

Jefferson's Early Childcare Investment Policy Initiative

High-Quality Child Care Profoundly Affects Developing Brain

By Rina Irwin
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Prior to the pioneering research conducted by scientists such as Lev Vygotsky, infants were long believed to possess an inability to perceive the world around them and construct conscious thought. Through extensive study over the past several decades, we now know this could not be further from the truth as the most rapid period of brain growth occurs during the first three years. Beginning at birth, newborns are equipped with all the brain cells they will have for the rest of their lives, and the neural connections they create before age three shape their ability and likelihood to become healthy, capable and successful adults later in life (Brain, 2023).

Having spent over 25 years deeply ingrained in the research of brain development in early childhood, I can attest to the dramatic impact of positive relationships early in life. The opportunity to discuss the critical link between early brain development and my community's future inspired my participation in the Early Childcare Investment Policy Initiative. My hope is to not only advocate for this crucial need to support working parents, but also to shed light on the lifelong impact of high-quality child care and early childhood education on the developing brain. A young child's time spent with nurturers and educators who understand and prioritize healthy brain development will impact our community for years – and generations – to come.

As Dr. John Trainer expressed, “children are not a distraction from more important work. They are the most important work” (Quotes, 2023). Many are baffled to learn that a child’s brain produces more than a million neural connections each second, meaning that a 3-year-old’s brain is twice as active as an adult brain (Brunton, 2023). Seeking to create connections that translate to meaning, a baby’s brain constantly absorbs information it will later use to decipher the world and their role within it. In other words, every moment counts, and every interaction holds value.

The saying that children’s brains are like sponges holds true as they not only absorb all that they observe, but also what they absorb inevitably gets wrung out. According to the National Association for the Education of Young Children+, as babies and toddlers interact with their parents or caregivers, “their brains start to form expectations for how they will be treated and how they should respond” (Lally, 2017). For example, when a baby cries and receives consistent adult responses, he or she begins to anticipate this outcome every time, building perceptions of their social and emotional environment. Those perceptions then “influence how babies understand their environment, relate to others, and engage in learning” (Lally, 2017).

When babies consistently receive positive responses such as soothing, comfort and patience, they perceive interactions with others positively and become more inclined to explore the world and interact with others as they assume it will be a positive experience. In contrast, when babies consistently receive adverse early experiences such as avoidance, frustration or harsh tones, they come to expect negative experiences in the world with others. It is important to note that as neural connections are built through positive interactions with parents and caregivers, a baby’s “daily experiences determine which brain connections develop and which will last for a lifetime” (Brain, 2023). In other words, when babies lack consistent, positive interactions, the result is underdevelopment of the brain. When left unresolved, this underdevelopment results in adults with poor coping mechanisms who are often accused of exhibiting “childish” or immature behavior.

As babies’ brains are programmed to model adults in their lives, time spent with others during the first three years of life wires their brain for survival in anticipation of future functioning (Hamburg, 1995). During this crucial period of development, it is vital that parents and caregivers foster healthy climates and learning environments. In other words, healthy development is accomplished when care is provided in safe and interesting settings where children can experience secure and trusting relationships with caregivers who understand the vital role they play and are consistently responsive to their interests and needs (Lally 2006). With the growing need for child care outside of the home, it is imperative that those working within this field understand the immense impact

of their words, facial expressions and body language when working with young children.

Between birth and nine months, emotional wiring is the dominant activity as the brain begins “using messages from caregivers to develop perceptions of the extent to which they are loved,” (Lally, 2017). The quality of care that infants receive during these earliest months directly translates to the attachments they form not only with their current caregivers, but also with others in their future interactions. Between seven and 18 months, babies strengthen their communicative abilities and begin using their emerging motor skills to explore the world around them, and based on the reactions of their caregivers, they begin to remember which activities are socially acceptable and those that are dangerous (Lally, 2017). Finally, between 15 to 36 months, young children are “developing an awareness of their separateness from their caregivers and peers as well as a sense of themselves as individuals.” The experiences they encounter during this period “provide lessons for developing moral and ethical codes, gaining control of impulses and emotions, and learning and adapting to the rules of their family, culture and society” (Lally, 2017).

As infants and toddlers are conscious of our interactions with them, it is crucial that we understand and prioritize their healthy brain development. This extends far beyond simply responding to an infant’s physical needs. As many “adults working with infants and toddlers sometimes shy away from thinking of themselves as teachers because they worry the name is associated with more structured and adult-led activities than babies are ready for,” it is imperative that professionals understand their vital impact on the developing brain (Dean, 2015). At Child Development Centers, Inc., employees working in infant and toddler classrooms are teachers, and their impact on each child’s development is celebrated and ingrained in our organizational culture.

While we cannot remember life in infancy, our perceptions of ourselves and of the world were shaped before our third birthdays. How our parents and caregivers responded to our needs molded our own self perceptions and shaped our expectations of others. While future experiences throughout our lives also play a role, every interaction after infancy either corresponds with or contradicts our initial views of self and the world around us. In every interaction, we are either confirming our first perceptions or challenging them. The journey is much more peaceful when we are set up for success early in life.

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throughout its Erie centers alone.

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