

Art Therapy and Autism

A Literature Review

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Abstract

The literature review focuses on the characteristics and epidemiological theories of autism spectrum disorder; the triad of impairments: socialization, communication and imagination; the benefits and theoretical approaches of art therapy when working with individuals with autism spectrum disorders and their families; assessing individuals with autism spectrum disorder; and the family culture of autism spectrum disorder. Adlerian theory is the perspective upon which this literature review focuses. The literature review strives to answer the research question: do art therapy interventions and assessments improve socialization, communication and imagination in individuals with autism spectrum disorder, and in turn reduce stresses in the family culture? This researcher determines to discover effective ways of treating and assessing individuals with autism spectrum disorder and their families, as the prevalence is growing at a fast pace. This researcher speculates that effective treatments for individuals with autism spectrum disorder may reduce the triad of impairments and therefore, enhance the lives of individuals with autism spectrum disorder. The results indicate that art therapy is an effective way to treat and assess individuals with autism spectrum disorder and their families.

Art Therapy and Autism Spectrum Disorder: A Review of Literature

The purpose of this literature review is to discover effective treatment for individuals with Autism Spectrum Disorder (ASD) and their families. Literature is collected, analyzed and summarized below to reveal effective ways to detect, diagnose, assess, treat and support individuals with ASD and their families. To accomplish this, the literature review outlines six sections of study for clarity: description of the criteria for ASD, outline of the theory of mind hypothesis, explanation of the “triad of impairments”, benefits of art therapy, procedures of assessing individuals with ASD, and a report of the family culture and available supports.

The first section provides a description of the impairments associated with ASD, and the possible theory of mind deficit that some researchers suggest to be the cause of the impairments that make up the criteria for ASD in the Diagnostic Statistical Manual IV-TR. The intention of this section is to offer clarity and understanding of ASD to create a foundation for the sections that follow.

The next section provides further information about the impairments associated with ASD, specifically “the triad of impairments.” Socialization, communication and imagination are included impairments in this triad. The purpose of this section is to identify possible reasons as to why individuals with ASD may have these impairments. This section focuses upon the theory of mind deficit as the primary reason for the “triad of impairments.”

A brief explanation of art therapy is offered in the next section, as well as a summary of four case studies that outline the benefits of using art therapy with individuals with ASD. This section includes suggestions and implications for the relevance of art therapy and indicates noted progress demonstrated by individuals with ASD. This section provides evidence of the benefits

of art therapy with individuals with ASD, as well as the therapeutic approaches used to foster these benefits.

The fourth section describes the criticality of early identification of ASD, and methods for detecting ASD in toddlers. This section also provides assessments for comorbid disorders amongst individuals with ASD. The intention of this section is to present effective assessments for ASD, because effective assessments provide for effective treatments.

The fifth, and final, section illuminates the family culture associated with ASD. This section aims to provide an understanding of the context in which the individual lives because having an understanding of the context in which the individual lives is essential in offering effective treatment. Additionally, this section details resources shown to be helpful in supporting the families of individuals with ASD. It is pertinent to collaborate with families, as it may improve the life functioning of the individual with ASD.

Adlerian assessments and interventions are included throughout this literary review. Adlerian theory is based on capitalizing the strengths of individuals to improve their life functioning. Moreover, this literary review aims to discover effective ways to treat individuals with ASD by reducing their “triad of impairments” while strengthening their “triad of strengths” (Baron-Cohen, 2004, p. 73).

Autism Spectrum Disorder

The research describes Autism Spectrum Disorder (ASD) as having different “triads.” Simon Baron-Cohen (2004), a seminal researcher of ASD, identifies three triads related to ASD: triad of behavioral domains (social development, communication, and repetitive behavior/obsessive interests); triad of impairments (social interaction, communication and imagination); and triad of strengths (attention to detail, limited yet profound interests, islets of

ability). Baron-Cohen (1985) hypothesized that deficits in a theory of mind might be a cause of the triad of impairments in individuals with ASD. The following paragraphs summarize the characteristics of ASD and the theory of mind hypothesis.

Criteria of Autism Spectrum Disorder

The American Psychological Association (2000) place Autism, clinically known as Autistic Disorder, in the Pervasive Developmental Disorders (PDD) category in the Diagnostic Statistical Manual (DSM IV-TR). Also included in the PDD category are Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Syndrome (AS) and Pervasive Developmental Disorder, not otherwise specified (PDD-NOS). These disorders are similar to Autism but hold distinct differences. This paper will not describe the differences of Rett's Disorder or Childhood Disintegrative Disorder, but will focus on Autism Spectrum Disorders (ASDs). Clinicians often refer to Autistic Disorder, AS and PDD-NOS as ASDs (Rutter, 2005, as cited in Rice, 2006). Individuals with AS present with the same characteristics as autism, but have no history of speech delay. Individuals diagnosed with PDD-NOS do not meet criteria for a specific PDD, but have significant impairments in social interaction, communication and behavior (American Psychological Association, 2000).

An individual receives the diagnosis of ASD when the individual has abnormalities in the triad of behavioral domains: socialization, communication and restricted interests and activities. An individual must also have the triad of impairments: socialization, communication and imagination. These impairments manifest themselves in individuals with ASD to greater or lesser degrees, ranging from severe learning disabilities to superior cognitive skills. This literature review will detail the triad of impairments later in the literature review (American Psychological Association, 2000; Martin, 2009).

Theory of Mind

A multitude of possible theories for the occurrence of ASD exists in professional literature. Of the found possible theories, theory of mind (ToM) was the most prominent. The focus of this paper will be on ToM, as it is widely researched and relevant to the research question aforementioned.

Premack and Woodruff (1978) first introduced the term theory of mind (ToM) in their research *Does the chimpanzee have a theory of mind?* They defined ToM as the ability to predict others' mental states. Based on Premack and Woodruff's research, Baron-Cohen, Leslie and Frith (1985) hypothesized that children with ASD do not have a ToM. Having a ToM is crucial in developing meaningful relationships, which may explain the abnormalities in social interaction, communication and imagination for individuals with ASD. Further explanation of Baron-Cohen et al's study follows in detail.

Baron-Cohen et al's first aim was to demonstrate that children with ASD, regardless of IQ, would lack a ToM. The authors' second aim was to demonstrate that children without the ASD diagnosis, but with severe mental retardation, such as Down's syndrome, would have a ToM. The results of their research warrant this claim (Baron-Cohen et al., 1985).

A brief summary of the study's participants and procedure follows to clarify the results. The participants were as follows: twenty children diagnosed with ASD, fourteen children diagnosed with Down's syndrome, and twenty-seven neuro-typical children. The children with ASD had an average chronological age (CA) of 11, and an average IQ of 82; the children with Down's syndrome had an average CA of 10.5 and an average IQ of 64. The children in the neuro-typical group had an average CA of 4.5. The authors assumed that the mental age (MA)

of the neuro-typical children would be lower than the other groups, as it was assumed that their CA mimicked their MA (Baron-Cohen et al., 1985).

The participants' ToM was tested using a false belief (FB) test, called the Sally and Anne task. The Sally and Anne task consists of the following procedure. As the participant watches, the Sally doll places a marble in location A and then leaves the room. While Sally is gone, the Anne doll moves the marble to location B. The experimenter then asks the participant where Sally will look for the object upon return. The participant passes the test if s/he answers that Sally will look for the marble in location A. This signifies to the experimenter that the participant understands that people can have a FB. The participant fails if s/he answers that Sally will look for the marble in location B, because Sally's FB was not taken into account (Baron-Cohen et al., 1985).

Results indicate significant differences between the ASD group and the non-ASD groups. Sixteen out of twenty children with ASD failed the test (80%). Whereas, twenty-three out of twenty-seven neuro-typical children (85%) and 12 out of 14 of the children with Down's syndrome (86%) passed the test (Baron-Cohen et al., 1985).

Baron et al (1985) illuminated that the children with ASD answered the question based on where the marble really was, and did not take into account the doll's FB. The neuro-typical children and the children with Down's Syndrome answered the question based on where the marble was placed before the doll left the room, taking into account the doll's FB. These results strongly support the hypothesis that children with ASD lack ToM. In other words, "the autistic subjects are unable to impute beliefs to others and are thus at a grave disadvantage when having to predict the behavior of others" (Baron-Cohen et al., 1985, p. 43).

Summary

Research indicates that ASD is a complicated disorder. There are many hypotheses of epidemiology, as well as evidence that are both supporting and negating of the hypotheses. Research indicates that studies have continued since Baron-Cohen et al first hypothesized the lack of ToM in individuals with ASD, in particular, the origination of ToM and the scope of ToM abilities. In a more recent study, Wallace, Coleman and Baily (2008), hypothesized that individuals with ASD would not have impairments in identifying basic emotional states: anger, disgust, fear, happy, surprise, sad and neutral. This hypothesis was based on research performed by Baron-Cohen, Wheelwright and Jolliffe (1997). The results of Baron et al's study suggest that individuals with ASD could recognize basic emotional states; that an individual with an impaired ToM is still able to recognize basic emotional states (Baron-Cohen, Wheelwright, & Jolliffe, 1997). However, the results of Wallace et al (2008) indicated the hypothesis false; individuals with ASD showed significant impairments in identifying basic emotional states. These contradicting results show that more investigation regarding the origination and scope of ToM abilities is needed.

Triad of Impairments

Research is conducted to find a connection between the 'triad of impairments' to the lack of a theory of mind (ToM) in individuals with ASD. The triad of impairments includes socialization, communication and imagination. The following paragraphs provide further information about the triad of impairments and possible reasons as to why individuals with ASD may have these impairments.

Socialization

Baron-Cohen et al (1985) first proposed the hypothesis that individuals with ASD fail to employ a ToM. This means that individuals with ASD may be unable to impute others' beliefs and predict behavior, which in turn causes impairments to socialization. In other words, the individual with ASD lacks social interest, a term coined by Alfred Adler. According to Adler, social interest, or empathy, is explained in a phrase by an English author (name unknown): "To see with the eyes of another, to hear with the ears of another, to feel with the heart of another" (as cited in Ansbacher & Ansbacher, 1964, p. 135). Furthermore, Adler suggested that the ability to empathize can be learned, but only if one is surrounded by others and feels as though s/he is part of a community (as cited in Ansbacher & Ansbacher, 1964).

Research suggests that individuals with ASD often feel alienated and distanced from communities. Martin (2009) suggests that individuals with ASD may lack appropriate eye contact, affect, and body language to the social interaction. Due to social ineptness, individuals with ASD may appear disengaged, as being alone is preferred, which may lead to difficulty making or maintaining friends. According to Martin (2009), the lack of social skills in individuals with ASD does not indicate that these individuals do not need social interaction. Individuals with ASD need social interaction and attention like anyone else, as "social interest is the true and inevitable compensation for all the natural weaknesses of individual human beings" (Adler, as cited in Ansbacher & Ansbacher, 1964, p. 154).

This poses a question: Is it possible for individuals with ASD to learn to empathize? Studies show that the origination of a ToM is in the amygdala. These studies found pathology in the amygdala of individuals with ASD (Kling & Brothers, 1992, as cited in Baron-Cohen, 2004). Whether individuals with ASD can learn to empathize demands further investigation.

Communication

Individuals with ASD may be unable to impute others' beliefs and predict behavior, which in turn causes impairments to communication. Additionally, individuals with ASD may be unable to describe or identify personal feelings. According to research, individuals with ASD often have incongruent affect associated with the present behavior, or their communication may shut down when experiencing strong emotions. Specifically in autistic disorder, individuals have a delay in language development, or do not develop verbal language at all. Research indicates that ToM impairments limit communication for both verbal and nonverbal individuals with ASD. Colle, Baron-Cohen and Hill (2006) determine to discover to what extent ToM development is related to language. Further explanation of Colle et al.'s study follows.

Colle et al. (2006) strongly suggest that individuals with ASD have a delayed ToM development. The authors administered a nonverbal false belief (FB) test to nonverbal individuals with ASD, neuro-typical children, and individuals with specific language development impairments (SLI) to determine if language is involved in the development of a ToM. The authors' research hypothesized that a nonverbal FB test would distinguish individuals with ASD from individuals with SLI. Additionally, the authors predicted "(1) FB understanding is to some extent independent of language ability; and (2) Children with autism with low language levels show specific impairments in theory of mind" (Colle et al., 2006, p. 716). The results of the study support the hypothesis. This study strengthens the ToM impairments in individuals with ASD.

Before Colle et al.'s study, information on ToM deficits in nonverbal individuals with ASD was nonexistent because false belief (FB) tests typically involve language. Research indicates about a third of individuals with ASD are nonverbal; therefore, a large portion of

individuals with ASD's ToM was not tested (Rutter, 1978, as cited in Colle et al., 2006). In order to generalize ToM deficits to all individuals with ASD, Colle et al. performed this nonverbal FB test to examine individuals with ASD's ToM.

Imagination

Individuals with ASD may have a reduced ToM ability, which in turn causes impairments to imagination. According to the DSM IV-TR (2000), individuals with ASD have, to some degree, "restricted, repetitive and stereotyped patterns of behavior, interests, and activities" (p.75). Restricted, repetitive and stereotyped patterns may present as the need for order in individuals with ASD. Martin (2009) speculates that the need for order may present as rigid routine. Individuals with ASD may display uncharacteristic behaviors, such as flapping arms or yelling, if there is an interruption in their routine. Sensory deregulation may be a cause of this rigidity, because it may trigger anxiety. Individuals with ASD often have difficulty regulating sensory input, which means that individuals with ASD often experience hyper (too much) or hypo (too little) stimulation. The individual may develop strict routines to avoid hyper or hypo stimulation that triggers anxiety. The individual's need for order and sensory regulation may limit imagination, because interruptions to routine may trigger anxiety and overreaction (Martin 2009).

Craig and Baron-Cohen (1999) researched the deficit of creativity in individuals with ASD using three Torrance Creativity Tests. The results of experiment one confirmed that creativity deficits in children with ASD are present. In experiment two and three, the examiners tested two hypotheses for the results of the first experiment: the executive dysfunction hypothesis and the imagination deficit hypothesis. Craig and Baron-Cohen explain that the executive function may be responsible for creating innovative responses. Craig and Baron-

Cohen theorize that individuals with ASD struggle with creating innovative responses, hence the executive dysfunction hypothesis. The results of the experiments support the executive dysfunction and the imagination deficit hypotheses. The authors pose a question for further investigation: “What is causing the abnormalities in the functioning of the imagination? Indeed, what is an imagination deficit?” (Craig & Baron-Cohen, 1999, p. 325). The authors state that the theory of mind hypothesis might be the answer, as an individual must be able to impute, or imagine, other’s mental states in order to pretend. The authors explain that imagination may have a connection to ToM deficiencies because there is a theorized connection to socialization and communication. Craig and Baron-Cohen assert that to confirm this connection, further investigation is required (1999).

Summary

An individual receives the diagnosis of ASD when the individual has some degree of the triad of impairments: socialization, communication and imagination. The triad of impairments can be detrimental to an individual with ASD’s functioning in life. Based on the research, there is no cure for the triad of impairments, only reduction through therapeutic interventions. It is important that interventions aimed at reducing impairments support the triad of strengths: attention to detail, limited yet profound interests, islets of ability (Baron-Cohen, 2004).

Art Therapy

The experience of making art enables individuals to use their innate creativity in a productive way. For example, an individual can pound and squeeze clay or attack the canvas with paint to release frustration, instead of pounding or attacking a person. Art therapy also aids in healing as it helps to process strong emotions and fosters self-awareness. It develops social skills, increases self-esteem and strengthens problem-solving skills. Art acts as another form of

communication. Art is a container for hard-to-handle emotions, and offers creative ways to cope with difficult experiences. It can also be a distraction from automatic negative thoughts and self-injurious behavior. The Following case studies provide evidence of the benefits of art therapy with individuals with ASD, as well as the therapeutic approaches used to foster these benefits.

Benefits of Art Therapy with Individuals with ASD

Henley (1991), a seminal author in art therapy and ASDs, speculates that individuals with autism spectrum disorder (ASD) may have a disrupted sense of self. Emery (2004) coincides with further speculation that having a sense of self is pertinent in relating to others. These speculations suggest a theory that individuals with ASD have difficulty relating to others because they may lack a sense of self. In other words, they lack a theory of mind (ToM). Research hypothesizes that art therapy promotes developing this sense. Martin (2008) develops the theory that portrait drawing enhances face processing and recognition skills, which are integral in relating to others. If art therapy promotes developing a sense of self and others, then art therapy can improve ToM in individuals with ASD.

For individuals with ASD, the research suggests that the art product increases self- and others-awareness, self-esteem, and acts as a form of communication. Henley (1991) speculates that the art process can be a safe therapeutic environment that can be difficult to create with individuals with ASD. Often with individuals with ASD, the interaction and confrontation with a therapist can be problematic. Henley further explains that “The art process can diffuse such confrontations by deflecting the tension as a kind of buffering or soothing agent, which in turn enhances self-esteem and a cohesive sense of self” (1991, p.71).

In the case study of a 6-year-old boy, Emery (2004) addresses three areas of progress for clarity: first, the boy’s development; second, object constancy; third, language development.

The focus of the art therapy sessions was to increase the boy's relatedness to people and objects. In the research article, Emery hypothesizes that art therapy establishes object constancy in individuals with ASD, therefore increasing awareness of self and others. Object constancy is defined as the ability to remember objects and their relationship to his or her inner world (Emery, 2004)

According to Emery (2004), when the child began art therapy, his symptoms were as follows: poor eye contact, mechanical intonation, limited vocabulary and inattention. Furthermore, the child had not developed an imagery schema for objects, which is typical to individuals with ASD. Emery suggests that individuals with ASD do not have internal order for relating to objects, therefore they are usually disinterested in drawing and do not develop schemata for objects. For example, Emery described the child writing the word house when asked to draw a house. Emery speculated that the child's poor eye contact and inattention could have been due to the child's inability to order the objects in the room. As the child began to represent objects in his drawings, Emery hypothesizes that it may have encouraged object constancy, and in turn, growth and development.

Emery concluded that having a sense of self is pertinent in relating to others. Additionally, she suggests that art therapy promotes developing the sense of self. Based on this suggestion, the boy in the case study expanded his awareness of self and others because he participated in art therapy. The results showed that during the child's art therapy sessions, his motor skills improved, vocal tone regulated, object constancy progressed, social interest increased, and his rigidity lessened. The boy was in art therapy for 7 months, and as indicated by the case study his ability to relate enhanced. Based on Emery's observations, art therapy

improved the boy's socialization, communication and imagination, while supporting his triad of strengths (Emery, 2004).

Martin (2008) developed the Portrait Drawing Assessment (PDA) to determine ways in which individuals with ASD process human faces through drawings. As previously stated, individuals with ASD are notorious for having problematic relationships with the human face. Martin speculates that portrait drawings are exceptions to this problematic relationship, and proposes that portrait drawings may improve face recognition and processing skills. According to Martin (2008), drawing another person's face forces the artist to process information about the other person's emotional state. From art therapist Costello-Du Bois' (1989) observations, clients develop self-awareness from drawing portraits of others. If drawing portraits develop awareness of self and others, then it also enhances socialization, communication and imagination in individuals with ASD.

Martin (2008) conducted a pilot study to determine the effectiveness of the PDA, as well as to assess the capability of individuals with ASD in face processing and recognition. The participants included twenty-five individuals with ASD and fifteen neuro-typical individuals. The task involved the participant and the facilitator to draw each other's portrait. The study documented the drawing characteristics and behaviors of each participant while performing the task. The drawing characteristics consist of thirteen items such as: resemblance to facilitator, line-quality, and incentive drawing. The behaviors consist of seventeen items such as: attention to facilitator's face while drawing, eye contact, and frustration toward procedure.

The results of the pilot study negate the popular assumption that individuals with ASD are asocial. Although, participants with ASD were found to have more difficulty looking at the facilitator's face while drawing than the neuro-typical participants, as well as have less eye

contact, Martin (2008) theorizes that the structure of the PDA produced more eye contact than without the structure. The research shows that the participants with ASD were more interested in the directive and chose to extend the procedure with an incentive drawing than the neuro-typical participants, and the ASD participants were more conversational than the neuro-typical participants. The pilot study is conducive to the hypothesis that portrait drawing enhances socialization, communication and imagination, because Martin noted that, "it [the PDA] became a structured way to be in a relationship" (2008, p. 22).

Therapeutic Directives in Art Therapy

Art therapists working with individuals with ASD employ a range of therapeutic approaches. Art directives range from free choice to more directed assignments, such as "Draw or paint how you feel right now" (Kornreich, 1991, p. 80), and "Draw yourself creating a pot on the potter's wheel" (Henley, 1991, p. 72). The research implies that art therapists must also be spontaneous and intuitive, because one never knows when a therapeutic opportunity may present itself. The following case studies provide evidence of such therapeutic directives.

Kornreich and Schimmel (1991) describe the effects of art therapy on Bobby. Bobby was an 11-year-old boy diagnosed with autism spectrum disorder (ASD) and mild mental retardation. Bobby's marked impairments of the triad of behavioral domains, as well as a family drawing that revealed Bobby's delayed development, indicated Bobby's diagnosis of ASD. Art therapy intern, Kornreich, met with Bobby for weekly sessions over a 2-year period to improve Bobby's life-functioning (1991).

The main goals of art therapy were to expand Bobby's interests and increase self-esteem. The secondary goals were to decrease anxiety, control impulsivity, and increase social and academic skills. To reach the goals the art therapist intern encouraged Bobby to direct his

imagery to himself and environment. Some examples of the art therapist intern's directives were to "Draw or paint how you feel right now," and "Draw yourself and your family doing something" (Kornreich & Schimmel, 1991, p. 80).

In the case study of Bobby, Kornreich and Schimmel (1991) detailed Bobby's work and progress of two drawing series: The family series and the Charlie Brown series. The authors suggest that Bobby's growth emotionally and intellectually is evident in the family series. The authors also suggest that the Charlie Brown series reflect Bobby's maturation and emotional state. A summary of the family series, but not the Charlie Brown series, follows in detail (Kornreich & Schimmel, 1991).

The following paragraph summarizes the authors' analysis of Bobby's growth in the family series. The initial family drawing, drawn on Bobby's first day, reflects his anxiety. It also suggests Bobby's disconnect from his family. The second drawing, drawn 3 months later, displays Bobby's increased comfort in the clinic. It also displays Bobby's awareness of his surroundings. The third drawing, drawn 13 months later, reflects Bobby's increased self-awareness. It also depicts Bobby's growing awareness of his family members. Bobby's drawings reflected his progress in self- and others-awareness (Kornreich & Schimmel, 1991).

A description of the therapeutic benefits of clay follows. Henley (1991) suggests that working with clay provides a means of developing self-awareness, self-image, and self-concept; clay strengthens the relationship between self and others. An individual can manipulate and interact with clay, which are the originating reasons why clay is therapeutic. Playing with the clay allows for constructive regression, sensory integration and development of the awareness of the body's capabilities (Henley, 1991).

In the case study of Juan, a 21-year-old man with ASD, Henley (1991) describes Juan as presenting with aggression and repulsive habits, with an aversion to people. Henley's main goal for Juan was to increase and improve his awareness of self and others. Henley's main objective was for Juan to portray subjects that are alive, rather than machines. To reach this goal, Henley chose an art intervention that included Juan's interests of machines, in hopes of reducing Juan's triad of impairments while supporting his triad of strengths. Henley introduced Juan to the potter's wheel and taught him how to throw a pot. While learning how to use the wheel, Juan was able to endure the physical contact with an art therapy intern. Henley interjected that most individuals with ASD would have resisted such contact. To document the sessions, the art therapy intern suggested that Juan draw himself throwing a pot. In the first drawing, Juan did not draw himself, but instead drew the art therapy intern as a stick figure. In the next drawing, Juan again did not draw himself, but drew the art therapy intern with much more detail than before. The art therapy intern then asked Juan to draw portraits of him and her. After the portraits, Juan began to draw himself and the intern in his drawings with realism. Juan's drawings reflect his improvement in self and others awareness.

Summary

In the research article, Epp (2008) examines the effectiveness of group art therapy with children with ASD. The research aimed to increase knowledge and expand methods when working with individuals lacking social appropriateness. Art therapy is helpful, not only because it increases social awareness, but because it also encourages children with ASD to think more abstractly by solving problems visually. Art therapy sublimates anger and frustration, therefore decreasing the need for acting out behaviors (Henley, 2000). Moreover, art tends to be enjoyable and relaxing for individuals with ASD to learn social skills in group art therapy (Epp, 2008).

Assessing Individuals with ASD

Effective treatment in working with individuals with ASD is essential, because the number of individuals with ASD is growing. The Autism and Developmental Disabilities Monitoring Network (ADDM) research the prevalence of Autism Spectrum Disorders (ASDs). In 2006, the average number of individuals with ASD was 1 in 110. Based on ADDM (2006) research, the prevalence of ASDs increased 57% since 2002. This increase may be due to increased awareness of the disorder, frequently evolving criteria, or environmental reasons. Regardless of the causes, effective assessments for ASD, as well as comorbidity, are imperative when searching for effective treatment. A comprehensive review of studies found that between 11 and 84% of individuals with ASD suffer from anxiety, and between 1.4% and 38% of individuals with ASD suffer from depression. The varied range of comorbidity prevalence in individuals with ASD has been linked to the lack of an effective assessment (Magnuson & Constantino, 2011; Rice, 2006; White, Oswald, Ollendick, & Scahill, 2009).

Assessing for Autism Spectrum Disorder

Research suggests that early detection of ASD implies more effective treatment and less family stress. Early detection of ASD leads to early intervention, which may increase the child's long-term potential. Studies reveal that infants with ASD have abnormal brain circuitry that leads to altered activity, which combined with experience, creates abnormal secondary brain development (Belmonte et al., 2004). Horowitz (2000) explains that secondary brain growth occurs through the interaction between experience and thought. Early intervention can make a significant impact because the experience can positively alter the development of the individual's secondary brain growth (Horowitz, 2000). Consequently, the child may have an improved long-term prognosis.

Research strongly suggests that early detection of an ASD greatens the child's long-range potential. However, detection before the age of 3 years old can be difficult because there are no laboratory tests to detect it. Early detection of ASD is even more difficult because symptoms during infancy may present differently than symptoms at later stages (Baranek, 1999). The Consensus Panel of the Child Neurology Society and American Academy of Neurology (Filipek et al., 1999) indicate that warning signs of ASD are as follows: no babbling or gesturing by 12 months; no single words by 16 months; no two-word spontaneous phrases by 24 months; and any loss of any language or social skills at any age. The panel suggests that even though detection of ASD is difficult, there are still detectable warning signs. The panel recommends further evaluation if the infant fails any of the above developmental milestones.

Due to the increasing prevalence rate of ASD, screening and assessment methods have also increased, which enables ASD detection at around 18 months. Baron-Cohen, Allen and Gillberg (1992) developed a screening for the early detection of autism, called the Checklist for Autism in Toddlers (CHAT). This screening instrument is not a diagnostic tool, but is meant to detect behaviors that may signify ASD. Individuals that exhibit these behaviors are referred to a subsequent diagnostic procedure (Baron-Cohen et al., 1992).

Several different types of screening instruments and diagnostic assessments for ASD, but the CHAT reveals the earliest detection of ASD. Additionally, research suggests that the earlier the detection, the more effective treatment can be. This literary review determines to seek out the most effective treatments; therefore, this review will focus on the CHAT in assessing individuals for ASD.

The CHAT screening instrument comprises two sets of questions: a parent answers one and the clinician answers the other after observation. The questionnaires include developmental

and behavioral questions, such as rough and tumble play, social interest, motor development, social play, pretend play, functional play, and joint attention. The questions contain five key items that if the toddler fails, the toddler may be at risk for ASD. The key items suggest impairments to joint attention and pretend play. Baron-Cohen et al. (2000) describe joint attention as “the earliest expression of the infant’s ‘mind reading’ capacity, in that the child shows a sensitivity to what another person might be interested in or attending to” (p. 6). In other words, joint attention indicates the infant’s development of a ToM. Baron-Cohen et al. (1992) further explain that joint attention exhibits in toddlers as pointing the attention of another person to an object or event. Pretend play also relates to the notion of “mind reading.” It involves the child understanding that the person pretending is imagining something in their mind (Baron-Cohen et al., 1992).

Research suggests that ASD usually has prenatal onset, but typically, detection occurs after 3 years old. Several reasons for this phenomenon exist, such as: the rarity of the disorder, the lack of early-detection training in general practitioners, and most sets of criteria emphasize social and communication, which are difficult to assess in toddlers (Baron-Cohen et al., 1992). However, Baron-Cohen et al. (1992) indicate that joint attention typically develops by 9-14 months and pretend play at 12-15 months.

Baron-Cohen et al. (1992) conducted a study to determine the validity of the CHAT. They collected normative data by testing fifty randomly selected 18 month-olds. The second group tested forty-one 18 month-olds who had older siblings with the ASD diagnosis. The study showed that none of the toddlers in the first group failed all five key items and none were diagnosed with autism. Four toddlers out of forty-one in the second group failed the five key items and all four toddlers were diagnosed with autism.

Baron-Cohen et al. (1996) conducted a larger study to verify the CHAT's predictability. Clinicians tested sixteen thousand toddlers with the CHAT screening instrument. Of the sixteen thousand tested, twelve consistently failed the key items and ten received the diagnoses of ASD. The results indicate that the CHAT is a screening instrument that accurately assesses individuals for ASD at 18 months. As previously mentioned, the CHAT is not a diagnostic tool, but rather a screening instrument. Therefore, if a toddler fails the CHAT, the toddler must undergo further assessments.

Baron-Cohen et al. (1996) primarily administered the CHAT in Great Britain. Based on the CHAT, Robins, Fein, Barton and Green (2001) developed the Modified Checklist for Autism in Toddlers (M-CHAT) to administer and research in the United States. The M-CHAT uses the same format and the first nine parent-response items as the CHAT. In addition, the M-CHAT increases the screening to twenty-three items. The authors explain the addition is to "(a) broaden the checklist symptoms to identify a greater range of children with PDDs and (b) to compensate for the elimination of the home health visitor's observations, Part B of the original CHAT" (Robins, Fein, Barton, & Green, 2001, p. 134). The omission of the home health visitor's observations enables the M-CHAT to be more efficient and economical. The M-CHAT also raised the five key items from the CHAT to eight key items. If the child fails two of the eight key items, or three of any item, the family was called for further assessment.

The M-CHAT initially screened children at 18 months, like the CHAT, but after screening the first six hundred participants, the age of screening was raised to 24 months. The screening age was raised because pediatricians were more willing to screen at 24 months, children are not usually referred to an early intervention center before age 2, and most important, children who show regressions are most likely to do so between the ages of 15 and 24 months.

This indicates that the child is less likely to regress and in need of follow-up, if given the M-CHAT at 24 months (Robins et al., 2001).

Robins et al. modified the CHAT to improve its sensitivity. A comparison of the CHAT and M-CHAT revealed that the M-CHAT is slightly better than detecting ASD than the CHAT. The M-CHAT shows better capability to detect a broader range of Pervasive Developmental Disorder, rather than just ASD. It not only shows to be more accurate, but also more efficient and economical. The results of M-CHAT studies warrant this claim (Robin et al., 2001).

Assessing Individuals with ASD for Depression and Anxiety

The following section focuses on the benefits and limitations of using the Beck Depression Inventory (BDI), the 20-item Toronto Alexithymia Scale (TAS-20), the Autism Comorbidity Interview-Present and Lifetime Version (ACI-PL), the Lifestyle assessment, and the Face Stimulus Assessment (FSA) when assessing anxiety and depression in individuals with autism spectrum disorders. It is important to discover effective ways of treating individuals with ASD, as the prevalence is growing at a fast pace. The first steps in determining effective ways of treating any individual is through assessment.

There have also been studies relating individuals with ASD with low emotion-processing levels and an inability to impute mental states to others, known as the theory of mind (ToM). Having a ToM is crucial in developing meaningful relationships, which may explain the abnormalities in social interaction, communication and imagination for individuals with ASD. Hill, Berthoz and Frith (2004) further imply that this inability may cause impairment to identifying one's own mental state. Difficulties in processing emotions in self and others may lead to depression and/or anxiety in individuals with ASD.

Aforementioned, research suggests a connection between the “triad of impairments” to the lack of a ToM in individuals with ASD. The “triad of impairments” includes socialization, communication and imagination. The following summary of research provides possible reasons as to why these impairments may lead to anxiety and/or depression in individuals with ASD, and the purposes of assessments.

Individuals with ASD may be unable to impute others’ beliefs and predict behavior, which in turn, causes impairments to socialization, communication and imagination. According to research, individuals with ASD often have incongruent affect associated with their present behavior. Communication may shut down when individuals with ASD experience strong emotions. Research suggests that individuals with ASD are concrete and visual. Emotions are not visual, and so individuals with ASD struggle understanding them. For the reason that individuals with ASD have problems identifying and describing emotions in self and others, assessing their emotional and cognitive functioning is important. It is important because by understanding how much or how little the individual understands emotions determines the level of care needed.

Hill et al. (2004) conducted a study to determine emotional cognitive processing in individuals with ASD using the 20-item Toronto Alexithymia Scale (TAS-20) in correlation with the Beck depression inventory (BDI). The authors had two aims when conducting this study: to record the existence and severity of emotion processing difficulties in high-functioning individuals with ASD; to research if emotion processing difficulties are a part of a broader phenotype of autism. For reasons of this paper, the topic of a broader phenotype of autism will not be discussed (Hill et al., 2004).

The TAS-20 assesses levels of cognitive processing. There are three components of emotional processing in the self-report rating scale: difficulty identifying feelings, difficulty describing feelings and externally oriented thinking. Each component is rated in a five-point Likert rating scale ranging from one (highly disagree) to five (highly agree). The points are then added up to determine the participant's level of cognitive processing of emotion: non-impaired functioning (score of 51 or less), slight impairment (score of 52-60), or severe impairment (score of 61-100) (Hill et al, 2004).

The examiner asked the participants in the study to respond to the 21-item BDI based on how they were feeling in the last week. This provides the researchers knowledge of the presence of a depressive episode at the time of the study. Each question offers four answers, rated 0-3. Upon completion, the scores are totaled and categorized. The categories are as follows: 0-10 indicate nondepressed functioning, 11-14 indicate dysphoria, 15-19 dysphoria/depression, or 20+ clinical depression (Hill et al, 2004).

The results strongly indicate that individuals with ASD have an emotion-processing deficit. Of the 27 adults participating in the study, 14.8% were nonimpaired, 48% severely impaired, and 37.1% slightly impaired. However, the individuals with ASD were able to answer the BDI questions with little help or questions. The results indicate high ratings of depression in individuals with ASD 22.2% clinically depressed, 52.8% dysphoria and 25% normal (Hill et al, 2004).

Aforementioned, research suggests that individuals with ASD lack a theory of mind (ToM), and have difficulty identifying and describing his or her mental state. Based on the results of Hill et al's study, individuals have some insight into how they are feeling as using the BDI discovered high levels of depression. However, the TAS-20 results indicate that these

individuals have difficulty identifying and describing emotions in self and others. The results also show that individuals with ASD tend to focus on external events rather than inner experiences. Therefore, the authors suggest that the results of the BDI could be a result of compensatory behaviors leading to introspection. The authors also suggest that perhaps compensatory behaviors may lead to a learned ToM, as well as to the awareness of not 'fitting in'. In other words, "increased depression could therefore be seen as a secondary reaction to a theory-of-mind deficit, dependent on specific experiences in the recent past" (Hill et al., 2004, p. 234). The self-dislike and self-criticalness items in the BDI would spark concern if given a two or three, because it may indicate the awareness of not 'fitting in'. If this were the case, the treatment interventions would be based on self-esteem and encouragement.

Research suggests that there are a high percentage of individuals with ASD and a high percentage of individuals with ASD have anxiety and/or depression, but the percentage varies significantly. Research suggests that the variation is due to the lack of a specific assessment tool for assessing comorbidities in individuals with ASD, until the development of the ACI-PL in 2006. Leyfer et al. (2006) modified the Kiddie Schedule for Affective Disorders to use in screening children and adolescents with ASD for psychiatric disorders. The ACI-PL includes questions and coding options that are specifically suited in detecting psychiatric disorders in individuals with ASD.

Experienced clinicians administered the ACI-PL to one hundred and nine high functioning children and adolescents with ASD, aged 5-17 years old and with an average IQ of 82.5. The information was obtained using a semi-structured, parent report interview. The method of the ACI-PL consists of asking questions about several psychiatric disorders, such as mood disorders, anxiety disorders, and disruptive disorders. Each disorder has a section and

before each section, the interviewer describes how each disorder presents in ASD. Each section consists of screening questions based on observations from caregivers of individuals with ASD who have that particular psychiatric disorder (Leyfer et al., 2006).

The results indicate that there is psychiatric comorbidity in individuals with ASD. The results of Leyfer et al.'s study reveal that seventy-two percent of the children have a comorbid disorder. The results indicate that the children commonly met criteria for more than one. Knowledge of the comorbid disorders, rather than considering the behaviors as manifestations of ASD, is beneficial as it presents more specific treatment options. Additionally, the knowledge may qualify the treatment of the child for coverage by medical insurance. This study is important for the assessment and treatment of individuals with ASD because diagnosing comorbidity individuals with ASD is difficult. It is difficult because individuals with ASD have impairments in communication, socialization and imagination (Leyfer et al., 2006).

Art Assessments and ASD

Art assessments may be suitable for individuals with ASD because these assessments are like many individuals with ASD, concrete and visual. Often individuals with ASD do not understand things they cannot see, and art is something people can see. Through art, individuals with ASD can see their emotions, providing a better way of understanding and processing them (Martin, 2009). Depending on the age and cooperation of the individual being assessed the following art assessments may be suitable.

The face stimulus assessment (FSA) is a projective technique that consists of three face stimulus drawings that provide a method to uncover the participant's memory and visual retention, as well as ability to organize the human face. By definition, a projective test provides

information and insight into an individual's personality, which may be appropriate to use along with depression or anxiety inventories to determine the individual's awareness (Betts, 2003).

Betts (2003) is in process of developing the FSA to assess individuals who were unresponsive to traditional evaluations. Clinical experience displayed evidence of stimulus drawings to benefit individuals with cognitive impairments, in particular, individuals with ASD. The FSA includes three stimulus drawings: the first drawing includes an initial face stimulus; drawing two removes the facial features of the face stimulus, leaving only an outline; and drawing three consists of only a blank page. Betts hypothesizes that the FSA offers the participant two opportunities to demonstrate facial element organization as well as memory and visual retention abilities. Although still in the development stage, the FSA exhibits competence in uncovering strengths and cognitive abilities in individuals with cognitive delays (Betts, 2003). The FSA may help to assist treatment for individuals with ASD by supporting the triad of strengths.

The person picking an apple from a tree (PPAT) in combination with the formal elements art therapy scale (FEATS) is a combination that identifies psychiatric conditions in individuals. The PPAT consists of asking the individual to draw a person picking an apple from a tree on a white piece of 12"x18" paper using Mr. Sketch brand markers. The drawing is rated using FEATS. The FEATS rating manual consists of pictures describing the fourteen scales: Prominence of Color, Color Fit, Implied Energy, Space, Integration, Logic, Realism, Problem-solving, Developmental Level, Details of Objects and Environment, Line Quality, Person, Rotation, and Perseveration. The manual also contains example drawings created by individuals who have been diagnosed as nonpatient, schizophrenic, organic mental disorder, bipolar and major depressive disorder. The PPAT drawing is rated on each of the fourteen scales by a likert-

type scale with zero to five scoring intervals. There are also ten different scales that are not rated by likert scales, but by merely reporting present or not present. These scales include the color used for the whole picture and the person, visible features of the person, gender, actual energy, orientation of the face, age, clothing, apple tree, environmental details, and other features. The evaluator is able to then convert raw scales into a clinical score for assessing and determining treatment plans (Gantt & Tabone, 1998).

The PPAT and FEATS are not used as a diagnostic tool, but rather to determine the most beneficial treatment plan. However, Gantt and Tabone (1998) found that there is a correlation between the DSM-TR-IV and the FEATS scales. These assessments may be appropriate to use with individuals with ASD because it is a backdoor approach to identifying depression. Although they cannot diagnose comorbidity, they can indicate needs for further assessment or indicate the most effective treatment options. The PPAT and FEATS rating manual may bypass emotion processing to reveal depression in individuals with ASD (Brooks, 2004; Gantt & Tabone, 1998).

Art may also be a screening tool for ASD detection in children. Although there are not abundant amounts of scientifically tested research or hard data, art can reveal a child's cognitive development as well as perceptual, emotional, social, and creative development. Lowenfeld and Brittain (1987) support by stating: "Through an understanding of the way youngsters draw and the methods they use to portray the environment, we can gain insight into their behavior and develop an appreciation of the complex and varied ways in which children grow and develop" (Lowenfeld & Brittain, 1987, p. 34). Further explanation of how art can reveal an individual's development follows.

Lowenfeld and Brittain (1987) researched and developed children's mental and creative growth through drawing and painting. In their research, they defined different stages of typical artistic development, including: the scribbling stage (2-4 years), the preschematic stage (4-7 years), the schematic stage (7-9 years), the gang age (9-12 years), and the pseudo-naturalistic stage (12-14 years). The scribbling stage marks the beginning of drawing for very young children. As children grow, their scribbles become much more controlled and organized until about the age of 4 years when recognizable objects appear. The next stage, the preschematic stage, is where children begin to make representational images. This stage usually starts at 4 years old and ends at 7 years old. In this stage, it is typical for the child to randomly place the objects on the page. In the next stage, known as the schematic stage, children start to develop form and proper placement in their drawings. This stage continues until age nine, where the child enters the gang age, which lasts until about twelve. In the gang age, children start to become more aware of themselves in a social context. These images are typically more detailed and not as free as in the younger stages. At around eleven or twelve years, children typically enter into the pseudo-naturalistic stage. Here children become increasingly more aware of their natural surroundings. In these drawings, there is greater detail, awareness of gender characteristics, and color gradations.

Knowledge of the standardized artistic developmental stages can provide information to where an individual may be impaired or delayed. By looking at an individual's drawings, one can indicate if an individual is deviating from normal development, and perhaps needing further diagnostic screenings or assessments. Studying a child's art may increase the chance of early detection of ASD, and in turn increase the child's long-term potential.

Art-based assessments are also beneficial because they are tangible representation of progress. Assessments are not merely used in the beginning stages of counseling to determine diagnoses but can also be used to evaluate interventions being used. Assessments made at the beginning of treatment can be compared to assessments made during or at the end of treatment.

Adlerian assessments

Individuals with ASD often feel alienated and distanced from communities. Martin (2009) suggests that individuals with ASD may lack appropriate eye contact, affect, and body language to the social interaction. Due to social ineptness, individuals with ASD may appear disengaged because being alone is preferred, which may lead to difficulty making or maintaining friends. According to Martin (2009), the lack of social skills in individuals with ASD does not indicate that these individuals do not need social interaction. Individuals with ASD need social interaction and attention like anyone else, as “social interest is the true and inevitable compensation for all the natural weaknesses of individual human beings” (Adler, as cited in Ansbacher & Ansbacher, 1964, p. 154).

Individuals with ASD struggle with social interaction and may develop a hesitating attitude leading to depression. Hesitation is a safeguarding maneuver termed by Adler, defined as an individual’s lack of courage to do what the situation requires. As cited in Ansbacher and Ansbacher (1964), Adler suggested that the hesitating individual does not have the confidence to take risks and advance, but rather stands still or turns back. Taking into account the impairments of individuals with ASD, it is not as though they do not have the courage, but they do not have the capabilities. For this reason, assessing individuals with ASD for depression is important in providing the necessary treatment, to safeguard them from a hesitating attitude.

Adlerian assessments such as the lifestyle assessment, early recollections or the five tasks of life scale may not be suitable for individuals with ASD because these individuals tend to remember more external events than internal experiences. The lifestyle assessment is a structured interview, comprised of the family constellation and early recollections. This assessment explores the personality to uncover basic mistakes or interfering ideas, which guides toward reorientation. As Adlerian assessments elicit introspection, the lifestyle assessment may be hard for individuals with ASD, as research suggests poor cognitive processing. However, if the individual rates capable on the TAS-20 and the FSA, the lifestyle assessment may be beneficial for individuals who have learned introspection in social skills classes (Hill et al, 2004). Through encouragement and willingness, high functioning adults with ASD may be able to complete a lifestyle assessment and gain insight into their mistaken beliefs and interfering ideas that may be causing depression or anxiety. Further investigation is necessary to determine the efficacy of Adlerian assessments with individuals with ASD.

Summary

Effective assessments lead to effective treatment. Effective treatments for individuals with ASD may reduce the triad of impairments and therefore, enhance the lives of individuals with ASD. Clearly, time is of the essence in the early detection of autistic features. The body of evidence reviewed in this section suggests that early detection is vital to successful treatment, stress management and reduction of the triad of impairments. Depression and anxiety are common disorders in individuals with ASD, and because individuals lack a theory of mind, the BDI and lifestyle assessment may not be enough to accurately assess depression or anxiety in individuals with ASD. Research suggests that the TAS-20, ACI-PL, FSA and FEATS should

accompany the aforementioned assessments to gain further insight into the lives the individuals with ASD and to offer effective help to manage depression or anxiety.

Culture of the Autism Family

As previously mentioned the prevalence of autism spectrum disorders (ASD) is growing at a fast rate. To work effectively with an individual with ASD, gaining an understanding of the context in which the individual lives is essential to provide effective treatment. Moreover, it is pertinent to work with the family system in order to improve the individual with ASD's life functioning. An outline of the family stresses related to having an individual with ASD within the family system, information about support services and effective art therapy interventions follow in detail.

Stresses on the Family Culture

Based on the above information about the deficits of an individual with ASD, it is without question that the initial diagnoses of ASD is devastating to the family. Not only are the parents affected, but neuro-typical siblings and extended family members are as well. The family faces an obstacle that requires education, resources, support and finances. These requirements are often accompanied with fear, sadness, helplessness, diminished interest, withdrawal from social interactions, anger, embarrassment, jealousy, confusion, anxiety and depression (Bloch & Weinstein, 2010).

Diagnosis can initially be a relief, as the parents "no longer feel that their parenting skills were the cause of their child's behavior and they acquire another perspective and understanding of the disability. They now have an explanation for themselves, family and friends for their child's unusual behavior" (Bloch & Weinstein, 2010, p. 24-25). After the initial reaction, parents often go through a grieving process, as their dream of parenting a neuro-typical child is

lost. According to Bloch and Weinstein (2010), families may deny the problem, or minimize the seriousness of the diagnosis. Denial may be necessary for the family to gain the ego strength to accommodate the change required.

The limitations of socialization, communication and imagination also affect the family system. Parents usually do not prepare to raise a child with developmental disabilities; they usually expect their children to have friends, to play, talk and understand silly jokes. Families often isolate from mainstream societies out of fear or shame of their child's lack of social-relatedness. Siblings may feel frustrated that his or her autistic sibling does not want or know how to play with them. The child with ASD may feel alienated because s/he does not understand why his or her sibling is mean to him/her or does not want to play with him/her (Bloch & Weinstein, 2010).

In addition, tension amongst parents of the child with ASD may rise. It is common that one parent takes on the emotional burdens of the family to stand strong and comfort distressed family members. It is typical that one parent manages the treatment, resources and behaviors of the child, while the other distances him/herself from home and becomes a workaholic. Because raising a child with ASD is expensive and time-consuming, it is often necessary for one parent to work often and the other to spend time and energy managing treatments, schedules and behaviors. Parenting a child with ASD often puts a strain on the parent's relationship because time and money is spent on the child, rather than with each other. Because so much energy is spent with and for the child with ASD, siblings without ASD are often jealous, confused and frustrated. Especially during the initial phase of diagnosis, the needs of the neuro-typical siblings cannot be met (Bloch & Weinstein, 2010; Smith & Perry, 2005).

Several studies reveal the causation of stresses within the autism family culture. Sharpley, Bitsika, and Efremidis (1997) reported that the permanence of ASD, the lack of understanding of the behaviors associated with ASD by society, and the lack of support provided are the most stressful factors for parents of individuals with ASD. In more recent studies, economic factors, parental concern about their child's future, challenging behaviors, and psychological characteristic of the parents such as coping styles, are also included in the list of most stressful factors (Jarbrink, Fombonne, & Knapp, 2003; Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Lecavalier, Leone, & Wiltz, 2006; Pisula, 2007).

Support Services for Families of Individuals with ASD

Bayat (2007) conducted a study that examined resiliencies amongst families of individual with ASD and found that many of these families cope successfully with their high levels of stress. Research shows that families that have social supports and support from agencies and health care providers are more likely to demonstrate lower levels of stress (Chan & Sigafos, 2001). Support services include social support, formal support and respite care. In their study, Mackintosh, Myers, and Goin-Kochel (2006) found that the most frequent source of support was other parents of children with ASD. Additionally, Weiss (2002) discovered that parents who have higher levels of social support demonstrate adaptation that is more successful. Social support comes from support from spouse, as well as family and friends. It includes availability of leisure and recreational activities, and availability of services and community programs for family members (Siklos & Kerns, 2006). Dunn et al. (2001) discovered that reliance on a supportive social network is beneficial for parents and families of individuals with ASD. In their investigation, Dunn et al. found that having a supportive social network reduced stress, depression, anxiety and increased satisfaction of life.

Formal support is another service shown to be an effective coping strategy for families of individuals with ASD. Research implies that formal support includes support groups, health and professional services, psychoeducation and counseling. Siklos and Kerns (2006) found that parents of children with ASD reported formal services to be more effective than other types of support. Information and knowledge of Autism in general and specific needs of their children ranked high in parent reports of beneficial supports. In their investigation, Mandell and Salzer (2007) found support groups for parents with ASD to be effective in providing assistance. Their study suggests that support groups may reduce social withdrawal and stress and increase access to information about available services.

Brookman-Fraze (2004) conducted a study that examined another form of formal supports: parent education programs and interventions. The study compared the Parent/Clinician Partnership and Clinician-Directed models. The Parent/Clinician model incorporates parent empowerment and ecocultural theory. The Clinician-Directed model does not incorporate these principles, but rather is professional-driven. Brookman-Fraze reviewed the literature of parent empowerment and the ecocultural theory. She found that parent empowerment increases self-efficacy, confidence and competency through parental choice and participation. Ecocultural theory works in collaboration with the family and focuses on the family's strengths, goals and values to sustain interventions that lead to positive effects on the entire family. The Clinician-Directed model does not include parent input in determining treatment planning.

The results of Brookman-Fraze's study show that partnership in treatment planning is more effective than clinician-directed. The study suggests that the parents who participated in partnership education programs demonstrated reduced stress and increased confidence, and the children with ASD displayed a brighter affect, responded to parent redirection at higher rates,

and demonstrated more engagement with their parents. The results not only show the benefits of collaboration in parent education, but also the benefits of parent education in general.

Autism spectrum disorder (ASD) can be devastating and traumatic to the family system. With the initial diagnosis, the psychoeducation model offers understanding to the family about the child's diagnosis, how to obtain services, and how to manage stressful events within the family. This is beneficial because most families feel helpless and confused. Furthermore, validating each member's experiences and emotions is essential in promoting competency and increasing ability to manage stress. This approach offers support, validation, understanding and skills to reduce dysfunction in the family system. Psychoeducation utilizes interventions that promote the family's strengths and resiliencies to reduce stress (Goldenberg & Goldenberg, 2013).

Respite care is another parent support option. Chan and Sigafos (2001) explain respite care as a service where another adult assumes the role of parent for short periods of time. Research implies that respite care can reduce the levels of stress in parents of individuals with disabilities. Additionally, respite care allows parents and neuro-typical siblings to partake in recreational and leisure activities, which in turn, may reduce stress and provide time for self-care and life management. Based on a study performed by Sivberg (2002), parents who utilize well-functioning coping skills, such as balancing their time between the child with ASD and their other children, show lower levels of stress than parents who do not utilize such coping skills. Respite care provides parents of children with ASD the ability to utilize well-functioning coping skills.

The Autism Family Culture and Art Therapy

Sivberg (2002) suggests that it is important for the family to be careful not to view their child with ASD as the sole source of strain within the family. It is also important for parents not to expect an undue amount of help from neuro-typical children in caring for his or her sibling with ASD, and for parents to take a consistent and mutually coordinated approach to their child with ASD. Research implies that families of children with ASD have high levels of stress, and the above patterns may be difficult to practice, or difficult to notice when not practiced (Jarbrink, Fombonne, & Knapp, 2003; Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Lecavalier, Leone, & Wiltz, 2006; Pisula, 2007).

The Family Art Assessment Technique is a method that enables families to see problem patterns. It is a non-threatening way for the clinician and family to explore the family's life styles, problem-solving skills, coping strategies, and the level of social interest in the family. This approach is a method of gathering information to better understand family dynamics and individual perceptions in a short period of time. Moreover, it provides a concrete example for the therapist and family to use when offering interpretation about lifestyles and interpersonal relationships, as well as suggestions for reorientation and reeducation (DeOrnellas, Kottman & Millican, 1997; Landgarten, 1987).

The Family Art Assessment is comprised of a three part drawing activity. In the first drawing, the art therapist asks the family to divide into two teams and on separate pieces of paper, each team is asked to create an image with a theme of their choice. The art therapist also instructs the family to not speak, signal or communicate with each other in any manner. However, the family can talk when deciding on a title for the project. In the second drawing, the art therapist asks the entire family to work together on the same piece of paper. Same as in the

first drawing, the family can draw what they want and they cannot communicate while drawing. However, the family can communicate when choosing a title for their creation. In the third drawing, the art therapist asks the family to draw whatever they wish on a single sheet of paper. The art therapist allows the family to communicate during the drawing and while determining a title (Landgarten, 1987).

The Family Art Assessment Technique provides an example of how the family functions as a group. Landgarten (1987) developed this approach to examine the level of involvement and initiative of each family member, boundary concerns within the drawing, interactional patterns, and symbolic content. Adlerian counselors, DeOrnellas, Kottman and Millican (1997), add that the Family Art Assessment Technique reveals elements of family atmosphere, family constellation, the level of social interest, and each member's lifestyle.

Along with individual family therapy sessions to validate, encourage and instill hope, the multifamily setting offers social support and reduces isolation. A multi-family group art therapy approach, developed by Riley (2004) presents families the opportunity to learn coping skills from each other and gain support from others with similar difficulties, as well as equal environment and also offers expression for all. This approach promotes group cohesiveness where children are not at a developmental disadvantage. It also allows for the child with ASD to feel equal and accepted through his or her creative expression (Riley, 2004).

A fictional case example of the multi-family art therapy process follows. It illustrates the benefits and outlines the procedure. The fictional example paraphrases Riley's case example, but has changes to incorporate a family with a child with ASD. The multi-family meetings consisted of three families, but only one family is detailed.

Session 1: In the first session, the art therapist meets with each family individually to introduce art therapy and explore anxieties and misconceptions about upcoming sessions. The therapist gives tasks to uncover family patterns, roles and values. The directive offered: “Draw together an island and place anything you choose on it” (Riley, 2004, p. 158).

The family detailed contains a nine-year-old boy with ASD and a sixteen-year-old girl. Through observations, the boy had control of the drawing and the attention of the family. The parents allowed him to dictate the location and shape of the island, as well as the things on it. The teenage girl had difficulty finding her place in the drawing. She was observed to facilitate her brothers drawing, along with her parents. The family allowed the boy to dominate the paper with a Mario Bros. themed island. The parents contributed minimally to the drawing and were observed to cater to their son (Riley, 2004).

First Multi-Family Meeting: In this meeting, the goal was to provide an opportunity for the families to gain acceptance and understanding of each other. The directive facilitated was to draw together as a family a picture about themselves and their activities. Through the sharing of thoughts and feelings in relation to their artworks, the group addressed common interests, problems and stresses involved in having a family member with a disability. At this point, each family was introduced with a new family member. The new family member was another therapist to serve as a supportive figure to assist the disabled member, center the family on art tasks, and to make observations where appropriate (Riley, 2004).

Second Multi-Family Meeting: The aim of this session was to solidify the group process. The directive given was to draw around his/her hand and decorate it with line, shape and color. The artist cut out each hand. The art therapist asked each artist to tape his or her hands to a large piece of paper with the hands of other family members. The group was now symbolically

attached. The art therapist asked the family members to discuss the process, final products and how each person felt about the experience. The teenaged girl disclosed that she was resentful of her brother and shared her thoughts of considering suicide in the past (Riley, 2004).

Third Multi-Family Meeting: This meeting aspired to recognize adult and child systems. The art therapist asked the children and adults to divide into two groups in order for the children to disengage from their families and offer them a chance to demonstrate their ability to function autonomously. The parents were then able to focus on their concerns, other than their role as a parent of a disabled child, and learn from one another. The art therapist gave each group a variety of materials to create whatever they wished. Upon completion of the artwork in separate groups, the art therapist asked each group to create a large artwork with everyone involved. This process encouraged communication between families and generations. This task allowed parents to do something outside of their role as caretakers. It allowed the children with disabilities to be seen equal, and the typical children to be autonomous individuals (Riley, 2004).

Fourth Multi-Family Meeting: This meeting was designed to encourage attachments to other adults and children outside of the family. The art therapist configured the parents and children into new family groups. The art therapist gave the directive to form a family in which they wished to live. This allowed family members to express their needs and wants without diminishing the larger function of the family. The goal of the directive was to expose the children to unfamiliar personalities and communication patterns, to develop an appreciation for his or her own family. The directive enabled parents to realize a greater affection for their children, whereas the annoying behaviors became less noticeable (Riley, 2004).

Fifth Multi-Family Meeting: In this meeting, dyads of parents and children were formed and given the directive, "In your family how could things get better? What could you do to

make it better?" (Riley, 2004, p. 167). The purpose of this directive was for the family to find more adaptive ways to the management of difficult situations. In discussion, the families shared common difficulties and desires for the future (Riley, 2004).

Sixth and Final Multi-Family Meeting: During this session, the focus was on termination and separation of the groups. The art therapist directed the families to create a large good-bye mural together. The families expressed sadness in the mural that the art therapy sessions were over, and the families had to say good-bye. In the final discussion, the teenaged girl reported that the positive comments by group members shifted her view of herself from being a parental figure to desiring more independence. Her parents supported this change, and her brother displayed more independent and less attention seeking behaviors (Riley, 2004).

To best help the family, it is important to determine the family's strengths, problem-solving skills, religious and cultural views, and communication styles. Utilizing the lifestyle assessment, or another assessment that determines the family's unique style of living, builds rapport and understanding of the family in order to discover ways in which the family can support and contribute to their child's development (Bloch & Weinstein, 2010).

Summary

Research supports the claim that effective treatment for families with children with ASD reinforces effective treatments for individuals with ASD. It may also reduce the triad of impairments; therefore, enhance the lives of individuals with ASD. The body of evidence reviewed in this section suggests that social and formal supports, respite care and art therapy approaches are effective in treating families with children with ASD.

Final Summary

This literature review strived to answer the question: Does art therapy enhance socialization, communication and imagination for individuals with autism spectrum disorder, and in turn reduce stresses in their family culture? The development of this research question was based on the need for effective treatment in working with individuals with ASD. Effective treatment is necessary because the number of individuals with ASD is growing. The purpose of this literature review was to discover effective ways of treating individuals with ASD, because effective treatments for individuals with ASD may reduce the triad of impairments and therefore, enhance the lives of individuals with ASD. The body of evidence reviewed in this paper suggests that art therapy approaches may help to significantly reduce the triad of impairments while supporting the triad of strengths.

The Autism and Developmental Disabilities Monitoring Network (ADDM) researches the prevalence of autism spectrum disorders (ASDs). ADDM conducts research in determining the prevalence of ASD in multiple states. In 2006, the average number of individuals with ASD was 1 in 110. Based on ADDM (2006) research, the prevalence of ASDs increased 57% since 2002. However, an accurate rate of growth was difficult to find. According to Rice (2006), evaluating the prevalence of autism spectrum disorder (ASD) over time is challenging because of the complex nature of these disorders, the current lack of consistent and reliable genetic or biological diagnostic markers, and changes in how these conditions are defined and identified make evaluating ASD prevalence challenging.

Research indicated that early detection of ASD leads to early intervention, which improves long-term prognosis. More specifically, Mays & Gillon (1993) suggest that children with ASD who develop language and symbolic play before the age of 5 years old have greater

long-term potential. They are also more likely to develop communication skills and have fewer out-of-control behaviors with early educational intervention (Seigel, Pliner, Eschler, & Elliot, 1988). However, detecting ASD symptoms before 3 years old is difficult. Detection is difficult because the presentation of symptoms varies from case to case, social and language deficits and delays may not be identified until the child is in preschool, low incidence rates often leads to decreased awareness, and motor milestones are difficult to detect in primary care settings (Robins et al., 2001). The screening instruments, CHAT and M-CHAT, have shown success in early detection of ASD, but early detection continues to be a challenge.

Studying a child's art may increase the chance of early detection of ASD, and in turn increase the child's long-term potential. Standardized artistic developmental stages can provide information to where an individual may be impaired or delayed. By looking at an individual's drawings, one can indicate if an individual is deviating from normal development, and perhaps needing further diagnostic screenings or assessments (Lowenfeld & Brittain, 1987).

Art therapy may also help individuals with ASD increase socialization. Art therapy strengthens the sense of self, which is pertinent to the sense of others. Drawing portraits of self or others is an effective way of processing faces and relationships, as well as understanding self vs. others and personal boundaries (Martin, 2008; Emery, 2004). Group art therapy, as evidenced by Epp (2008), offers a relaxing and enjoyable atmosphere to practice social skills and turn taking. Group art therapy can also help an individual with ToM deficits understand a person's point of view. According to Martin (2009), "seeing another persons drawing is akin to hearing their point of view" (p.71).

The study by Colle et al (2006) strengthens the implication that individuals with ASD have delays in the development of a ToM. As previously stated, individuals with ASD may

present with inappropriate affect and may shutdown when experiencing strong emotions. Based on the characteristics of ASD, a question arises: What part does ToM have in self-awareness? Research implicates that individuals with ASD have deficits in self-awareness, and self-awareness is integral to appropriately managing affect and emotion, therefore, if awareness of others is essential to communication, then self-awareness is as well (Emery, 2004; Henley, 1991).

In a safe therapeutic environment, individuals can use art to externalize and process thoughts and feelings, which in turn increases communication. Like many individuals with ASD, art is concrete and visual. Often individuals with ASD do not understand things they cannot see, and art is something people can see. Emotions are not visual, and so individuals with ASD struggle understanding them. Through art, individuals with ASD can see their emotions, providing a better way of understanding and processing them (Martin, 2009).

In a safe therapeutic environment, individuals can use art to increase imagination and abstract thinking skills. Art making is a good vehicle for developing imagination in an individual with ASD, as art materials are visual and concrete. Individuals with ASD may also have difficulty with sensory regulation, which might inhibit imagination. Art can help an individual with ASD integrate sensory experiences. With the help of a trained art therapist, an individual can experiment with different art materials and take note of what responses each one elicits. The art therapist then teaches the individual how and when to use that particular material (Martin, 2009).

Art therapy research consists mainly of anecdotal case studies. Emery (2004), Kornreich and Schimmel (1991), Martin (2008), Riley (2004) and Henley (1991) all provide subjective case illustrations. There is a scarcity of empirical studies supporting art therapy's effectiveness.

There are also limited, if any, research conducted on the theory of mind hypothesis and art therapy, as well as the theory of mind hypothesis and social interest. Research indicates that art therapy can be a useful tool in detecting developmental delays, as well as some psychiatric disorders, however, currently, it seems to be more of an adjunct to other modes of detection. Further investigation is essential in determining successful assessments and interventions for individuals with ASD and their families.

This literature focuses primarily on art therapy and Adlerian interventions to discover effective treatment for individuals with ASD. However, similar to art therapy there is a scarcity of research on ASD and Adlerian interventions. Social ineptness and preference to be alone is common in individuals with ASD. Furthermore, research suggests that individuals with ASD lack a theory of mind and may be unable to impute others' beliefs and predict behavior. In other words, the individual with ASD may lack social interest, or empathy. Adler suggests that the ability to empathize can be learned, but only if one is surrounded by others and feels as though s/he is part of a community (as cited in Ansbacher & Ansbacher, 1964). Nevertheless, can individuals with ASD learn social interest or empathy? Studies show that the origination of a ToM, or empathy, is in the structure of the amygdala, known as the "social brain," and these studies found pathology in the amygdala of individuals with ASD (Kling & Brothers, 1992, as cited in Baron-Cohen, 2004, p.6). Because of the found abnormalities in the amygdala and the deficits of the ToM, individuals with ASD may never be able to genuinely empathize. Individuals with ASD may learn how to appear as though they empathize, but whether individuals with ASD can genuinely learn how empathize demands further investigation.

Moreover, individuals with ASD struggle with social interaction, and may develop a hesitating attitude leading to depression. As stated previously, hesitation is a safeguarding

maneuver termed by Adler, defined as an individual's lack of courage to do what the situation requires. As cited in Ansbacher and Ansbacher (1964), Adler suggested that the hesitating individual does not have the confidence to take risks and advance, but rather stands still or turns back. Taking into account the impairments of individuals with ASD, it is not as though they do not have the courage, but they do not have the capabilities. For this reason, assessing individuals with ASD for depression is important in providing the necessary treatment, to safeguard them from a hesitating attitude. Perhaps the safe therapeutic environment of art therapy can provide individuals with ASD the self-esteem to not turn back and develop courage to conquer their ailments, despite their limitations.

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