

**Strengthening Emotional Bonds:
A Theoretical Exploration of Developmental Transformations and the
Facilitation of Attachment Between Parents and Children with Autism**

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ABSTRACT

Strengthening Emotional Bonds: A Theoretical Exploration of Developmental Transformations and the Facilitation of Attachment Between Parents and Children with Autism

Katherine N. Braginton

This paper explores the drama therapeutic approach of Developmental Transformations and how its inherent play processes may be beneficial to the strengthening of attachment between children with autism and their parents. Through this exploration, theoretical connections will be made linking the potential therapeutic benefits of Developmental Transformations (DvT), an intervention based on a developmental paradigm, to the gaps in developmental functioning seen in those with autism. Many theories advocate children's engagement in play due to its tremendous developmental benefits; however, the action-oriented play approach of DvT has never been applied to children with autism. Benefits of DvT include increased spontaneity, increased physical expression, and an increased ability to access and project internal emotional states, all of which are considered deficient areas in children with autism. This paper also explores attachment theory in relation to the fostering of emotional growth through play interventions. Based on the core deficits associated with autism, some research indicates that children with autism are prone to disorganized attachments. Parental participation in play processes with their children, such as occurs in DvT, facilitates engagement and create a shared experience with their children. Ultimately, this generates meaningful associations for children with autism between the play experience and their parents, thus contributing to the development of securely-attached relationships.

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Introduction

“Man is perfectly human only when he plays.”

~Friedrich von Schiller (as cited in Erikson, 1963, p. 212)

For most children, the ability to play, which is fundamental to their cognitive, psychological, physical, social, and emotional well-being (Erikson, 1963; Ginsburg, 2007; Piaget, 1951/1962; Vygotsky, 1978), comes naturally. Through play, children learn about themselves, others, and the world around them. Additionally, studies show that play “offers an ideal opportunity for parents to engage fully with their children” (Ginsburg, p. 182), an essential element in the development of healthy, secure attachments.

For children with autism, however, the ability to play is not natural. The defining characteristics of autism, which is a disorder of neurodevelopmental functioning (Dakin & Frith, 2005) diagnosed in young children, are such that emotional understanding and social reciprocity are lacking, both of which are considered crucial to receive the full developmental benefits of engaging in play behavior. It is for this reason that the ability to play needs to be facilitated, taught, and encouraged in children with autism on a daily basis. The purpose of this paper, therefore, is to explore the use of a particular drama therapy play intervention, known as Developmental Transformations, and its potential application to children with autism. More specifically, this paper seeks to elucidate the therapeutic potential of Developmental Transformations in the strengthening of attachment bonds between children with autism and their parents when they engage in the process together.

Although the past 25 years have produced an abundance of research on autism (Baron-Cohen, Leslie, & Frith, 1985; Evan & Dubowski, 2001; Frith, 1989; Geschwind, & Levitt, 2007; Greenspan & Wieder, 1998, 2006; Polleux & Lauder, 2004; Sigman & Capps, 1997; Volkmar, 1998, 2007; Williams, Whiten, Suddendorf, & Perrett, 2001), there is still no single treatment plan that claims to address all the areas of deficiency related to the disorder (see Glasberg, Martins, & Harris, 2006; Green et al., 2006).

Studies have shown, however, that developmental interventions, as opposed to behavioral ones, are better suited for addressing the core social and emotional gaps found in autism (Corsello, 2005; D. G. Singer, Golinkoff, & Hirsh-Pasek, 2006; Trevarthen, Aitken, Papoudi, & Robarts, 1998; Wieder & Greenspan, 2003). Nonetheless, the effects of Developmental Transformations, a developmental intervention based on the action-oriented practices of drama psychotherapy (Johnson, 1984; Porter, 2003), have yet to be explored in relation to children with autism.

Developmental Transformations (DvT) is recognized in the field of drama therapy, as well as in other creative arts therapies, as a way of promoting spontaneity, encouraging expression through the body, and facilitating the projection of internal emotional states (Johnson, 1991, 1992, 1999, 2000; Landy, 2005; Porter, 2003; Schnee, 1996), all of which are considered major areas of deficiency in children with autism (Frith, 1989; Greenspan & Wieder, 1998, 2006; Sherratt & Peter, 2002; Wieder & Greenspan, 2003; Wing, 1996). The fact that autism is a *developmental* disorder and DvT is a therapeutic approach based on a *developmental* model suggests a potential relationship between the two. According to Johnson (1984), “whereas other paradigms suggest human dysfunction is due to something missing or out of balance, requiring

things ‘to be put right,’ the developmental perspective sees human disorder as a blockage or halt in development” (p. 184). Based on this perception, engagement in Developmental Transformation processes has the potential to remove obstacles standing in the way of certain developmental advancements in children with autism. This is not to say that DvT is a potential *cure* for autism; only that it has potential for addressing some of its core symptoms.

In addition to the inferred connection between autism and Developmental Transformations, this paper also explores attachment theory as it relates to parents and children (see Ainsworth, 1967, 1969, 1979, 1989; Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1952, 1958, 1969, 1988; Prior & Glaser, 2006), specifically, how attachment relationships may be affected by a diagnosis of autism (Dissanayake & Crossley, 1997; Rutgers, Bakermans-Kranenburg, van IJzendoorn, & van Berckelaer-Onnes, 2004; van IJzendoorn et al., 2007). As the literature shows, parents of children with autism find it difficult to make connections with their children on a multitude of levels (Glasberg et al., 2006; Gray, 1994; Hutton & Caron, 2005). Thus, an important aspect of this theoretical paper deals with the joint participation and engagement of both children with autism *and* their parents throughout the DvT process. Although there are several intervention and treatment plans available for addressing the needs of children with autism, not many of them include the presence and active involvement of parents to such a degree. (Floortime is an example of one such parent-child intervention and will be discussed in greater detail in comparison to DvT later in this paper.) Through DvT parents are given opportunities to observe and interact with their children in ways not previously experienced, possibly leading to the development of more secure attachments

and stronger emotional bonds. By means of a literature review and a synthesis of current working theories, the purpose of this paper is to explore *how the essential benefits of play, as elicited by the specific drama therapy technique Developmental Transformations, may be useful in facilitating secure attachments between children with autism and their parents.*

Chapter Organization

The body of this paper consists of a literature review in which pertinent information regarding autism, attachment, and Developmental Transformations is discussed. The literature review introduces the present research methodology (*qualitative, theoretical research*), followed by an exploration of autism. Due to the amount of autism research available and the number of different working theories, certain aspects of the disorder are mentioned only briefly, providing an overview of the condition; areas relevant to the parent-child relationship are discussed in more detail. Next, the literature review covers research pertaining to attachment theory, including its history, the different styles of attachment relationships, and studies involving children with autism. The literature review continues with an examination of play: how play is viewed in the course of child development, followed by how it is used in drama therapy. Subsequently, the literature review introduces Developmental Transformations, including a description of its developmental paradigm as well as its therapeutic intent. This is followed by excerpts from an actual DvT session. Finally, the literature review discusses populations who have used DvT as a successful intervention, their connections to those with autism, as well as other art and drama therapy techniques used with autistic individuals, and what qualities those techniques share with DvT.

Following the literature review, this paper explores the connections previously implied concerning how autism, attachment, and Developmental Transformations may be informed and, ultimately, affected by one another. This section includes a comparison of DvT to the more frequently used developmental intervention: *Floortime*. The final section of this paper illustrates certain limitations found in the synthesis of this paper's three main subject areas.

Literature Review

Research Methodology

This research paper is designed around both a qualitative and theoretical methodology. According to Marshall and Rossman (2006), qualitative research is appropriate for the investigation of complex social phenomena (the why and how of things). This differs from quantitative research, which focuses on measurable changes in phenomena and the development of scientific instruments for such purposes (the what, when, and where; Maxim, 1999). Autism and attachment, two of the main concepts being investigated in this paper, are considered complex social phenomena and thus qualify as a basis for a qualitative methodological study.

Theoretical research is “concerned with the aim of testing, generating or enhancing thinking within a particular discipline” (Ritchie & Lewis, 2003, p. 25). In other words, its purpose is to generate new theories, ideas, and knowledge through the critical analysis, evaluation, and synthesis of pre-existing theories (Junge & Linesch, 1993). Considering the myriad of research that explores and examines the theoretical concepts surrounding autism (Baron-Cohen et al., 1985; Frith, 1989; Glasberg et al., 2006; Greenspan & Wieder, 1998, 2006; Kanner, 1943, 1949; Polleux & Lauder, 2004;

Sherratt & Peter, 2002; Volkmar, 1998, 2007; Williams et al., 2001) and attachment (Ainsworth, 1967, 1969, 1979, 1989; Ainsworth et al., 1978; Bowlby, 1952, 1958, 1969, 1988; see also Prior & Glaser, 2006), limited research has been made to integrate the two (Dissanayake & Crossley, 1997; see also Rutgers et al., 2004; van IJzendoorn et al., 2007). Although diverse, the theories involved in explaining both autism and attachment must be explored further in relationship to each other in order to fully understand the potential effects one may have on the other. Additionally, the exploration of these connections, in conjunction with the developmental potentialities attainable through the drama therapeutic approach of Developmental Transformations, will elicit a greater understanding of the appropriacy of drama therapy as a viable attachment intervention in working with children with autism.

The following literature review explores research on autism, attachment, and Developmental Transformations (including the related topics of play and drama therapy). While existing research on Developmental Transformations is considerably less extensive than that available on autism and attachment, it should be noted that the literature review is not exhaustive. In certain aspects, the amount of available information concerning each individual subject is so vast that it lies outside the scope of this paper. Therefore, a general overview of each subject is given, in addition to any pertinent research findings. Special attention will be given to the relationships that exist between these subject areas.

Autism

In order to fully comprehend the implications associated with a diagnosis of autism, it is important to begin with a basic understanding of the disorder. Only then will it be possible to establish an appropriate treatment plan beneficial to both children and families affected by the disorder. Therefore, the first question that begs to be asked is *what is autism?*

Definition

According to the *Diagnostic and Statistical Manual of Mental Disorders-IV-TR* (DSM-IV-TR; American Psychiatric Association [APA], 2000), autism, also known as autistic disorder, early infantile autism, or childhood autism, is characterized by “the presence of markedly abnormal or impaired development in social interaction and communication and a markedly restricted repertoire of activities and interests” (p. 70). This means, in essence, that children with autism lack the seemingly natural instinct to seek out others in social situations in order to form attachments and establish meaningful relationships; they have difficulty communicating their own thoughts and emotional responses in addition to anticipating and empathizing with the emotional states of others; and, finally, they demonstrate extreme rigidity of thought, which means they have trouble with spontaneous, imaginative, representational thinking and have great difficulty processing and executing even minor changes in their daily schedules and routines. The onset for the majority of autism cases occurs by the age of three (APA; Gillberg, 2007), generally following a period of typical development (Sigman & Capps, 1997). It is difficult to accurately diagnose the disorder before that even if certain core aspects of the abovementioned deficits and developmental challenges exist. These developmental

challenges, better known as the “triad of impairments” (Wing, 1996, p. 92), leave their mark in resounding waves on both the children who have been diagnosed and their families. Their repercussions are extensive, affecting how children with autism encounter the world, how the world encounters them, and, of paramount importance to this paper, how mothers and fathers are able to parent these children by striving to foster in them strong emotional bonds and engagement in the world.

It is important to point out that, even though a diagnosis of autism implies deficiencies in these three key developmental areas, not all levels of autistic disorder are the same. There are varying degrees of autistic symptoms and behaviors seen in children diagnosed with the disorder, placing it on a continuum known as the autistic spectrum. This spectrum consists of three separate yet similar conditions known collectively as autistic spectrum disorders (ASDs): autism, Asperger’s syndrome, and pervasive developmental disorder, not-otherwise-specified (PDD-NOS; Frith, 1991; Volkmar, 1998, 2007; Wing, 1996). These disorders are given individual clinical descriptions within the DSM-IV-TR (APA, 2000) even though there is much overlap between each diagnosis. It can often be difficult, therefore, to differentiate among *high functioning* autism, as described later, Asperger’s, and PDD-NOS, which is also referred to as *atypical* autism (APA; Gillberg, 2007), as they share certain key developmental problems and symptoms and only truly vary in their severity (Kutscher, 2007; Wing).

In addition to constituting their own diagnostic range, these three ASDs (autism, Asperger’s and PDD-NOS) also fall under an even larger umbrella of childhood maladies known as pervasive developmental disorders (PDDs; APA, 2000; Kutscher, 2007; Volkmar, 1998, 2007). This broader classification of disorders includes two

neurodegenerative illnesses that fall outside the autistic spectrum: Rett's syndrome and childhood disintegrative disorder (APA; Kutscher; Volkmar, 1998, 2007). These two PDDs differ developmentally in several ways from those on the autistic spectrum and are much lower in prevalence; therefore, they will not be considered in the scope of this paper.

As mentioned above, the DSM-IV-TR (APA, 2000) presents separate diagnostic criteria for all three autistic spectrum disorders. It does not, however, specifically differentiate between high and low functioning autism. Asperger's and PDD-NOS, although extremely similar to high functioning autism (so much so, in fact, that some of the literature uses the terms interchangeably; Kutscher, 2007), are nevertheless distinct entities. The distinction between high and low functioning autism is based primarily on the degree of mental retardation, if any, present in children with autism, as indicated by their intelligence quotient, or IQ (Frith, 1989; Siegel, 1996; Sigman & Capps, 1997; Trevarthen et al., 1998). The American Association of Mental Retardation defines mental retardation (MR) as "a disability characterized by significant limitations both in the intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills" (as cited in McDermott, Durkin, Schupf, & Stein, 2007, p. 4). Classification of MR is typically divided into four categories: mild, with IQs ranging between 55-69; moderate, 40-54; severe, 25-39; and profound, anything lower than 25. According to Volkmar (1998), approximately 75% of individuals with autism also have some degree of mental retardation (IQ scores lower than 70). Thus, those individuals with autism who score 70 or higher on standardized intelligence tests are considered high

functioning while those who score 69 or below are considered lower functioning.

Gillberg (2007), however, takes issue with the term *high functioning*. He states:

[It] is inappropriate because it suggests that the affected individual is ‘well functioning,’ which is almost never the case....The individual with this ‘diagnosis’ is usually *relatively* high functioning as regards overall IQ, but in respect of the autism symptomatology, functional disability is often major. (p. 43)

With this in mind, and given the theoretical scope of this paper, it is important to point out that only children scoring 70 or above on standardized IQ tests - that is, children with *high functioning* autism - will be considered in this paper’s examination of Developmental Transformations.

Theories of Autistic Deficits

As described above, children with autism are deficient in some, if not all, basic social and communication skills. There are three main neuropsychological theories which explain the etiology of these deficits and behaviors. The first postulates that children with autism have extreme deficits in *mentalizing* (Gillberg, 2007) or *theory of mind* capacities (Baron-Cohen et al., 1985; Frith, 1989; Prior & Ozonoff, 2007; Sigman & Capps, 1997; Trevarthen et al., 1998; Volkmar, 1998; Whitman, 2004). This hypothesis in autism research became prominent in the 1980s and 1990s through the experimental studies of Baron-Cohen et al. (1985) and Frith (1989, 1991) and takes into consideration the fact that children with autism have extreme difficulty understanding the mental states (i.e. thoughts, feelings, beliefs, and intentions) of other people (Prior & Ozonoff). This is sometimes referred to as “mind blindness” (Happe & Frith, 1995). In theory of mind, deficits are characteristically demonstrated through the lack of communication and joint

attention skills in children with autism (Baron-Cohen et al.; Frith, 1991; Prior & Ozonoff). They do not seek out parents, siblings, or friends with whom to share intimate moments or experiences, but are, rather, seemingly content with being alone (Greenspan & Wieder, 1998, 2006). As a result, children with autism do not easily engage in eye contact or demonstrate the desire for turn-taking or other common social interactions (Frith, 1989, 1991; Greenspan & Wieder, 1998, 2006; Sigman & Capps; Trevarthen et al., 1998). They have trouble both regulating and expressing their emotions in addition to difficulty reading the emotions of others. Early theorists believed that a missing or dysfunctional section of the brain (Prior & Ozonoff) was responsible for this lack of empathy and inability to perceive other people's cognitive and emotional states (Gillberg), a theory of neurobiology and brain dysfunction in autism which will be examined in more detail below.

The second theory which attempts to explain the core deficits and characteristics of autism is that of *executive function*. Prior and Ozonoff (2007) define executive functions as “goal-directed, future-oriented cognitive abilities thought to be mediated by the frontal cortex (Duncan, 1986), including planning, inhibition, flexibility, organization, and self-monitoring” (p. 102). Executive function is a multifaceted construct first investigated in autism research by Rumsey in 1985 (as cited in Prior & Ozonoff), who administered the Wisconsin Card Sorting Test to high functioning autistic males as a measure of their cognitive flexibility. Prior and Hoffmann (1990) were the first research team to investigate executive function deficits and frontal lobe dysfunction in children with autism by administering the same test. As in Rumsey's study, Prior and Hoffmann found high levels of sequencing errors, perseveration, and inflexibility of

thought in the autism group. Since then, several other studies have been conducted (see Prior & Ozonoff) examining the roles of executive function in children with autism. These examinations support the theory that individuals with autism have distinct deficits in their ability to motivate themselves, plan and sequence events, and understand and manage concepts involving time and space (Gillberg, 2007).

The last major theory related to some of the fundamental deficits of autism has to do with the idea of a *central coherence*, or a lack thereof, in children with autism (Frith, 1989; Frith & Happe, 1994; Gillberg, 2007; Prior & Ozonoff, 2007). This theory operates on the belief that typically developing children have an internal drive motivating them to organize information globally, to understand something in terms of its parts as well as its whole (Frith). In essence, this theory proposes that children with autism lack such an internal drive. Prior and Ozonoff (2007) cite several studies supporting the theory of weak central coherence in autism. One study, for example, applied the Embedded Figures Test (a measurement where a small form is placed within a larger, more complex picture) to a group of children with autism as well as a control group. The results showed that “children with autism were significantly more accurate in discovering the hidden figures than controls matched on mental and chronological age” (Prior & Ozonoff, p. 107). Prior and Ozonoff suggest that this theory “also has potential to account for some behavioral symptoms of the condition that other theories have failed to explain, such as repetitive and stereotyped behavior” (p. 107). In addition, central coherence accounts for the fact that so many individuals with autism are able to acquire concrete, factual information and remember seemingly insignificant details but are unable to use that information meaningfully or process it to see the bigger picture (Frith & Happe; Gillberg). In this

way, autistic disorder is regarded as an inhibitor to the discovery of meaning and social understanding (Beyer & Gammeltoft, 2000).

Characteristics

The three theories described above detail some of the deficits found in children with autism in relation to the core “triad of impairments” (Wing, 1996, p. 92). Combined with those deficits are several characteristic behaviors which, in one way or another, typify autistic populations. For example, because they present difficulty with imitation, children with autism often exhibit delayed or limited speech, if they develop speech at all (Frith, 1989, 1994; Geschwind & Levitt, 2007; Prior & Ozonoff, 2007). When speech is present, it may occur in the form of *echolalia* (immediately repeating back what has been said to them) or *scripting* (repeating, generally out of context, lines memorized from books, movies, and songs; Frith, 1989; Greenspan & Wieder, 1998, 2006). Even though speech is technically present, little is being communicated in these types of utterances. In fact, “about one-third of those with the core syndrome of autism never speak in communicative phrases” (Gillberg, 2007, p. 45). Other distinctive autistic behaviors, such as *self-stimulating* or *sensation-craving* behaviors (Greenspan & Wieder, 2006), include the repetitive waving of hands or arms (flapping), rocking back and forth, a noticeable tensing and stiffening of the body, walking in circles, walking on the tiptoe, spinning objects on fingers, the repetitive arrangement of objects in a certain formation, head-banging, and other forms of self-harm such as scratching and hair-pulling (Greenspan & Wieder, 1998, 2006; Siegel, 1996). Children with autism engage in these behaviors as a response to the inability to deal with the world around them; they often have a range of processing difficulties and are easily overwhelmed by sensory, motor, cognitive, and

emotional stimuli. Their response to this deluge of stimulation is to react in a fashion consistent with the aforementioned behaviors so as to calm themselves and gain control of their personal surroundings.

History

Developmental disorders of all kinds, including autism, have been around for centuries, mainly under the guise of *mental illness* or *mental retardation* (Ritvo, 2006; Whitman, 2004). It was Leo Kanner (1943), a child psychiatrist from the United States, who first named the disorder in 1943, after studying a group of 11 children whom he deemed demonstrated *autistic disturbances of affective contact*. In actuality, Kanner borrowed the term *autistic* from Swiss psychiatrist Eugen Bleuler (1951), who coined the term, based on its Latin root *auto*, meaning self, as a way to describe the “idiosyncratic, self-centered thinking observed in schizophrenia...” (Volkmar & Lord, 2007, p. 2). Prior to Kanner’s work, children who demonstrated these self-centered and emotionally distant tendencies were thought to have a form of childhood schizophrenia (Frith, 1989; Sigman & Capps, 1997; Trevarthen et al., 1998; Volkmar, 1998; Volkmar & Lord, 2007), or were simply considered idiots, imbeciles, or social misfits (Ritvo). Kanner’s findings, however, led him to deduce that the disorder he was examining was different from schizophrenia. The two main symptoms that he observed, consistent in each of his 11 patients, were “extreme autistic aloneness” (p. 242) and “obsessive insistence on sameness” (p. 245). Kanner observed that, fundamental to the disorder at hand, was “the children’s inability to relate themselves in the ordinary way to people and situations from the beginning of life” (p. 242). As schizophrenia is characterized by a noticeable withdrawal or departure from current relationships and social participation (Volkmar &

Lord), Kanner suggested that autism, in contrast, was characterized by a complete lack of these connections from birth or soon after. The children in the study did not have any apparent problems relating to inanimate objects, however. In fact, they quite preferred them to people (Kanner). In addition to this seemingly innate separation from society, Kanner also noted the extremely high frequency with which the children engaged in repetitive and compulsive behaviors; hence identifying what he considered the second major defining characteristic of autism: *insistence on sameness*.

The results of Kanner's (1943) study, although indispensable to the emerging field of autism research, ultimately led to some false assumptions (Volkmar & Lord, 2007). Except for noting the slightly larger head size of some of the children in his study, Kanner did not observe any apparent physical or medical conditions with which to attribute their behaviors and symptoms. He wrote that, "physically, the children were essentially normal" (p. 248) and that "they were all unquestionably endowed with good cognitive potentialities" (p. 247). This has proven not to be the case in the majority of subsequent autism research (Volkmar & Lord). Research by Volkmar and Lord indicates that "many children with autism exhibit signs of overt central nervous system dysfunction including, most strikingly, seizures" (p. 3), and, as has mentioned above, mental retardation. In fact, a 2005 study conducted by Hughes and Melyn (Hughes, 2007) using electroencephalographic (EEG) imaging found that 46% of the autistic children studied experienced seizures. Another assumption put forth by Kanner (1943, 1949) which has since been dismissed by the majority of autism researchers is the idea that unusual parent-child interactions or deficiencies in child care are the cause of autistic symptoms (Volkmar & Lord). This idea was heavily supported during the 1950s and 1960s in the

form of the “refrigerator mother” theory, which suggested that autism was the result of cold, distant, and rejecting mothers (Bettelheim, 1967). Current autism research has veered away from these early assumptions.

As the knowledge surrounding autism grows, so, too, do the number of recorded cases. Studies conducted in 2004 by the United States’ Centers for Disease Control and Prevention (Department of Health and Human Services [DHHS], 2007) report that up to 1 in 166 children (6/1,000) in the US have a diagnosed ASD. The DHHS (2007) also cites studies claiming as many as 12 in 1,000 children from Europe and Scandinavia have been diagnosed with an ASD. Of these children, boys are 4 times as likely to be diagnosed as girls (DHHS; Gillberg, 2007; Polleux & Lauder, 2004; Ritvo, 2006). “...[I]f 4 million children are born in the United States every year and assuming the prevalence rate has been constant over the past two decades, we can estimate that up to 560,000 individuals between the ages of 0 to 21 have an ASD” (DHHS). This number appears drastically higher than in years past, when it was believed that 4 to 10 births out of 10,000 resulted in a diagnosis of autism (APA, 2000; DHHS; Siegel, 1996; Sigman & Capps, 1997). It could be that the various degrees of autism are much more recognizable now, and that this is why the prevalence has seemingly jumped so significantly. Or has something in recent years changed biologically, environmentally, or in some other capacity, causing the increase in the disorder? It is difficult to say because, although there are several working models, there is still no definitive theory as to the cause of autism.

Etiology

In the literature consulted for this paper, there are a number of potential etiologies for autism spectrum disorders (Dakin & Frith, 2005; Frith, 1989; Gillberg, 2007; Poustka, 2007; Siegel, 1996; Sigman & Capps, 1997; Szatmari & Jones, 2007; Trevarthen et al., 1998; Volkmar, 1998; Whitman, 2004); since different aspects of the disorder appear to have varying organic origins, “there is [still] no unifying etiological concept from which to deduce and explain biological markers and the various causes and consequences of psychiatric and physical symptoms” (Poustka, p. 179). Studies agree that autism is a neuro-developmental disorder with a strong genetic component (Dakin & Frith; Gillberg; Polleux & Lauder, 2004; Poustka; Szatmari & Jones). In fact, autism “is thought to be one of the most heritable of all psychiatric conditions, more so than bipolar disorder or schizophrenia...” (Szatmari & Jones, p. 157). No specific gene or chromosome has been conclusively identified as the root cause of autism at this time but, due to the significantly higher occurrence in males than females, the disorder is believed to be linked to the X chromosome (Polleux & Lauder; Trevarthen et al.). Whitman (2004) cites genetic linkage studies suggesting that 15 to 20 different genes are responsible for the characteristics associated with autism. Polleux and Lauder point out that “approximately 10% of autistic cases reveal association with other genetic neuropathologies, such as fragile X; tuberous sclerosis, and Rett syndrome” (p. 303). They also cite findings of macrocephaly (larger head circumference) and megencephaly (larger brain volume) in children with autism (Polleux & Lauder); results which are consistent with Kanner’s (1943) original study, although he did not attach any significance to them at the time. Based on these findings, a relatively new theory is being formulated which hypothesizes that the brains of children

with autism “might be characterized by a *synchronization deficit* [italics added] during the activation of cortical networks involved in language processing...” (Polleux & Lauder, p. 304). This theory, in essence, suggests that autism is the result of underconnectivity in the brain; that is, poor communication (or a complete lack there of) between certain pivotal brain areas (Geschwind & Levitt, 2007; Polleux & Lauder; Wickelgren, 2005) This theory was conceived based on the results of recent studies which examined the neuroanatomical structure of autistic brains, revealing major neurological abnormalities in three areas: the brainstem and cerebellum, the limbic system (amygdala and hippocampus), and the cortex (see Polleux & Lauder; Poustka).

Not all researchers, however, support the idea that underconnectivity in the brain is the root cause of autism. Dawson (as cited in Wickelgren, 2005), a researcher at the University of Washington, Seattle, “suggests that connectivity problems in autism might be *an effect* [italics added] – rather than a cause – of an earlier dysfunction in the brain, such as a defect in brain systems that govern social reward and affect an infant’s attention to faces and speech” (p. 1858). It is interesting to note that abnormalities in intra-brain connections have also been recorded in attention-deficit/hyperactivity disorder (AD/HD), schizophrenia, and dyslexia (Wickelgren). If this is the case, what makes these abnormalities in children with autism different from those with other disorders?

Research also exists linking environmental factors to the appearance of autism (see Whitman, 2004). That is to say, if a genetic predisposition for the disorder is already present, certain environmental factors may trigger its onset. These factors include certain toxins, daily smoking during pregnancy, low contraceptive use, second and third trimester uterine bleeding, induced labor, prolonged labor, Caesarian births, Rh

incompatibility, oxygen supplementation at birth, and high bilirubin levels (Whitman). Studies have also been done examining the possible connection between vaccinations (specifically the measles, mumps, and rubella vaccine) and the manifestation of autism (Mercer, Creighton, Holden, & Lewis, 2006). Currently, there is still much debate surrounding this theory (Mercer et al.; Whitman). Although it may be true that certain individuals are genetically predisposed to autism, it is possible that the disorder may never fully develop without exposure to one or more of these environmental influences.

In addition to the growing body of research dedicated to hypothesizing the potential ethological origins of autism, other research is being done on psychopharmacology and its relation to the disorder. “No pharmacotherapeutics have yet shown a consistent primary effect on the core social disability of autism. Combined with comprehensive individualized treatment programs, appropriate pharmacotherapy can enhance an autistic person’s ability to benefit from educational and behavior modification techniques (Erickson, Stigler, Posey, & McDougle, 2007, p. 221). Therefore, the neurochemical aspect of autism, including potential symptom-reducing medications, will not be discussed in the scope of this paper. However, in keeping with the idea that neural dysfunction or deficiencies are related to autistic spectrum disorders, it is appropriate to examine the role *mirror neurons* play in the presentation of autistic symptoms and behaviors.

Mirror neurons.

Initially discovered in macaque monkeys, mirror neurons have increasingly become a subject of research in neurology and, by association, autism. They were identified in the ventral premotor cortex of the macaque’s brain (Rizzolatti & Craighero,

2004; Waterhouse, Fein, & Nichols, 2007), an area which corresponds to the inferior frontal gyrus (Brodmann area 44) in human brains. This region, in part, comprises Broca's area, the section of the brain responsible for language processing as well as both speech and sign production and comprehension (Rizzolatti & Craighero). Studies done by Rizzolatti and Craighero found that macaque monkeys release these mirror neurons both when they perform a particular action and when they observe other individuals, be they monkeys or humans, performing the same action. The act of simply looking at an object, however, will not cause these neurons to discharge (Waterhouse et al., 2007). This connection between visual and motor properties is an important functional aspect of mirror neurons as "virtually all mirror neurons show congruence between the visual actions they respond to and the motor responses they code" (Rizzolatti & Craighero, p. 170). Thus, it was concluded that mirror neurons act as a link between action recognition and action production (Rizzolatti & Craighero); "that observing the actions, gestures, and facial expressions of others will result in the reflexive activation of motor systems (Cozolino, 2006, p. 190).

Waterhouse et al. (2007) also cite findings of similar imitative behavior found in human samples. As mimicry and imitation have been associated with increased social interactions (van Baaren, Holland, Kawakami, & van Knippenberg, 2004), and individuals with autism are clinically defined as deficient in these imitative areas, researchers have begun to explore possible links between mirror neuron dysfunction and autism (Iacoboni & Dapretto, 2006). As this is an extremely new field of research, however, there is still much debate over the exact function of the mirror neuron system (Iacoboni & Dapretto). In fact, it was only through very recent studies using functional

MRI imaging that researchers were able to assert the existence of mirror neurons in the human brain at all (Iacoboni & Dapretto). Consequently, due to the recency of their discovery, there are several theories on the function of mirror neurons.

Waterhouse et al. (2007) suggest that “mirror neurons *may* [italics added] contribute to the acquisition of social interaction skills through nonconscious mimicry of social displays, *may* [italics added] contribute to language acquisition, and motor skills acquisition” (p. 316). Also proposed by Waterhouse et al. is the theory that nonconscious imitation may play a part in the emotional understanding of social interactions. Although none of these theories have been proven yet, there are clear connections between them and the characteristic deficits apparent in autism disorders. The failure to develop a properly functioning mirror neuron system could explain the lack of “reciprocal social abilities, including shared/joint attention, gestural recognition and language..., as well as breakdowns in the development of empathy and a full [theory of mind]” in children diagnosed with autism (Williams et al., 2001, p. 291). If this is the case, there is potentially a wealth of information to be gained by investigating the role of mirror neurons in the brain, the factors that contribute to their dysfunction, and their relationship to the manifestation of autism.

Treatments & Interventions

With the advice and counsel of qualified medical and mental health professionals, it is the parents' responsibility to decide on the best course of action for their children after a diagnosis of autism has been made. (The term *parents* will be used throughout the present research in reference to all primary adult caregivers raising children.) Today there exist a number of available treatment options from which they can choose. Evolving

viewpoints over the years have brought about changing concepts and treatment ideas for children with autism in terms of behavioral, cognitive-behavioral, and developmental interventions (Corsello, 2005). Since studies agree that children who receive diagnoses and engage in some form of intervention at an earlier age will benefit more and show greater improvements than those who undergo interventions at a later age (Corsello; Klinger & Renner, 2000), many of the intervention programs that have been created are specifically targeted at toddlers and preschool-aged children (Schopler, Van Bourgondien, & Bristol, 1993). According to Trevarthen et al. (1998), “early intervention will minimize behavioural difficulties that often arise from inappropriate obsessions and rituals of autistic children, behaviours that can interfere with learning” (p. 169). These intervention programs require constant family support and active involvement as they necessitate anywhere from between 12 to 36 hours of work a week (Corsello). Although they may vary in their exact approach and delivery, autism interventions typically share specific behavioral or developmental ideologies of which parents should be aware before enlisting their children for treatment (Corsello; Schopler et al., 1993).

Behavioral vs. developmental interventions.

A common behavioral methodology used when working with children with autism is Applied Behavioural Analysis (ABA), a more modern term for behavior modification (Luiselli & Hurley, 2005). ABA is an intervention often used in conjunction with the discrete trial instruction approach (DTI) in which “each ‘trial’ is the presentation of a learning demand, delivered many times during a teaching session. How an instructor presents the trial, reinforces the child, delivers a prompt, and corrects performance are carefully planned and sequenced” (Luiselli & Hurley, p. 128). Corsello (2005) observes,

however, that DTI is only one of the ABA approaches available and that many other behavioral programs exist. These programs include, but are not limited to, the UCLA Young Autism Project and the Douglass Developmental Centre at Rutgers University (Corsello; Schopler et al., 1993; Trevarthen et al., 1998; Whitman, 2004). Several studies have concluded that current behavioral methods are useful in “teaching language content, including single word vocabulary, describing objects and pictures, responding to questions, and increasing the intelligibility of speech” (Corsello, pp. 80-81). In comparison, however, it appears that behavioral interventions are less constructive in aiding children with autism in their symbolic and joint attention skills (Corsello; D. G. Singer et al., 2006; Trevarthen et al., 1998). Much of the current literature indicates that these specific problem areas, among others, would be better addressed through the developmental means of play (Greenspan & Wieder, 2006; Jennings, 1999; Johnson, 1999; Proulx, 2003; Sherratt & Peter, 2002; D. G. Singer et al., 2006; Wieder & Greenspan, 2003).

Developmental interventions differ from behavioral ones in that they are much more child-oriented (Corsello, 2005) and not based on reward/punishment systems as is often the case with behavior modification (Luiselli & Hurley, 2005). In essence, the philosophy behind developmental interventions is the concept of play and the belief that “interactive play uniquely addresses the core deficits of relating and communicating as no other approach can” (Wieder & Greenspan, 2003, p. 426). Although children with autism do not normally express the seemingly innate ability to play that typically developing children do, this does not mean that they are unable to do so (Beyer & Gammeltoft, 2000; Sherratt & Peter, 2002). Instead, they need to continuously be engaged in playful

interactions which, over time, will lead them to develop better communication skills, creative and flexible thought processes, and more sophisticated symbolic representations (Sherratt & Peter; see also Bruner et al., 1966). Studies show that individuals with autism are rarely able to achieve a significant level of symbolic thinking without intensive, developmental intervention starting from an early age, and even then the degree to which it may be attained is variable (Greenspan & Wieder, 1998, 2006; D. G. Singer et al., 2006). Indeed, it is this ability to think symbolically that represents greater levels of psychological development in individuals (Bruner, 1966; Johnson, 1982; Vygotsky, 1978) and is thus a goal for many children diagnosed with autism.

When people begin to think symbolically, they are beginning the process of associating meaning (i.e. thoughts, feelings and ideas) with their lived experiences (Sherratt & Peter, 2002; D. G. Singer et al., 2006). This meaning comes from the creation of emotions. Emotional states, consequently, are generated during the action (*developmental intervention*) of play, as play is, in effect, *affective*, or emotional, activity (Sherratt & Peter). Therefore, it is through play and creative experimentation in the world that emotions and, ultimately, meaning are made (Beyer & Gammeltoft, 2000; Sherratt & Peter).

For children with autism, the capacity for encoding and decoding meaning is greatly diminished (Frith, 1989; Sherratt & Peter, 2002). Studies by Damasio and Maurer (as cited in Sherratt & Peter) suggest that this is, to some extent, because the area of the brain responsible for emotional evaluation and affective activity is not working properly, thus impeding the “ability to see significance and meaning in an experience, as well as [undermining] their sense of self and consequent awareness of other people” (Sherratt &

Peter, 2002, p. 3). Sherratt and Peter cite research, however, linking emotional stimulation in the mid-brain with the cortical operations of thought development and problem-solving. This indicates a significant connection between emotion and cognitive development; thus, if children with autism can sustain engagement and interest in the world through emotionally-charged activities and experiences, their capacity to communicate, interact with others, and develop more flexible thought processes could greatly improve (Chesner, 1995; Sherratt & Peter). For these reasons, developmental play and drama interventions are very important for children with autism; they are interactive, creative, provide opportunities for the expansion of social competence, and are ultimately executed *through the body*, which facilitates the generation of emotions and helps create joint attention and shared meaning (Cattanach, 1994b; Jennings, 1999; Lewis, 2000).

In contrast to developmental interventions, behavior-oriented approaches such as ABA and TEACCH (Teaching and Educating Autistic and Communication-impaired Children) tend to separate 'play' and 'work,' placing a great deal of emphasis on rote memorization and task-driven activities (Corsello, 2005; Schopler et al., 1993), but doing little to accentuate the importance of social interaction or the development of relationships (Sherratt & Peter, 2002; D. G. Singer et al., 2006). Because play is seen as secondary in these behavioral interventions, opportunities to generate strong emotional responses are lost. These emotional responses have been shown to help all children learn and progress towards optimal development (Greenspan & Wieder, 1998; Vygotsky, 1978), supporting the value of developmental interventions. One such intervention is Floortime, an interactive play approach created by Greenspan and Wieder (1998, 2006).

Floortime.

The Floortime approach, also known as the DIR (developmental, individual-difference, relationship-based) model (Wieder & Greenspan, 2003), is “based on following the child’s lead and looking for opportunities to...respond in a way that leads to expanding a skill or interaction” (Corsello, 2005, p. 82). It was created as a way to help children with autism and other developmental disabilities understand and relate to the world around them. The DIR/Floortime model is an all-inclusive framework used by parents, therapists, and educators to connect with autistic children on their own individual, developmental levels, and then to encourage them, step by step, to “[climb] the symbolic ladder” (Wieder & Greenspan, 2003, p. 425) in order to attain and strengthen their emotional, social, and intellectual capabilities. As the name implies, Floortime is ultimately about getting parents down on the floor with their children, literally or metaphorically, in an attempt to create memorable moments of interaction and engagement through play (Greenspan & Wieder, 2006). All DIR/Floortime programs are based on a consistent developmental paradigm which is then uniquely tailored to address the individual biological challenges (i.e. sensory integration difficulties, poor motor planning, etc.) of children with autism (Greenspan & Wieder, 1998). The effectiveness of Floortime, however, is dependent upon the assumption of two central points: 1) that all children, “even [those] who are fragmented and tuned out, take pleasure in certain behaviors,” (Greenspan & Wieder, 1998, p. 140), and 2) that all children, in order to develop fully, need to achieve six key developmental milestones. Greenspan and Wieder (1998, 2006) define these milestones as 1) self-regulation and interest in the world; 2) intimacy; 3) two-way communication; 4) complex communication; 5) emotional ideas;

and 6) emotional thinking. Mastery of these developmental milestones indicates a successful journey up the symbolic ladder (Wieder & Greenspan, 2003).

Children must completely master the first stage of development, *self regulation and interest in the world*, in order to obtain the skills necessary to advance to the next, and so on, until all developmental levels have been achieved (Greenspan & Wieder, 2006). Children with autism struggle a great deal with these milestones and need substantially more assistance and support to achieve and maintain them than do their typically developing peers. Children are considered to be making progress by way of the Floortime approach when they are able to open and close consecutively higher amounts of what Greenspan and Wieder (1998) call “circles of communication” (p. 46), which consist of initiating and responding to both gestural and verbal forms of communication, with the ultimate goal being to open and close circles of a progressively more symbolic nature (Greenspan & Wieder, 1998). As children with autism become more engaged in the world and begin expanding their communicative abilities, it becomes the parents’ responsibility to create playful challenges and obstructions to their children’s expressed intentions and desires in an attempt to generate ever more *purposeful* exchanges (Greenspan & Wieder, 1998, 2006). A simplified example of this would be to put a favorite toy of the child’s on a high shelf so that it is out of reach but still visible. The goal is to get the child to open and close as many circles of communication as possible while asking for the toy. Depending on the developmental level of the child, the parent could pretend not to understand the child’s request and subsequently pull off other items from the shelf as a way to keep the child communicating.

It is important to point out, however, that engaging in Floortime (even in play in general), without a therapeutic goal, can be a difficult undertaking when working with children with autism. Corsello (2005) states that the efficacy of Floorime is strongly contingent upon the competence of professionals teaching parents the methodology, and that parents must be prepared for extended lapses in developmental improvements. With all the hard work that parents put into their children's intervention programs, the slow progress that is made can be both rewarding and frustrating for the entire family unit.

Parents' Reactions: Stressors and Coping Mechanisms

“Having a child with autism can severely disrupt family life” (Midence & O’Neill, 1999, p. 273). When children are either suspected of having or are fully diagnosed with an autistic spectrum disorder, they are not the only ones who have to face the challenges of functioning and living in the world; so, too, do their parents. In fact, a diagnosis of autism may initially be more devastating for parents than it is for the children. This is because the label is something new for parents to process while children living with the condition may not be aware of another way of functioning. Siegel (1996) explains that there is a sense of loss associated with having a child diagnosed with autism that is akin to losing a loved one. She writes, “the ‘death’ that the parent experiences is the death of the idealized child” (p. 122), and it is natural, therefore, for parents to go through the stages of bereavement, including denial, guilt, anger, hopelessness, and eventually acceptance (Siegel). In a study conducted by Hutton and Caron (2005), parents also acknowledge feelings of confusion, despair, blame, and guilt over their children’s diagnoses and admit hoping that there had been a misdiagnosis. Research collected by Glasberg et al. (2006) asserts that “mothers of children with autism are more likely to

report symptoms of depression than mothers of children with other developmental disorders” (p. 280). Moreover, a number of studies have found that parents of children with autism experience extreme amounts of emotional stress, anxiety, frustration, isolation, and fear, and that marital relationships are greatly strained and tested (Glasberg et al.; Gray, 1994; Hutton & Caron; Midence & O’Neill).

The pervasive negative emotions shared by parents of children with autism can be seen as the result of several contributing factors, including the necessity of taking on previously unexplored roles in their day-to-day living in order to both advocate for and educate their special needs children (Glasberg et al., 2006). They have to become researchers and trainers of the latest available treatment plans while still balancing the normal stressors of family life, which generally consists of more than one child. All of these things require an abundance of time, money, and energy, of which there is usually little to spare. In addition, Glasberg et al. (2006) suggest that a large contributor to parental stress stems from

the absence of a standardized treatment protocol....If professionals disagree about recommendations for treatment, then a parent cannot be expected to have confidence about the efficacy of the approach....[Thus,] the lack of clarity regarding best practice in autism may be particularly problematic for parents. (p. 281)

Perhaps one of the biggest elements to factor into the parental stressors of raising a child with autism is the lack of expressed affection from child to parent (Glasberg et al., 2006). Just as children need positive reinforcement and the fostering of strong, healthy attachments to achieve optimal development, so, too, do parents need the love and

responsiveness of their children in order to feel worthy and effectual in their roles as mothers or fathers.

Gray (1994) conducted a study to determine specific familial stressors related to having children with autism and the different coping strategies which parents have employed as a way of dealing with those stressors. In reference to children with autism, the study found that their “lack of normal language, disruptive and violent behaviour, inappropriate eating and toileting and inappropriate sexual expression” (Gray, 1994, p. 275) were the most prominent stressors for parents. Gray’s study then pointed out that the core management techniques for handling those stressors included the “use of treatment services ([i.e.] autistic treatment centres, other special schools and respite care), family support, religion, social withdrawal, and individualism (individual activities such as employment, recreation and political activism;” p. 284). The results of the study found that no single strategy was more successful than any other in helping parents cope with having a child with autism and that, most often, a combination of coping mechanisms were simultaneously at work in helping families function (see also Green et al., 2006). However, contrary to Siegel (1996), Gray points out that despite mounting frustration due to their children’s behavior, parents often feel a sense of relief when a definitive diagnosis of autism is given. Additionally, Hutton and Caron (2005) report findings from parents indicating higher levels of family satisfaction when diagnosis is made early, results consistent with previous research carried out by Piper and Howlin (as cited in Hutton & Caron). Parents agree that once they know what is wrong, they are in a much better position to do something about it (Gray; Hutton & Caron; Midence & O’Neill, 1999).

With all of the information that is available regarding autism, it is understandable that parents may have great difficulty identifying the best treatment approach with which to help their children. This is due, in part, to the number of available options, but, largely, it is because of their limited capacity to relate to and communicate with their children. These difficulties are not only frustrating for parents in terms of wanting what is best for their children, but are also deeply taxing on them in terms of their ability to form emotional attachments to their children. The facilitation of secure attachments, as the literature shows, is extremely important for optimal emotional development (Ainsworth, 1979; Ainsworth et al., 1978; Bowlby, 1969, 1988; Greenspan & Wieder, 1998, 2006) which, in turn, is essential for cognitive and psychological advancements, as well (Meins, 1997; Sherratt & Peter, 2002; Vygotsky, 1978). However, as Frith (1989) points out, “abnormal two-way relationships are the core feature and *sine qua non* for the diagnosis of Autism” (p. 141). If this is the case, it is imperative for parents of children with autism to effectively seek out measures that will enable them to repair that “abnormal” relationship so as to eventually develop a healthier, more securely attached relationship with their autistic children.

Attachment

In order to comprehend the significance that attachment patterns, formed during infancy and early childhood, can have in overall, life-long development, it is important to understand the basis of attachment theory and all its implications, including the different types of attachment relationships, the behaviors that contribute to the formation of these relationships, as well as possible developmental outcomes for children based on their early attachment relationships. The following section addresses these issues.

Attachment Theory

History.

Today's working theory of attachment, which refers to "a bond of affection directed towards a specific individual" (Birch, 1997, p. 20), or a "condition in which an individual is linked emotionally with another person..." (Holmes, 1993, p. 218), is based on the work and contributions of two influential researchers: John Bowlby and Mary Ainsworth. It was Bowlby (1952, 1969), a British child psychiatrist and psychoanalyst, who first brought attention to the concept of attachment and its influence on mental health through his early work concerning the effects of maternal deprivation on infant and early childhood development (see also Holmes, 1993). As early as 1940, Bowlby was theorizing the implications of "the intergenerational transmission of attachment relations" (Bretherton, 1992, p. 760) and proposed that, in order to strengthen emotional attachments in children exhibiting psychologically maladapted behaviors, one must first work with the parents to help them come to terms with their own unresolved attachment issues, as those issues are transmitted to their children (Bowlby, 1940). This hypothesis contradicted the theoretical views held by renowned child psychoanalyst Melanie Klein (as cited in Bretherton), supervisor to Bowlby during his attendance at the British Psychoanalytic Institute, who believed that childhood problems were not the product of external events and familial experiences but, rather, the result of conflictual internal drives.

In a report commissioned by the World Health Organization in 1952, Bowlby expanded on his idea of attachment by examining in greater detail the effects of maternal deprivation on the personality development of children; his report was entitled *Maternal*

Care and Mental Health. Historically, this report is of great import due to “its emphasis on *psychological* as opposed to economic, nutritional, medical or housing difficulties as a root cause of social unhappiness” (Holmes, 1993, p.38). Described in the report are the various forms maternal deprivation can take, including abuse, neglect, abandonment, and the less obvious, perhaps unconscious, withholding of affection and intimacy (Bowlby, 1952). Bowlby also expanded on the notion of intergenerational attachment transmission by stressing his belief that “the neglected psychopathic child [will grow] up to become the neglectful psychopathic parent...” (p.78) Bowlby concluded his report by asserting that

the infant and young child should experience a warm, intimate, and continuous relationship with his mother (or permanent mother-substitute) in which both find satisfaction and enjoyment. Given this relationship, the emotions of anxiety and guilt, which in excess characterize mental ill-health, will develop in a moderate and organized way. (p. 11)

He thus indicates the importance of positive, emotional attachments on both children and parents for the overall development of good mental health.

As Bowlby’s (1958, 1969, 1979) research advanced, he continued to move away from the traditional psychoanalytic view of attachment popular at the time to a much more radical, *ethological* one (Bretherton, 1992; Holmes, 1993), ethology being the scientific study of animal behavior, including the core concepts of instincts, imprinting, and imitation for survival (see Tinbergen, 1951). Based in part on his ethological stance, Bowlby (1958, 1969, 1979) began to pinpoint certain proximity-seeking behaviors, also known as attachment behaviors, exhibited by infants and young children as a way of

eliciting attentional responses from their parents. (These attachment behaviors will be discussed more fully in the following section.) Although he was criticized by the leading psychoanalysts of the day, Bowlby (1979, 1988) continued to pursue this line of research, claiming that “traditional theory...can neither explain the intense attachment of infants and young children to a mother figure nor their dramatic response to separation” (Bretherton, p. 763).

Bowlby’s research was instrumental in inspiring the work of the other forerunner in attachment theory, Mary Ainsworth (1967, 1969). It was during her graduate studies, just prior to the Second World War, that Ainsworth first became acquainted with *security theory*; a concept which held “that infants and young children need to develop a secure dependence on parents before launching out into unfamiliar situations” (Bretherton, 1992, p. 760). As well as being a springboard for her future professional research (Ainsworth, 1967, 1969, 1979, 1989), this theory was used as the basis for Ainsworth’s dissertation (as cited in Bretherton), in which she coined the phrase *secure base* to represent the crucial role parental security plays for children in their exploration and development of new skills and interests.

The contributions made by Ainsworth to the field of attachment research are immense. It was Ainsworth (1967, 1969) who, in the late 1960s, after conducting copious studies and analyzing countless data from her work in both Africa and the United States, created a tool that allowed for a more systematic appraisal of attachment relationships between young children (usually ranging in age from 18 to 30 months) and their primary caregivers. This assessment tool became known as the Strange Situation (Ainsworth et al., 1978), and is still one of the most widely used methods for measuring attachment

patterns today (see Rutgers et al., 2004; van IJzendoorn et al., 2007). This assessment tool examines how children respond, albeit in a laboratory setting, when their internal attachment systems are triggered due to predetermined separations and reunions with their primary attachment figures, typically mothers (Ainsworth et al.). The procedure consists of observing children's behavior during a 20 minute play session while their caregivers, in addition to strangers, enter and leave the room for various amount of time (Ainsworth et al.). The way they respond to both the departure of and reunion with their attachment figure is then categorized into one of three basic attachment patterns, a classification system which can also be credited to Ainsworth (1967, 1979) as a result of empirical research gathered during her observational studies of mother-infant/mother-child interactions in Uganda and Baltimore. These categories of attachment patterns include secure, insecure-avoidant, and insecure-resistant, also known as ambivalent (Ainsworth et al.; Prior & Glaser, 2006). Within some discussions of this classification system, such as in Bowlby's (1988) *A Secure Base*, the word *anxious* is used interchangeably with *insecure*. These three attachment categories and their implications for children with autism are discussed in greater detail in the following sections.

Principles of attachment theory.

Attachment theory proposes that during the first year of life, infants develop attachments to their primary caregiver, often assumed to be the mother. By six months of age, infants are able to distinguish their attachment figures from other people (Bowlby, 1969). Attachments are primarily developed based on the way in which caregivers respond to the proximity-seeking, or attachment behaviors, of infants and young children. According to Bowlby (1988),

Attachment behaviour is any form of behaviour that results in a person attaining or maintaining proximity to some other clearly identified individual who is conceived as better able to cope with the world. It is most obvious whenever the person is frightened, fatigued, or sick, and is assuaged by comforting and caregiving. (pp. 26-27).

These behaviors can thus be grouped into two categories: signaling behaviors and approach behaviors (Bowlby, 1969). Signaling behaviors serve to bring mothers to their children and include crying, smiling and babbling. Approach behaviors function to bring children to their mothers by whatever means of locomotion currently available to them, corresponding to their individual developmental levels (Bowlby, 1969). Furthermore, Bowlby distinguished three discrete sets of factors that contribute to the activation of these behaviors: 1) conditions of the child (e.g. hunger or fatigue), 2) whereabouts and behavior of mother (e.g. absent or departing), and 3) conditions of the environment (e.g. presence of a stranger). It is the responsibility of attachment figures (which, unless otherwise stated, for the purposes of this paper will henceforth refer specifically to parents) to end their children's attachment behaviors by responding to them in some way. "One of the most frequently documented determinants of attachment is parental sensitivity" (van IJzendoorn, 2007, p. 597). Thus, sensitive, prompt, and consistent responses from parents are considered fundamental in the development of secure attachments, while indifferent or unpredictable responses, perhaps even negative and abusive responses, have been found to lead to insecure-avoidant and insecure-resistant attachments (Ainsworth, 1979, 1989; Ainsworth et al., 1978; Bowlby, 1988; Prior & Glaser, 2006). These attachment experiences and responses to attachment behaviors form

the basis of internal working models that will determine how individuals attach to others throughout their lifetime; therefore, secure attachments are important. Attachment patterns may be changed, however, through intervention, but this generally requires a great deal of psychological effort. The following is a brief description of the characteristics associated with each attachment category, adapted from Ainsworth et al. (see also Prior & Glaser):

Secure Attachment (Group B)

Children with secure attachments characteristically use their parents as a secure base from which to explore. They are less likely to cry from separations with their parents than other young children because of the belief that mother or father (depending on the attachment figure in question) will return to care for them should the children need them. Securely attached children seek physical contact and proximity with their parents and are thus easily comforted by them. In addition, securely attached children are more outgoing and cooperative with relatively unfamiliar adults, a characteristic that is less common with insecure attachments.

Insecure-Avoidant Attachment (Group A)

Insecure-avoidant children are inclined to ignore the advances of their parents after a stressful situation has occurred. This can be done by averting their gaze, briefly engaging with the parents and then turning away, or showing no engagement with them at all. Findings indicate that parents of avoidant children are the most rejecting of their children's attachment behaviors, especially in terms of their children's desire for affection and physical contact.

Insecure-Resistant/Ambivalent Attachment (Group C)

Parents of ambivalent children tend to be less responsive to their children's signals. These children manifest more separation anxiety than other children and do not appear confident of their parents' accessibility and responsiveness. They are not able to use their parents as a secure base from which to go off and explore the world.

Resistant/ambivalent children are very sensitive about the timing of physical contact, protesting if they are picked up when they do not want to be or not picked up when they do. These children show signs of wanting to be comforted by their parents but continually seem unsatisfied and difficult to please.

Until 1986, these three attachment categories were the only ones to formally exist (Main & Solomon, 1986). There were obviously exceptions to these categories, however, with some children's attachment patterns not fitting into any one of them (Prior & Glaser, 2006). Studies showed, for example, that a number of children from high risk sample populations, as well as some from upper middle class, low risk, intact families, did not fit the criteria for any of the abovementioned attachment categories. Main and Solomon (1986) therefore suggested the existence of a fourth category: disorganized/disoriented insecure attachment, also known as Type D. Children are classified with Type D attachment when they demonstrate odd attachment behaviors and are seemingly "[lacking] a coherent, organized strategy for dealing with the stress of separation" (Prior & Glaser, p. 27). These behaviors include a complete discontinuation of movement; approaching parents with an averted gaze; rocking on hands and knees after unsuccessfully attempting to approach parents; moving away from parents to the protection of a wall when apparently frightened by a stranger; screaming for parents by

the door upon separation and then moving slightly away upon their return; and finally, rising to greet parents upon their return only to fall prone on the floor, unable to be comforted (Main & Hesse, 1990).

As the literature reviewed above indicates (see Ainsworth, 1967, 1979; Ainsworth et al., 1978; Bowlby, 1952, 1958, 1969, 1988), the ability for children to attach themselves in a secure fashion to their parents is key for the development of healthy, thriving personalities. Although much of the research is delivered in such a way as to emphasize the formation of attachment systems based on the actions and responses of parents to their children's attachment behaviors, relatively little has been researched on the effects of attachment with children who seem innately unable to relate to others, including those who sensitively respond to their behaviors, as is the case with children with autism. In light of the characteristic behaviors and psychological deficits observed in these children, the discovery of a fourth attachment category has been of particular interest to autism researchers (Dissanayake & Crossley, 1997) as they seek to find ways of improving the communication and socialization capabilities of such children. Questions that have been raised in the course of this research include the following: do children with autism exhibit attachment behaviors toward their parents? Despite their "triad of impairments," are they able to form emotional attachments? If so, what kinds? The following section explores the relationship between autism and attachment, examining the existing research in an attempt to answer some of these questions (see Rutgers et al., 2004; van IJzendoorn et al., 2007)

Autism & Attachment Research

“Autistic children have problems with language, motor movement, and sensory processing, but nothing is as devastating to their parents as their difficulties with bonding and attachment” (Cozolino, 2006, p.282). However, the consensus among researchers in the area of autism and attachment is that children with autism do exhibit attachment behaviors to their caregivers when faced with stressful or anxiety-provoking situations (Rutgers et al., 2004; van IJzendoorn et al., 2007). A 1993 study conducted by Rogers, Ozonoff, and Maslin-Cole (as cited in van IJzendoorn et al.) reported that

children with ASD tend to display less contact seeking and contact maintaining with their mothers than children in comparison samples, but at the same time they demonstrate a clear preference for their mothers over a stranger and many of them show an increase in proximity seeking with their mothers after a separation. (p. 597)

This is not to say that all children with autism react in this way; other studies report that children with autism exhibit atypical behavior in the context of the Strange Situation procedure. These behaviors include “more contact-maintaining [with] the stranger, the absence of greeting at reunion, and the inability to be comforted by the mother through physical contact” (Rutgers et al.) An important finding in Rutgers et al.’s meta-analytic review, however, was not only that children with autism are able to form attachments with their parents, but that approximately 53% of them develop *secure* attachments. In comparison to the percentage of secure attachments found in samples of typically developing children (approximately 65%; Rutgers et al.), this number is quite high. As children with autism do not naturally initiate affectionate gestures, engage in eye contact,

or respond to the theoretically *familiar* voices of their parents (van IJzendoorn et al.), the question of what contributes to the development of these secure attachments continues to intrigue researchers.

In a 1994 study involving fifteen children with low functioning autism, ranging in age from 3 to 5 years old, Capps et al. (as cited in Sigman & Capps, 1997; van IJzendoorn et al., 2007) reported that, during a 12 minute play session, mothers of securely attached children with autism demonstrated more emotional sensitivity to their children's behaviors than the mothers of insecurely attached children with autism. According to research cited by Rutgers et al. (2004), 40% of the children sampled in the Capps et al. study were classified as securely attached. In regards to the same study, van IJzendoorn et al. claim "that all 15 low-functioning children with autism showed sufficient disorganized behaviors (separate from the typical autistic behavioral displays...) to categorize them as disorganized" (p. 599). This indicates a vast discrepancy in the scoring system of this and other studies, as can be seen in the results of subsequent investigations (the majority of which employed the Strange Situation). Dissanayake and Crossley's (1997) study, for example, showed no differences in attachment behaviors across its sample groups (children with autism were matched with both children with Down syndrome and typically developing children), while a study done by Bakersmans-Kranenburg et al. (as cited in Rutgers et al., 2004) found that "children with autism had significantly lower attachment security scores than comparison children with developmental language disorder" (p. 1126).

In an attempt to clarify the mixed results from these investigations, van IJzendoorn et al. (2007) designed a study to examine the degree of parental sensitivity in

the development of attachment bonds in children with autism. The premise of their study was built upon the “[speculation] that the more demanding task of responding sensitively to a socially impaired child, combined with a certain genetic risk for being socially less competent, may lead to lower levels of sensitivity in parents of children with ASD” (p. 599). Although the findings from their investigation resulted in no significant sensitivity differences between parents of children with autism and parents of children without the disorder, they did find that “children with autism showed more attachment disorganization than did children without autism” (van IJzendoorn et al., p. 603).

Based on the above information, it is fair to say that a diagnosis of autism does affect the parent/child relationship in countless ways. However, studies have found that by applying interventions to help children with autism improve and strengthen their social and communication skills, their ability to engage and become more attached to their parents inevitably increases, as well. Specifically, the use of non-directive play interventions has demonstrated effectiveness in addressing some of the core issues of autism, thus, in turn, increasing parent/child attachments (Josefi & Ryan, 2004).

Attachment Relationships & Play

J. L. Singer (1994) believes that “pretend play, [i.e.] the capacity to create miniature, possible worlds, is a critical feature of the healthy development of a child” (p. 36). He holds the theory “that emotional disturbance and cognitive and affective difficulties are often associated with an inability to sustain imaginative play in middle and early childhood” (p. 37). Thus, it is extremely important that children with autism develop play skills as a way to attach emotionally and engage socially with others,

improve their language and cognitive abilities, increase instances of spontaneous and imaginative behaviors, as well as improve empathy and other theory of mind capabilities.

In an effort to assess the potential therapeutic value of non-directive play in targeting the issue of attachment in autism, Josefi and Ryan (2004) conducted a study in which they critically analyzed 16 video recorded play therapy sessions of a 6-year old boy with severe autism. The results of the study showed that “[the] child was able to enter into a therapeutic relationship and demonstrated attachment behaviour towards the therapist” (Josefi & Ryan, 2004, p. 533). This evaluation was made by observing attachment themes as they presented themselves through the therapy series in such ways as the amount of physical contact and child-initiated interaction with the therapist (Josefi & Ryan). According to Josefi and Ryan’s findings, sessions 11 to 14 show a definite increase in the amount of physical contact sought by the child from the therapist as well as prolonged instances of his being in close proximity to the therapist. In addition to the increase of observable attachment behaviors, the study also showed improvements in the child’s ability to play and express emotion *through* that play (Josefi & Ryan). As the series progressed, his choice of activities expanded to include greater interaction with the therapist while, simultaneously, he appeared to experience more pleasure from play (Josefi & Ryan). For example, “his feelings of fun were communicated by smiling and laughing....His social interactions with the therapist [also] became decidedly more intense” (Josefi & Ryan, p. 540-541). Furthermore, a particularly important aspect of this study is the fact that “changes in therapy were concurrent with changes reported by the boy’s mother at home of increased independence and empathy” (Josefi & Ryan, p. 533).

Additionally, engaging in play activities with children with autism can be extremely beneficial for promoting mutual gaze. The idea of mutual gaze, as first considered by Bowlby (1958, 1979, 1988) in terms of human attachment theory, is significant for both parents and children in the formation of attachment relationships:

The fixation of the mother's face is an obligatory brainstem reflex that ensures the 'imprinting' of this vital social information....Meanwhile, being gazed at by her child makes a mother feel calm and stimulates nurturing behaviors. Children and parents engage in prolonged periods of mutual gazing that calm and relax them both. (Cozolino, 2006, p. 154).

This mutual gazing can be accomplished through various play activities. Parents can playfully interrupt their children's repetitive car-rolling activity, for example, by crashing another toy car into it (Greenspan & Wieder, 1998, 2006). Children, even children with autism, typically look up to see who is interfering with their play. Through this interruption, parents receive the gaze of their children and, ultimately, their attention, even if it is just for a moment (Greenspan & Wieder, 1998, 2006). The more engrossed children become in their interactions, the longer they will be able to sustain this gaze. Therefore, interactions that are fun, engaging, and bring parents down to their children's level (i.e. play), such as those described in Floortime (Greenspan & Wieder, 1998, 2006), as well as in Sonder's (2003) method, *Giggle Time*, are fundamental to developing this mutual gaze, joint attention, and interest in the world.

Play, Drama Therapy, & Developmental Transformations

Because the word *play* encompasses so many different actions and activities, it is difficult to define succinctly. It is usually understood that, when typically developing children are told to “go and play,” they know what this entails and are adequately equipped to carry out the command, whether it be by kicking a ball around the yard, preparing a tea party for their dolls and stuffed animals, building a fort to protect themselves from alien invaders, or simply swinging back and forth on a swing. The question remains, however: what is *play*? How can all of these activities be collectively defined, and more importantly, why is it so imperative that children engage in them?

Definition of play

The word *play* has an uncertain origin and several possible meanings (Oxford University Press [OUP], 2008). It perhaps evolved from the Middle Dutch word *pleyen*, meaning “to dance, leap for joy, rejoice, be glad” (OUP, 2008), and now has as one of its broader definitions “to engage in activity for enjoyment and recreation rather than a serious or practical purpose” (OUP). This definition, although correct, does not delve deeply enough into the aspect of play as it relates to make-believe and pretense, and to social learning and human development (Singer et al., 2006). In fact, according to Sherratt & Peter (2002),

[play is, arguably,] at the core of what it is to be human. It is a long-established educational maxim, that children learn through play, however transformed that may become as they mature. Play as a process facilitates discovery of possibilities, allows for exploration and experimentation and offers practice

opportunities to enhance and consolidate knowledge, skills and understanding. (p. 2)

It was the Dutch historian Johan Huizinga (1950) who said that “all play means something” (p. 1). He states, in trying to define the characteristics of play, that it must be voluntary. If it is forced, if there is no freedom, it can no longer be considered play. He also stipulates that play is something set apart from the ordinary, from *real life*. It takes place in a “sacred sphere” (Huizinga, 1950, p. 9) which is delimited in time and space; a notion quite similar to that of the playspace in drama therapy.

Dating back to the ancient Greeks, the concept of play has been studied and scrutinized so as to better understand its various forms and functions. It was regarded then, as it still is today, as a fundamental cornerstone for overall healthy human development (Beaumont, 1994; Vygotsky, 1978). According to research gathered by Frost, Wortham, and Reifel (2005), “Plato (427?-347 B.C.), Socrates (470?-399 B.C.), Aristotle (384-322 B.C.), and Xenophanes (6th century B.C.) all explored the meaning of play as part of their frameworks for understanding human expression and thought” (p. 6). They observed and analyzed the playing behavior of adults and children alike, which was based primarily on their religious views and their perceived relationship with the gods (Frost et al., 2005).

Agon, mimesis, & chaos.

The ancient Greeks were ultimately responsible for categorizing some of the different types of play seen today. Based on their observations, they formulated three groups of play: *agon*, *mimesis*, and *chaos* (Frost et al., 2005). Although these categories of play still exist today, they are generally referred to in different terms. Agon, for

example, meaning conflict, usually refers to the competitive play of sports and games. This type of play was a huge part of ancient Greek culture because of their belief that the gods pitted humans against each other in order to determine who was strongest, either mentally or physically (Frost et al.). *Mimesis* refers to mimicry and imitation, a concept best described today as *symbolic play* (Frost et al.). It involved the representational use of movement, masks, costumes, and props, which enabled the “players” to engage in pretense for the purposes of bestowing honor and praise on the gods. It was through this form of playing that religious rituals and theatre developed (Beaumont; Frost et al.). The final category, *chaos*, was named after the type of play now associated with randomness and chance (Frost et al.). The ancient Greeks believed that an auspicious outcome to such activities as card-playing or bone-tossing meant they were looked upon favorably by the gods (Frost et al.). Today, this type of play can be seen in child-like games, such as Paper, Rock, Scissors, as well as in more sophisticated adult gambling activities.

Developmental Theories of Play

Groos & Buytendijk.

Millennia after the ancient Greeks, the act of playing continues to intrigue researchers, leading them to investigate its role in the context of various developmental theories. The most well-known of the early theories regarding the purpose of childhood play came from Groos (as cited in Elkonin & Stone, 2005; Frost et al., 2005) at the turn of the nineteenth century. Heavily influenced by Darwin’s theory of evolution, Groos identified the function of play as serving adaptive purposes (Frost et al.); play was, in essence, *exercise* or *practice* of survival skills (Elkonin & Stone). In the words of Groos (as cited in Elkonin & Stone),

While the development of adaptations for future survival tasks is the main objective of our childhood, the leading role in this goal-directed chain of phenomena belongs to play, so that we are fully justified in saying, to use a somewhat paradoxical phrasing, that we play not because we are children, but we are given our childhood so that we can play. (p. 5)

In connection with the central topics of this paper, Groos' theory is of particular importance due to its association with imitation and instinct (Elkonin & Stone), themes implied by its relationship to evolutionary theory. According to Groos (as cited in Elkonin & Stone), the ability to imitate is of paramount importance to survival. What does this say, then, about those individuals who are predisposed to imitation difficulties, such as children with autism? The answer to this question remains to be seen.

Following the publication of Groos' *practice play* theory, Buytendijk (as cited in Elkonin & Stone, 2005) proposed his own theory of play, inspired by Freud's (1920/1989) drive theory and based on the notion that children possess three internal play drives: 1) the drive for freedom; 2) the drive for merger or integration, which is in direct opposition to the first drive, thus creating the ambivalence of play; and 3) the drive for repetition, which Buytendijk associated with the "tension-resolution" dynamic of play (Elkonin & Stone, p. 16). Although Buytendijk's drive theory was ultimately reviewed as inherently contradictory, his "attempt to distinguish practice of a future serious activity from play should be considered a noteworthy contribution" (Elkonin & Stone, p. 14).

Freud & Erikson.

Freud's (1923/1961, 1920/1989) influence on Buytendijk was immense, as were his foundational and profound contributions to the fields of psychoanalysis and child development in general (Birch, 1997). In terms of his view on the function and role of play, Freud's (1920/1989) theories were informed by his psychodynamic view of development (Birch). Freud (as cited in Birch; Frost et al., 2005) regarded play as a natural and instinctual mechanism that allowed children to safely express their subconscious and unconscious desires and emotions as they progressed through what he considered to be the five psychosexual stages (oral, anal, phallic, latency, genital) of development (Freud, 1923/1961, 1920/1989). According to Freud's psychoanalytic theory, then, play is motivated by emotion: "Children may use play to explore and cope with their feelings about life and work out their fears and anxieties (catharsis) in a safe situation. Play can thus be seen both as a defense against problems and as a coping behaviour" (Birch, p. 56). This therapeutic aspect of play, *play as healing*, is contained within the framework of the psychodynamic/psychoanalytic approach, as it is applied to children, and is what characterizes the notion of *play therapy* (Frost et al.).

Another important theorist who made notable contributions regarding the significance of play in child development was Erikson (1963, 1975). Also working from a psychodynamic/psychoanalytic perspective, Erikson (1963, 1975) who studied under Freud (Frost et al., 2005), worked to hone his teacher's theory of personality development and, in so doing, stressed the importance of play in relationship to *early socialization* (Frost et al.). Erikson (1963, 1975) agreed with Freud (as cited in Frost et al.) in regards to the cathartic and healing nature of play, but he ultimately took play theory further by

recognizing that children's ability to play stems from "an attempt to synchronize the bodily and the social processes with the self" (1963, p. 211).

Much of Erikson's (1963, 1975) career was dedicated to the observation of children at play. He viewed children's play as starting with and focusing on their own physical bodies, which he termed *autocosmic play* (Erikson, 1963). Babies engage in this type of solitary play for the purpose of exploring various kinesthetic sensations, vocalizations, and sensual perceptions (Erikson). As children develop, they move away from autocosmic play into "the *microsphere* – i.e., the small world of manageable toys" (p. 221). It is during this developmental phase of play, according to Erikson, that children's egos are more likely to be subjected to certain unforeseen traumas due to psychological projections placed on their toys. "Often the microsphere seduces the child into an unguarded expression of dangerous themes and attitudes which arouse anxiety and lead to sudden play disruption" (Erikson, p. 221), such as a regression to more autocosmic play behaviors. Finally, after a sense of mastery has been achieved in the microsphere, Erikson's theory proposes that children enter "the *macrosphere*, the world shared with other" (p. 221). This is an important phase for social development as it stipulates a mental negotiation between socially appropriate play themes and other themes best kept in separate spheres (Erikson).

Piaget.

The next major child development contribution to be examined from a play perspective comes from Piaget, perhaps "the most influential developmental psychologist of the twentieth century" (Birch, 1997, p. 65). Piaget (as cited in Birch) was chiefly responsible for bringing the concept of cognition to the forefront of child development

research, linking his ideas regarding cognitive development to the phenomenon of play. Thanks to his theoretical acumen, play became widely acknowledged as contributing to the development of children's thought processes (Jones, 1996). It was Piaget's (1951/1962) assertion that simply watching children play in their natural environments could lead to profound insights regarding not only their cognitive abilities but their overall psychological development, as well. Thus, Piaget proposed three broad stages of play he viewed as standard in the development of typical children: master play; symbolic play; and play with rules (see also Frost et al., 2005; Jones, 1996). These levels of play correspond to specific developmental cognitive stages, also attributable to Piaget, which include the sensorimotor stage (birth to two years of age), the pre-operational stage (two to seven years of age), and the concrete operational stage (approximately seven years of age onwards; see also Birch; Jones).

In order to fully comprehend the links Piaget (1951/1962) made between the different types of play in which children engage and their corresponding developmental levels, one must have a basic understanding of the terms *schema*, *assimilation* and *accommodation*, ideas first introduced by Baldwin in 1894 (Case, 1985). A schema is defined as a mental structure or "blueprint" (Case, p.10) that represents a specific physical or psychological action or concept created for the purpose of organizing knowledge and understanding the external world (Piaget; Birch, 1997). Piaget believed that certain schemata are innate and present from birth, such as "the looking schema, the grasping schema, the sucking schema, and so on" (Birch, 1997, p. 66), all of which are classified as sensorimotor activity. A basic tenet to Piaget's theory is the belief that, in order to develop intellectually, children's innate schemata must grow and adapt based on

the information they are taking in from their environment. This adaptation occurs via the processes of assimilation, whereby new information is taken in and categorized in terms of existing concepts and ideas, and accommodation, where existing schemata are altered or new schemata are formed in order to fit newly acquired, perhaps incongruous, information (Birch; Piaget).

In his seminal work on play, entitled *Play, Dreams and Imitation in Childhood*, Piaget (1951/1962) asserts "...that play is essentially assimilation, or the primacy of assimilation over accommodation" (p. 87). In other words, the purpose of play is to give children the time and space necessary to experiment with unfamiliar situations and stimuli so they can attempt to fit them into their own personal understanding and experience of the world (Piaget; see also Birch, 1997). In addition, Piaget wanted to understand where the instinct for play comes from. In his attempt to answer this question, Piaget returned to Groos' (as cited in Piaget) aforementioned theory of play as the "pre-exercise of essential instincts" (p. 89). He concluded that

in so far as intelligence, imitation and play are considered, all three, exclusively as sensory-motor, imitation is a continuation of accommodation, play is a continuation of assimilation, and intelligence a harmonious combination of the two. (Piaget, p. 104)

Although Piaget's (1951/1962) theories were not generated with autistic children in mind, his findings are significant in regards to autism research. If the ability to both imitate behavior and play out previously unexplored behaviors (accommodation and assimilation) is key to intellectual development, what are the chances of improving the cognitive abilities and, consequently, the emotional and psychological abilities

(Greenspan & Wieder, 1998, 2006; Sherratt & Peter, 2002) of people with dysfunctional imitative abilities? According to the theories posited by Piaget, children with autism, who inherently have difficulty with imitation, will never develop beyond the sensorimotor stage of practice play into higher levels of language acquisition and symbolic thinking, which, in turn, would activate their assimilation (*play*) capabilities. Research involving developmental interventions, however, indicates that this is not the case (Cattanach, 1992; Greenspan & Wieder, 1998, 2006; Jones, 1996; Sherratt & Peter, 2002).

Vygotsky & Bruner.

Like Piaget, Vygotsky (1978) made significant theoretical assertions in the field of child development while working from a cognitive perspective. Unlike Piaget (1951/1962), however, who primarily researched how children construct their own schemata independent of other people, Vygotsky was interested in exploring the societal influences on children's developing thought processes (Birch, 1997). He viewed several key elements of play as being crucial to positive mental development, emphasizing, in particular, the rules of play and how children negotiate higher levels of learning when faced with situations they have never before encountered (Frost et al., 2005; Vygotsky). In his book *Mind in Society: The Development of Higher Psychological Processes*, Vygotsky proposed that, behind all forms of play, there must lie a sense of purpose, and with that purpose comes rules.

There is no such thing as play without rules laid down in advance by real-life behavior. For example, if the child is 'nurturing' [another] child, she is obeying the rules of maternal behavior – rules that are not noticed by the child in real life.

In imaginary play, there are rules that govern roles the child will play so the child's play is free, but this is an illusory freedom. (Frost et al., 2005, p. 38)

Within the context of his play theory, Vygotsky (1978) maintained that "in play a child always behaves beyond his average age, above his daily behavior....[P]lay contains all developmental tendencies in a condensed form and is itself a major source of development" (p. 102). Based on this idea, perhaps Vygotsky's best-known contribution in the field of child development remains the *zone of proximal development*, or ZPD. A ZPD is a range of competence children have wherein they can perform and master tasks and activities above their age-appropriate level either through the practice of play or through the mirroring and guidance of adults or more experienced peers (Vygotsky; Birch, 1997; Frost et al., 2005). Vygotsky claimed that it is through children's social interactions with these adults and peers that the means for higher-level thinking and knowledge acquisition is made possible. These more experienced and knowledgeable people are viewed as providing *scaffolding* to children so that they may climb to higher levels of thought on the developmental ladder. The idea of scaffolding is crucial in terms of working with children with autism, as their innate ability to interact and learn within such a framework is limited. Butterworth (1987) carried out studies involving parent-infant interactions and found "scaffolding processes at work as the mother engages the child in ritual language games and rhymes and encourages turn-taking" (Birch, 1997, p. 81), both of which are problematic developmental areas when working with children on the autism spectrum.

Following in Vygotsky's footsteps was Bruner (as cited Frost et al.), a cognitive psychologist who viewed play as an essential learning tool critical to the development of

children's problem-solving skills and, ultimately, their creativity. His theory of development proposes that children have three distinct *modes of representation* by which they internalize and understand their environment and, to a greater extent, their culture (Bruner et al., 1966). They progress through these three modes, the *enactive*, the *iconic*, and the *symbolic*, as they grow and mature into adulthood. In fact, Bruner's (see Bruner et al.) theory outlining these modes of representation is essential to Developmental Transformations (Johnson, 1982, 1984, 1991).

According to Bruner's (as cited in Birch, 1997) theory, the enactive mode of thinking "is based entirely on physical actions and uses neither imagery nor words" (p. 83). Hence, learning in this mode happens when the body is physically engaged in an activity, such as shaking a rattle, throwing a ball, or riding a bicycle; the emergent understanding occurs as a result of *the doing* (Birch; Bruner et al., 1966). Iconic representation then follows as children develop and become capable of putting together internal images of their surroundings (Bruner et al.). These mental images do not necessarily have to take the form of visual "pictures," per se, but may also be auditory, olfactory, or tactile in nature (Birch). Through children's playing and exploration, these internal representations allow for the creation of an ever-expanding image of their surroundings despite the fact that they may lack the language skills required to adequately describe it (Birch; Bruner et al.). Consequently, when language has developed more fully, children begin to shift from the iconic mode of representation to the symbolic. The symbolic mode is characterized by the development of descriptive language and other figurative constructs; thus demonstrating the ability to engage in flexible and abstract forms of thinking (Birch, Bruner et al.). In essence, Bruner's (see Birch; Bruner

et al; Frost et al, 2005) theory implies a developmental connection between children's play experiences and their ability to understand the external world by engaging in ever more complex thought processes.

The idea that symbolic representation denotes higher levels of cognitive ability has already been raised in connection with autism. Sherratt and Peter (2002) assert that the ability to think symbolically ultimately leads to the development and expression of thoughts, feelings, and ideas. According to the developmental theories examined above, however, the ability to attain symbolic levels of representation (Bruner et al., 1966) stems from a much earlier developmental ability: imitation (Piaget, 1951/1962). Subsequently, the ideas of scaffolding and zones of proximal development (Vygotsky, 1978) also relate to imitation through their implications that, by watching and copying the actions of more advanced individuals, the cognitive capabilities of less advanced individuals will be exercised and improved. Because children with autism are challenged in their ability to think symbolically and, consequently, to generate meaning from their everyday experiences, it would seem that by focusing first on the sensorimotor level of development through such means as exploratory play and sound and movement activities (Cattanach, 1992, 1994c; Jennings, 1999; Johnson, 1982, 1984, 1986, 2000; Jones, 1996, Lewis, 2000), children with autism may ultimately progress up the symbolic ladder (Wieder & Greenspan, 2003), mastering several levels of developmental play (see Jones) along the way. It is this idea of play as a developmental paradigm that makes it a key tool in the practice of drama therapy (Cattanach, 1992, 1994a, 1994b, 1994c; Chesner, 1995; Jennings; Johnson, 1982, 1984, 1986, 2000; Jones, 1996, Lewis, 2000; Landy, 2005).

Play in Drama Therapy

Jones (1996), a pioneer in the field of drama therapy, describes play as one of the nine essential processes which make up the practice of drama therapy. (The other eight are dramatic projection, empathy and distancing, embodiment, personification and identification, interactive audience and witnessing, therapeutic performance, the drama-life connection, and transformation; Jones, 1996). From the perspective of drama therapy, play is not seen merely as the frivolous pastime of children, as it is sometimes assumed to be in certain cultures (Huizinga, 1950); instead, it includes the playful, expressive, and action-oriented behaviors exhibited by children, adolescents, and adults alike (Jones). As the aforementioned developmental theories suggest, engagement in play processes have been linked with cognitive, social, and emotional growth, all of which are germane to drama therapy practices (Cattanach, 1994c; Jennings, 1994; Johnson, 1982, 1986, 1991, 1996, 2000; Jones, 1996; Lewis, 2000; Schnee, 1996).

In fact, Jones (1996) suggests three specific ways in which the act of playing taps into the healing potential of drama as therapy. He states:

- The first concerns the way in which *playfulness* and the general process of playing can be the vehicle of therapeutic change within Dramatherapy.
- The second relates specifically to the notion of *developmental play* and drama. Here both are seen as parts of a continuum of different developmental stages...
- The third focuses upon *content*. Play involves particular areas of content and has a particular way of articulating that content....Play also has a special relationship with reality [and involves certain recognized forms of

expression]. In Dramatherapy this content, form and relationship with reality become particular ways for the client to express and explore experiences. (Jones, p. 168-169)

This *playfulness* of which Jones (1996) speaks is vital to the creation of spontaneity and the unleashing of creativity, both of which may be liberating and therapeutic in and of themselves. The use of play as a developmental approach in drama therapy is also very important because of the fundamental connection that play and drama share. Ultimately, they are different degrees of the same thing (Jones; Sherratt & Peter, 2002), linked together on a developmental continuum beginning with sensorimotor play which is then followed by imitative play, pretend play, dramatic play, and, finally, drama (Jones). "Play is seen as a precursor to the development of drama" (Jones, p. 178) and, therefore, is utilized in countless ways within drama therapy processes. Lastly, Jones highlights the importance of the content of play and its relationship to what he calls *the play shift*. This shift represents the differentiation of intention for clients as they move from reality, as it were, to some other playing state (Cattanach, 1992, 1995; Johnson, 2000; Jones). The play shift can occur through such activities as sensorimotor or body play, imitation, play with objects, play with symbolic toys, projective work with toys or objects, rough-and-tumble play, make-believe play involving the embodiment of roles or characters, and games (Jones). It allows real life issues to be taken into the drama therapy space and *played around with* for the therapeutic purposes of exploration, experimentation, and possibly, but not necessarily, gaining insight and changing personal perspectives. For this reason, "the notion of a 'play shift' is the fulcrum of Dramatherapy's use of play" (Jones, p. 177).

Cattanach (1992, 1994a, 1995) holds a similar perspective to Jones (1996) with regard to the above mentioned aspects of play as seen in drama therapy. She differs slightly from him, however, by citing four, not three, essential qualities. First, play is central in the lives of children in order to help them make sense of the world around them (Cattanach, 1992). Second, play is a developmental process and can thus engage children in activities ranging from simple to more complex and allows them the freedom to move back and forth on this continuum; Jennings' (1994, 1999) Embodiment-Projection-Role (EPR) model is an example of one such drama therapy approach that utilizes the potential of this developmental continuum (Cattanach). Third, because of its distant and imaginary element, play allows for symbolic representation of experiences which might be too painful or frightening to deal with in reality (Cattanach). Finally, Cattanach emphasizes the importance of a predetermined and limited playspace as this helps contain clients and provides them with a sense of safety.

This idea of a prearranged and agreed-upon playspace is vital in all drama therapy work that engages play as one of its core processes (Cattanach, 1992; Johnson, 1992, 2000; Jones, 1996; Landy, 2005). The drama therapeutic process of Developmental Transformations is, in fact, comprised solely of play processes (Johnson, 2000; Porter, 2003); thus, having an understood playspace is imperative (Johnson, 1992, 2000). Johnson defines the playspace as "an interpersonal field in an imaginary realm, consciously set off from the real world by the participants, in which any image, interaction, or physicalisation has a meaning within the drama" (1992, p. 112). The following section describes in detail the concept of Developmental Transformations, including its theoretical orientations as well as its therapeutic overtones. Additionally, an

excerpt from a case example will be given to illustrate the structure, flow, and intervention styles used within this approach.

Developmental Transformations

Overview.

According to its most basic definition, “Developmental Transformations is a treatment for disorders of embodiment, encounter, and play” (Johnson, 2000, p. 87). Those familiar with the terminology of drama therapy may know what this means, but to those unversed in its vernacular further explanation may be required. Essentially, Developmental Transformations uses spontaneous improvisation for the purpose of therapeutic exploration, thereby allowing clients’ internal, often unknown, feelings and images to be evoked through movement, sound, gesture, role, and scenework (Johnson, 1991, 1992, 2000). The process corresponds to the psychoanalytic tool of verbal free association but, being a drama therapy tool, is *action-oriented* (Johnson, 1984; Porter, 2003). DvT is, therefore, *action* free association, or free association conducted through the body (Johnson, 1984, 1991). This active free association evolves out of continuously being present in the body (*embodiment*) and allowing that embodiment to lead to spontaneous interaction with others (*encounter*) through *play* (Johnson, 2000). Thus, DvT is an “embodied encounter in the playspace” (Johnson, 2000, p. 87). Again, this concept of play is essential to Developmental Transformations; according to Johnson (2000), it constitutes “the entire therapeutic action” (p. 91). As such, the therapist is engaged in play with the client throughout the entire process, constantly reflecting back his or her unconscious projections as a way to “provoke and encourage the client to express feelings through the body” (Landy, 2005, p. 102).

As DvT has developed and gained validity in its practice over the last 25 years (Johnson, 1999), several theoretical perspectives have been examined and integrated so as to better comprehend the multiple psychological and/or developmental levels at work. DvT can be seen as an amalgamation of cognitive development theories, psychoanalysis, object relations theory, client-centered therapy, authentic movement, dance/movement therapy, existentialism, deconstructionism, and Buddhism (Johnson, 2000).

On a practical level, DvT is centered largely around the notable theatrical contributions of Grotowski (as cited in Johnson, 2000; Johnson, Forrester, Dintino, James, & Schnee, 1996) and Spolin (1999; see also Johnson, 1991, 2000). Grotowski, an avante garde Polish theatre director, worked to advance the role of psycho-physical actions on stage through his idea of a *poor theatre* (Johnson et al., 1996). In his work, Grotowski sought to find the “essence of theatre’...[and] found that by removing the sets, costumes, makeup, masks, lighting, stylized actions, and even the text, theatre still remained in the form of the *encounter* between the actor and the spectator” (Johnson et al., p. 293). In DvT, this encounter occurs in the playspace between therapist and client (Johnson et al.) Meanwhile, Spolin’s (1999) contribution to DvT comes from her development of improvisational theatre games for the purpose of facilitating creativity, spontaneity, and self-expression. Although the Transformations technique had been used in various improvisational contexts for years previous to Spolin (as cited in Johnson, 1992), she is credited with being the first one to formalize the idea in her book, *Improvisation for the Theatre* (1999).

Developmental paradigm.

Extrapolating from the work of Spolin and Grotowski, Johnson (1982) observed that “both drama and development are intimately linked to the concept of transformation” (p. 183). Based on this mutually shared theme of *transformation*, he proposed a new approach to drama therapy based on the paradigm of a developmental continuum. Thus, the developmental method of drama therapy was born, of which DvT is an advanced form (Johnson, 1982, 1986, 1991, 1999). Johnson’s (1982, 2000) drama therapy developmental paradigm consists of the implementation of various therapeutic interventions, carried out *within the play*, for the purpose of facilitating progression through five key developmental areas: 1) *structure* (which was later renamed *ambiguity* to account for the structure’s variability (Johnson, 2000); 2) *medium of expression*; 3) *complexity*; 4) *affect*; and 5) *interpersonal demand*.

Structure can be understood as the amount of external organization people need to function, feel safe, and ultimately survive in the world until they are able to provide enough internal organization for themselves (Johnson, 1982). “To the extent that one lacks internal organization, an external, organizing environment is necessary to support one’s adaptive functioning” (Johnson, p. 184). When working with the developmental method, this is the purpose of the beginning phase of a drama therapy series. Initial sessions provide a stable, structured, well-organized environment, a necessary basis from which development can then progress (Johnson).

The second key area Johnson (1982) describes in his developmental paradigm is *medium of expression*. He credits Piaget and Bruner (as cited in Johnson, 1982), among other pioneers of developmental and cognitive psychology, with illuminating the three

key stages of thought development. According to Johnson, each representational stage of thought corresponds to a different mode of expression; thus, as individuals develop and mature, their range of expression increases. Thoughts produced in the sensorimotor (Piaget, 1951/1962) or enactive (Bruner et al., 1966) stage, for example, are represented by bodily movements and physical explorations (Johnson). In the symbolic (Piaget) or iconic (Bruner et al.) stage, thoughts are represented by various visual, auditory, or gestural signs (Johnson). In the last stage, which Johnson calls the *reflective* or lexical stage, mental representations are “accomplished through words, language, or other abstract symbols” (p. 185). In terms of therapy, these three stages relate to clients’ personal journeys as they progress from basic movement to embodiment to verbal articulation within drama therapy sessions (Johnson).

The third area, *complexity*, refers to the developmental ability of identifying increasingly intricate emotions and thoughts within oneself as well as identifying the nuances expressed by others in various situations (Johnson, 1982). According to Johnson’s theory, over the course of development, people’s ability to handle ever more complex tasks and situations increases. Such is the progression in a drama therapy series: as sessions begin to move from more structured to less structured, greater internal demand is placed on the clients.

Affect relates to the developmental ability of regulating emotion (Johnson, 1982). Johnson explains that, through development, “...as the self becomes more complex and organized, affect becomes more integrated and less threatening” (p. 186). This means that the ability to contain and express strong, scary emotions without fear of losing control or falling apart typically increases as people develop. In the context of drama therapy

sessions, clients are considered to be making progress developmentally when they are able to tolerate greater and greater degrees of emotion-laden material (Johnson).

Finally, the developmental dimension referred to by *interpersonal demand* brings to attention people's awareness of others as separate, autonomous beings and their increasing ability to interact and relate to them as such (Johnson, 1982). In terms of drama therapy, the amount of interpersonal demand should increase over the course of the session; beginning, for example, with solitary warm-ups, then moving on to paired activities such as mirroring, followed by "the more developed interactions of scenes and improvisations" (Johnson, p. 187).

Although improvements in one area of development may be seen as leading to improvements in other areas, this does not necessitate that each area be worked on individually or in an isolated fashion. As clients continue to work within this developmental paradigm, all areas of development will eventually be addressed by way of the different intervention styles applied by the therapist (Johnson, 1982, 2000). The clients' improved abilities of generating greater internal structure will be indicated through their increased ability to handle more complex roles and tasks, their increased ability to both tolerate and express emotion, and the increased frequency and improved quality of their interactions with others (Johnson, 1982, 2000).

Therapeutic process & intent.

By encouraging clients to engage in different levels of developmental play, Developmental Transformations facilitates progression through the aforementioned developmental areas (Johnson, 1982, 1991, 2000). DvT begins by meeting clients on their particular developmental level, and, "through the use of free play as a tool for continuous

transformations” (Johnson, 2000, 89), eventually addresses whatever developmental obstacle is causing a “block” (Johnson, 1982, 1991, 2000). As previously mentioned, this play consists of client/therapist joint improvisations as they engage with each other in a series of shifting scenarios (Porter, 2003). The intention of DvT is to have one person, presumably the client, change the scene or the role being embodied based on spontaneous physical impulses or unconscious thoughts, while having the other person play along without any discussion or pre-planned ideas (Johnson, 1991, 1992, 2000; Porter).

As the various scenes are defined, played with and then let go, the client’s inner world is reflected in the choice of roles, movements and responses in play. The therapist attunes herself with the client’s bodily sensations and images and makes interventions in role based on the client’s responses in play (Porter, p. 102).

Throughout the literature, Johnson (1991, 1992, 1999, 2000) cites 14 different intervention styles that can be used in DvT with a multitude of therapeutic intentions. The most commonly used intervention technique is that of *faithful rendering*; it is employed “when the goal is to have the patient tell their story or try to solve a problem” (Johnson, 1992, p. 120). In applying this intervention, the therapist does not alter the course of play in any way but strictly attempts to follow the client’s lead. Other forms of intervention include *act completion* (where the therapist attempts to help the client complete a suppressed act for cathartic purposes); *defining* (where the therapist, in role, asks the client specific questions in order to create focus and clarity); *repetition* (where the therapist brings back a seemingly unresolved issue from a past session); *pre-empting* (where the therapist takes on the characteristics or identity of a role typically portrayed by the client so as to force the client into a different role); and *bracketing* (when the scene is

transformed into a photograph, television show, or performance of some kind for the purpose of creating distance; Johnson, 1991, p. 293). It is the therapist's responsibility to choose the appropriate intervention in response to the client's individual developmental goal.

Understanding which particular intervention to use is extremely important for the facilitation of development in DvT processes, as it is the intervention that ultimately guides clients into deeper levels of play (Johnson, 2000). According to Johnson, there is a potential to explore four types of developmental play through the course of a DvT series: *surface play*; *persona play*; *intimate play*; and *deep play*. Each of these play phases corresponds to a phase of embodiment that can be experienced by clients: *body as other*; *body as persona*; *body as desire*; and *body as presence* (Johnson). During surface play, when clients are “[experiencing their bodies as objects] for the Other to perceive” (Johnson, p. 89), social issues and stereotypes tend to be played out. During persona play, clients begin to play out both real and fantasized scenarios or stories themed around personal experiences and which involve people from all aspects of their lives; this type of embodiment is known as body as persona (Johnson). When clients become comfortable enough with their therapist, thus reaching the body as desire phase, they enter the phase of intimate play. In this phase, “the client's thoughts and feelings about the therapist begin to fuel the dramatic action. The play now becomes about the client's relationship to the therapist and again all possible and impossible situations are portrayed” (Johnson, p. 92). Finally, clients attain the state of body as presence (Johnson), which is the goal of Developmental Transformations. In this phase of deep play, where “scenes devolve into silent gestures or mutterings, long pauses and glances, or simply bodily contact”

(Johnson, p. 92), there is a sense of intimacy present that would not be there if other issues between client and therapist still existed (Johnson).

Although reaching a state of body as presence is an extremely profound and absorbing process, it is not necessary in order to appreciate the benefits of Developmental Transformations (Johnson, 2000). Johnson explains that the types of scenes and roles encountered in surface play alone are extremely effective for “increasing one’s role repertoire and spontaneity” (p. 92). When applying DvT to various populations, this is an important factor to consider as not everyone, even with intensive developmental intervention, has the cognitive ability to engage in deep play. Even moving beyond surface play could potentially be difficult for many children with autism.

Although the deficits and dysfunctions characterized by autism have been explored through other techniques working within the developmental method of drama therapy (see Jones, 1996; Lewis, 2000; Ward, 1999), thus far, there is no documented research linking the use of Developmental Transformations with an autistic population. However, DvT has been used with schizophrenic clients with much success (Johnson, 1984, 2000). As there are similarities between the symptoms of people with autism and people with schizophrenia (a connection that was made extremely early in autism research; see Kanner, 1943), Developmental Transformations, perhaps in a somewhat modified version, may be a useful intervention tool for working with children with autism. Johnson (2000) explains that the process has been used “in a wide variety of settings, including inpatient hospitals, outpatient clinics, substance abuse and rehabilitation programs, nursing homes, and a private practice clinic” (p. 95). It has been used in both group and individual therapy sessions with people who exhibit affective

disorder, substance abuse, posttraumatic stress disorder, the elderly, the homeless mentally ill, and, as he calls it, the “normal neurotic” (p. 95; for a clinical example of how Developmental Transformation processes are used in a therapy session, refer to Appendix).

Typically, DvT sessions end with the therapist coming out of the playspace and telling clients to “take a minute.” These last few moments are then available for clients to internally reflect on what has transpired during the session, to engage in a free-flowing soliloquy of thought, if they so desire, or simply lay frozen on the floor; whatever needs to be done in preparation for leaving the playspace. Every person who engages in the process is different and, therefore, brings something different to the process. Likewise, the therapist takes on changing roles to suit the changing needs of the clients (Johnson, 1991, 1992, 2000).

In using this approach with children with autism and their parents, however, the dynamic in the playspace would be much different than that observed in individual therapy; the energy in the playspace would be different. Although parents would be interacting with their children and the therapist to create socially inviting experiences for their children, the emphasis should not be strictly on the children. Parents should be equally engaged in the process, and it is the therapist’s responsibility to help them feel included and a part of what is going on. Proulx (2003) explores this idea of parental inclusion through her work as an art therapist, in which she focuses on strengthening the emotional bonds between parents and children. Although children with autism are not the focus of her work, Proulx’s successful method of parent-child dyad art therapy is significant in terms of bringing parents and children together in order for them to

problem-solve, create, and communicate at a level where words are not necessary.

Furthermore, there are other art and drama techniques in existence that have been used to address the needs of individuals with autism. (Many dance/movement and music therapy approaches have also been applied and been found very effective in working with individuals with autism. However, due to the scope of the present paper, these particular Creative Arts Therapies modalities will not be examined.) The following section now looks briefly at some of these other art and drama therapy techniques and, consequently, what characteristics they have in common with DvT, if any.

Art & Drama Therapy Techniques Used with Autism

The utilization of art therapy in the treatment of children with autism has been in effect for several years. Since its existence as a formal profession, different models of art therapy have been developed [specifically for working with autism], ranging from working developmentally by helping individuals to move from one stage of drawing to the next, to intervening psychotherapeutically with a focus on the alleviation of psychological problems and distress. (Evans & Dubowski, 2001, p. 7)

As is the case with most art therapy techniques used with this population and others, Evans and Dubowski (2001) believe it is the children's *process* of creating the art and the therapist's or parents' *understanding* of that process which is essential in art therapy; not the image or art work itself. Within an art therapy context, children with autism are given the opportunity to explore and manipulate various materials from which they create their art, resources ranging from paint to play-dough to pudding, as a way to increase their "capacity for symbolic thought" (Evans & Dubowski, p. 21) and further develop their

communicative and imaginative abilities. According to Malchiodi (2005), children mainly keep to this developmental approach of art therapy, which is “often informed by the stages of normal artistic development in children” (p. 26). Although many art therapy techniques can be modified to suit the needs of differing populations, the developmental drawing stages laid out by Lowenfeld (as cited in Evans & Dubowski) are of particular interest when analyzing the work of autistic children. Therapists and parents alike can observe what stage their children are developing into, whether it be in the mark-making (scribble), pre-schematic, schematic, or intellectual realism stage (Evans & Dubowski; Malchiodi).

In the continuing evolution of the developmental approach in art therapy, another methodology has emerged which is specifically geared toward working with children with autism; it is known as *interactive art therapy* (Evans & Dubowski, 2001), so called because of the importance that is placed on the child-therapist relationship and the “interactions” that occur between them. This method focuses on “careful observation of the totality of both the child’s and therapist’s experience within the therapeutic framework” (Evans & Dubowski, 2001, p. 47) and how each one’s presence effects the other. Although they clearly differ in their chosen mode of artistic expression, interactive art therapy and Developmental Transformations are quite similar in their overall therapeutic intent, in terms of how DvT would be applied to children with autism. Where in other forms of art and drama therapy the therapist may sit by and verbally facilitate or guide the process (Johnson, 1992, 1999), in these two particular interventions the therapists are overtly and physically involved in the process.

In addition to using the interactive art therapy approach as a means of autistic intervention, other Creative Arts Therapies research indicates the efficacy of play and drama interventions in increasing social awareness and emotional relatedness in individuals with autism (see Jones, 1996; Sherratt & Peter, 2002; Ward, 1999). Although play therapy and drama therapy are technically two separate disciplines, there is a significant amount of overlap between them, especially in terms of their use with child populations; therefore, as a matter of simplification, in the following section they will be grouped within the same conceptual framework and referred to jointly as *dramatic play interventions* (Cattanach, 1994a; Jennings, 1994; Ward, 1999).

Several studies have been done using dramatic play interventions with children with autism, but the one outlined by Ward in her 1999 thesis conveys nicely the specific application and use of this intervention style. In it she describes the therapeutic relationship which developed between herself and a young boy with autism after engaging him in a dramatic play approach structured around Jennings' (1994, 1999) drama therapeutic developmental paradigm: Embodiment-Projection-Role (EPR; see also Cattanach, 1992, 1994b, 1994c). This paradigm is similar to that mentioned earlier in reference to Johnson's Developmental Method (1982) as it builds on a progression of developmental expression. Embodiment play refers to exploratory, sensory play done through the body. It includes imitation and the generation of sounds and rhythms (Cattanach, 1992, 1994b, 1994c; Jennings, 1994, 1999). Projective play, then, "can be defined as experiences, feelings, thoughts, wishes, projected out onto toys and the media of various sorts, such as sand, paint or water" (Cattanach, 1994b, p. 17). Finally, role play, or dramatic play, as it is also called (Cattanach, 1994b), refers to the re-structuring

of real life events as children play out stories and dramatic material of which they are familiar, taking on the roles of family members or others in a social context (Cattanach, 1994b). Jennings (1994) believes that these three developmental levels of play, similar to the autocosmic, microcosmic, and macrocosmic levels described by Erikson (1963), occur in *dramatic reality*, or what Cattanach (1994a) calls the “fictional world” (p. 34). It is in this world that

dramatic distance [is] established from everyday experience which enables a move from the actual to the symbolic, the concrete to the metaphoric. It is because we can move from everyday reality to dramatic or theatrical reality that transformation of our experience becomes possible. (p. 34)

In her study, Ward (1999) found that she was able to engage with her client in this dramatic realm by drawing on a variety of toys and materials which aided her in interacting with her client “at both sensory and projective levels” (p. 86). She explains that her client used his senses to investigate the objects around him and that, later, he “began to explore space through his body and through interactions with the therapist....In some phases of [the] work he began to use the toys to express himself and he briefly entered the area of projective play” (p. 86). The results of Ward’s study thus found Jennings’ (1994, 1999) model to be effective in both building and strengthening the relationship with her young client.

Similar to Jennings’ EPR model, another dramatic play intervention that has been used successfully with autistic clients is the development and embodiment of story. In his 1996 book *Drama as Therapy, Theatre as Living*, Jones illustrates a case example of the power that symbols and metaphors can have when people are given the opportunity and

the encouragement to express themselves creatively. Although his account of “The Prince in the Tower” (p. 224) is an example of a dramatic play intervention used, not with children, but rather with young adults with autism, the potential power of story remains the same.

Jones’ (1996) intervention incorporates several key elements that make dramatic play so valuable: the opportunity for free and spontaneous expression in the playspace (play); the opportunity to create and develop characters that are not one’s self but yet contain aspects of one’s self (projection), and the opportunity to relate to another person socially and emotionally, while at the same time connecting with one’s own body so as to be fully present and engaged. These are some of the main intentions behind the use of dramatic play as therapy. Various approaches focus on and specialize in different aspects of these qualities, but they all operate on the basic premise that these qualities are linked to the healing potential of dramatic play interventions. Similarly, Developmental Transformations utilizes these same key elements of spontaneous play, projection, and encounter to facilitate developmental growth. This is done by expanding participants’ expressive capabilities, thus increasing their emotional responsiveness and helping them attach to others.

Autism, Attachment, & Developmental Transformations

Making Connections

The above literature review has illustrated key points regarding autism, attachment, and Developmental Transformations. As described in this paper, attachments are emotional ties children develop towards their parents which take different forms depending on the types of parental responses they receive to their attachment behaviors

(Ainsworth, 1967, 1979; Ainsworth et al., 1978; Bowlby, 1979, 1988). Likewise, parents also develop special attachments to their children, gaining both a sense of joy and contentedness when their emotional overtures are accepted and reciprocated (Cozolino, 2006; Glasberg et al., 2006). Although children with autism are able to form these attachments with their parents, the quality of attachment differs from that observed in typically developing children (van IJzendoorn et al., 2007). This inability to fully relate to their children with autism and receive adequate parental validation can be a particularly difficult obstacle for parents to overcome, and is an area in which they need much support. DvT can be very useful here as it is a playful and fun way for parents to learn how to address some of the challenging behaviors exhibited by their children, thus creating a better relationship with them while simultaneously getting back in touch with their own inner children.

In terms of the structure and content of therapy, then, parent/child DvT sessions would follow the clinical principles outlined by Johnson (2000) in regards to working with a group:

in general, the group session begins at the earliest developmental level, which means clearly-directed, unison sound and movement, with little interaction and impersonal, nonintense imagery. The therapist slowly makes interventions that increase the developmental level of one or more of [the] dimensions towards greater ambiguity, complexity, interpersonal demand, and...personal imagery.

(Johnson, p. 94)

By beginning the session directly on the same developmental level as their children, parents are being asked to view the world through their children's eyes; they are not

trying to alter behaviors, as would be the case with more behavior-oriented approaches, but rather are being asked to *join in* with the behaviors. It is the responsibility of the DvT therapist to appropriately intervene when the energy or *flow* of the play wanes, helping parents find ways of relating to and interacting with their children through playful means (Johnson). These interventions are responsive to situations occurring naturally in the playspace and not based on predetermined exercises or activities because, as Johnson points out, the function of a DvT therapist “is [to manage] the state of play, not the content of the play” (p. 94).

It is an understatement to say that parent/child relationships can greatly benefit from more playful interactions and exchanges. According to Ginsburg (2007), when parents engage in playful activities with their children, children internalize this attention and develop a personal sense of worthiness which they direct out into the world.

Additionally,

parents who have the opportunity to glimpse into their children’s world learn to communicate more effectively with their children and are given another setting to offer gentle nurturing guidance. [Moreover,] less verbal children may be able to express their views, experiences, and even frustrations through play, allowing their parents an opportunity to gain a fuller understanding of their perspective.

(Ginsburg, p. 183)

One of the reasons for applying a play intervention like DvT to an autistic population is to accomplish such a goal. Greenspan and Wieder (1998, 2006) agree with Ginsburg’s views and thus created Floortime as an accessible means of tapping into the developmental benefit of play. Since the premise of DvT is quite similar to that of

Floortime, which has demonstrated predominantly successful results with children with autism (see Greenspan & Wieder, 1998, 2006), DvT should show equally positive results.

Developmental Transformations vs. Floortime

Unlike DvT, Floortime was created specifically for working with children with special needs. Thus, in terms of public awareness and approval among many autism specialists, Floortime has an advantage over DvT. However, both approaches are based on play and centered around the developmental theory that, by meeting clients where they are at, be they children or adults, progress can be made towards greater cognitive, social, and emotional understanding. Therefore, they should be given equal consideration by both parents and therapists when attempting to address the needs of children with autism.

It is the position of Greenspan and Wieder (2006) that “the development of symbol formation, language, and intelligence is based on a series of critical emotional interactions early in life. When these interactions are not mastered, these abilities do not develop” (p. 395). Although not geared specifically towards children, Johnson’s (1982, 1991, 1999, 2000) Developmental Transformations approach posits a similar theory which suggests that encounters with others lead to unconscious realizations of emotional expression, necessary for healthy developmental advancements. Whereas Greenspan and Wieder use the term “unmastered” to describe these interactions, or *encounters*, and Johnson (1982) uses the term “blocked,” the difference is lexical rather than semantic, and both can be corrected through appropriate developmental progression, attained through the integration and expansion of emotional experiences.

While there are obvious points of comparison between DvT and Floortime, the two developmental interventions are not identical. First of all, one of the major areas of

discrepancy lies in the use of actual toys and games during Floortime intervention. Despite the fact that both intervention styles assert play as the cornerstone to their therapeutic aims, DvT practice works more within the framework of *therapist as playobject* (Johnson, 2000), meaning that literal toys and props are not used; the therapist *transforms* to become whatever playobject the client desires. In working with children with autism, however, this may be a difficult concept to grasp due to their diminished ability for symbolic representation. (This idea of *therapist as playobject* will be discussed further in regards to DvT's limitations with autistic populations.)

Another major difference between the two intervention approaches can be noted in terms of the developmental models themselves. The Floortime approach is tailored more acutely to the biological challenges of children with autism and other developmental disabilities because it was designed specifically as an intervention technique for this population. It is based on a progression of developmental processes adapted to meet the individualized needs of each child who engages in its method. While DvT is also individualized, in that no two children share the same therapeutic journey or will attain the same developmental outcome, unlike Floortime, it is not intended to address inherent biological difficulties.

Other Considerations

Because Developmental Transformations has yet to be used as an attachment intervention for children with autism and their parents, there are many aspects of the technique that still need to be explored and many questions that need to be answered in order to understand its full therapeutic benefit. As has already been pointed out, since autism is a *developmental* disorder and DvT is a *developmental* intervention, it seems

surprising that no research exists documenting the two in relation to each other. Is this because DvT would not actually be considered an appropriate intervention for addressing the core issues of autism, or is it merely because no one has thought to explore the two in combination before? Other avenues of exploration include whether or not DvT would be an appropriate intervention for all children with autism, or only specifically for children with high functioning autistic spectrum disorders; in what ways, if any, would it have to be modified to be used with children with autism? Who, then, would be qualified to employ this intervention technique: drama therapy practitioners; autism specialists; both? All of these issues need to be examined in much greater detail before DvT can be recognized as a viable treatment option for children with autism.

Limitations of DvT with children with autism.

Although there are obvious developmental connections between the core deficits of autism and the healing potential of DvT, Developmental Transformation processes may be unable to address all areas of autism dysfunction, specifically those areas pertaining to neurological and biological functioning. This is not to say that DvT is unable to assist in correcting these areas, but it is important to stress that this paper in no way claims it to be a cure for these dysfunctions. For example, if mirror neuron systems are found to be underfunctioning in individuals with autism, DvT could be used as a basis for improving imitation skills and promoting mutual gaze and joint attention, all of which are essential in furthering play and developmental advancements.

Another limitation in using DvT with this population stems from the use of *therapist as playobject*. In its current application, Developmental Transformations uses the idea of therapist as playobject so as to be free in the playspace to improvise and

spontaneously create whatever images come through the client's mind or body. Actual objects are considered to impede this process as they limit one's imaginative abilities. Thus, if DvT is to be used with children with autism, modifications may have to be made to include various toys and concrete playobjects, such as described in Erikson's (1963) microcosmic playsphere and Jennings' (1994, 1999) projective play phase. Eventually, as play processes progress to include ever-deepening levels of developmental expression, the use of toys and concrete objects can be decreased, thus expanding one's ability to think symbolically.

One final limitation that needs to be considered when using Developmental Transformations with children with autism is who technically can apply the intervention. DvT is a specialized area of drama therapy practice, in which a significant amount of post-graduate training is required to become a qualified *Developmental Transformationalist*. Elements of its therapeutic process are frequently used in more generalized drama and play therapy work, but an entire series of pure Developmental Transformation sessions necessitates skills not common to all drama therapists. Incidentally, autism specialists with training in various developmental interventions may also be able to apply the principles of DvT in their work, but this does not mean that they fully understand the therapeutic potential of its processes per se. This limitation thus advocates the need for more specialized DvT training for both childcare and mental health care professionals, especially those working with children with autism or other developmental disabilities.

Conclusion

Autism spectrum disorders are being diagnosed in alarming proportions around the world. There is no single treatment which addresses in full the three main areas of dysfunction found in autism, including impaired social interaction and communicative abilities, and a limited range of activities and behaviors (APA, 2000). Research indicates, however, that developmental interventions, as opposed to behavioral ones, are more effective in targeting areas of social and affective impairment in children with autism due to their focus on interaction and emotional engagement (Corsello, 2005; Greenspan & Wieder, 1998, 2006; Sherratt & Peter, 2002; Singer et al., 2006). Interaction and emotional engagement are also vital in the facilitation of strong attachment bonds between children with autism and their parents. It is the position of this research paper, therefore, that the action-oriented, drama therapeutic approach of Developmental Transformations would be an effective intervention technique when working with children with autism and their parents to specifically improve attachment relationships.

Parents and mental health care professionals agree that learning how to socialize and interact with others is essential for children with autism as it helps them become more autonomous and instills in them a sense of self-worth and confidence. However, in order for these feelings to fully develop and foster in them a desire for further exploration in the world, it is imperative that these children consider their parents a secure base (Bowlby, 1988) from which to make these exploratory excursions. The playful interactions spontaneously created between these children and their parents during Developmental Transformation is an ideal arena for developing these essential bonds which will help children with autism socialize and communicate for the rest of their lives.

Although it is considered both an appropriate and an attainable goal in certain forms of therapy to assert the desire for stronger, more secure attachment relationships, it is important to emphasize that, no matter which intervention style is used, secure attachments cannot be forced. It may be the expressed desire of parents who enter into treatment with their autistic children to get their children to engage in eye contact, to initiate a hug, or simply ask for their favorite cookie. Attachments will grow through mutual engagement in children's solitary and repetitive behaviors. Parents have to be patient with their children and observant of the therapist in order to pick up subtle changes the therapist initiates in the play so as to promote developmental progression and facilitate attachment formation outside of the therapy setting.

When children with autism and their parents participate in Developmental Transformations together, the focus of therapy would not be on reducing autistic symptoms but, rather, on creating shared experiences through playful interactions. These shared experiences and the emotional responses they generate may or may not alleviate autism's symptomatic dysfunctions; however, even on a nonconscious level, children will benefit from the social and emotional encounters inherent in Developmental Transformation processes. Hopefully, in the future more research will demonstrate these implicit relationships among autism, attachment, and Developmental Transformations.

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Appendix

Clinical example of Developmental Transformations in use

Below is an excerpt taken from a case example in Johnson's (1991) article, "The Theory and Technique of Transformations in Drama Therapy." It serves to roughly illustrate the structure and flow of a Developmental Transformations session, although no two sessions are ever alike.

According to Johnson (1991), several initial sessions took place between Therapist (T) and Client (C) before the transformations' process began for this client. This is typical in a DvT series in order to discuss what brought the client to therapy and to prepare him for the process of drama therapy. The following excerpt is taken from the fourteenth session of a DvT series facilitated by Johnson himself. Listed in parenthesis after the dialogue are thoughts or actions to clarify the situation; the brackets represent the intervention style chosen by the Therapist to advance the progression of the session. The session begins with Client and Therapist walking around the room (refer to Johnson, p. 294).

(C): Ho, hum.

(T): Ho, hum.

(C): Hum, yum

(T): Yum! yum! (We slow down our movements and pick up our feet.)

(C): Oh, yuummmm, erooommm, yehhh (It's as if we are sinking into a vat of something, the sounds and movement are very sensuous.)

(T): yuummm, oooohh! (We are still not facing each other.) [JOINING]

(C): Oh, God! I'm sinking.

(T): Yes, oh yes, just sinking down, down, down...[INTENSIFICATION]

(C): Oh, God, we're sinking! (now with fright)

(T): Help, help we're sinking into It!

(C): Not It! No, not yet!

(T): We've known it would happen sometime.

(C): But it's only our third month of working together! (I felt impressed that he made reference to our relationship so early in the session.)

[TRANSFORMATION TO THE HERE AND NOW]

(T): You're right. This is supposed to be a long term psychotherapy!

(C): Years!

(T): So let's get out of this. [FAITHFUL RENDERING].

(C): Right, help me.

(T): OK (We face each other and "climb" out of it, brushing ourselves off and stepping lightly on the floor, as if we will fall through.)

(C): Be careful. (We begin to tiptoe.)

(T): Tiptoe! Careful! (Image changes to one as if there are things on the floor we might step on.)

(C): Watch it!

(T): (picking up a thing) OK, OK, let's get out of the way. Why is it laying around anyway? [DEFINING]

(C): I don't know (picks up another thing, and places it along the wall – as if in a cupboard)

(T): (doing the same) Look at all of these things, beautiful, so delicate!

(C): Yes, thank you, this whole shop is (reference to china shop).

(T): (I have strong urge to be the bull and destroy this.) Do you ever worry that...

(C): You bet I do. Just look at all this, why it could be destroyed in a second.

(begins to walk around nervously)

(T): (also walking around nervously checking on things) Everything seems OK, I mean, nothing is broken, now, I mean, what do we have to worry about, huh?

[INTENSIFICATION]

(C): Yeh!...Did you here something?

(T): No!...Did you feel something?

(C): No, I mean yes! A shaking (tries to hold on to some of the objects)

(T): What are we going to do?

(C): Hold on, hold on! (both now hold on to objects and shake our legs as if there is an earthquake. We start screaming.)

(T): (looking up) Oh, my God, it's, it's falling! [ACT COMPLETION]

(C): Falling! Let's get out of here! (image of a giant object falling through the roof of the shop)

(BOTH): AHhhhhhh! booom! (This image is very vivid, and I felt completely immersed in the play.)

(T): What is it? [DEFINING]...

The above is just one example of how a DvT session may be played out. Additionally, it is only a glimpse of what can take place in a DvT session. The process continues from this point as the client defines what the object is and extends the session into ever changing and evolving transformations.