

Overview of Early Childhood

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Thanks and Overview

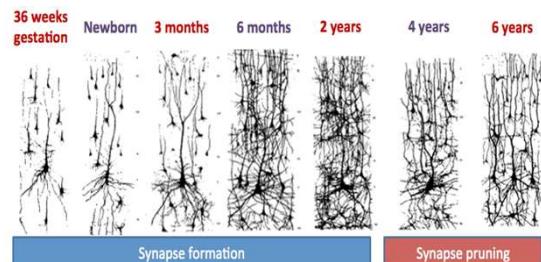
- Angel Rhodes (director for early childhood initiatives at FutureReady Columbus) and I are co-leading a brief introductory session to provide an overview of key issues:
 - brain development and early education program effects,
 - an overview of what's happening in Ohio today.
- Goal is to provide a backdrop for two panels, the first focused on ***quality in early childhood*** and then second on the ***cost of quality***.

Early Brain Development

- Neural pathways are being formed from birth forward through **synaptogenesis**
- **Peak brain development** for cognitive and social-emotional development is birth to 5 years: sensitive period for risk and promise
- Brain is **highly plastic and dependent on experiences** for pathway formation



Synaptogenesis



Brain Development and Abuse & Neglect

Structural Brain Changes due to Early Experiences

Healthy Brain
This is a scan of a healthy child's brain and child shows no signs of abuse or neglect. The brain is healthy and active throughout much of the brain. The brain is functioning as it should. The child has had enough healthy interactions with caregivers to support the brain's growth.

An Abused Brain
This is a scan of a child who has experienced abuse or neglect. The PPT state of the brain is altered. The brain shows less activity and more damage than the healthy brain. After birth, children exposed to abuse or neglect have a higher risk of developing mental disorders, including depression, anxiety, and post-traumatic stress disorder, which negatively impacts their cognitive development. The abuse can also lead to other health problems, such as diabetes, heart disease, and other chronic conditions.

The Two Year Window

Front Back Front Back
Temporal lobes Temporal lobes

5

Adverse Childhood Experiences and the Brain

- Ongoing exposure to **toxic stress** negatively affects important areas of the brain:

- Memory
- Self-regulation
- Cognition and language

- **Poverty detracts** from caregivers' ability to stimulate the child:

- Conversations with child
- Sensitive interactions
- Positivity and caring

Early Childhood Programming

- Provides important opportunities for early stimulation during critical period of brain development
 - Attentive, sensitive caregivers
 - Opportunities for play and creativity
 - Exposure to skilled peers
 - Engagement in intentional teaching of early language, social-emotional skills
- Provides critical supports for caregivers in the workforce
 - Opportunities for basic or advanced education
 - Support during employment

Return on Investment

EARLY CHILDHOOD DEVELOPMENT IS A SMART INVESTMENT

The earlier the investment, the greater the return

Investments 'in high-quality programs returns 13 percent per child annually—a rate of return comparable to returns on a savings account or the stock market'

(Heckman et al., 2016)

Source: James Heckman, Nobel Laureate in Economics