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Center for Urban Child Policy

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PARENTING, LANGUAGE DEVELOPMENT, AND SCHOOL READINESS: THE IMPORTANCE OF EARLY BRAIN DEVELOPMENT

Young children need a variety of skills to make a successful transition to school. Cognitive skills—skills related to thinking, knowing, and learning—are an important component of school readiness (Claessens et al., 2009; Duncan et al., 2007). Cognitive development begins long before school entry and is affected by children’s early environments. This policy brief explores environmental influences on cognitive development, and focuses on parenting and language development.

Some highlights of the brief:

- » Children from disadvantaged backgrounds are less prepared for kindergarten and are more likely to fall behind their more affluent peers once they reach school.
- » Parents can be key players in promoting the cognitive and language skills that children need at school entry.
- » Interventions that increase parental responsiveness, that improve parental language, and encourage reading can help decrease school readiness gaps between children from different backgrounds.

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SCHOOL READINESS BUILDS UPON EARLY COGNITIVE AND LANGUAGE DEVELOPMENT.

Children are expected to arrive at kindergarten ready to participate effectively and perform well. The skills that help a child succeed begin developing long before he enters school. Conversely, early deficits in skills development often translate into later academic problems, including poor test scores, grade retention, and dropping out (Arnold & Doctoroff, 2003).

School readiness refers to the cognitive, emotional, behavioral, and social skills that enable a child to make the transition to formal schooling. Cognitive development—the acquisition of skills related to thinking and learning—is central to a child’s preparation for school and is strongly associated with later academic performance (Claessens et al., 2009; Duncan et al., 2007).

Language is an important aspect of cognitive development and school readiness (Mercado, 2008). Language skills begin to develop as a child hears his first words, and preschool language predicts later literacy (Arnold et al., 1994; Weigel et al., 2005).

Important early language skills include:

- » sensitivity to the sounds of spoken language (phonological awareness)
- » recognition of letter names and sounds (knowledge about print)
- » words a child can comprehend but may not be able to use (receptive vocabulary)
- » words a child can use (expressive vocabulary)

Optimal early brain development is important for cognitive and language outcomes.

Children undergo a remarkable period of brain development between conception and age three. By the time a child is born, her brain already has about 100 billion neurons, but brain development is far from complete. In order to function, a neuron needs accurate connections with other neurons. These connections (or synapses) allow neurons to send and receive information, and the brain’s networks of neurons and synapses form the underpinning of all cognitive development (Nelson, 1999; Westermann et al., 2006).

EARLY EXPERIENCES AFFECT HOW THE BRAIN WIRES ITSELF.

The first years of life are an especially important period for cognitive development. In the cerebral cortex—the area of the brain most closely associated with cognitive and language skills—synapse formation appears to reach its peak around age two, after which the brain

begins to prune unused connections (Huttenlocher, 1990). Mastering the cognitive and language skills necessary for school readiness is easier during the first few years of life than in later years (Blair, 2002; Nelson, 1999; Paterson et al., 2006).

Synapses that are used frequently are more likely to persist than those that are rarely used (Huttenlocher, 1990). When a child is regularly spoken to, synapses in language-related areas of their brain are strengthened. When a child is deprived of parental speech, as in cases of extreme neglect, brain development is hindered, resulting in impaired language development (Nelson & Bloom, 1997).

Parenting supports children's school readiness.

Given the importance of children's earliest experiences, it is no surprise that parents play a large role in a child's readiness for school (NICHD, 2008; Zaslow et al., 2006). Parenting practices that demonstrate warmth, are supportive, and respect a child's autonomy lead to positive cognitive development and school readiness. Parenting practices that are overly punitive can have long-term negative effects on child development (Legerstee & Varghese, 2001; Lunkenheimer et al., 2008).

Parents also play a large role in early language development (Poe et al. 2004). Language is a social process, and parents are the most important people in a young child's world. The language environment provided by parents is the foundation for the development of the early language and literacy skills necessary for school readiness (Baumwell et al., 1997; Huttenlocher et al., 2007).

RESPONSIVE PARENTING PROMOTES LANGUAGE DEVELOPMENT.

Parental **responsiveness** is a combination of warmth, sensitivity, and supportiveness. Responsive parents recognize their child's signals, respond to these signals promptly, and encourage their child's sense of trust and autonomy (Bornstein et al., 2008). Children of responsive parents fare better on measures of behavioral, emotional, and cognitive development than children with emotionally distant parents (Park et al., 1997; Treyvaud et al., 2009; Wakschlag & Hans, 1999).

Parental responsiveness is especially important for language development (Tamis-LeMonda et al., 2001), and its effects can be seen as early as infancy. Maternal responsiveness during a baby's first year is associated with:

- » better language comprehension (Baumwell et al., 1997).
- » earlier achievement of important language milestones (Nicely et al., 1999).
- » faster growth in receptive and expressive language skills over the first three years of life,

Responsiveness may be particularly helpful for children at-risk for developmental delays, including very-low-birth-weight infants (Baumwell et al., 1997; Landry et al., 1997).

Parents' speech contributes to children's language development.

Parental speech is another major influence on children's vocabulary size, rate of vocabulary growth, and language skills. The amount and type of speech young children hear from their parents predicts the rate of vocabulary growth and the size of a child's vocabulary (Huttenlocher et al., 1991; Hart & Risley, 1995).

Recent studies agree that **how** parents talk to their children is at least as important as **how much** they talk to them. Two qualities of parental speech are especially important: supportiveness and complexity.

» *Supportive Speech*

Supportive parental language is filled with questions and praise. Children accustomed to this kind of speech develop language faster than children whose parents are more likely to scold and direct (Hart & Risley, 1995; Tamis-LeMonda et al., 2001; Zimmerman et al., 2009).

» *Complex Speech*

Similarly, when parents use more sophisticated vocabulary and more complex sentences, children do better on measures of language and cognitive development (Hart and Risley, 1992; Pan et al., 2005; Weitzman & Snow, 2001).

These two qualities of parental speech—supportiveness and complexity—vary in importance as children develop. Supportiveness appears to matter more for language development for children under two. Supportiveness promotes developing cognitive skills such as the ability to follow an adult's focus on an object or activity. As children become more efficient learners, the tone of parental speech becomes less important than its content. Accordingly, for children over two, the complexity of the speech children hear seems to matter more than its supportiveness (Bradley et al., 2001; Hoff & Naigles, 2002; Pan et al., 2005).

DIFFERENCES IN FAMILY BACKGROUND INFLUENCE CHILDREN'S LANGUAGE DEVELOPMENT.

Socio-economic status (SES) is a strong predictor of children's early development and school readiness (Yeung et al., 2002). A large part of the readiness and achievement gap between different racial and ethnic groups is explained by socio-economic differences between these groups (Hart & Risley, 1995; Lee & Burkham, 2002).

SES contributes to the ways in which parents talk with their children. Affluent and middle-class parents use more supportive and more complex language than working-class and impoverished parents (Weitzman & Snow, 2001). Speech also varies with parents' education level. More educated parents use more complex and more diverse speech with their children (Huttenlocher et al., 2007).

As a result, by the time they reach their third birthday, low-income children trail behind their middle-income peers in both their expressive vocabulary and in vital pre-reading skills (Lonigan & Whitehurst, 1998; Pan et al., 2005). By age three, higher-SES children have vocabularies that are double the size of the vocabularies of welfare children (Hart & Risley, 1995).

School readiness gaps become achievement gaps.

SES-related variations in language development mean that low-income children are likely to arrive at school less prepared than their higher-income peers (Burchinal et al., 2006). Kindergarten and first-grade experiences are unlikely to correct these disparities (Stipek & Ryan, 1997). On the contrary, the rapid pace of early learning magnifies the differences that exist between children at school entry (Vaughn et al., 2008). This pattern continues through school. Early reading skills predict middle school achievement, which predicts high school academic achievement (Catts et al., 2001; Duncan et al., 2007; Foster & Miller, 2007).

INTERVENTIONS HELP PARENTS HELP CHILDREN LEARN.

Research suggests that a number of interventions help parents become more responsive, and help to improve young children's language environments (Jordan et al., 2000). Because parenting styles are often passed from one generation to the next, effective interventions also may help to break the cycle of disadvantage (Serbin & Karp, 2003).

One long-term study examined the effects of a home-based parent training program on mothers of low-risk infants and mothers of very low birth weight (VLBW) infants. In both groups, mothers

became more attuned to their children's signals, showed more emotional warmth, and displayed fewer harsh and intrusive behaviors. Their infants, in turn, showed improved outcomes on language, cognitive, and behavioral measures. Research evaluations suggest that parenting interventions can increase maternal nurturing, verbal interaction, and sensitivity to children's developing skills (Landry et al., 2006; Landry et al., 2008).

Interventions that combine a home-based approach with center-based services have also changed parental behaviors for the better. For instance, Early Head Start programs which include a parental education component promote emotional supportiveness in parents of infants and toddlers (Love et al., 2005).

Reading to young children helps to develop their language skills.

Reading to children promotes their language growth, early literacy skills, and later reading success, regardless of family income or education (Bus et al., 1995). Research shows that some reading styles do a better job promoting language development (Phillips et al., 2008). Parents are better able to support their children's language development when they engage children in conversations about what they are reading, and about letters, sounds and print (Hindman et al., 2008; Senechal & LeFevre, 2002).

Dialogic reading is a program in which parents learn how to encourage active participation, give positive feedback, and ask increasingly complex questions (Whitehurst & Lonigan, 1998). In low-income families, dialogic training helps to improve parents' reading styles and children's language performance (Whitehurst et al., 1994). Dialogic reading interventions have been successfully implemented through groups and by videotape, making these programs cost-effective (Arnold et al., 1994; Huebner & Meltzoff, 2005).

When it comes to reading with children, earlier is better, particularly for children in low-income families.

*We invite your questions and comments. Please send them to Marc Goodman-Bryan at: mbryan@theurbanchildinstitute.org, or to the Center for Urban Child Policy, The Urban Child Institute, 600 Jefferson Avenue, Memphis, TN 38105.

For more information on the well-being of children in Memphis and Shelby County, please visit [The Urban Child Institute](#), and [The State of Children in Memphis & Shelby County: Data Book](#).

[The Urban Child Institute \(TUCI\)](#) promotes optimal brain development for children from conception to age three. TUCI's [Center for Urban Child Policy](#) supports that mission by building our understanding of inputs to - and implications of - early brain development in our community.

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