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## Facilitating play, peer engagement and social functioning in a peer group of young autistic children: Comparing highly structured and more flexible behavioral approaches



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### ABSTRACT

This study examined the differential effect of a highly structured adult-directed behavioral treatment condition and a more flexible child-oriented blending of behavioral and developmental treatment strategies in a clinical group setting with autistic children. The children with autism following the more flexible child-oriented treatment condition engaged significantly more in higher-order play activities allowing for peer proximity and demonstrated better social functioning during activities with other autistic peers. A relation of child-oriented teaching utilizing less intrusive prompting to more developmentally appropriate play as well as social functioning was found. The findings suggest that child-oriented play and social skill interventions in the clinical context, although being applied in a group of autistic children, may facilitate social functioning and engagement.

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Autism is a neurodevelopmental disability that is characterized by persistent deficits in social communication and interaction across contexts. The deficit areas include but are not restricted to the child’s lack of interest in others resulting in a preference of solitary activities, failure to develop and maintain peer relationships appropriate to the developmental level, lack of shared enjoyment in interests and social reciprocity, lack of spontaneous make-believe or social imitative play as well as restricted and repetitive pre-occupation with parts of objects or non-functional elements of material and circumscribed patterns of interest (APA, 2013).

According to this definition, numerous studies have shown that children with Autism manifest limited pretend play skills (Baron-Cohen, 1987; Charman et al., 1997; Libby, Powell, Messer, & Jordan, 1998; Stanley & Konstantareas, 2007). It has been discussed that floor effects led to the children’s failure to produce pretend play due to low developmental age of study participants or the use of prompts that do not encourage pretend activities (Jarrold, 2003). In addition, a number of studies have demonstrated that children with Autism produce as many pretend acts as controls in structured conditions (Jarrold, Boucher, & Smith, 1996; Lewis & Boucher, 1988) or when receiving appropriate prompts (Whyte & Owens, 1989). Furthermore, there is a body of research supporting that not solely symbolic but functional object-play as well is characterized by a number of unusual features. Children with Autism engage intensively in sensory examination of isolated

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aspects of objects (Gillberg et al., 1990; Libby et al., 1998; Sigman & Ungerer, 1984). In any case, when symbolic (Jarrold et al., 1996; Lewis & Boucher, 1988) or functional object play (Jarrold et al., 1996; Lewis & Boucher, 1988; Sigman & Ungerer, 1984; Williams, Reddy, & Costall, 2001) is present, it is often rigid, repetitive and stereotyped, consists in fewer novel acts, and is less varied without the complexity and creativity seen in typically developing children. These results led to theoretical accounts that presume an underlying social-communication deficit in line with Vygotsky's (1978) developmental view on cognitive play, involving a gradual move from the meaning of objects to the meaning of actions. In the same way, social play behaviors proceed gradually in steps that are counterparts of the cognitive ones (Jordan, 2003). Thus, when the an autistic child does not participate actively in proper object use in contexts of shared understanding and facilitated interaction, an active engagement with the world in a playful sense is precluded. Williams et al. (2001) conclude that deficits in functional play are the consequence from difficulties in relating with others. Children with autism are found to face difficulty in parent–infant interaction, characterized by the failure to initiate and maintain mutual face-to-face engagement (Adrien et al., 1992; Dawson et al., 2004; Mars, Mauk, & Dowrick, 1998), to engage in common social games and turn-taking activities (Bernabei, Camaioni, & Levi, 1998), as well as in person-oriented teasing and clowning behaviors (Reddy, Williams, & Vaughan, 2002; St. James & Tager-Flusberg, 1994); and finally fail to involve joint attention gestures (Lewy & Dawson, 1992; Mundy, Sigman, & Kasari, 1990; Williams et al., 2001), or imitation acts (Gillberg et al., 1990). In accordance, Jordan (2003) concluded that children with autism do not participate in social, emotional and cultural experiences necessary to develop typical social play behaviors. Jordan (2003) proposed when cognitive and social deficits are intertwined, then teaching in social contexts facilitate reciprocally cognitive and social gains. Studies applying clinical joint attention (Whalen, Schreibman, & Ingersoll, 2006) and imitation skill trainings (Ingersoll & Schreibman, 2006) demonstrated that the acquisition of these targeted skills indeed led to collateral effects on play behaviors and social initiation. These findings are sustained by Kasari, Gulsrud, Wong, Kwon, and Locke (2010) that found collateral effects of caregiver-mediated joint engagement interventions on functional play acts.

Specific play-based interventions reflect a variety of theoretical orientations, intervention goals, degree of structure, materials used and particularly methods; whether they are adult-directed or child-centered, implemented in a clinical or in a natural setting, involve adult–child or peer play activities. There is, however, a common recognition of more naturalistic teaching strategies and settings as well as of the child's individual play interests and social communicative motivations. Expanding center-based behavioral approaches to community settings by trainings of family members or peers as well as blending of behavioral and developmental approaches goes in line with these assumptions (Baker, Koegel, & Koegel, 1998; Garfinkle & Schwartz, 2002; Harper, Symon, & Frea, 2008; Kohler, Anthony, Steighner, & Hoyson, 2001; Pierce & Schreibman, 1997; Shearer, Kohler, Buchan, & McCullough, 1996; Taylor, Levin, & Jasper, 1999).

Nevertheless, countries with national policies that do not foster specialized assistance in the community setting (such as Italy) face difficulty to implement community-based naturalistic approaches involving peers. Special education teachers are often insufficiently assigned to a child or not trained in Autism. Thus, integration without a specific intervention aimed to promote socialization remains simple school placement (DiSalvo & Oswald, 2002). Including supervised parent–child play activities in a clinical group setting with other autistic children – often the only group setting available in clinical structures – may represent a useful context to increase social engagement. To date there is a lack of studies examining play interventions applied in a group setting with other autistic children as well as of studies comparing the estimates of play and social behaviors of children with autism demonstrated in highly structured adult-directed behavioral approaches as opposed to a flexible child-oriented setting utilizing a more naturalistic blending of teaching approaches.

The primary goal of this study was to investigate which treatment condition – (1) structured behavioral approach without parent inclusion or (2) naturalistic approach including parents in treatment sessions – facilitate more play behaviors and peer engagement in autistic children in a between autistic children group setting.

## 1. Methods

### 1.1. Participants

A total of 30 preschool-aged children participated in the study. All participants were diagnosed with ASDs by external licensed child-psychiatrist and psychologists concerning DSM-IV-R criteria. Diagnosis was confirmed by Autism Diagnostic Interview (ADI-R; Lord, Rutter, & Le Couteur, 1994) evaluation and met the cut-off for Autism and Autism Spectrum Disorder on the Autism Diagnostic Observation Schedule (ADOS-G; Lord et al., 2000). The average chronological age of all participants was 42.97 months ( $SD = 10.23$ ). Participants were separated into two comparable groups, matched on chronological age and scores on the ADOS-G total score, Vineland Socialization Subscale score and Griffith Mental Developmental Scales-ER General Quotient score (see Table 1). Overall, the majority of this sample was male (80%) and Caucasian (100%). Of the 30 children included into this study, 28 (93.3%) met criteria for autism, 2 (6.7%) for ASD based on the ADOS scoring cutoff. Final diagnosis for autism based on the ADI-R and DSM-IV/ICD-10 Checklist was confirmed for 26 children (86.7%). There was no significant difference for gender  $\chi(1) = 0.08$ , age  $t(29) = 1.661$ , ADOS total scores  $t(29) = 0.923$ , GMDS-ER developmental state GQ  $t(28) = 1.460$ , or VABS Socialization scores  $t(28) = 1.468$ , all ns, between children assigned to the structured adult-directed condition and the flexible child-oriented condition.

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