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Fathers matter: The role of father parenting in preschoolers' executive function development

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ABSTRACT

Although previous work has shown that mothers' parenting influences the development of child executive function (EF; important self-control skills developed during the preschool years), the role of fathers' parenting has not been thoroughly investigated. We observed fathers' autonomy support and control in dyadic play with their 3-year-old children (*N* pairs = 110) and measured father and child EF independently with laboratory tasks. We found that fathers' controlling parenting was significantly inversely related to the child EF composite, above and beyond family income and child verbal ability. These results are consistent with the hypothesis that fathers are important for the development of EF in their children and suggest that fathers should be included in both research and parenting interventions.

Introduction

Children's early experience with caregivers is proposed to be an important force in shaping brain development (Bos, Fox, Zeanah, & Nelson, 2009; Carlson, 2009; National Institute of Child Health and Human Development [NICHD] Early Child Care Research Network, 2000). Various aspects of parenting are known to be important precursors to later cognitive development. One cognitive outcome that is being studied extensively is executive function (EF). EF refers to higher level thinking skills, such as inhibition, working memory, and mental flexibility, which allow for goal-directed behaviors (Carlson, Zelazo, & Faja, 2013). Research is emerging on aspects of mother–child interactions that

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support EF development, but little is known about the role of father–child interactions. This study examined the relation between father autonomy support/control and EF development in typically developing preschoolers.

Executive function shows rapid development during the preschool years and continues to mature through adolescence (Carlson et al., 2013). EF is a key component of school readiness and academic achievement. Children who have better EF skills tend to have higher math and literacy scores in elementary school (e.g., Blair & Razza, 2007) and are able to learn more from a given amount of instruction (Benson, Sabbagh, Carlson, & Zelazo, 2013). Outcomes associated with high EF persist across the lifespan, including education level, income, social skills, and mental and physical health (Mischel et al., 2011; Moffitt et al., 2011). Because EF has such significance in children's lives, it is important to establish its antecedents and to understand influences on its development. A number of variables pertaining to the family, including socioeconomic status (SES), parent education level, language use, and parenting behaviors, have all been implicated in EF development (Carlson et al., 2013).

Soviet psychologist Lev Vygotsky's theory provides an explanation of why parenting behaviors would influence child EF development. He proposed that interpersonal interactions can structure thinking processes, which a child can learn from and then enact intrapersonally without the help of an adult (Wood, Bruner, & Ross, 1976). Vygotsky believed that scaffolding was the mechanism by which these external processes became internal. This process seems very relevant to EF because parents are initially responsible for regulating their infants in many domains (e.g., hunger, sleep, emotions) and this external regulation needs to be gradually internalized for children to develop EF. Parent–child interactions are an important context in which children can experiment with their emerging self-regulation skills (Giesbrecht, Müller, & Miller, 2010). Warm and responsive caregiving predicts a variety of cognitive and social outcomes, and parents who set up a predictable environment allow their children to form organized expectations of the world, which is believed to be an important early step in developing EF (Carlson, 2003). In light of Vygotsky's theory and empirical studies of mother–child interactions, Hartup (1987) suggested that metacognitive processes (which encompass EF) are the aspect of cognitive development most likely to be influenced by social relationships.

Studies have focused on various aspects of parenting in relation to EF. In this study, we focused on autonomy support and its opposite, controlling parenting. Self-determination theory (Deci & Ryan, 1980, 2000) proposes that autonomy is one of three universal psychological needs (the other two are relatedness and competence). This theory suggests that autonomy support is the most important aspect of parenting for the development of independent action (Joussemet, Landry, & Koestner, 2008). Work following this tradition has shown that when adults provide a sense of autonomy rather than control children's behavior, this facilitates self-regulation of behavior (Grolnick & Farkas, 2002; Grolnick & Ryan, 1989).

In keeping with this idea, autonomy support/control is found to be the aspect of parenting most consistently predictive of child EF (Bernier, Carlson, Deschênes, & Matte-Gagne, 2012; Bernier, Carlson, & Whipple, 2010; Fay-Stammbach, Hawes, & Meredith, 2014; Sethi, Mischel, Aber, Shoda, & Rodriguez, 2000). Autonomy support refers to guidance from an adult that facilitates a child's success and sense of mastery, as opposed to the adult taking over and controlling the task or letting the child struggle on his or her own (Deci & Ryan, 2000; Grolnick & Farkas, 2002). Adults support children's autonomy by taking their perspective, respecting their pace, and ensuring that they play an active role in completing the task. Adults can also provide children with choices, suggestions, and opportunities to use their own approaches rather than make the decisions, give directions, and lead the task (Matte-Gagné & Bernier, 2011; Stefanou, Perencevich, DiCintio, & Turner, 2004). When parents ask questions that draw their children's attention to new aspects of the problem, they help create psychological distance between their children and the problem, which can facilitate self-regulation (Giesbrecht et al., 2010). Scaffolding, which refers to helping children just enough so that they are able to use their own skills toward the successful completion of a task, is a central component of autonomy support (Bernier et al., 2010). Autonomy-supportive interactions provide children with successful problem-solving experiences and practice with skills such as making decisions that require reflection and the identification and correction of errors. This practice is expected to enhance EF skills, which rely on reflective thinking and self-regulation (Zelazo, 2004).