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Prosocial skills in young children with autism, and their mothers' psychological well-being: Longitudinal relationships

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ABSTRACT

The study aimed to explore the longitudinal association between prosocial skills in young children with an ASD and maternal psychological well-being. Participants were 132 children with autism drawn from the British Millennium Cohort Study (aged 9 months, 3 and 5 years). Three-wave cross-lagged structural equation models tested whether children's prosocial skills were reciprocally related to maternal psychological distress and life satisfaction. Findings indicated that relationships were not bidirectional, as both maternal outcomes were not associated with children's prosocial skills two years later. However, prosocial skills at 3 years were associated with improved maternal well-being (less distress and more life satisfaction) when children were 5-years-old. The study adds to the limited evidence base on bidirectional relationships between prosocial skills in ASD and proximal environmental variables. Findings highlight the importance of testing for reciprocal relationships rather than assuming unidirectional effects. In addition, they indicate that other-directed behaviors in children with autism have the potential to boost maternal well-being.

1. Introduction

Prosocial skills refer to intentional behaviors directed toward other people, such as helping, sharing, taking turns, and showing empathy. Prosocial skills are part of the multidimensional construct of social skills that also encompasses social competence and social relationships. Prosocial skills are instrumental in mastering these other types of social skills as children who display higher levels of prosocial behaviors are more likely to display social competence, engage in peer-relationships, and have successful social interactions (Stump, Ratliff, Wu, & Hawley, 2009).

Deficits in social behavior, especially social communication and social interactions, are a core diagnostic feature for autism (DSM-V and ICD-10), and the severity of autism is largely described by the severity of limitations in social behaviors. Low prosocial skill levels are highly predictive of a diagnosis of an autism spectrum disorder (ASD) (Goodman, Lamping, &

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Ploubidis, 2010), suggesting that prosocial skills are a significant part of the social skill deficit that contributes to the autism phenotype and that is associated with an autism diagnosis. Prosocial skills in children with autism are present at significantly lower levels than in typically developing peers, and their trajectory throughout childhood and adolescence remains at lower levels compared to children without disabilities (Iizuka et al., 2010; Russell et al., 2012).

Eisenberg, Fabes, and Spinrad (2006) define prosocial skills as voluntary behaviors intended to benefit others and suggest that these skills start developing in infancy under the influence of biological and, mostly, environmental factors. Researchers who have examined the development of social and prosocial skills in typically developing infants and young children identify two important environmental factors: sensitive and responsive communication, and maternal psychological well-being (Choi, 2013; Feldman, Bamberger, & Kanat-Maymon, 2013; Eisenberg et al., 2006). Depression, the most frequently studied dimension of maternal psychological well-being, has been shown to affect children's social or prosocial skills either directly or in synergy with parents' communicative behaviors (Choi, 2013; Hay & Pawlby, 2003; Renzaho & Karantzas, 2010; Wu, Selig, Roberts, & Steel, 2011). However, the evidence for such relationships is not very strong as studies are few and findings are not always consistent: for example, in a study by Koblinsky, Kuvalanta, and Randolph (2006) maternal depression was not associated to children's social skills. In addition, where directionality of relationships has been explicitly modelled (e.g., in structural equation models) only one direction is typically considered (parent-directed effects; e.g., Choi, 2013; Renzaho & Karantzas, 2010; Wu et al., 2011), even though reciprocity in parent-child interaction is important for children's prosocial and social skill development (Feldman et al., 2013).

Prosocial skills in children with autism and their relationship to parental well-being have not received much research attention. This contrasts heavily with the volume of research on the association between environmental factors and ASD comorbid behaviors, such as behavioral and emotional difficulties. Some recent evidence in the ASD field indicates that parents of children with higher prosocial behaviors perceive their relationship with their child as less stressful (Huang et al., 2014). This mirrors findings of a negative association between parenting stress and prosocial skills in families of children with an intellectual disability (ID), such that increased prosocial skills are associated with lower levels of parenting stress (Beck, Hasting, Daley, & Stevenson, 2004; Neece & Baker, 2008). These initial findings highlight that prosocial skills in children with an ASD may be related to factors in children's proximal environment, but clearly a lot more research is required to understand these relationships better. Many social skills interventions for children with autism are delivered by parents (Kaat and Lecavalier, 2014), and it is therefore important to understand how children's prosocial skills relate to parents' psychological well-being, and how this may interact with parents' efforts to improve or alter children's social behaviors.

In the present study, our aim was to extend our understanding of the relationship between prosocial skills in young children with ASD and factors in their proximal environment, and more specifically, two dimensions of maternal psychological well-being: psychological distress, and life satisfaction. We examined these relationships in the early years of development, up to the age of 5 years, and we hypothesized that the relationships would be bidirectional. Our hypothesis was not based on previous evidence from ASD research or typical development because, to the best of our knowledge, there have been no studies to examine bidirectionality in these relationships either in typical development or autism. Our hypothesis was based on Sameroff's theory about developmental processes in the early years, where children are expected to be in a state of continuous transaction with their immediate environment (Sameroff, 2009). In the absence of existing evidence of directionality in ASD relationships, a test of bidirectionality is a more appropriate as it is consistent with developmental theory. We adopted a longitudinal design analyzed through structural equation models as this is a particularly robust test of reciprocity in human relationships (Cook & Kenny, 2005; Sameroff & Mackenzie, 2003).

2. Methods

2.1. Participants

Participants were identified from the third wave of the British Millennium Cohort Study (MCS3) when children were five years old. The MCS is a birth cohort designed to follow prospectively approximately 19,000 children born in the UK in 2000-1. MCS participants have been randomly selected to be representative of the UK population. Among the 15,246 cohort children in MCS3, 132 were reported as having been diagnosed with an ASD by the main respondent. This indicates a raw prevalence of 0.87%, for ASD, and 0.92% after weighting to account for the complex survey design of the MCS (Totsika et al., 2013). Twenty nine of these children also had an intellectual disability – identified by their cognitive scores on subscales of the British Ability Scales (Elliott, Smith, & McCulloch, 1996) – indicating a weighted prevalence of ID in the ASD group of about 28% (Totsika et al., 2013). Children with ASD were mainly boys (82% males) and their families were significantly more deprived throughout MCS waves (9 months, 3 years and 5 years) than families of children without ASD (Totsika et al., 2013). After identifying the study participants at the age of 5 (MCS3), we looked at the two earlier surveys (at ages 3 years, and 9 months; MCS2 and MCS1, respectively) to draw relevant study data as described in Section 2.2.

2.2. Measures

2.2.1. Childrens' prosocial skills at 3 and 5 years

Prosocial skills were measured using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) at 3 and 5 years. The SDQ measures hyperactivity, conduct problems, peer relationship problems, emotional symptoms and prosocial