

# Beginning at Birth

The brain is the only organ not fully developed at birth. Experiences during the first five years of life (about 2,000 days) determine how brains are wired.

Brains are built, not born. Genes are only one part of the equation. For a strong foundation, children need early care and education programs that are safe and provide opportunities for learning, strong families and environments that support healthy outcomes.

As the graph illustrates, much of a young child's brain synapse formation takes place in the first five years of life. Synapses are what connect brain cells. They form a network in the brain. This network influences intellectual capacity, memory, problem solving and language.



# Use It or Lose It

During the first few years of life, 700 new synapses (neural connections) are formed every second.

After a period of rapid growth, the brain prunes these connections, so that circuits can become more efficient. Connections that get used a lot are strengthened, and those that don't get used are cut. If this period includes support for growth in cognition, language, motor skills, adaptive skills and social-emotional function, a child is more likely to succeed in school and grow into a productive member of the society.

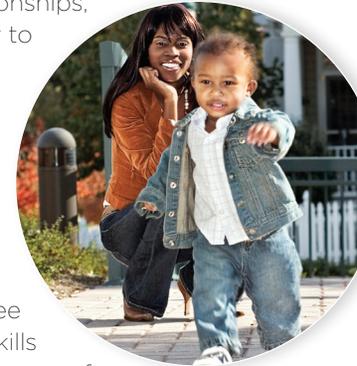


# Social & Emotional Skills

Academic ability alone does not make for a successful adult.

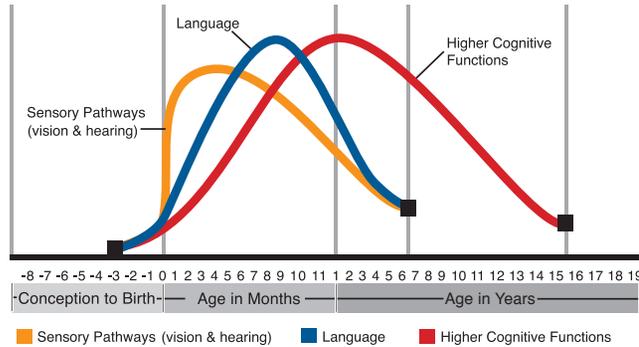
Social and emotional skills, what some refer to as "soft skills", are equally important in determining success in school, in work, and in life. They include the ability to self regulate, manage mood and control anger, self-motivate, manage relationships, empathy, and the ability to relate to and influence others. Children lay the foundation for these skills during their early years of life.

Businesses are realizing that a college degree alone does not guarantee that someone has the skills for success. Rather, they see soft skills – honesty, trustworthiness, team building, effective communications, conflict resolution, and positive attitudes – as equally essential for achievement on the job.



## Human Brain Development

Synapse formation is dependent on early experiences



Source: *The Science of Early Childhood Development*, Center for the Developing Child at Harvard University



[www.first2000days.org](http://www.first2000days.org)

## Investment

Every dollar invested in early childhood education produces a 7-10% per annum return on investment.

## Jobs

Early education programs make it possible for 380,000 North Carolinian parents to work.

## Science

In the first few years of life, 700 new neural connections are formed every second.

## Education

High quality early childhood programs increase graduation rates by as much as 44%; NC's graduation rate was 65% before Smart Start; in 2012 it was 80%.

## Economy

Participants in high quality early childhood programs have increased median earnings by as much as 36%, pay more taxes and depend less on welfare.

## Crime

Enriched early childhood programs are the most cost-effective way to reduce crime.

# Early Learning Investments Essential to America's Future

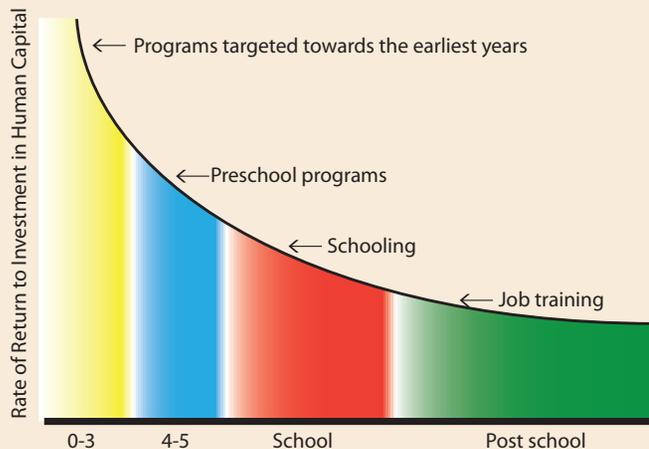
Early learning investments have a profound impact on children and the communities in which they live.

This broader societal impact is so significant that military leaders, business executives, and law enforcement officers are calling on greater investments to ensure our national security, our global competitive edge, and our safety.

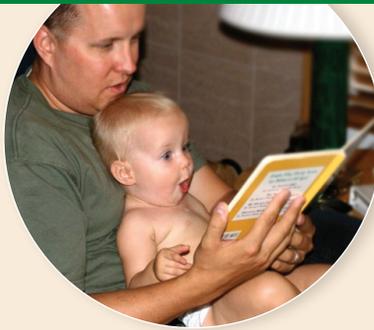
High quality early education yields:

- Higher graduation rates,
- Reduced crime,
- Higher earnings,
- Less reliance on social services, and
- Better jobs.

Noble prize winning economist James Heckman's research found that dollars invested in early education have the greatest return on investment.



Return on Investments: Costs vs Benefits, James J. Heckman, University of Chicago



## Take Action

We all want children to have the opportunity to grow into happy, successful, contributing adults. Together, we can build a prosperous future that includes:

- More successful students,
- A stronger North Carolina and national economy,
- Larger and more qualified employee pool, and
- Thriving communities.

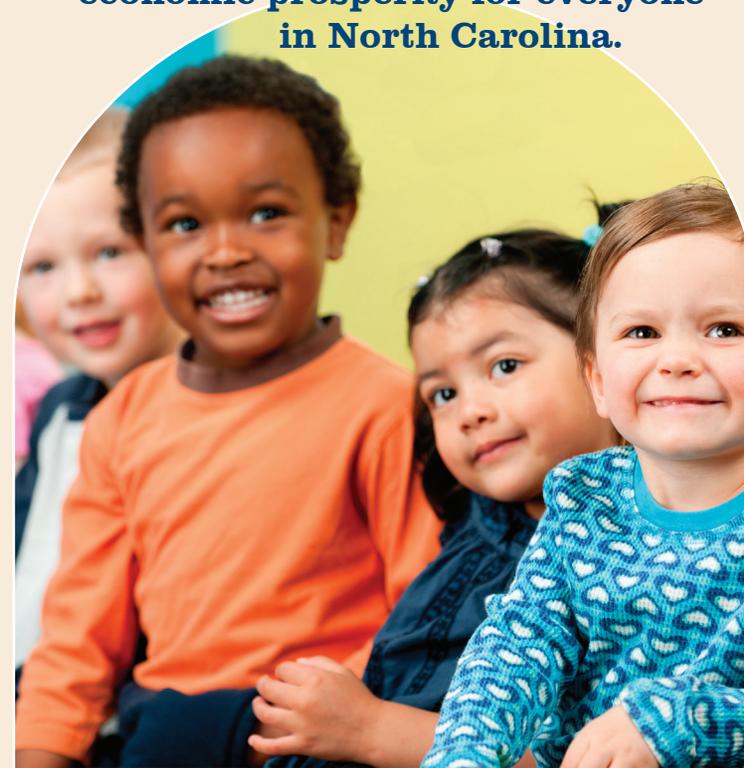
Go to [www.first2000days.org](http://www.first2000days.org)

 [facebook.com/first2000days](https://facebook.com/first2000days)



When we invest in children's **first 2,000 days**

we create the best outcomes in education, health and economic prosperity for everyone in North Carolina.



There are only 2,000 days from the time a baby is born to when that child begins kindergarten.

During that time, 90% of critical brain development occurs.

