

# Why Early Childhood?

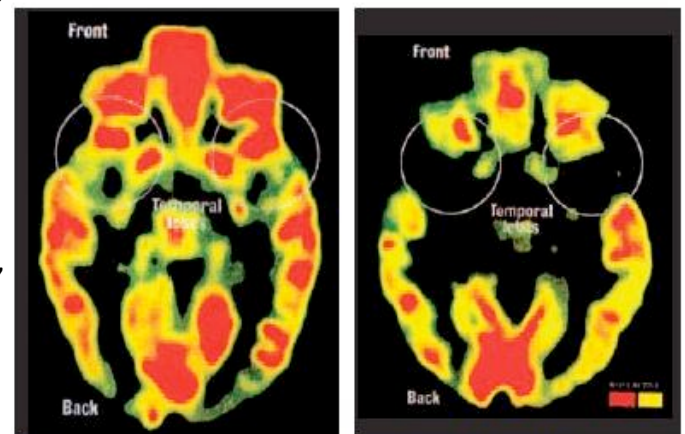
## Earlier is Better

The basic structure of the brain is built through an ongoing process that begins before birth. During the first few years of life, 700 new neural connections are formed every second.<sup>1</sup> After this period of rapid growth, the connections are pruned to make brain circuitry more efficient. Early experiences that are “nurturing, active and challenging actually thicken the cortex of an infant’s brain, creating a brain with more extensive and sophisticated neuron structures that determine intelligence and

behavior... Children exposed to fewer colors, less touch, little interaction with adults, fewer sights and sounds, and less language actually have smaller brains”.<sup>2</sup>

### Comparison of the Developing Brain

Source: (Chugani, H. T., Wayne State University)



Healthy Development

Development Affected by Environmental Stress

## The Development of “Soft Skills”

Success in school is dependent upon more than just cognitive ability. The development of social emotional skills and other foundational skills such as motivation, impulse control, persistence, and focus are important early skills. The National Academy of Sciences reported that 60% of

children enter school with the cognitive skills necessary for school success while only 40% have the social-emotional skills required to be successful in kindergarten. Since social emotional skills can be learned, it is important to identify children with social emotional needs as early

as possible.<sup>3</sup> Many social and economic problems in America— crime, teenage pregnancy, high school drop out rates, adverse health conditions- can be traced to low levels of these skills. When social skills are combined at an early age with cognitive skills, they help create more productive and capable citizens.<sup>4</sup>

*“Intelligence and social skills are set at an early age— and both are essential for success.”- Heckman*

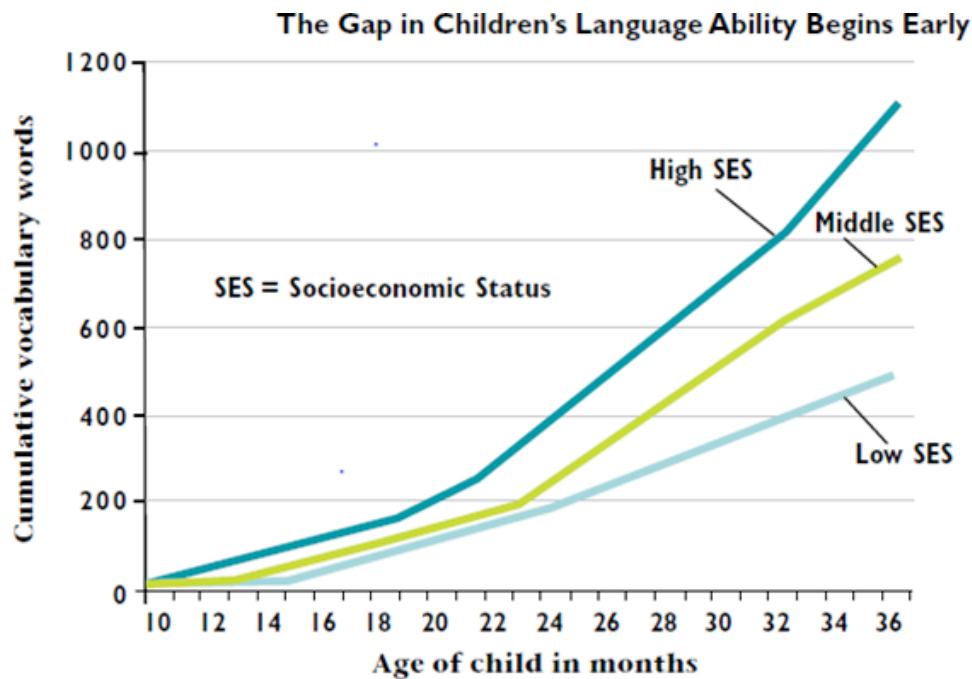
## Foundations for Language are Set

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Research done by Hart and Risley<sup>5</sup> clearly show that the language gap begins very early. The data revealed that the most important aspect of children's

language experience was the amount. With few exceptions, the more parents talked to their children, the faster the children's vocabularies were

growing and the higher the children's IQ test scores were at age 3 and later. These effects were also strongly linked to the child's academic performance at age 9.



Source: Adapted from Betty Hart and Todd R. Risley, *Meaningful Differences in the Everyday Experience of Young American Children* (Baltimore, MD: Paul H. Brookes, 1995).

## Healthy Foundation for Future Learning

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A healthy child begins with the health, nutrition, and well-being of the mother before she even becomes pregnant. Healthy mothers and positive early experiences allow for a strong brain structure and the development of skills and abilities. On the other hand, toxic stress in early life—such as extreme poverty, repeated abuse, or severe maternal

depression— without the protection and support of an adult damages the developing architecture of the brain leading to life-long problems with learning, behavior, and physical and mental health.<sup>6</sup> Science clearly demonstrates that, in situations where toxic stress is likely, intervening as early as possible is critical to achieving the best outcomes.<sup>7</sup> The

interventions must target the cause of the stress and protect the child from its consequences. Early childhood programs and support services can affect the capacities of caregivers and communities by strengthening the three foundations of healthy development: stable, responsive relationships; safe, supportive environments; and appropriate nutrition.<sup>8</sup>

# High Quality Programs Improve Outcomes

The evidence is overwhelming. High quality early childhood programs provide both long and short term positive outcomes for children, our economy, and our society. In early care and education, the effectiveness factors that have been shown by multiple studies to improve outcomes for children include:

- Qualified and appropriately compensated personnel
- Small group sizes and high adult-child ratios
- Language-rich environment

- Developmentally appropriate “curriculum”
- Safe physical setting
- Warm and responsive adult-child interactions<sup>9</sup>

Short term returns for programs involving pregnant mothers and infants include: reduction in low birth weight babies, less child abuse and neglect, fewer emergency room visits, more employment time for parents, and less obesity in toddlers. Quality pre-kindergarten programs reduce costly grade

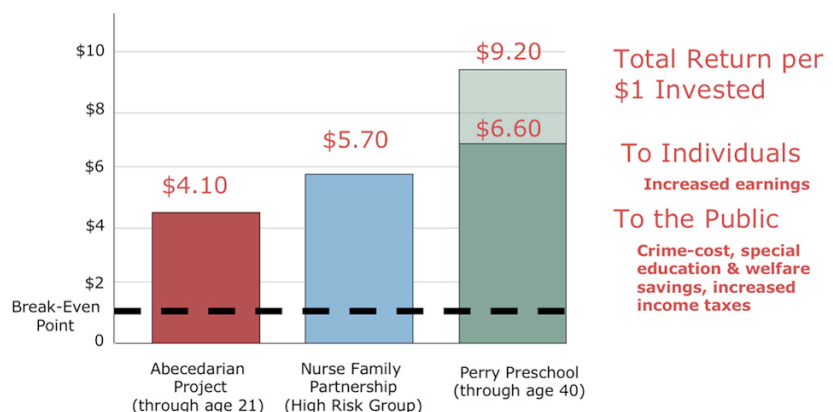
retention, special education services, and abuse and neglect.<sup>10</sup> Long term outcomes for quality programs for the individual include higher school achievement, increased wages, delayed birth of first child, and increased home ownership. Returns to society are a reduction in special education costs, decreased welfare costs, less crime, and an increase in income tax.<sup>11</sup>

## Prevention, Not Remediation

All children require safe, nurturing, and enriching early experiences. Research shows that disadvantaged families are the least likely to have the economic and social resources to provide the early developmental experience that every child needs.<sup>12</sup> Therefore, the greatest gains will be made with children coming from disadvantaged homes. Three rigorously studied early childhood programs, the Perry Preschool Project, the Abecedarian project, and the Nurse Family Partnership, show a range of sizable returns to the participants and to the public for every dollar invested.<sup>13</sup>

NATIONAL FORUM ON EARLY CHILDHOOD POLICY AND PROGRAMS

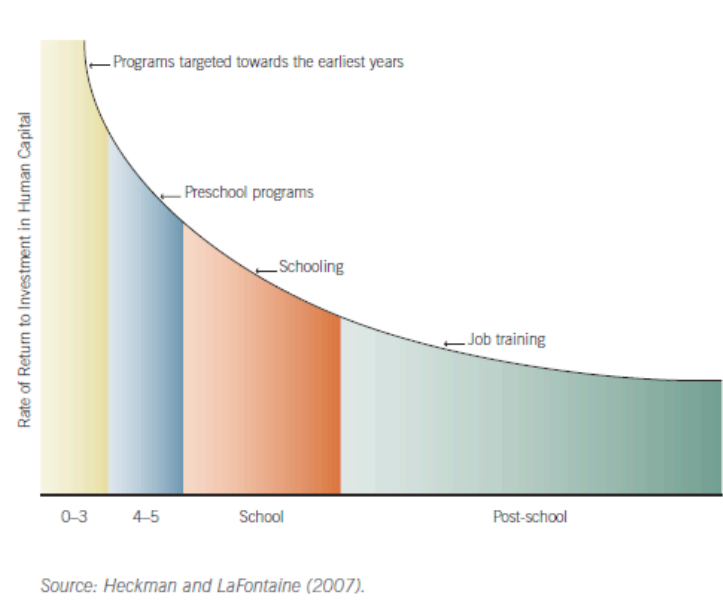
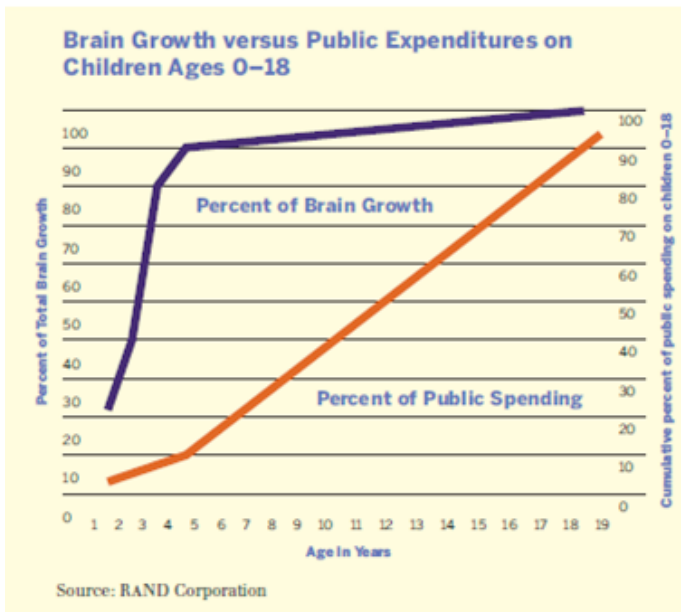
### Cost/Benefit Analyses Show Positive Returns Early Childhood Programs Demonstrate Range of Benefits to Society



Sources: Masse & Barnett (2002) Karoly et al. (2005) Heckman et al. (2009)

# To Match our Resources to the Research

The scientific community shows us that the majority of the core structure of the brain is formed in the first five years of life. However, as a public, we invest only 10% of our funds in children during these years. Because the first five years present the greatest opportunity for the development of skills and abilities, it all is the most economically efficient time to provide instruction and intervention.



**“Policies that seek to remedy deficits incurred in early years are much more costly than early investments wisely made, and do not restore lost capacities even when large costs are incurred. The later in life we attempt to repair early deficits, the costlier the remediation process.”- Heckman**

<sup>1,6,7</sup> Center on the Developing Child. (n.d.) *INBRIEF: The Science of Early Childhood Development*. [Brief]. Retrieved from <http://www.developingchild.harvard.edu>

<sup>2</sup> Ounce of Prevention Fund. (n.d.) *Learning Begins at Birth*. Retrieved from <http://www.ounceofprevention.org/news/pdfs/LearningBeginsAtBirth.pdf>

<sup>3</sup> Shonkoff, J.P. & Phillips, D.A. (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Washington, D.C.: National Academy Press.

<sup>4,12</sup> Heckman, James. (n.d.). The Heckman Equation. [Flyer] <http://www.heckmanequation.org/content/resource/heckman-equation-flyer>

<sup>5</sup> Hart, B. and Risley, R. (1995). *Meaningful Differences in the Everyday Experiences of Young American Children*. Baltimore, MD: Brookes Publishing.

<sup>8</sup> Center on the Developing Child. (n.d.) *INBRIEF: The Founda-*

*tions of Lifelong Health*. [Brief]. Retrieved from <http://www.developingchild.harvard.edu>

<sup>9,11,13</sup> Center on the Developing Child. (n.d.) *INBRIEF: Early Childhood Program Effectiveness*. [Brief]. Retrieved from <http://www.developingchild.harvard.edu>

<sup>10</sup> Ready Nation. (2012). *Savings Now, Savings Later*. [Flyer]. Retrieved from [http://www.readynation.org/uploads/20120910\\_ReadyNationSavingsNow.FinalLowRes.pdf](http://www.readynation.org/uploads/20120910_ReadyNationSavingsNow.FinalLowRes.pdf)

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