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Predictors of parent–child interaction style in dyads with autism

Kristelle Hudry [a,*], Catherine Aldred [b], Sarah Wigham [c], Jonathan Green [d], Kathy Leadbitter [d], Kathryn Temple [c], Katherine Barlow [c], Helen McConachie [c] the PACT Consortium

[a] Olga Tennison Autism Research Centre, School of Psychological Science, La Trobe University, Bundoora, VIC 3086, Australia
[b] Stockport Foundation Trust, NHS, Regent House, Heaton Lane, Stockport SK4 1BS, United Kingdom
[c] Institute of Health and Society, Newcastle University, Sir James Spence Institute, Royal Victoria Infirmary, Queen Victoria Road, Newcastle upon Tyne NE1 4LP, United Kingdom
[d] Institute for Brain, Behaviour and Mental Health, University of Manchester, Oxford Road, Manchester M13 9PL, United Kingdom

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ABSTRACT

Parent synchrony has been shown to be developmentally important for the growth of communication skills in young children with autism. Understanding individual-differences in parent synchrony and other associated features of dyadic interaction therefore presents as an important step toward the goal of appreciating how and why some parent–child dyads come to adopt more optimal interaction styles, while for others, parent interaction is more asynchronous and less developmentally facilitative. Within the large, well-characterized Preschool Autism Communication Trial (PACT) cohort, baseline parent–child interaction samples were coded for three key aspects of dyadic interaction style; – Parent Synchrony, Child Initiation, and Shared Attention. We explored associations among these measures, demographic characteristics and standardized child assessment scores. While various child factors were associated with each of the interaction measures, very few associations were observed with parent/familial factors. Child language age-equivalence was a significant positive predictor of variation in each interaction measure, while child repetitive symptoms predicted reduced Shared Attention. The three interaction measures were moderately positively inter-related. In the context of childhood autism, variation in dyadic interaction style appears to be driven more by child language and repetitive behaviors than age, social-communication symptoms and non-verbal ability. Parent/family factors contributed little to explaining variability in parent–child interaction, in the current study.

1. Introduction

Social impairments, such as deficits in orienting toward or sharing attention with others, are core early features of autism spectrum disorders (ASD; Adamson, Deckner & Bakeman, 2010). Language is often delayed, intentional communication is markedly reduced (Doussard-Roosevelt, Joe, Bazhenova & Porges, 2003; van IJzendoorn et al., 2007) and, if present, communicative signaling is often weak and/or poorly timed (Wetherby, Prizant & Hutchinson, 1998). However, substantial

* Corresponding author. Tel.: +61 3 9479 5649; fax: +61 3 9479 1956.
E-mail address: k.hudry@latrobe.edu.au (K. Hudry).

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heterogeneity exists, with variation in communication skills associated with symptom severity and developmental level, and with early skills predictive of intervention gains and later abilities (Gillespie-Lynch et al., 2012; Kasari, Gulsrud, Freeman, Paparella & Hellemann, 2012; Sigman & Ruskin, 1999).

Features of ASD also influence the behavior of interaction partners. For example, children with ASD present few leads for partners to follow and their weak/poorly-timed signals are easily missed (Dolev, Oppenheim, Koren-Karie, & Yirmiya, 2009; van IJzendoorn et al., 2007). Caregivers may attempt to compensate for their child's limited interactive contribution, by directing the child's attention rather than following the child's focus or actions to support mutual attention (Adamson et al., 2010; Freeman & Kasari, 2013; Meirsschaut, Roeyers, & Warreyn, 2011; Siller & Sigman, 2002). This directive parental style may further limit opportunities for children with ASD to improve their communicative skills. As such, children with ASD may require enhanced experience of interaction with a higher proportion of sensitive and supportive partner responses for optimal growth in communication skills, than is necessary for typically developing (TD) children (Adamson et al., 2010; McDuffie & Yoder, 2010).

Although observational studies demonstrate concurrent and longitudinal benefits of supportive parental interaction style for growth in language/communication skills in children with ASD (Haebig, McDuffie & Ellis Weismer 2012; Mahoney, Kim & Lin, 2007), there is wide variability in parent interaction style for children with ASD (see Siller & Sigman, 2002; 2008). More *synchronous* parental style describes the tendency for the adult interaction partner to respond to and support the child's own interests and attentional foci, making communicative contributions which are in keeping with what the child is already doing. On the other hand, more *asynchronous* style describes the tendency for the adult to act and communicate in ways which seek to redirect the child's focus of attention or to modify his/her behavior or activities (e.g., see Aldred, Green and Adams, 2004).

Alongside the evidence from observational studies, some recent parent-mediated intervention trials (Dawson et al., 2010; Green et al., 2010; Kasari, Gulsrud, Wong, Kwon & Locke, 2010; but not others, e.g., Oosterling et al., 2010; Rogers et al., 2012) have also demonstrated effects of increases in parental synchrony for gains in child communication skill. Given the apparent developmental significance of parental interaction style for young children with autism, it seems important to strive toward an understanding of precisely how and why some dyads might come to adopt more or less beneficial interaction styles. Understanding the extent and significance of individual-differences in key features of interaction style which vary among parent–child dyads – including relative parent synchrony, child initiated contributions, and mutual shared attention – presents a promising first step toward this goal.

1.1. Influence of child clinical presentation

Exploring the influence of child clinical presentation and communication impairment on dyadic interaction contributes to our understanding of how parent–child dyads adopt a characteristic style of interacting together. The core and associated features of the child's communication impairment associated with ASD would be expected to influence his/her capacity to actively contribute and successfully influence dyadic interchange. Dolev et al. (2009), for example, reported poorer initiation and response skills in children meeting narrower Autistic Disorder (AD) criteria than in those with broader ASDs. While Doussard-Roosevelt et al. (2003) found no association between child responsiveness and broad language level, Siller and Sigman (2008) reported a correlation between child capacity for joint-attention initiations and responses and verbal and non-verbal cognitive skills. Hassan El-Ghoroury and Romanczyk (1999) and Dolev et al. (2009) similarly demonstrated association between adaptive functioning and child initiation and response skills.

As already noted, features of ASD in the child appear also to influence the behavior of interaction partners, although the evidence here is inconsistent. Dolev et al. (2009) found that parents of children meeting AD criteria were more intrusive (i.e., asynchronous) than parents of children with broader ASDs. Conversely, parental *sensitivity* was less influenced by child clinical severity of autism, suggesting that facets of parental style may be differentially influenced. Hassan El-Ghoroury and Romanczyk (1999) noted a positive association between child ability and responsive/synchronous parental style. However, others (Dolev et al., 2009; Ruble, McDuffie, King, & Lorenz, 2008; Siller & Sigman, 2002) have found no such association between parental style and overall child level of functioning, despite finding clear association with the child's ASD symptom severity. Data on the association of parental style with child language are also inconsistent; Siller and Sigman (2002, 2008) reported no such association while Doussard-Roosevelt et al. (2003) and Konstantareas, Zajdeman, Homatidis and McCabe (1988) found reduced synchrony in mothers interacting with non-verbal children with ASD vs. with verbal and high-functioning children with ASD.

1.2. Other potential sources of influence

Characteristics of the parent and broader family situation might also be expected to influence the capacity of partners within the dyad to experience successful interaction. Within the literature on broader developmental disability and TD, clear evidence has been presented for associations between socio-economic factors (e.g., maternal adolescent age, limited educational attainment and low household income) and indices of less optimal style of dyadic interaction (e.g., McConachie & Mitchell, 1985; Spiker, Boyce, & Boyce, 2002). In the context of children with ASD, one study has reported no such associations (Ruble et al., 2008). Furthermore, Mahoney et al. (2007) have proposed that parental responsive interaction style may be *the key* factor influencing the development of child adaptive skills in the context of ASD. The