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Module: Atypical Development

**Barriers and facilitating factors in play interactions
among mothers and young children with autistic
spectrum disorders. 4.521 words**

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Introduction

The aim of this essay is to discuss the barriers that the mothers of children with autism are likely to face during everyday play interactions with their children and the potential facilitating role of an early interactional intervention.

Firstly, theory and research relevant to play, early relationships and cognitive development in typically developed children is presented in order to provide a rationale for the importance of these and explain how they foster child's development.

Secondly, the nature of difficulties in autism is presented. Play behaviour of children with atypical development and the repertoire of behaviours that mothers of children with atypical development and their children show are reviewed.

Finally, the implications for intervention are discussed, models of intervention are presented and a particular model of early interactional intervention is proposed.

1. Play and cognitive development

Children's play and exploratory behaviours have been closely linked to their general cognitive sophistication. Piaget (1967) asserted that language and play are both manifestations of the same semiotic function; language and play develop simultaneously with and successive to changes in the ability to symbolize. Developments in play have been found to reflect important modifications in symbolic and cognitive functioning (Hulme and Lunzer, 1966; Largo and Howard, 1979; Lowe, 1975; Ungerer, Zelazo, Kearsley and O'Leary, 1981). Thus, play and exploratory behaviour appear a potentially fruitful means of assessing a child's conceptual abilities.

Play is an excellent medium for achieving learning goals for reasons related to acquisition, practise, mastery and integration of learning (Widerstorm,.....). Play not only creates a safe arena for children to experiment with materials, try out new roles and test hypotheses but also provides opportunities for learning through trial and error (Restal and Magill-Evans, 1993). As a result, children can acquire new skills in all the domains.

For young children, play usually begins in the first year with babies exploring objects around them through handling, sucking, mouthing.(Belsky and Most, 1981; Piaget, 1967).Through this exploration children develop a whole range of skills such as fine and gross motor, language and communication. Near the end of the first year the child begins to engage in nonsymbolic play by examining the qualities and the functions of the objects (eg. pushing buttons, stacking blocks etc.). Play often occurs in a social setting. As Vygotsky (1978) has proposed, the cognitive achievements are first experienced in the context of social interchange. He also saw play as a mean to develop symbolic representation and understanding, begging with the scaffolding of joint action with adults. Because of the fact that joint attention involves the coordination of attention between the infant, another person and an object (Tomasello, 1995) is crucial in the development of the child, especially in the prelinguistic period as it constitutes the shared experience that is needed for language development (Warreyn, Roeyers and De Groote, 2005).

The caregiver, usually the mother, is thought to facilitate the development of play in the child's first years, when cognitive and social skills are developing (Damast, Tamis-LeMonda and Bornstein, 1996). Mothers engage children in joint action games and through these shared joint action experiences; the child learns to separate objects, other people and itself (Hess, 2006). Research concerning typically developing children shows that interaction between the caregiver and the child plays an important role in fostering joint attention behaviours and language.(Bakeman and Adamson, 1984).

During the second year children incorporate symbolic actions in their play, which highlights their ability to represent events, their increased cognitive competence (Bretherton, 1984, Piaget, 1967) and it is a window to new cognitive achievements such as language development. Typically developing children begin with acting out daily routines and the types of interactions they find in their environments (Hess, 2006).Pretence develops over the first four years of life. This involves an 'as if..' orientation to the world, actions, use of object and verbalisations.(Pellegrini and Smith, 1998).Haight and Miller (1993) after intensive observations of preschool children in their home environment concluded that the supportive role of mother is important in early pretend play interactions.

2. Early relationships and cognitive development

Attachment theory and research focuses on the contribution of parent to the quality of child-parent relationship. Research influenced by attachment theory has demonstrated its impact on neurological, emotional, cognitive and social development thought the life span (Hughes, 2002).. As Bowlby (1988) put it, the development of the child is largely determined by the way his/her caregivers treat him during infancy and childhood. In this perspective, a child whom grows in conditions of emotional stability and stability is likely to follow a more optimal pathway than a child that grows in a less supportive environment. For instance, Sroufe and Fleeson (1988) reported that securely attached

children are more curious, play more effectively and are able to form better relationships than children who are insecurely attached. To learn we need a secure base of which Bowlby (1988) talked, from which to venture out into the world with curiosity and interest. Siegel (1999) has also stated the importance of attuned interactions between child and mother for the maturation of the emotional and social brain. Furthermore, Ainsworth, Blehar, Waters and Wall (1978) support that caregiver's sensitive responsiveness is a major psychic organiser. The maternal sensitive responsiveness includes 'noticing signals from the child, interpreting them accurately, and responding appropriately and fairly promptly' (Marrone, 2000, p. 42). A sensitive mother is expected to be open to the full range of her child's needs and to respond contingently to these needs. (Ainsworth, Blehar, Waters and Wall, 1978). Berlin (2005) suggests that sensitive and supporting parenting is the parent's balancing of the provision of a 'safe heaven', to which to return, with the provision of a 'secure base' according to the child's needs that directly fosters security in the child. She explains that the caregiver should ideally be able to provide closeness and comfort in response to her child's proximity seeking and to facilitate autonomy in response to the child's bids to explore. That means that the mother has two tasks: first to accept and acknowledge the distress of the child as well as comfort him/her and secondly to encourage the child to explore and master his/her environment by letting the child go, helping only when is necessary and celebrate his/her independent accomplishments.

The following studies contribute to an understanding of the elements of mother-child interaction and ways of developing reciprocity. Stern (1984) discussed empathy as an important aspect of parent-child interaction that fosters child's development. He used the term affect attunement in order to describe the ability of the mother to understand the internal state of her child and respond accurately. This attuned interaction of affect is filled with eye contact, laughter, touch, understanding and joy and is a vital ingredient in a child's development (Stern, 1984). Spitz (1964) emphasized the fact that since the child can not understand at early stage the mother's inner processes, is mother's role to adopt an empathetic parent perspective in order to make the interaction meaningful. Brazelton

(1974) concluded that that positive quality in interaction exists when each member of the dyad responds to the needs of the other. He explained reciprocity model as a feedback process that allows for flexibility, disruption and organisation. Interestingly, Barnard, Bee and Hammond (1984) described four necessary features of what they called as ‘mutually adaptive dance’. First, each of the patterns of the dyad must have a sufficient repertoire of qualities in order to interact mutually satisfying. On the one hand, the child should be able to see, hear and visually attend to the mother, smile, adapt bodily to the environment, have soothability and regularity with predictability of response. On the other hand, the parent should has the ability and willingness to read and respond appropriately to infant cues and a repertoire of behaviours to stimulate and engage the infant. Secondly, partner responses need to have contingency. More specifically, the contingency of parental responsiveness appear to be significant in the development of a secure attachment to the parent (Ainsworth, Blehar, Waters and Wall, 1978) and affects the subsequent development of competency in the child. Thirdly, there needs to be a richness of the interactive content, examples of measures of levels of richness of an environment are the amount of time that the parent spends with the child and the range of toys and activities that presents to the child. Barnard and Martell (1995) point out that parent’s awareness of their child’s development and abilities and the parents’ awareness are major factors in the development of a ‘growth fostering’ interaction. Bromwich (1997) supports that parents who are sensitive and responsive to their infant’s cues and communications are likely to enjoy mutually satisfying interactions with their infants. She adds that these behaviours tend to have a significant impact on the child’s development:

‘ Two propositions of paramount importance in the interaction model are (a) that parent and infant both contribute to what happens between them and (b) that a multitude of factors, environmental and those internal to parent and infant, affect both the parent and the infant and the interaction’ (Bromwich ,1998, p.60).

In order to indicate the potential impact of mother-child interactions Crandell’s and Hobson’s (1999) report will be cited. In order to examine individual differences in young

children's IQ they refer to numerous research studies. All of them suggest that at least in some for some groups of children maternal responsiveness, high maternal involvement and attachment security play a significant role on children's language acquisition and general cognitive development. Moreover, parental activity or verbal input seems to serve to scaffold young children's learning. Parental sensitivity can also influence children's developing capacities to learn and think. Their report summarises many studies from which emerges evidence to suggest that the quality of the mother-child interaction is important.

3. The nature of difficulties in autism

Autistic spectrum disorders (ASD) is a category of developmental disorder characterized by qualitative impairments in social interaction, difficulties in acquiring and using conventional communication and language abilities and a restricted range of interests often co-occurring with an extreme need for consistency and predictability (Wall, 2004). Autism was first described by Leo Kanner in 1943. Since that time, the diagnostic criteria have evolved based on continued research, resulting in the criteria in the DSM-IV (American Psychiatric Association, 1994). Research is ongoing to discover the causes of autism, however genetic factors and problems in the development of brain are believed to be the main cause (Wall, 2004). Recent epidemiological studies have reported rates of ASDs as high as 66 per 10.000 (Fornbonne, 2002). Autism affects four times more males than females (Search, Lloyd, Preston, 2003). Recent studies (Lord and MacGill Evans, 1995) show that a valid clinical diagnosis can be made at age 2 or 3 years.

Frequently associated characteristics include problems in sensory processing (Anzalone and Williamson, 2000), motor planning (Anzalone and Williamson, 2000), emotional regulation and arousal modulation (Cole, Michael and Teti, 1994) and behavioural organization (Ornitz, 1989). Though all children with ASD will share the triad of impairments they will display individual communication, social and behavioural patterns. Wall (2004) points out that all children with autism are very different such as all children,

however what is well supported by the literature that what applies equally for all young children with ASD is the need for early intervention. Most professionals working with children with ASD and parents seem to agree that early intervention is critical (Le Couter, 2003). Early identification and intervention increases the likelihood of individuals attaining their full potential (Howlin, 2002).

3.1 Communication in autism

At this point, emphasis will be placed on impairments in social attention as they affect the interaction of the mother-child dyad. Impairments in social orienting (Dawson, Meltzoff, Osterling, Rinaldi and Brown, 1998), joint attention (Dawson, Meltzoff, Osterling, Rinaldi and Brown, 1998) and attention to the distress of others (Sigman, Kasari, Known and Yirmiya, 1992) typically distinguish young children with autism from typically developed children. Dawson and his colleagues (1998) found in their experimental study of children with autism, Down's syndrome and children showing typical development that children with autism failed more frequently in to orient social and especially non social stimuli. More over children with autism were found to be more impaired in their joint attention ability.

The deficits exhibited by children with autism limit their opportunities to interact with others. More specifically, typically developing children in the beginning learn to communicate non verbally through behaviours such as eye gaze, vocalizations and prelinguistic gestures (Trevorthen & Hubley, 1978). As Stone, Ousley, Yoder, Hogan and Hepburn (1997) explain, these behaviours serve important developmental functions as they provide to children a way to convey their affective experiences, to establish and maintain social interactions and to express their needs and desires. They also note that, with development, these behaviours become more complex and varied (Stone, Ousley, Yoder, Hogan and Hepburn (1997). However, in children with autism, non verbal communication is characterized by a lack of joint attention.(Siller and Sigman, 2002).Children with autism not only respond less to joint attention, but also attempt less to direct the attention of another person to an object or event by either pointing, showing

or alternating their gaze between an object and another person's eyes(Mundy, Sigman, Ungerer and Sherman, 1986).

Further more, children with typical development by 4 months of age attend to the affective displays of others (Trevarthen, 1979) and respond differentially to faces showing different emotions by exhibiting more smiling and visual attention towards happy faces. Moreover, by the second year of life they begin to show concern and respond to other person's distress by helping, comforting and sharing(Zahn-Waxler and Radke-Yarrow, 1990). In contrast, children with autism are more likely not to respond affectively, to show less interest and concern in these situations comparing to children with typical development (Baron-Cohen, 1995). An explanation that has proposed for this is mindblindness that characterize children with autism (for a good review of the theory of mind see Baron-Cohen, 1998)

3.2 Play in autism

Play of children with special needs has been described with the same categories of activity as the play of the children with typical development, but is characterized in quantitative terms as less developed in frequency and variety(Beeghly, Weiss-Perry and Cicchetti, 1990).The DSM-IV (American Psychiatric Association, 1994) diagnostic criteria for autistic disorder includes as one of the indicators of autism a lack of varied , spontaneous make-believe play or social imitative play appropriate to the developmental stage of the child. More specifically the play of children with autism is often described as stereotypic and lacking of flexibility and symbolic qualities (Lifter, Sulzer-Azaroff, Anderson and Cowdery, 1993). When these children use toys in their play, they often play with a very limited range of toys and use them atypically (e.g., spinning wheels, lining up cars, flicking or flapping cards)(Thomas and Smith, 2004).Wall(2004) points out that the child with autism in most cases does not have the desire to explore the world, initiate interactions and experiment in playing alone or with others. For that reason as

Cumine, Leach and Stephenson emphasize it is essential for professionals before trying to teach children with autism to try to teach these children how to play. Therefore, effective and staged interventions are beneficial for young children with autism (Beyer and Gammeltoft, 2000).

Jarrold, Boucher and Smith (1996) also describe that children with autism spend significantly less of their time compared with typically developed children. In addition, Roeyers and van Berckelaer-Onnes (1994) note that children with autism are not intrinsically motivated. A tendency of children with autism to become preoccupied for long periods of time with just visual examination of an object or isolated parts of objects has also been stated (Freeman, Ritvo and Schroth, 1984). Freeman et al. (1984) also observed a lower level of appropriate object use in a free play situation in both high and low functioning children with autism relating to developmentally matched control groups.

The deviance in the play of children with autism is notable from the first year, when the toy-play behaviour starts (Ungerer and Sigman, 1981). They have problems in simple manipulation and tend to restrict in certain objects. (Roeyers and Van Berkelaer-Onnes, 1994). This limitation results in restrictions in social and functional play since they have missed out the early experiences of using objects in a flexible way. This refers to the notion that in order to engage in a later stage of play a child has to pass through earlier phases in an approximately normal way.

4. Behavioural repertoire of the parent and child with special needs.

Researchers attempted to determine differences in the interactive characteristics of both children's and mothers and the resulting reciprocity between the two members of the dyad when the child has atypical development. A review of the literature shows that children with atypical development demonstrate significant differences in temperament (Rothbart and Hanson, 1983), gaze behaviour (Rothbart 1984), gestures (Cicchetti and Sroufe, 1978), vocalization (Smith and Hagen, 1984). In addition Shonkoff, Hauser-Cram, Krauss and Upshur (1992) in their study of 190 young children with disabilities,

found that the interactive behaviour that children with atypical development demonstrate is delayed. More over, Shonkoff and his colleagues (1992) found that in comparison to mothers of children with typical development, mothers of children with atypical development had greater difficulties in reading the children's signals and in facilitating their learning.

Researchers have also attempted to characterize differences in maternal characteristics by comparing groups of mothers with typically developed children and non typically developed children. Eheart (1982) compared mother-child dyads with both mentally retarded and cognitively normal children during free-play sessions and found that mothers of the mentally retarded children were noted to be more dominating the sessions and were trying more often to change their children's behaviour than mothers of cognitively normal children. More over, the cognitively retarded children were involved in the dyad and initiated less frequently interactions with their mothers than the control group. Furthermore, Brooks-Gunn and Lewis (1982) studied play behaviour during interaction among mothers and their children with special needs and with no special needs. They also concluded that mothers of children with special needs did not encourage independent play or child – initiated toy play because of their perceptions of their children deficits.

Moreover, many researchers investigated the reasons that underlie mothers' increased control. Some suggested that maternal directives could be an adaptive response of the mother to the child's condition (eg. Marfo, 1990) and others that in that way mothers may promote the development of the children with delays (eg. Davis, Stroud and Green, 1988).

Finally, Crawley and Spiker (1982) concluded that it is not wise to try always to typify the interaction of the mother-child interaction as there are notable individual differences that allow us to find a wide variation including directiveness, sensitivity and elaborativeness.

5. Mother's interactions with children with autism

Behaviours such as joint attention, symbolic play and imitation that emerge early in infancy as it has been described earlier in this essay have been found to be impaired in young children with autism spectrum disorder in a certain extent (for a review see Ozonoff and South, 2001). Drawing on such observations many researchers suggested that the unresponsiveness of the child with autism would have negative affects on mother- child interaction. The study of Dawson, Hill, Spencer, Galpert and Watson (1990) suggests that parents of children with autism are less responsive to their child due to frustration with their children's unresponsiveness. More specifically they reported that mothers of children with autism displayed significantly less smiles than the control group as a result of the fact that children with autism were less able to combine eye gaze with an affective expression as mile in order to communicate comparing to the children of the control group.

Konstantreas, Zajdeman, Homatidis and McCabe (1988) examined the issue of responsiveness within subgroups of children with autism and found out differences among the behaviours of mothers of higher functioning verbal children with autism and those with children with of lower functioning non verbal children with autism. More specifically, they note that mothers of higher functioning children were ask more questions, use language modeling and answer more child initiated interactions. In contrast, mothers of lower functioning children with autism were more directive and used shorter utterances.

6. Implications for intervention

The importance of play as a functional deficit area in autism has been described by numerous studies and literature reviews. However, researchers in this field have not expended much effort on determinating how to intervene with it. Most programs for autism include play to varying degrees but are not really outcome based. Sherratt (1999) has expressed the same concern noting that the area of teaching children with autism how to play has been relatively neglected in literature. Sherratt (1999) has also stressed the

importance of the following conditions as key conditions when we try to teach children with autism to play:

- Structure (helps the child to understand the sequence of skills and activities that are necessary in order to attain a certain goal).
- Interest (the child must have an inherent meaning in the objects and the materials to make the play experience personally meaningful).
- Continuity (there should be some expectation of the process in teaching to enable children to acquire play skills).

Further more, applied behavioural analysis has proposed a variety of techniques to increase and improve play skills in children with autism. In particular discrete trial training, which involves breaking down complex skills and teaching each skill through a series of intensive, highly structured and adult initiated teaching trials, has been used effectively for teaching from simple object manipulation to complex play themes (Stahmer, Ingersoll and Carter, 2003). Despite the utility of the behaviorally oriented intervention programs, they are not practical in order to promote positive child – mother interaction and minimize risk factors in everyday free play interactions.(Wolery, 2000). Yet, behavioural programs have not been systematically compared with other interactional or educationally oriented programs. Problems that have been reported with the discrete trial format are limited spontaneity, lack of motivation and generalization and maintenance (Bernard-Opitz, Ing and Kong, 2004)

As previous studies have shown, the quality of early play interactions among mothers and their children with typical development is important. These everyday interactions lead to the kind of relationship that has a strong positive effect on the child's development. In addition, research presented in this essay shows that there are barriers because of the nature of the difficulties in autism spectrum disorders, that the mother-child dyad may face when trying to achieve an enjoyable, reciprocal and mutually satisfying interaction. It worths to note that these mothers are more likely to experience psychological distress than mothers of children with typical development or with other disabilities (Bouma and Schweitzer, 1990; Sanders and Morgan, 1997). Practice and personal experience with families indicates that stress may affect the ability of the parents to adjust her behaviour

in response to the child's cues. For that reason, enhancing the quality of mother-child interaction is an important objective as a way to foster child's optimal development.

The theory of mother- child interaction leads to the rationale for providing services that are family centered, focused on the individual needs of each family. Although there is great variation in the nature and sequence of specific objectives for each family that may work as facilitating factors, Bromwich (1998) refers to some short-tem goals that can be generally applicable in the interaction model of early intervention as follow:

- ‘ support and encourage pleasurable interaction between infants and parents, interactions that are mutually reinforcing and support a reciprocal system of communication
- Enable the primary caregiver to gain a sense of competence as parent; parents who feel competent are best able to be sensitive and responsive to their child's cues and signals
- Interest parents in observing their infants and be more sensitive to their cues.

In order to set goals for an early intervention concerning the quality of the mother-child interaction and develop appropriate methods for strengthening their relationship the professional needs to assess this interaction Bromwich makes three suggestions that may apply in many situations:

- a) making focused observations of parental interaction
- b) asking the kinds of questions that may lead to parent's increased attention to and interest in their children; and
- c) modelling interactions with the child

Firstly, the professional needs to observe the mother-initiated interactions and the child's responses as well as the maternal responsiveness to her child's actions and communications objectively, frequent and sensitive. This should be a standard practise before any intervention. Bromwich (1998) emphasizes that the professional's attention should not be attracted only by the undesirable parental behaviour. In other worlds unless we intentionally look for positive maternal behaviours, any positive aspect of maternal

care as these might be a starting point for the intervention program. Moreover, she adds that is a good idea when the professional observes any developmentally appropriate maternal interaction to comment positively to the mother, especially if it a kind of behaviour that the professional would like to see more of in the particular dyad.

Secondly, according to Bromwich (1998), the professional should use questions towards the mother as an effective instrument that can strength the mother's interest in her child and sharpen her powers of observation. The questions should be structure in a way that they will lead the mother to realise that information based on her knowledge of her child and on her observations serves as a guide for appropriate interactions and activities that support the child's development.

Thirdly, modelling is suggested by Bromwich(1998) instead of simple demonstration as it enables parents the mother to make her own decision about what aspects or parts of the modelled activity appeal to her and are compatible with her style of interaction with he child. It also encourages the mother to think about why a particular interaction might be beneficial to her child and to share her thoughts and ideas about activities that she might wants to try. Modeling play interaction with the child and encouraging the mother to do the same is an excellent way to foster pleasurable reciprocity in the interaction

Conclusion.

In this essay were reported many studies in order to support the idea that play mother child interaction fosters the development of children with autism and of those with typical development.

At this point it is important to note that the vast majority of the existing studies suffer from a least one limitation. This is due to the fact that there is unusually large

heterogeneity of autism and so the symptoms of the individual children may vary widely. That means that the population of the studies, even when it has the same sex and non verbal iq, still may be dramatically different in their representation of the disorder. For that reason it is inaccurate to describe these children with autism and their families as equivalent. As a result it is not safe to generalize and draw easy conclusions about how children with autism might play and interact with their mothers.

Comparative evaluations of different interventions, information about their short-term and long-term effects and the differential impact on low functioning and high functioning children with autism are crucial.

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