the population of children with disabilities; due to this, art therapists created “drop-out prevention interventions” (p. 59) into their work with children to ensure they stayed in school.

At the time the Isis et al. article was published, the authors discussed how the Miami-Dade School system continued to implement art therapy. The Clinical Art Therapy Department offered students living with disabilities, an individual session each week to discuss their specific needs and could be referred to art therapy by school staff when deemed appropriate (Isis et al., 2010, p. 59). After referral, students were to complete either the LECATA or the Silver Drawing Test to aide in creating the child’s treatment plan which was then integrated into their IEP (p. 59).

Following the integration of art therapy within schools such as Miami-Dade County, specifically in classrooms for children with disabilities, the following study by Kuo and Plavnick (2015) aimed to utilize art therapy as an antecedent to negative behaviors within the

classroom setting. Art therapy can be utilized as an effective tool in decreasing maladaptive behaviors within the classroom setting such as constantly moving out of the seat, as illustrated by the following two studies. Kuo and Plavnick (2015) looked at art therapy as an antecedent strategy for assisting autistic children integrate better into their classroom(s). When using art therapy before starting their day, it falls under an evidence-based practice known as Antecedent-Based Intervention, which entails, according to Neitzel (2009), “programming stimulus changes prior to a situation wherein a known problem behavior occurs, to reduce the likelihood of problem behavior” (as cited in Kuo & Plavnick, 2015, p. 55).

A 39-month old child with autism, communication, and social impairment including language and nonverbal difficulties, Joseph, was the only participant for this study (p. 55). The authors note that during his 7-months in a specialized early childhood education classroom, he was observed, by the teacher, to demonstrate multiple off-task behaviors (p. 55). Kuo and Plavnick (2015) conducted the study with Joseph within his classroom that he attended 5 days per week alongside other children with varying disabilities (p. 55).

Joseph was given simple art materials in order to perform the art tasks and was evaluated for the off-task behaviors in the following categories as specified by Shapiro (2010): off-task motor, off-task vocal, and off-task passive (as cited in Kuo & Plavnick, 2015, pp. 55-56). The study was completed in two phases: observing Joseph at baseline, when no interventions were being utilized as he engaged in group instruction with his teacher and peers and then again after a therapeutic art activity was completed before Joseph joined his class (p. 56). The results found that, as expected, during the first baseline phase, Joseph’s off-task behaviors were high in frequency and then significantly decreased when an art therapy antecedent was introduced. During the next session at baseline, Joseph was still exhibiting off-task behaviors but at a lesser rate and then continued to

decrease following art therapy before class instruction (p. 57). The studies in this section highlighted how art therapy can assist children with disabilities/autism decrease the frequency in which maladaptive behaviors occur. The next section will detail some of the specific techniques used in art therapy including puppetry, drawing, and theatre.

## Art Therapy for Autism

### Outcomes of Art Therapy for Children with Autism

The following studies will show how art therapy can be used in a variety of ways including theatre, puppetry, and drawing emotion. Bragge and Fenner (2009) conducted a study utilizing the “interactive square approach” within art therapy, adapted from Schaverien’s “triangle of art therapy” (2000) (as cited in Bragge & Fenner, 2009, p. 17). The concept of the interactive square came from Case (2000) who wanted to shift the role of the therapist from onlooker to active participant in the art sessions (as cited in Bragge & Fenner, 2009, p. 18). These case studies exemplify how interaction with rather than participation with the client produces positive outcomes for the client in using art therapy. The authors illustrated 5 interactions that took place within this presentation: (a) between client and therapist; (b) between client and their art; (c) between the therapist and their artwork; (d) comparison of the therapist’s artwork with that of the client’s; (e) the entire therapeutic interaction between the therapist, client and their artwork (2009, p. 19).

The first case study involving the interactive square approach involved 7-year-old Hugh who was prone to having violent outbursts involving screaming (Bragge & Fenner, 2009, p. 20). Within the first session which was the interaction between Hugh and Bragge, Hugh was relatively mellow in his behaviors and expressed that he did not like being pulled out of art class to engage with the therapist. The second session allowed Hugh to be creative in his recreations of Ned Kelly

which was, as explained by his teacher, an individual of obsession for Hugh (p. 20). His second manifestation of Ned Kelly during the second session appeared more advanced and Hugh excitedly spoke about different details of his art to Bragge, pointing out the slot on the helmet and even secret writing he included on the paper (p. 21).

The third session consisted of Bragge recreating Ned Kelly while Hugh also participated in painting on his own. At one point, Hugh looked over at Bragge's painting and expressed how her painting was better than his; Bragge redirected this thought by pointing out details she missed that he had in his paintings. This prompted Hugh to recreate the same painting as Bragge (pp. 21-22). During interaction 4, Bragge presented a book of Ned Kelly recreations by another artist (Sidney Nolan) which surprised and inspired Hugh to paint one of the images within the book. He wanted Bragge's Ned Kelly to be in a sunny environment while his would be in the rain (p. 22).

Bragge and Hugh also had a conversation during this interaction/session regarding how they learned to draw images such as Ned Kelly. Hugh illustrated how to draw a person after talking with Bragge about drawing through observation. Following this, Bragge suggested a new theme for Hugh to draw based on previous conversations, so Hugh created a painting of a dog while describing what he was doing. In session/interaction 5, Bragge reflected on Hugh's art; she first found his interest (Ned Kelly) and assisted Hugh in recreating this individual in different contexts to broaden his thinking. She then had Hugh engage in painting different themes such as animals (dog, dragon) and discuss the process as he painted. Hugh previously struggled with self-confidence which became evident as he would make comparisons of his work and to Bragge's, so she would build this up during interactions by encouraging him to place value on the artwork he created (p. 23).

This next case study involved 12-year-old 'Louise' who was nonverbal and would often sit down or become reluctant when prompted to move around the school. Bragge noted that 'Louise' would engage in tapping during their sessions, so music was incorporated in accordance with the tapping which 'Louise' seemed to respond well to (Bragge & Fenner, 2009, p. 24). The first interaction presented with difficulties as 'Louise' was reluctant to engage and sat in varying corners of the room either crouching or going in circles (p. 24).

Although 'Louise' did not show significant interest in painting or creating art, she did produce one painting and rearranged/left scraps of colored paper on a sheet of white paper but often pushed materials offered away and out of reach (pp. 24-25). In the next interaction, Bragge painted a picture of a house with spiders in the sky, to which 'Louise' responded by imitating the *Insy, Winsy Spider* nursery rhyme and stayed seated by Bragge as she painted (p. 25).

In the final interaction, Bragge noted that while there were small breakthrough interactions between her and 'Louise', there was often refusal to engage. 'Louise' did explore the art materials when Bragge was less attentive and did become more comfortable in sitting next to Bragge through the sessions rather than receding into the corners of the room (p. 25).

The authors concluded that the interactive square approach "encouraged interaction and alternative forms of communication against autistic withdrawal in the case of two nonverbal participants" (p. 26). 'Daniel' was another example of success in utilizing this mode of art therapy; after many sessions with Bragge and developing a playful, fun relationships, instead of angrily splattering paint on the paper, 'Daniel' was able to paint a figure on paper. The authors note that this may indicate a desire within the autistic child to express themselves appropriately when given the proper environment/tools to do so (p. 26).

The interactive square approach is one of a multitude of strategies utilized within art therapy, the following study looked at theatre as a therapeutic intervention for children with autism.

Theatre was specifically chosen as an art therapy intervention for this study due to it involving “many aspects of socializing: observing, perceiving, interpreting and expressing thoughts, feelings and ideas” (as cited in Corbett et al., 2016, p. 660). In 2012, Kennedy and Adolphs “provided a convincing framework for understanding social dysfunction, in which the social brain, social cognition, and social behavior are interconnected” (as cited in Corbett et al. 2016, p. 658). Corbett et al, (2016) detail the Social Competency Framework which includes: social functioning, social interaction, social cognition, and the social brain (2016, pp. 658-659).

Social functioning is how the individual interacts with their environment everyday in a social aspect; social interaction is how one socially engages with others in their everyday lives; social cognition encapsulates, according to Kennedy and Adolphs (2012) “the processing that is elicited by, about, and directed towards other people” (p. 659) (as cited in Corbett et al., 2016); and the social brain is essentially what allows of the other social functions to evolve and take place (2016, pp. 658-660). For this study, 30 children with autism spectrum disorder, aged 8-14 years-old of which 24 were male and only 6 were female (2016, p. 662) were included. The children were divided into two groups: an experimental group who received 10, 4-hour sessions utilizing the SENSE (program that engages the children in exercises including role-play and character development) (p. 660).

During the theatre program, ASD children were paired with typically developing peers for the ASD children to have someone to engage with. During this time, peers were also tested on their knowledge of ASD with a 20-questions pretest which yielded a 66% average in

knowledge. The peers were also observed by the researcher for their implementation of appropriate behaviors/interactions with ASD children using a 5-point Likert scale to ensure fidelity was kept up to a high standard (not below 80%) (2016, p. 663). The experimental group engaged in the program each Saturday afternoon/evening at the University School of Nashville (2016, p. 663).

The first sessions consisted of familiarizing children with the program and performing theatre-based exercises which were then incorporated into a 45-minute play session within the third session. For the remaining sessions, the ASD children worked with their assigned peers to learn their character and lines/costumes assigned to perform at the end of the program (2016, p. 663).

Social interaction was observed via video recording of the peers and ASD children utilizing the Peer Interaction Paradigm (PIP) which, according to Corbett, Schupp, Simon, Ryan & Mendoza (2010) is “a 20-min semi-structured playground interaction in which the participant with ASD engaged in play with two trained, gender-and age- matched confederate peers” (as cited in Corbett et al. 2016, p. 663).

The ASD child’s social cognition was measured via the “NEPSY subtests (Korkman et al., 2007) of memory for Faces (Immediate and Delayed) and Theory of Mind (TOM)” (2016, p. 664). Memory for Faces Delayed was also used a means for the authors to measure the ASD child’s ability to recognize the faces of children they have previously engaged with. In order to measure the social brain aspect, the “Incidental face memory” (2016, p. 664) was administered utilizing using the Radboud Faces Database as specified in Langner et al. (2010) where the ASD children looked at 51 pictures of both unfamiliar houses and young adults faces (as cited in Corbett et al., 2016, p. 664).

Results from this study illustrated that theatre



intervention had a positive effect on social cognition within the experimental group as indicated by the Memory for Faces Delayed intervention (2016, pp. 666-667). Theory of Mind interventions also boosted the experimental group's ability to recognize social cues as evidenced by their engagement in theatre activities including role-play and character development with their peers (2016, p. 668).

Parents self-reported their child's social functioning also improved as evidenced by their interactions at home and was also observed by the authors as they saw the children within the experimental group engage in group play with peers. The authors note limitations to their study as well, which included: PIP groups where parent reported information as well as general group play may not accurately reflect they experimental group; "external informants" (p. 669) could have been better utilized to attest to the ASD child's behaviors; and the ability for this program to grow and be used in other settings where a child engages was not examined (2016, p. 669).

Theatre as a strategy in art therapy provides children with autism a chance to build up social skills that become essential as they grow older. In learning social skills, children with autism are also learning how to appropriately attach to those around them, the following study details a child with autism who was lacking in attunement/attachment to others.

Huma Durrani (2014) took a different approach to art therapy by looking at attachment in children with autism. Gomez and Baird (2005) explained that children with autism may experience sensory dysfunction that can incapacitate their ability to attune to others and gain the attachment that is imperative to a child's growth (as cited in Durrani, 2014, p. 100). Durrani studied one participant, Tom, a 12-year-old boy with autism who exhibited maladaptive attachment (2014, p. 103).

Durrani (2014) provides background information on

Tom, stating that he had a twin who also has autism; both were born prematurely with complications during the postnatal period and were nonverbal until the age of 12 (p. 104).

Tom's first art sessions were for assessment of his presenting problems; from here, Durrani was able to discern that the attachment issues stemmed from his early childhood when his mother and father shared a chaotic relationship. His father also shared that Tom's mother often did not engage with their children and would frequently miss visits with them (p. 104).

Durrani also noted that during the first few sessions, Tom exhibited "minimal eye contact, very little joint attention, and that his receptive language was extremely restrictive" (2014, p. 104) alongside sensory, self-regulatory, aggressive, and tactile problems (p. 105). During those initial sessions, Durrani made the artwork while Tom observed, to familiarize Tom with the activities and create a safe and comfortable environment. In order to exemplify attunement with Tom, as he became more comfortable in the sessions, Durrani began to mimic Tom's actions such as pouring paint when he did or sharing art materials which allowed Tom to become more connected to the therapist/process and see how his own actions affected the art therapist (p. 105). Over the course of the later sessions, the therapist observed Tom's increasing interest in paint, using it in every session whether using a paintbrush or pouring it right out of the bottle, even making more eye contact as he created (p. 106).

At the end of the art sessions, the therapist observed that Tom was able to sit 30 minutes at a time while he created with paint as well as had the capacity to choose what he wanted to paint on, materials he wanted to use, and when he was finished (p. 106). It was also noted that Tom's father, in seeing his son's success, created a space at home for Tom to engage in art activities with his nanny close-by who observed happiness as he painted. Other positive outcomes included less

maladaptive behaviors such as head banging and that his speech improved as stated by his speech therapist (p. 106).

Emery (2004) looked at art therapy in general, as a therapeutic intervention with her client, a 6-year-old boy with autism who she met with for a period of 7 months (p. 145). Emery explains that she is able to gain a sense of the child's world by observing how they create; "the execution of his or her drawing and the emotional importance attached to every object" (2004, p. 144). Emery explains the concept of object constancy, where a child can recognize and relate to objects around them in their everyday lives. Emery also explains that the child in this particular case had not developed "imagery schemata" (p. 145); for example, when asked to draw a picture of a house or person, the boy would write the word house on the piece of paper or write his or Emery's name instead of draw a person (p. 145).

Art therapy began with playdough, where the boy made a ball and flattened it out into the shape of a circle. Following this, Emery encouraged him to trace around the now circular playdough which, after many sessions, allowed him to gain more control over his motor skills. Over time, the boy started drawing more at home and even drew people and was able to identify what they were to Emery as he drew. The boy also utilized puppets during a session with Emery and used a more normal voice to communicate rather than the high-pitched tone he would speak in during earlier sessions (p. 145).

During one session, the boy drew the famous McDonald's arches on a piece of paper. Emery then prompted him by asking how he would get to McDonalds, the boy stated that his mom would drive him in a car and was then encouraged to draw that scenario. In the third picture, the boy drew a line across the paper to signify the ground, which Emery explained was a prominent step as it means the child is feeling grounded (p. 146).

Also significant was the child's desire to share a book of his favorite restaurants to Emery, signifying desire to connect and please another person. The child in Emery's study indicates positive changes can be gained by children with autism through art therapy.

Expressive drawing is another example of art therapy that can be helpful when working with autistic children as evidenced by the work done by Jolley, O'Kelly, Barlow, and Jarrold (2013). The authors explain that in comparison to the artwork of neurotypical children, autistic children lack emotion in their creative expression (p. 144). Participants in their study included sixty children: fifteen comprised of children with autism, aged 6-18-years-old, who were "matched to children with moderate learning difficulties (MLD) on chronological and verbal mental age" as well as two groups of neurotypical children (p. 145). Each child was provided with a booklet of white paper with a black border where they would be prompted to draw their representation of a happy picture and a sad picture (p. 145). One of the researchers, O'Kelly, visited the children in their schools the day before the study. For the pictures, there was no time limit and children were unlimited in what they could draw as long as the pictures represented the feelings of happy and sad (p. 145). After the drawings were completed, they were rated on a 7-point Likert scale "whether it included content relating to a 'people' theme and 'social' theme in accordance with the mood requested" (p. 146). Surprisingly, what the authors found was the children with autism produced emotionally expressive drawings comparable to the neurotypical group which suggests that rather than autism effecting expressive drawing, mental age may be a prime factor (p. 147). When looking at the autistic children's drawing of people however, there were significant differences in maturity of their drawings by utilizing much less detail for happy/sad expressions in comparison to the other groups of children (p. 148).

As mentioned, art therapy can take numerous forms,

perhaps one of the less studied is that of puppetry, which Bani Malhotra (2019) studies in children with autism. Malhotra wanted to encourage emotional empathy within 16-year-old Lisa, an adolescent diagnosed with autism who was receiving art therapy services prior to this study for 6 years (p. 184). In this study, the Face Stimulus Assessment, used to measure visual and memory retention and the Interpersonal Reactivity Index, self-report questionnaire measuring 4 subscales (fantasy, perspective taking, empathic concern, and personal distress) were used (p. 184).

Lisa's art therapy was based upon her individualized education plan (IEP) and spanned across 3 months during which she was engaged in 12, 30-minute sessions (p. 185). In order to facilitate emotional empathy, Malhotra created three distinct puppets: "happy girl, sad boy, and neutral elder man" (p. 185) and then allowed Lisa to play with the puppets without any restrictions and, as noted by Malhotra, during sessions when Lisa did not want to engage with the puppets, she was encouraged to draw self-portraits illustrating different emotions (p. 185). A theme was also chosen by Lisa every other week from the following emotion groupings: "sad/loneliness/grief, happy/calm/excited, and anxious/nervous/worried" (p. 185); in doing so, Malhotra could assess which emotion(s) Lisa would choose based upon the puppets she was making/playing with.

During the 12 sessions, there were four main themes, the first being interpersonal interactions (Malhotra, 2019, p. 185). Lisa was able to learn and exemplify this skill through puppet play as evidenced by her ability to verbalize positive and negative interactions she experienced with others while also expressing missing various individuals in her life (pp. 185-186). Intrapersonal interactions were the next theme where Lisa exemplified her ability to detail facial features throughout her artwork and verbalized somatic bodily responses to emotions such as her eyes watering when she felt stress (p. 186). Other notable skills Lisa used

during her sessions relating to intrapersonal interactions were her ability to regulate, self-validate, and scripting her behaviors (p. 186). Next was the awareness of other's emotions which Lisa engaged in through puppet play by recognizing their emotions and giving confirmation of those emotions she expressed that the puppet felt (p. 187). The last theme was externalization; Malhotra states that loneliness was a recurring emotion during puppet play with Lisa as she had the puppets express missing certain individuals (p. 186).

Due to Lisa's ability to engage in and illustrate the four themes presented within her sessions, she became better able to start developing emotional empathy towards others. The puppets served as a "medium to externalize Lisa's feelings of loneliness and anxiety" and as a gateway for her to problem solve tough situations and learn to express her emotions in a constructive manner (p. 188). There were also significant differences in the self-report questionnaire Lisa completed between the pre-and post-period when it was given (p. 189). For example, the author notes that for empathic concern, Lisa's score was higher, following the art weretherapy intervention, in the post-test when compared to the pretest (p. 189).

Richard, More, and Joy (2015) also evaluated the inability for autistic children to recognize emotions by utilizing nineteen children previously diagnosed with autism between the ages of 8 and 14 assigned to either a control (6 males, 3 females) or treatment (10 males) group (p. 15). To accurately measure the children's ability to recognize emotions within an individual's face, the Diagnostic Analysis of Nonverbal Accuracy 2-Child Facial Expressions (DANVA 2-CF) was administered (p. 15). The DANVA 2-CF allows for the measurement of four distinct emotions: happiness, sadness, anger, and fear and are represented through "24 photographs of children's facial expressions (6 photographs for each emotion)" (p. 15) where the children were asked to identify the emotion on the child's face in the pictures both before and after the following intervention. For the

intervention, the authors created an art therapy strategy called Build-A-Face (BAF) that consisted of a mannequin head and materials representing facial features including eyes, nose, and a mouth. The children in the treatment group were encouraged to build-a-face representing one of the four emotions (happiness, sadness, anger, and fear) (pp. 15-16). For example, the child would be prompted to create a happy face and given two attempts to choose the mouth that best represented happiness (p. 16). The control group was given an art activity utilizing “Magneatos, a three-dimensional construction set containing 72 primary-colored plastic magnetic balls and rods” (p. 15), to create their own 3D designs and were also given the DANVA 2-CF before and after their art activity (p. 16). Statistical results found a mean score of 11.00 on the DANVA 2-CF pretest in the treatment group and 9.67 for the control group; the posttest results found a mean of 12.50 within the treatment group and the control group was 10.11 illustrating there was no statistical difference between the treatment and control groups (p. 16). The treatment group exhibited change in identifying emotions through facial expression for 7 of the 10 participants and with only 4 out of 9 in the control group exhibiting positive change (p. 17).

### Art Therapy and Psychosocial Functioning for ASD Children

Another deficit children with autism experience is in social functioning and interacting appropriately with those around them in any given environment. Epp (2008) used group art therapy with cognitive behavioral therapy as a means of helping them better engage with their peer and build up social skills (pp. 30-31). SuperKids, created in 1999, was the program utilized for this study where therapists, with backgrounds in “art therapy, drama therapy, school counseling, and special education” (p. 30) led the groups from September to May (p. 30). The children (66 total participated), aged 6-12, were taught social skills through the SuperKids program that included nonverbal cues, compromise,

feelings expression, and how to win/lose a game (p. 31). The sessions included the therapists asking the children to fold a piece of paper in half and on one side, draw something such as an animal or what they like about themselves on one half of the paper and 20 minutes of unstructured free-time where the children were allowed to either choose to do an art project or play a game, but had to do these activities with others (p. 31). In order to assess the children, the Social Skills Rating System, developed by Gresham and Elliot (1990) was utilized; “the social skills section measures positive social behaviors in the following four categories: cooperation, assertion, self-control, and responsibility” (2008, p. 32). Results from this study found a statistical increase in assertion scores; pretest (9.30) and posttest (10.32) and decreases were found in internalizing (6.64 to 5.89) and hyperactivity (8.77 to 7.81) indicating a statistically significant change between pre-and posttest scores (p. 33). Unfortunately, there were no statistically significant increases in the other social skills measured and none for responsibility. The limitations of the study were apparent due to the area in which it was administered, not allowing for generalization to outside populations as well as not including a control group for comparison of the treatment group of children (p. 35).

Isserow (2008) studied autistic children and art therapy as a triadic relationship between child, art, and the therapist. Mary was a 17-year-old student in England, diagnosed with autism-spectrum disorder, nonverbal, and engaged in self-injurious behaviors when feeling stressed out, as reported by her mother (p. 38). Isserow explained that Mary generally always needed extensive prompting to engage with the art materials and when she did, would pour copious amounts of paint on the blank sheet of white paper. Mary was also observed to suck on her hands during sessions, so she was redirected to play at the sink in the water by Isserow, about which he states, “She was eager to place her hands in the flowing water and would frequently bring her wet hand up to her mouth” (p. 39). Although fleeting, Isserow talks about Mary being aware of his



words towards her and recognized essentially a third mind in her presence (p. 39). Paul, a 12-year-old who suffered from anxiety and autism was the next client Isserow details having worked with. Paul presented with a more eager approach to art therapy in comparison to Mary and played with clay and discussed his experience with Isserow after finishing making the shape he wanted; “a disembodied head in a state of fright” (p. 40). Overall, Paul was able to recognize that Isserow had his own thoughts and opinions pertaining to the art Paul had created and could therefore evaluate his own art with a different perspective (p. 41).

D’Amico and Lalonde (2017) further investigated art therapy in helping children with autism learn social skills through a program in which the children could discuss and find solutions for difficult social situations they had experienced. The study was conducted in Canada and consisted of six (five boys, one girl), 10-to-12-year-old children diagnosed with autism and requiring significant support from others (p. 178). The Social Skills Improvement System-Rating Scales is “a comprehensive analysis of children’s social skills and problem behaviors in reference to typically developing peers” (p. 178) was administered to the children before engaging in art therapy and they went on to meet once a week as a group with an art therapist for 21 weeks (p. 178). The art therapist would lead groups based upon the social skills needing improvement among the children based upon SSIR-RS scored while incorporating art activities (pp. 178-179). For example, the authors explained how the children scored lower in the empathy category and specifically, in recognizing emotions, so the corresponding art activity was to make masks depicting various emotions (p. 179). The group would also participate in a discussion together about their negative and positive experiences during these art therapy sessions within the group.

The study found a statistically significant change in hyperactivity/inattention ( $p < .05$ ) as well as for assertion ( $p < .05$ ) (p. 179). The authors also noted that as the

sessions progressed, they were able to observe more self-confidence within the children and a willingness to be cooperative with each other. The biggest limitation to this study was the small sample size (six children) who were mainly from middle-class families as well as it did not include a control group for comparison (p. 181).

#### Resources Available to Parents of Children with ASD in Alaska

The following list refers to current resources available within the state of Alaska for those families with children diagnosed with autism: Alaska Autism Resource Center; Governor’s Council on Disabilities and Special Education; Stone Soup Group; Autism Society of America, AK Goldheart Chapter; Exceptional Family Member Program (EFMP); Assistive Technology of Alaska; Special Education Service Agency; Alaska Center for Resource Families; Early Intervention/Infant Learning Program; Department of Education and Early Development Special Education (SPED) (<https://dhssalaska.gov/dph/wcfh/Pages/autism/SOA.aspx>); Playful Journeys; Setfree Alaska, and a Perfect Fit (AK)

#### Art Therapy in Different Populations

The next section will discuss how art therapy has been used outside of the United States and the benefits recorded by the art therapists working with autistic children in these areas. A study by Koo and Thomas (2019) was conducted in India and included eighteen children diagnosed with autism spectrum disorder, between the ages of four and twelve, where nine were in the control group and nine in the treatment group (p. 210). Each child’s symptom severity was evaluated initially based upon scores from the Childhood Autism Rating Scale (CARS); following this, Koo engaged in eight individual art therapy sessions with the children in the experimental group. Each session was formatted to fit the needs of each child individually; they were instructed to pick among a plethora of art materials and

their creations were collected at the end of each session (p. 210). The findings were that through these art therapy sessions, the symptom severity within the experimental group decreased as evidenced by posttest CARS scores in comparison to the control group. Specifically, “there was a [statistically] significant improvement in the level and consistency of intellectual response of children with ASD,  $t(8)=2.83$ ,  $p=.02$ , and in relating to people,  $z=-2.45$ ,  $p=.014$  (p. 211).

Art therapy has also been utilized within the population of young girls who have been sexually abused. Specifically, Gertie Pretorius and Natascha Pfeifer (2010) wanted to investigate the effectiveness of art therapy with girls aged 8-11 years of age in dealing with the trauma of being sexually abused. Of importance is the tremendous effect a trauma such as this can have on the child’s ability to regulate their emotions and behaviors, often leading to anxiety, sexual pre-occupation, posttraumatic stress disorder, suicidality, soiling themselves and more (Pretorius & Pfeifer, 2010, p. 63).

In South Africa, where the study was conducted, the number of sexual abuse cases was highest of any country around the world; young girls were enrolled in the art therapy program created by the authors and attended eight sessions.

The study found that symptoms of anxiety, depression and sexual trauma decreased significantly but did not decrease in symptoms of low self-esteem (Pretorius & Pfeifer, 2010, 70). Another study conducted in 2010 by Case illustrated how art therapy could be used as an effective tool in assisting traumatic memories that cannot otherwise be expressed come alive through art. One child was used in this study, Harry, who was six years old and experienced issues with sleeping due to recurring nightmares, prompting him to sleep with his mother. He was often cared for by his older siblings due to the mental (depression) and physical (from domestic abuse Harry had witnessed) ailments that

prevented her from meeting the children’s needs (p. 4). During the initial sessions, Harry engaged in play with a doll house and would hide “the babies, children, and young animals in cupboards. He then had baddies encircling the house. The adult humans and animals were not able to defend the children but joined them, also hiding under beds and in cupboards” (p. 6).

After missed appointments, the third session started with Harry’s mother giving Case (2010) a letter in which she detailed the difficulties Harry was having after an unexpected visit from his father such as troubles sleeping and wishes “to die or and/or thought that he would die” (p. 8). Harry engaged in painting in the fourth session, where he used colors such as black, orange and pink, making handprints in black and cutting orange strips of paper to place over the black he had painted on the paper. Case was not able to discern what his art meant but suggested he was trying to keep something dark locked up (p. 9). Case also detailed ball play with Harry, where he opened up about his experiences so far in his childhood, “Old House Paintings” (pp. 14-15) where Harry detailed his experience of watching a little bird being eaten by a crow, which caused him sadness.

This memory prompted him to talk more about his uncle’s death and the finality of it, “Little and Large” (p. 15) where, through more ball play, Harry exhibited more signs of seeing himself as a boy and not as a baby (from the way his mother treated him) as evidenced by his distinction between boys and girls and throwing the ball harder at Case (p. 16). Through play and Harry’s progression in art therapy, Case was able to observe “The art work changed from undifferentiated ‘dark thought and feelings’ represented by black paint to differentiated images of ‘haunted houses’ and ‘old pictures’ relating both to the way that the past constantly intruded on the present and also to specific traumatising incidents” (p. 22).

## Treatability of ASD in Children

### Parent Perception of Art Therapy

Studies described previously have focused on how art therapy positively benefits children with autism, but what about the parents of these children, what are their perceptions of this mode of therapy? Lee and Peng (2017) focused on the mother's opinions of art therapy by designing a study specifically geared towards mothers of children with autism. In Hong Kong, mothers were selected from a youth center where fifteen comprised the control group and eleven were in the therapy group (p. 13). Before participating in the study, mothers were asked, as a group, to fill out the provided questionnaires and afterwards, individually participated in intake interviews with a social worker about what the process would look like (p. 13). A community hall was utilized as the art therapy environment where numerous art materials were presented to the mothers; Lee facilitated the group while Peng observed. The first initial sessions were unstructured so the women could become familiar with each other and get comfortable with the process; the middle sessions (3-7) were outlined for the mothers to explore the positive aspects of their childhood through art; and the final sessions (8-14) were "used to help each participant to review her relationship with her children, reflect on characteristics of her children, and her own expectations of her children" (p. 14). The following measures were administered before and after this study: Brief-Symptoms Inventory-18; The Parenting Stress Index; Parent-Child Relationship Questionnaire; Child Behavioral Checklist (parent reported); questionnaire relating to parental mood/related areas; and a Change Interview (pp. 14-15). The results yielded no change in the mother's understanding of their child with special needs; art therapy did not, unfortunately, decrease the negative emotions felt by these mothers towards their child's difficulties (p. 17). The Change Interview did find a

positive change in their stress and mood following the art therapy sessions and that the mothers were able to see through their child's eyes, the difficulties they face on a daily basis as children with special needs (p. 17).

### Conclusion

Thompson detailed the history of autism through the work of Itard (1802) and his observations of a feral man who presented with behaviors researchers today would deem like those of individuals with autism. Kanner (1943) continued research with children with autism through various case studies detailing their behaviors and symptoms noting a main theme of the children's disinterest in eating, inability to respond to and ask questions appropriately, interacting with other children, and proper pronoun use. In 1973, DeMyer, Barton, DeMyer, Norton, Allen and Steele published a follow-up longitudinal study relating to Kanner's findings that included 85 autistic boys and 35 autistic girls, aged 5.5 to 12 years old. From this, studies continued to illustrate the observed maladaptive behaviors within children with autism and that placing them in institutions does did not prove helpful, rather, therapeutic strategies were more beneficial. Russel and Norwich (2011) shed light onto parents, specifically mothers, perspective of having a child diagnosed with autism as well as those parents who did not want an official diagnosis. The parents who opted for a diagnosis of autism explained how it opened more doors for services and provided a chance to lessen judgement while out in public. The parents opposed to a diagnosis spoke about fear and how their child would forever be labelled and treated differently due to their diagnosis. Parent perceptions of autism leads into the discussion of what the symptoms are depending on severity. The DSM-5 provides statistical information on symptom severity, what that presents as within the individual and what level of support they would need. Dominick, Davis, Lainhart, Tager-Flusberg and Folstein (2007) studied specific behaviors in 107 children, 67 of whom were diagnosed with autism

spectrum disorder when compared to 39 children with learning impairment (p. 148). These behaviors children with autism may experience included: “eating, sleeping, self-injurious behavior, aggression, and temper tantrums” (pp. 146-147). The authors found that the afore mentioned atypical behaviors were more prominent in the children with autism. Comorbidity of other mental illness with autism as well as the influence of environment factors also plays a significant role in how a child with autism will present themselves and engage in the world around them, as evidenced by the study conducted by Modabbernia, Velthorst and Reichenberg (2017). While comorbidity and environmental factors are important factors to consider when evaluating autism, neurology also presents important information. The authors within the presented studies found that there is not a specific area of the brain that is affected, rather, different areas will activate dependent upon the symptoms being exhibited. To assist with the afore mentioned maladaptive behaviors, art therapy encapsulates a multitude of methods including painting, drawing, puppetry, theatre, and group therapy. The studies documenting these strategies illustrated statistically significant changes in negative behaviors whether within a classroom, group, or home setting following art sessions. Art therapy has also been successfully used within different populations including children with autism who live in India (Koo & Thomas, 2019) sexually abused young girls (Pretorious & Pfeifer, 2010), and one child, Harry (Case 2010) who struggled with breaking free of his baby role and dealing with his mother’s mental and physical ailments. Autism is a well-documented topic and through these studies, exemplifies how it can differ from person to person, there is no clear-cut profile of how a child with autism will present every day. Further research may focus on including larger populations to appropriately generalize to other individuals and include more data specific to girls with autism as many of the studies were mostly comprised of boys. It would also be pertinent to include more art therapy studies on different cultures and populations of

children with autism outside of the United States to compare strategies and what more could be added to ensure children with autism are receiving the most up-to-date and successful strategies in art therapy.

## References

1. American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
2. Autism Speaks (n.d.) Autism statistics and facts. Retrieved from: <https://autismspeaks.org/autism-stastics>
3. Batista I. C., Gandolfi L., Nobrega Y. K., Almeida R. C., Almeida L. M., Campos Junior D., & Pratesi R. (2012) Autism spectrum disorder and celiac disease: no evidence for a link. *Arquivos de Neuropsiquiatria*, 70, 28–33.
4. Bragge, A., & Fenner, P. (2009). The emergence of the ‘Interactive Square’ as an approach to art therapy with children on the autistic spectrum. *International Journal of Art Therapy*, 14(1), 17-28. doi: 10.1080/1745483090300632
5. Case, C. (2010). Representations of trauma, memory-layered pictures, and repetitive play in art therapy with children. *ATOL: Art Therapy Online*, 1(1), 1-28.
6. Corbett, B. A., Schupp, C. W., Simon, D., Ryan, N., & Mendoza, S. (2010). Elevated cortisol during play is associated with age and social engagement in children with autism. *Molecular Autism*, 1(1), 13. doi: 10.1186/2040-2392-1-13



7. Corbett, B.A., Key, A.P., Qualls, L., Fecteau, S., Newsom, C., Coke, C., & Yoder, P. (2016).
8. Improvement in social competence using a randomized trial of a theatre intervention for children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 46, 658-672. doi: 10.1007/s10803-015-2600-9.
9. D'Amico, M., & Lalonde, C. (2017). The effectiveness of art therapy for teaching social skills to children with autism spectrum disorder. *Art Therapy: Journal of the American Art Therapy Association*, 34(4), 176-182. doi: 10.1080/07421656.2017.1384678
10. DeMyer, M.K., Barton, S, DeMyer, WE, Norton, J.A., Allen, J., & Steele R. (1973) Prognosis in autism: A follow-up study. *Journal of Autism Child Schizophrenia*, 3, 199–246.
11. Dominick, K.C., Davis, N.O., Lainhart, J., Tager-Flusberg, H., & Folstein, S. (2007). Atypical behaviors in children with autism with a history of language impairment. *Research in Developmental Disabilities*, 28, 145-162.
12. Durrani, H. (2014). Facilitating attachment in children through art therapy: aA case study. *Journal of Psychotherapy Integration*, 24(2), 99-108.
13. Epp, K. M. (2008). Outcome-based evaluation of a social skills program using art therapy and group therapy for children on the autism spectrum. *Children & Schools*, 30(1), 27-36.
14. Freilich, R., & Shechtman, Z. (2010). The contribution of art therapy to the social, emotional, and academic adjustment of children with learning disabilities. *The Arts in Psychotherapy*, 37, 97-105.
15. Goldman S., Wang C., Salgado M.W., Greene P.E., Kim M., & Rapin I. (2009). Motor stereotypies in children with autism and other developmental disorders. *Developmental Medicine and Child Neurology*, 51, 30–38. [PubMed: 19087102]
16. Gomez, C. R., & Baird, S. (2005). Identifying early indicators for autism in self-regulation difficulties. *Focus on Autism and Other Developmental Disabilities*, 20, 106 –116. doi:10.1177/10883576050200020101.
17. Green D., Charman T., Pickles A., et al. (2009). Impairment in movement skills of children with autistic spectrum disorders. *Developmental Medicine and Child Neurology*, 51, 311–316. [PubMed: 19207298]
18. Isis, P.D., Bush, J. Siegel, C.A., & Ventura, Y. (2010). Empowering students through creativity: Art therapy in Miami-Dade County public schools. *Art Therapy: The American Art Therapy Association*, 27(2), 56-61. doi: 10.1080/07421656.2010.10129712.
19. Isserow, J. (2008). Looking together: Joint attention in art therapy. *Art Therapy: International Journal of Art Therapy*, 13(1), 34-42. doi: 10.1080/17454830802002894.
20. Itard, E.M. (1802). *An historical account of the discovery and education of a savage man, or of the first developments, physical and moral, of the young savage caught in the woods near Aveyron in the year 1798.* Wilson & Co.
21. Jeste, S.S. (2011). The neurology of autism








- spectrum disorders. *Current Opinion in Neurology*, 24(2), 132-139. doi: 10.1097/WCO.0b013e3283446450
22. Jolley, R.P., O'Kelly, R., Barlow, C.M., & Jarrold, C. (2013). Expressive drawing ability in children with autism. *British Journal of Developmental Psychology*, 31, 143-149. doi: 10.1111/bjdp.12008
  23. Kanner, L. (1943) Autistic disturbances of affective contact. *Nervous Child* 2:217–50
  24. Kennedy, D. P., & Adolphs, R. (2012). The social brain in psychiatric and neurological disorders. *Trends in Cognitive Sciences*, 16(11), 559–572. doi:10.1016/j.tics.2012.09.006.
  25. Koo, J., & Thomas, E. (2019). Art therapy for children with autism spectrum disorder in India. *Art Therapy: Journal of the American Art Therapy Association*, 36(4), 209-214. doi: 10.1080/07421656.2019.1644755.
  26. Korkman, M., Kirk, U., & Kemp, S. (2007). *NEPSY* (2nd ed.). San Antonio, TX: Harcourt Assessment.
  27. Kuo, N.C., & Plavnick, J.B. (2015). Using an antecedent art intervention to improve the behavior of a child with autism. *Journal of the American Art Therapy Association*, 32(2), 54-59. doi: 10.1080/07421656.2015.1028312
  28. Langner, O., Dotsch, R., Bijlstra, G., Wigboldus, D., Hawk, S., & van Knippenberg, A. (2010). Presentation and validation of the Radboud Faces Database. *Cognition and Emotion*, 24(8), 1377–1388.
  29. Lee, S-L., & Cheng, M. S-C. (2017). The effects of group art therapy on mothers of children with special educational needs. *Art Therapy: Journal of the American Art Therapy Association*, 34(1), 12-19. doi: 10.1080/07421656.20161273697
  30. Malhotra, B. (2019). Art therapy with puppet making to promote emotional empathy for an adolescent with Autism. *Journal of the American Art Therapy Association*, 36(4), 183-191. doi: 10.1080/07421656.2019.1645500
  31. Modabbernia, A., Velthorst, E., & Reichenberg, A. (2017). Environmental risk factors for autism: An evidence-based review of systematic reviews and meta-analyses. *Molecular Autism*, 8(13), 1-16. doi: 10.1186/s13229-017-0121-4
  32. Mostofsky S.H., Burgess M.P., Gidley Larson J.C. (2007). Increased motor cortex white matter volume predicts motor impairment in autism. *Brain*, 130, 2117–2122. [PubMed: 17575280]
  33. Ozonoff S., Young G.S., Goldring S., et al. (2008). Gross motor development, movement abnormalities, and early identification of autism. *The Journal of Autism and Developmental Disorders*, 38, 644–656. [PubMed: 17805956]
  34. Pretorius, G., & Pfeifer, N. (2010). Group art therapy with sexually abused girls. *South African Journal of Psychology*, 40(1), 63-73.
  35. Richard, D.A., More, W., & Joy, S. P. (2015). Recognizing emotions: Testing an intervention for children with autism spectrum disorder. *Journal of the American Art Therapy Association*, 32(1), 13-19. doi:10.1080/07421656.2014.994163

36. Russell, G., & Norwich, B. (2011). Dilemmas, diagnosis and de-stigmatization: Parental perspectives on the diagnosis of autism spectrum disorders. *Clinical Child Psychology and Psychiatry*, 0(0), 1-17. doi: 10.1177/1359104510365203
37. Schweizer, C., Spreen, M., & Knorth, E. J. (2017). Exploring what works in art therapy with children with autism: Tacit knowledge of art therapists. *Art Therapy: Journal of the American Art Therapy Association*, 34(4), 183-191.
38. Shapiro, E. S. (2010). *Academic skills problem: Direct assessment and intervention* (4th ed.). New York, NY: Guilford.
39. Taylor L.E., Swerdfeger A.L., Eslick G.D. (2014). Vaccines are not associated with autism: An evidence-based meta-analysis of case-control and cohort studies. *accine*, 32(29), 3623-3629.
40. Thompson, T. (2013). Autism research and services for young children: History, progress and challenges. *Journal of Applied Research in Intellectual Disabilities*, 26, 81-107.
41. Yasuhara A. (2010). Correlation between EEG abnormalities and symptoms of autism spectrum disorder (ASD). *Brain and Development*, 32, 791-798. [PubMed: 20826075]



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