

**Autism Spectrum Disorder: Parent Attachment Representations  
and Emotional Availability in the Parent-Child Relationship**

**By**

**Ruby Yedloutschnig, M.S.Ed.**

**A Doctoral Project Submitted in Partial Fulfillment of  
the Requirements for the Degree of Doctor of Psychology  
in the Department of Psychology at Pace University**

**New York**

**2011**

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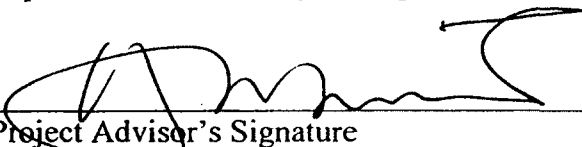
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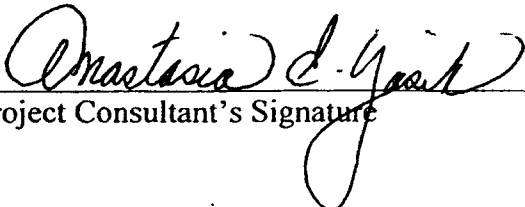
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## **ACKNOWLEDGEMENTS**

I would like to acknowledge the unparalleled contributions of Dr. Mark Sossin, my advisor on this doctoral project and mentor, whose expertise and unwavering support helped me to persevere over these past several years to complete the Pace University Psy.D. program. Despite his busy schedule, he was always accessible to discuss a problem and share ideas, all the while encouraging me to think critically and to observe with an open mind. Whether in research, academia, or the clinical realm, his tireless, scholarly enthusiasm and dedication to infants, children, and parents, have inspired and guided me toward my own path in the world of psychology. I also acknowledge with the utmost gratitude, the major contributions of Steve Salbod who served as a consultant throughout the data analysis portion of this study. With his patient guidance, enthusiasm, and good nature, he provided the highest level of support and optimism that truly made statistics navigable for me. I am grateful to my consultant Dr. Anastasia Yasik for her efforts in reviewing my doctoral project and for providing crucial input throughout the process.

I especially thank Lynn Seskin and Eileen Feliciano, my fellow researchers who managed the data collection efforts. Our project team sincerely thanks the parents and children at The Rebecca School who contributed so generously to this project. Our project team is very grateful to Dr. Gil Tippy, Clinical Director of The Rebecca School, for his enthusiastic support of this project. The school teachers and staff members made

significant contributions to our project, and a special thank you is extended to Alex Klein for his exceptional willingness and efficiency in helping with data collection.

Our team thanks Deane Dozier, Holly Koehler, and Mindy Cabrera for their meticulous scoring of the Adult Attachment Interviews. Special thanks go to Ashmi Tiwari and Regine Wong for their enthusiasm and dedication during their training with me on the Emotional Availability Scales, Third Edition, by Dr. Zeynep Biringen, Colorado State University, and for their coding of the videotapes of the parent-child interactions used in this study. We thank Dr. Biringen for providing valuable feedback during our training course, and for taking the time to provide support and guidance during the process of coding the videotapes.

I thank my mother and father for being so loving and supportive of me every day of my life, and I value the consistent encouragement they selflessly provided throughout my years of study. I especially thank my husband and my two daughters for being beside me on this long and often arduous journey. I thank my husband Jim for his enduring love, gentle soul, and belief in me. I thank my daughter Lisa for the joy that she has blessed us with every day since she was born - she shines so brightly in my heart. I am grateful beyond words for the love, enthusiasm, sense of humor, and quiet patience that both Jim and Lisa gave to me throughout this process. I thank my daughter Alicia for her laughter, giggles, and smiles that always help to make my heart feel light. I dedicate my degree to my entire family for encouraging me to move beyond my perceived limitations and for their genuine enthusiasm for my accomplishments. Without them, it would not have been possible for me to pursue this dream of mine.

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## **ABSTRACT**

In the current study of 38 parents and their children with Autism Spectrum Disorder (ASD), parents' attachment histories were assessed using the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985) and emotional availability was assessed using the Emotional Availability (EA) scales (Biringen, Robinson, & Emde, 1998). The central questions of this study were whether security status of parents (assessed from AAI narratives) predicted parent EA, as gauged via observation, and whether more optimal parent EA was associated with more optimal child EA. It was found that each EA scale score was significantly higher for secure parents than for insecure parents. Although children's involvement of the parents was infrequent overall, parents with greater sensitivity were better able to read and respond to the signals of their children and their children were more responsive to them. Higher levels of children's social-emotional functioning and parents' supportive behaviors, assessed using the Functional Emotional Assessment Scale (FEAS; Greenspan, DeGangi, & Wieder, 2001), were expected to relate to more optimal parent and child EA. This hypothesis was supported, lending validity for use of the FEAS in samples of children with ASD over the age of 4. Exploratory analyses of AAI classification, children's symptom severity, and level of social-emotional functioning as potential moderators of parent-child EA, revealed no interaction effects. Children's symptom severity was not associated with parent or child EA. The significance of parents' internal resources and emotional availability in affective exchanges with their children with ASD, and the implications of these findings, are discussed.

# **Autism Spectrum Disorder: Parent Attachment Representations and Emotional Availability in the Parent-Child Relationship**

## **CHAPTER I**

### **Introduction**

The term Autism Spectrum Disorder (ASD) is often used interchangeably with Pervasive Developmental Disorder (PDD). In the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition-Text Revision (DSM-IV-TR; American Psychiatric Association, 2000), PDD is defined as a neurodevelopmental disorder characterized by mild to severe impairments in the primary areas of social interaction and communication, with stereotyped behavior, interests, and activities also present. It is well understood that parents of children diagnosed with ASD encounter extraordinary demands as caregivers and advocates for their children, and are asked to make significant adjustments and accommodations throughout their children's development. Studies have consistently shown that parents of children with autism report experiencing higher levels of stress over comparison groups of children with other developmental and genetic disorders (e.g., Abbeduto et al., 2004; Sanders & Morgan, 1997).

Considering the myriad stressors and demands of parenting children with ASD, the internal resources of parents are likely to be strained. It is well-documented that parents' current representations of early attachment experiences with primary caregivers, affects parenting behavior in the next generation. Further, given the biological

constraints of children with ASD, it is not unusual for parents' most sensitive efforts to affectively engage their children to be met with behavior that appears unresponsive. Thus, it would seem beneficial for clinicians to enhance their understanding of factors that may influence parents' internal resources and the quality of the affective exchange between parents and their children with ASD. Given the dynamic and bi-directional nature of relationships, the current study investigates both parent and child factors that may influence the overall quality of the parent-child relationship from the perspectives of the attachment and emotional availability constructs.

Attachment theory (Bowlby, 1969/1982, 1980) proposes an "internal working model" of self, others, and the relationship between self and others, that develops based on affective experiences with caregivers, influencing subsequent expectations and affective responses in the parent-child relationship (Bretherton, 1985; Main, Kaplan, & Cassidy, 1985). Main et al. (1985) operationalized Bowlby's internal working model construct as a "state of mind with respect to attachment." The Adult Attachment Interview (AAI; George et al., 1985) was developed to gain an understanding of how individuals organize or mentally represent early attachment experiences in adulthood. Research suggests that AAI responses conveying balanced, coherent, and objective descriptions of early childhood attachment experiences, allow parents to perceive, understand, and respond to their children's attachment signals in a manner that is not distorted. Freedom to evaluate one's thoughts and feelings related to attachment experiences, whether the experiences were favorable or unfavorable, theoretically implies a secure-autonomous internal working model that has been linked to greater maternal

sensitivity and infant attachment security (Pederson, Gleason, Moran, Bento, 1998; Ward & Carlson, 1995). Conversely, AAI responses that convey incoherence and a lack of integration between current feelings and past attachment experiences are thought to be related to parents' distortion of their children's attachment behavior, thus influencing their ability to sensitively attend to and integrate their children's attachment signals (Main et al., 1985; van IJzendoorn, 1992).

The concept of maternal sensitivity was first described as the ability of a mother to attune to her child's attachment signals (e.g., crying), and accurately interpret and respond to these signals in a prompt and appropriate manner (Ainsworth, Bell, & Stayton, 1974). Although a meta-analysis by De Wolff and van IJzendoorn (1997) supports the importance of maternal sensitivity for predicting the quality of attachment security in children, the relationship between these two variables was found to be modest ( $r = .24$ ), and the authors suggested that other dimensions of parenting may also play an important role.

Ainsworth, Blehar, Waters, and Wall (1978) have emphasized that caregivers who are emotionally available, can sensitively attune to the signals of their infants and respond appropriately, thus promoting affect sharing (Emde, 1989), affect regulation (Field, 1994; Biringen & Robinson, 1991; Thompson, 1994), and socio-emotional organization and adaptation (Emde & Easterbrooks, 1985). The Emotional Availability (EA) scales, developed by Biringen, Robinson, & Emde (1993), include and extend the sensitivity construct as originally conceptualized by Ainsworth et al. (1978), and emphasize mutual responsiveness and positive affect in observed parent-child interactions. The EA scales

are dyadic in that they focus on the active contributions of both parent and child. Specifically, when coding EA, observations of parent or child behavior cannot be evaluated without considering the behavior of the other member of the dyad. The link between more optimal EA and secure-autonomous maternal attachment representations (Aviezer, Sagi, Joels, & Ziv, 1999; Biringen et al., 2000; Oyen, Landy, & Hilburn-Cobb, 2000), and infant attachment security (Ziv, Aviezer, Gini, Sagi, & Koren-Karie, 2000) is supported in the literature. Further, studies consistently document the importance of sensitive and responsive parenting for children's social-emotional and intellectual growth (e.g., Greenspan, Wieder, & Simons, 1998; Stern, 1985). Less understood, however, is the relationship between parents' current representations of their attachment experiences and EA in observed interactive behaviors between parents and their children with ASD.

It has been found that despite significant impairments in relating and communicating, approximately 50% of children with ASD develop secure attachments with their mothers corresponding to the percentage of neurotypical children attaining secure attachment status (Capps, Sigman, & Mundy, 1994; Dissanayake & Crossley, 1997; Rogers, Ozonoff, & Maslin-Cole, 1991; Rutgers, Bakermans-Kranenburg, van IJzendoorn, & van Berckelaer-Onnes, 2004; Willemsen-Swinkels, Bakermans-Kranenburg, Buitelaar, van IJzendoorn, & van Engeland, 2000). Children with more "strictly defined autism" have been found to demonstrate less responsiveness in interactions with caregivers and less attachment security than children with higher mental development and less severe ASD symptoms, suggesting that children's functioning and symptom severity may hinder the ability of some parents' to establish attachment security

with their children (Rutgers et al., 2004). According to the findings of a recent study, parents of children with ASD are just as sensitive in interactions with their children as parents of children without ASD (van IJzendoorn et al., 2007). Despite their best efforts, however, parents of children with ASD may have difficulty reading and responding to their children's affective signals. Thus, given the internal resources available to parents in meeting the often overwhelming demands of raising children with autism, and the differences in children's symptoms and levels of functioning, variability of emotional availability is expected to be observed in dyadic interactions.

To date, there are no known studies that have examined the relationship between parents' attachment histories and emotional availability in a sample of parents and their children with ASD. Further, the findings regarding severity of ASD symptoms and children's level of functioning in relationship to EA are limited and warrant further investigation (Dolev, Oppenheim, Koren-Karie, & Yirmiya, 2009; van IJzendoorn et al., 2007). The current study aims to address these limitations and extend the current literature by examining the role of parents' attachment histories, children's social-emotional functioning, and children's symptom severity, on emotionally available behavior observed in parent-child interactions. It is important for clinicians to develop their understanding of factors that may be unique to the challenges of parents and their children with ASD.

## **CHAPTER II**

### **Literature Review**

This chapter presents a review of the research literature pertaining to autism, parenting children with autism, attachment, parental sensitivity, and emotional availability in parent-child interactions.

#### **Autism Spectrum Disorder**

Autism Spectrum Disorder (ASD), often used interchangeably with Pervasive Developmental Disorder (PDD), refers to a broad continuum of neurobehavioral and cognitive disorders. In the DSM-IV-TR (APA, 2000), PDD is defined as a neurodevelopmental disorder characterized by mild to severe impairments in the primary areas of social interaction and communication with restricted, repetitive, and stereotyped behavior, interests, and activities also present. ASD symptoms are generally recognized and diagnosed in infancy before the age of three years, and are often associated with varying degrees of mental retardation evidenced by intellectual functioning well below the average range and impairments or deficits in adaptive functioning as defined in the DSM-IV-TR (APA, 2000). According to the Centers for Disease Control and Prevention (CDC; 2007), two surveys of children with autism in multiple areas of the United States report prevalence rates of 6.7 per 1,000 in the year 2000 and 6.6 per 1,000 in 2002, or approximately 1 in 150 eight-year-old children. Recent prevalence estimates of children with ASD in the United States have been reported by the CDC Autism and



Developmental Disabilities Monitoring (ADDM) Network (2012), as 11.3 per 1,000, or approximately 1 in 88 children.

Research studies suggest a strong genetic basis in cases of autism, and siblings are at increased risk for developing the disorder (Volkmar, Lord, Bailey, Schultz, & Klin, 2004; Rutter, Baily, Simeroff, & Pickles, 1997). Males are three to four times more likely to be diagnosed with autism than females (Fombonne, 1999, Lord & Volkmar, 2002); however, this may vary depending upon variation in cognitive functioning; that is, 2:1 for lower cognitive functioning and 4:1 for children with cognitive functioning closer to the average range (Bryson, 1997).

**History of autism.** Leo Kanner (1943) first described what he termed “autistic disturbances,” from eleven case histories of children between the ages of 2 and 8 years. The autistic disturbances that Kanner noted consisted of patterns of behavior that included impairments in the ability to form affective contact with others, obsessiveness, echolalia, and stereotypies. In 1944, Hans Asperger described a syndrome that was thought to be a milder form of autism. Although it is widely recognized that children with Autism Spectrum Disorder (ASD) are challenged in the area of affective engagement with others, the once prevalent view that children with autism are incapable of experiencing and expressing emotion (Bettleheim, 1967; Kanner, 1943; 1971), is no longer supported in the literature. It is well documented that children with autism are able to experience and express emotion (Capps, Kasari, Yirmiya, & Sigman, 1993; Capps, Yirmiya, & Sigman, 1992; Dissanayake, Sigman, & Kasari, 1996; Kasari, Chamberlain, & Bauminger, 2001).

Over the past several decades, the terms used to describe autism have included infantile autism, schizophrenic reaction, schizophrenia - childhood type, autistic psychosis, and pervasive developmental disorder-residual type (Filipek et al., 1999). The term “Pervasive Development Disorder” was first used in the Diagnostic and Statistical Manual of Mental Disorders-Third Edition (DSM-III; APA, 1980) to describe autism and the diagnostic criteria, most notably, did not include psychotic symptoms. Currently, Autistic Disorder and Asperger’s Disorder are two of the five PDD disorders listed in the DSM-IV-TR (APA, 2000). The other three PDD subgroups are Childhood Disintegrative Disorder, Rett’s Disorder, and PDD-NOS (Pervasive Developmental Disorder-Not Otherwise Specified). In cases of children with symptoms of ASD, the PDD-NOS diagnosis is given if full criteria for either Autistic Disorder or Asperger’s Disorder are not met. Marked variability exists in the severity of symptomatology and intellectual functioning across individuals diagnosed with ASD. Diagnostically, there continues to be an area of research lacking consensus; namely, the difference between Asperger’s Disorder and Autistic Disorder with high functioning continues to be investigated (Volkmar et al., 2004). Proposed revisions to the 5<sup>th</sup> edition of the Diagnostic and Statistical Manual of Mental Disorders that will be published in May, 2013 (DSM-5; APA) include changes in the criteria for autism intended to provide more accurate diagnosis and better treatment. In the DSM-5, a new ASD category will include autistic disorder, Asperger’s disorder, childhood disintegrative disorder, and pervasive developmental disability not otherwise specified. There will no longer be a classification of Asperger’s Disorder in the DSM-5, and symptoms of the disorders in the ASD

category will be represented on a continuum of severity from mild to severe. The diagnostic criteria in the DSM-5 will describe overall developmental status.

**Major areas of impairment.** Compared to typically developing children, children with ASD show impairments in reading and responding to social cues, forming reciprocal social relationships, social-referencing, empathic responding, responsiveness and involvement in interactions with others, and joint attention (Kasari & Sigman, 1997; Leekman, Lopez, & Moore, 2000; Mundy, Sigman, & Kasari, 1990; Naber et al., 2008; Yirmiya, Sigman, Kasari, & Mundy, 1992). Joint attention is a fundamental social skill that refers to the capacity to coordinate attention with another person in order to share an event or object. In a study by Dawson et al. (2004), seventy-two 3- to 4-year-old children with ASD performed significantly worse than comparison groups of children with developmental delays of the same age, and 12- to 46-month-old typically developing children in areas of social attention; namely, social orienting, joint attention, and attention to the distress of others. Impairments in joint attention combined with impairments in social orienting were the strongest predictors of children with ASD versus children without ASD. Joint attention was the best predictor of language ability. Social attention to distress and social orienting were indirectly related to language through association with joint attention. The give-and-take play interactions seen in normally developing children by the end of the first year of life, are often absent in children with ASD. Moreover, by the time they are two years old, children with ASD demonstrate play behavior that is dramatically different from typically developing children of the same age, as evidenced by less purposeful, symbolic or complex play (McDonough, Stahmer,

Schreibman, & Thompson, 1997; Sigman & Ruskin, 1999, Ungerer & Sigman, 1981; Williams, Reddy, & Costall, 2001).

Children with autism demonstrate impairments in speech and prosody with deficits in intonation and vocal qualities (Shriberg, Paul, McSweeny, Klin, & Cohen, 2001). Unconventional nonverbal gestures are evident in children two to three years of age such as using a parent's hand to get a desired object (Stone, Ousley, Yoder, Hogan, & Hepburn, 1997). Expressive language difficulties are present with a range of impairments from mutism to varying degrees of verbal fluency often accompanied by semantic errors, difficulties with the pragmatic use of language, and deficits in comprehension (Filipek et al., 1999). Children with autism who are verbally fluent often have difficulty sustaining a conversation and may repeat memorized phrases such as parts of conversations from television, or what they immediately hear. Other communication problems include the improper use of pronouns, referring to oneself by name, the use of neologisms, and speech that is pedantic, repetitive, and concrete (Filipek et al., 1999).

Language delays are one of the most frequent reasons that young children are referred for evaluation (Chakrabarti & Fombonne, 2001). In a recent study of language predictors of ASD in a sample of 118 preschool children, the strongest predictor of language at age 5 was nonverbal cognitive functioning at age 2 (Thurm, Lord, Lee, & Newschaffer, 2007). At age 3, communication was a stronger predictor of language at age 5 for children with autism. Children who did not develop language by the age of 5 years, had more impaired vocal and motor imitation skills and early joint attention skills (although nonverbal skills were relatively strong) than children who had developed

language by the same age. The results of the Thurm et al. (2007) study contribute to the contradictory findings in the literature regarding early cognitive skills language development; however, the results are consistent with a recent study of typically developing twins (Oliver, Dale, & Plomin, 2004). Oliver et al. (2004) found that nonverbal cognitive skills at 3 and 4 years of age were nearly as strong a predictor of language at age 4.5 as early language acquisition.

In addition to impairments in social skills, language, and communication, children with ASD demonstrate difficulties interpreting facial expressions and other nonverbal behaviors (Resnick & Rapin, 1991), and recognizing and imitating facial expressions (Dapretto et al., 2006). Children and adolescents with autism have been found to use different neural networks than typically developing control comparisons, relying on different strategies to process facial expressions (Ting, Marella, Ahmad, Sigman, & Bookheimer, 2004). Children with autism also show impairments in producing and expressing affect (Snow, Hertzog, & Shapiro, 1987; Yirmiya, Kasari, Sigman, & Mundy, 1989), and imitating the facial emotional expressions of others (Hertzog, Snow, & Sherman, 1989). Although children with ASD are no less able to show affect than their normally developing peers, the literature consistently supports the finding that children with ASD are not as likely to show positive affect, and some are more likely to show negative affect over typically developing children (Dawson et al., 1990; Snow et al., 1987; Yirmiya et al., 1989). Overall, the findings suggest that children with ASD show significant impairments in identifying the emotions of others, and in particular, they have

difficulty understanding the underlying causes of the affective responses of others (Capps et al., 1992; Yirmiya et al., 1992).

**Psychological models of autism.** Since the early 1990s, there have been a few dominant psychological models of autism that have emerged. Baron-Cohen, Leslie, and Frith (1985) presented one of the most influential social cognitive frameworks called the ‘theory of mind’ (ToM) hypothesis. The ToM hypothesis suggests a disruption in cognitive processing that leads to difficulties in attributing mental states to others as well as to oneself, resulting in the inability to possess beliefs, intentions, and desires that are necessary for the construction of a social world (Hughes & Russell, 1993; Ozonoff, Pennington, & Rogers, 1991; Baron-Cohen, Tager-Flusberg, & Cohen, 2000). From a learning perspective, the ‘Weak Central Coherence’ theory suggests that individuals with autism focus on details rather than meaningful wholes and have difficulty deriving meaning and social context from a disjointed inner social world (Happe & Frith, 1996).

Another psychological framework that has been influential is called the ‘Executive Dysfunction’ (ED) hypothesis. The ED hypothesis is rooted in a study that compared the symptoms of individuals with autism to the symptoms of patients with frontal lobe brain injuries resulting in impairments on tasks related to “executive” functioning skills (Damasio and Maurer, 1978). The ED framework defines learning in individuals with autism as a process that primarily includes characteristics such as perseveration, poor self-regulation, ineffective problem-solving skills that lack coordinated reasoning, and difficulties with change and forward planning (Ozonoff, 1997). Greater impairments in executive functioning are found in individuals with

autism than in individuals with other developmental disabilities (Pennington & Ozonoff, 1996; Pennington et al., 1997). In studies of ED in very young children, however, the results have been inconsistent (Griffith, Pennington, Wehner, & Rogers, 1999).

**Other models of autism.** Greenspan has suggested that children with autism have biological processing deficits that interfere with their ability to connect affect with planning, sequencing, and symbol formation (Greenspan, 2001). Without this ability, children with ASD are thought to develop a range of self-stimulatory and perseverative behaviors, and impairments in language development, logical thinking, and imagination (Greenspan, 2001). More recently, Frith (2003) stressed the role of abnormal brain structures and neurological deficits in the etiology of autism. Pre-motor and parietal brain cells called mirror neurons, have been found to be less active in adults and children with autism (Dapretto et al., 2006). Mirror neuron dysfunction has been related to difficulty in performing tasks that require recognizing or imitating facial emotions. For children with ASD, the mirror neuron system and related limbic system are not activated and thus, there is an increased reliance on both motor and visual attention, and emotional understanding of the other person's facial emotion is not initially present. In the early 1990's, Giacomo Rizzolatti and his colleagues discovered the properties of mirror neurons (Rizzolatti, Sinigaglia, & Anderson, 2006). They found that the sight of others performing actions or showing emotions activates the same areas of the observer's brain that is activated in the performer's brain. Mirror neurons allow people to feel as though they are sharing the emotions and experiences of others when observing them. Dapretto et al. (2006) suggest that mirror neuron system dysfunction, or lack of activation during

social mirroring tasks, may be related to the social deficits observed in individuals with autism. In a review of anatomical and imaging studies of children with autism, Hadjikhani (2007) found support for mirror neuron system dysfunction in high-functioning children with autism and children with Asperger syndrome. However, the role of the mirror neuron system in action understanding and social cognition for children with autism remains both compelling and controversial (Sinigaglia, 2008)

**Models of intervention.** Although children with developmental disabilities are faced with the same psychosocial developmental challenges as children without disabilities, they require an extraordinary amount of assistance in moving toward their individual developmental capacities. Currently, there are several models of intervention that are being used to treat the core symptoms of ASD. These include the Developmental, Individual Difference, Relationship-Based (DIR) model of intervention also referred to as Floortime; Applied Behavior Analysis (ABA); Pivotal Response Therapy (PRT); Verbal Therapy, Relationship Development Intervention (RDI), Training and Education of Autistic and Related Communication Handicapped Children (TEACCH); Social Communication/Emotional Regulation/Transactional Support (SCERTS); and The Son-Rise Program. The DIR model is the method of intervention used at The Rebecca School where the sample for the current study was recruited.

Children with ASD experience difficulties in relating and communicating that include problems with social reciprocity and the use of words in a meaningful manner and with emotional intent (Greenspan & Wieder, 2006). The Developmental, Individual Difference, Relationship-Based (DIR) model of intervention is an innovative approach