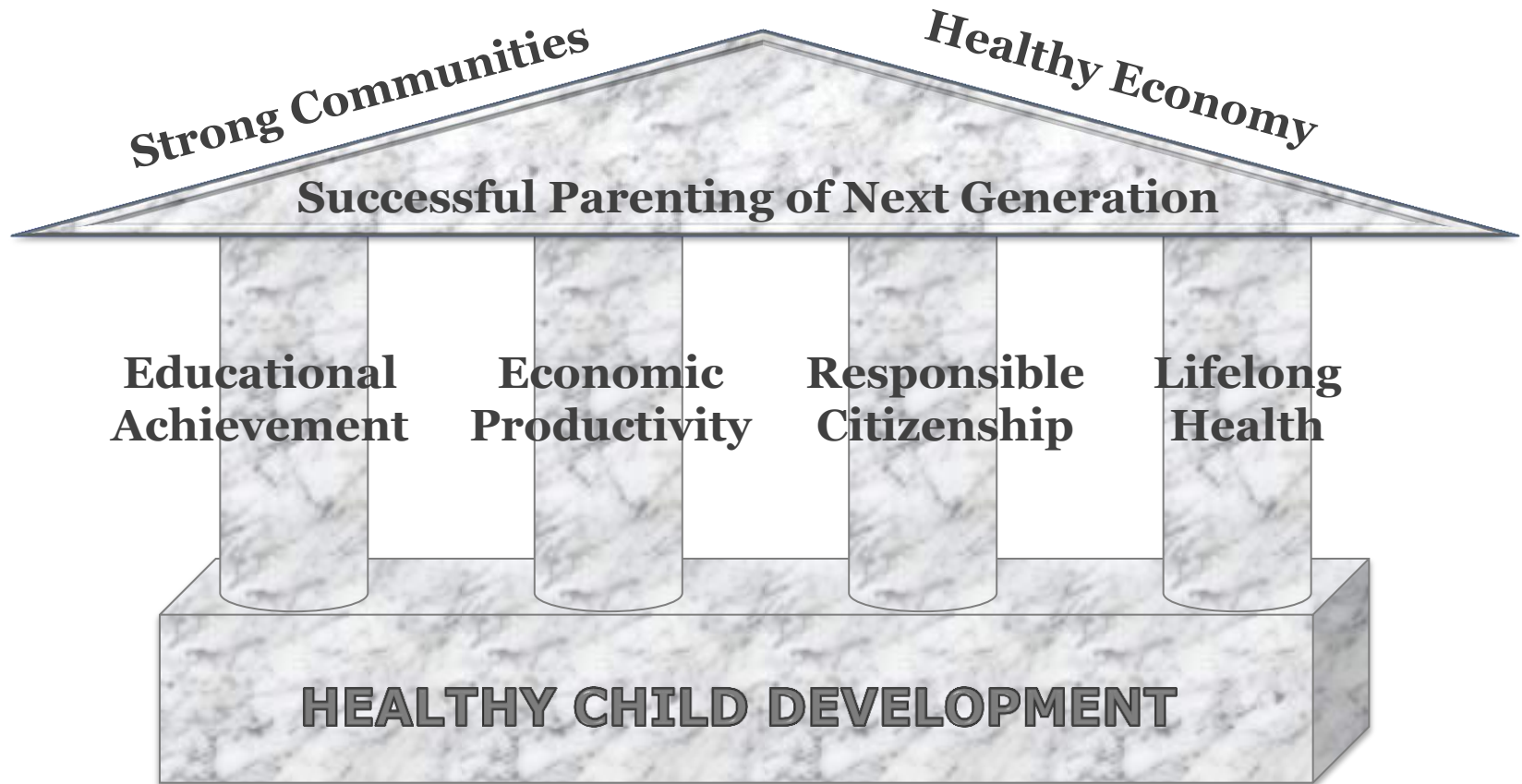


# **Three Core Concepts in Early Brain Development**

# The Foundation of a Successful Society is Built in Early Childhood

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# Three Core Concepts of Development

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**1** Brain Architecture Is Established Early in Life and Supports Lifelong Learning, Behavior, and Health

**2** Stable, Caring Relationships and “Serve and Return” Interaction Shape Brain Architecture

**3** Toxic Stress in the Early Years of Life Can Derail Healthy Development



Three Core Concepts in Early Development

# 1 Experiences Build Brain Architecture

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# Brain Architecture Supports Lifelong Learning, Behavior, and Health

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- Early experiences shape brain architecture.
- Simple skills come first; more complex skills build on top of them.
- A strong foundation in the early years improves the odds for positive outcomes and a weak foundation increases the odds of problems later in life.



# Experiences Shape Brain Architecture

700 neural connections per second in the early years

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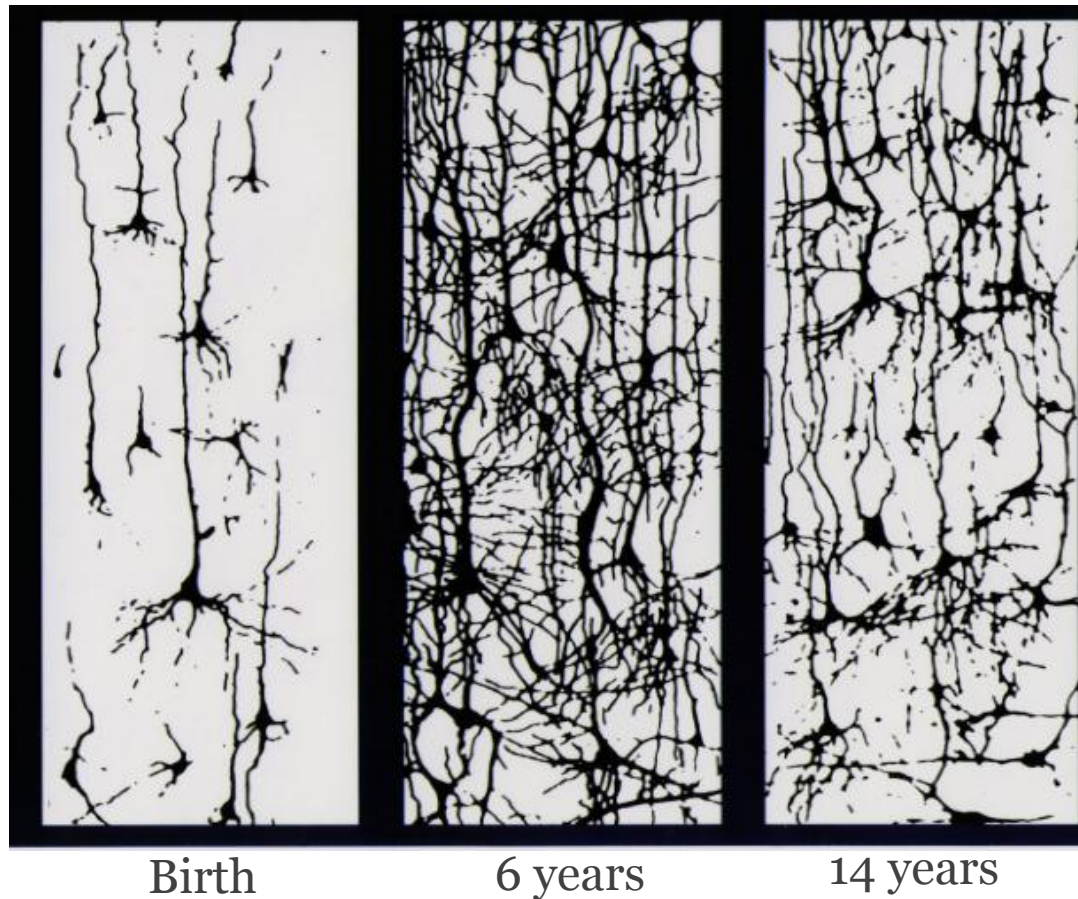


Image source: Conel, JL.

Three Core Concepts in Early Development

# 2 Serve & Return Interaction Shapes Brain Circuitry

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# Serve & Return Builds Brains and Skills

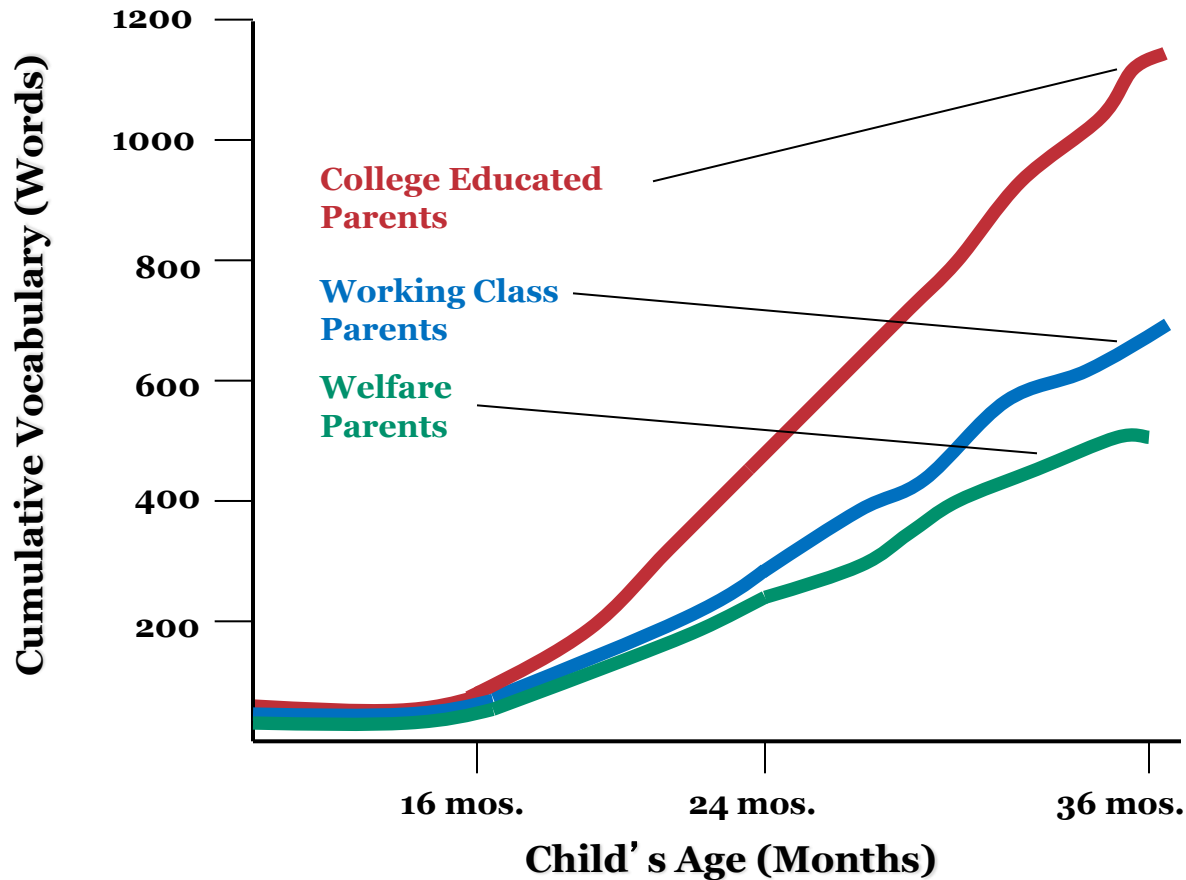
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- Ongoing, reliable interaction with trusted adults is essential for the development of healthy brain circuits.
- Systems that support the quality of relationships in early care settings, communities, and homes help build brain architecture.





# Barriers to Educational Achievement Emerge at a Very Young Age



Data Source: Hart & Risley (1995)

Graph Courtesy: Center on the Developing Child at Harvard University

Three Core Concepts in Early Development

# 3 Toxic Stress Derails Healthy Development

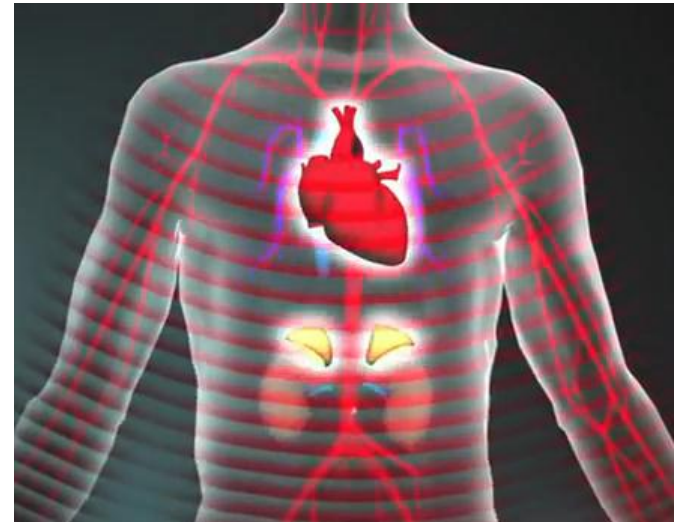
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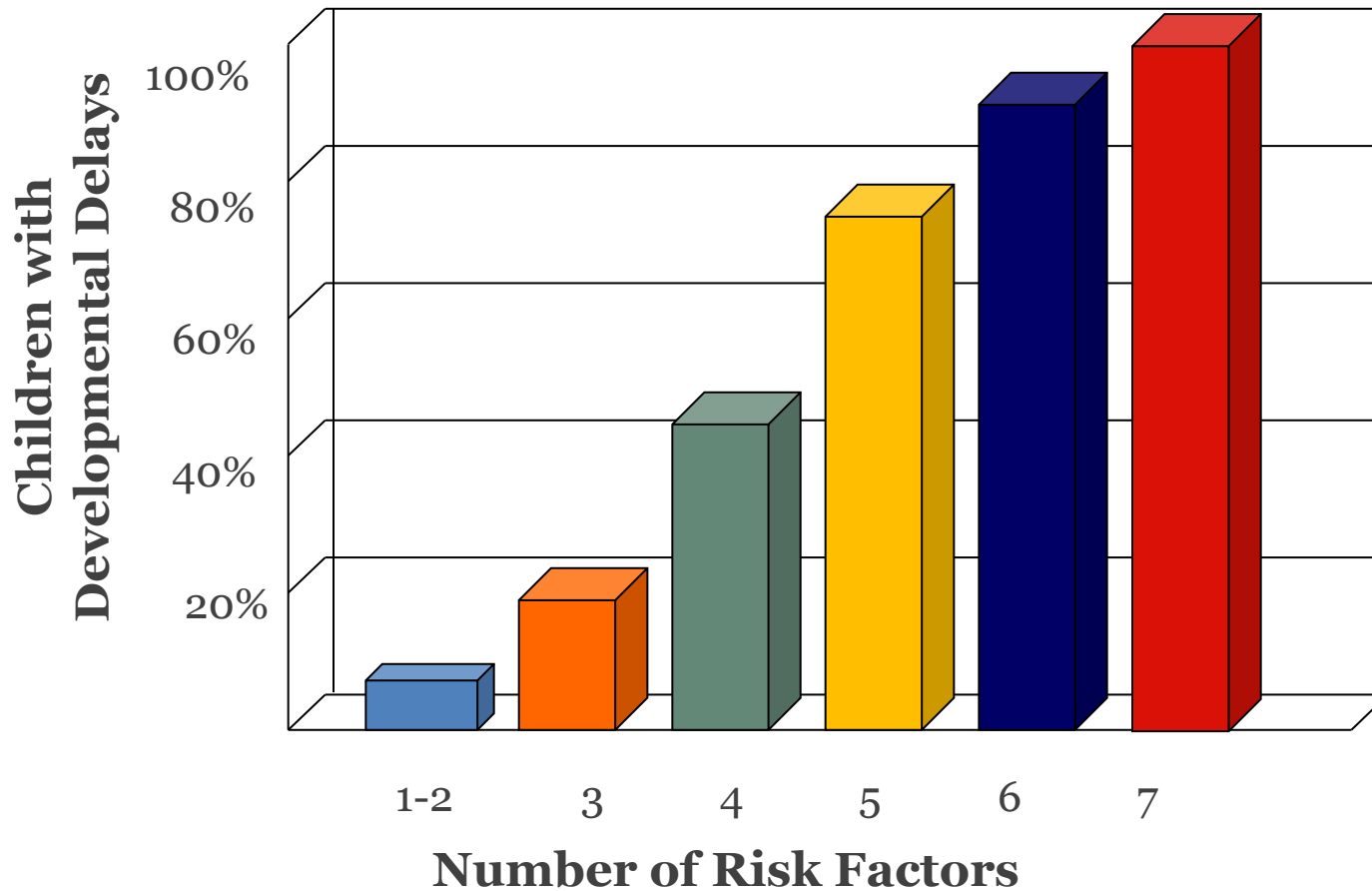
# Relationships Buffer Toxic Stress

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- Learning how to cope with moderate, short-lived stress can build a healthy stress response system.
- Toxic stress—when the body’s stress response system is activated excessively—can weaken brain architecture.
- Without caring adults to buffer children, toxic stress can have long-term consequences for learning, behavior, and both physical and mental health.

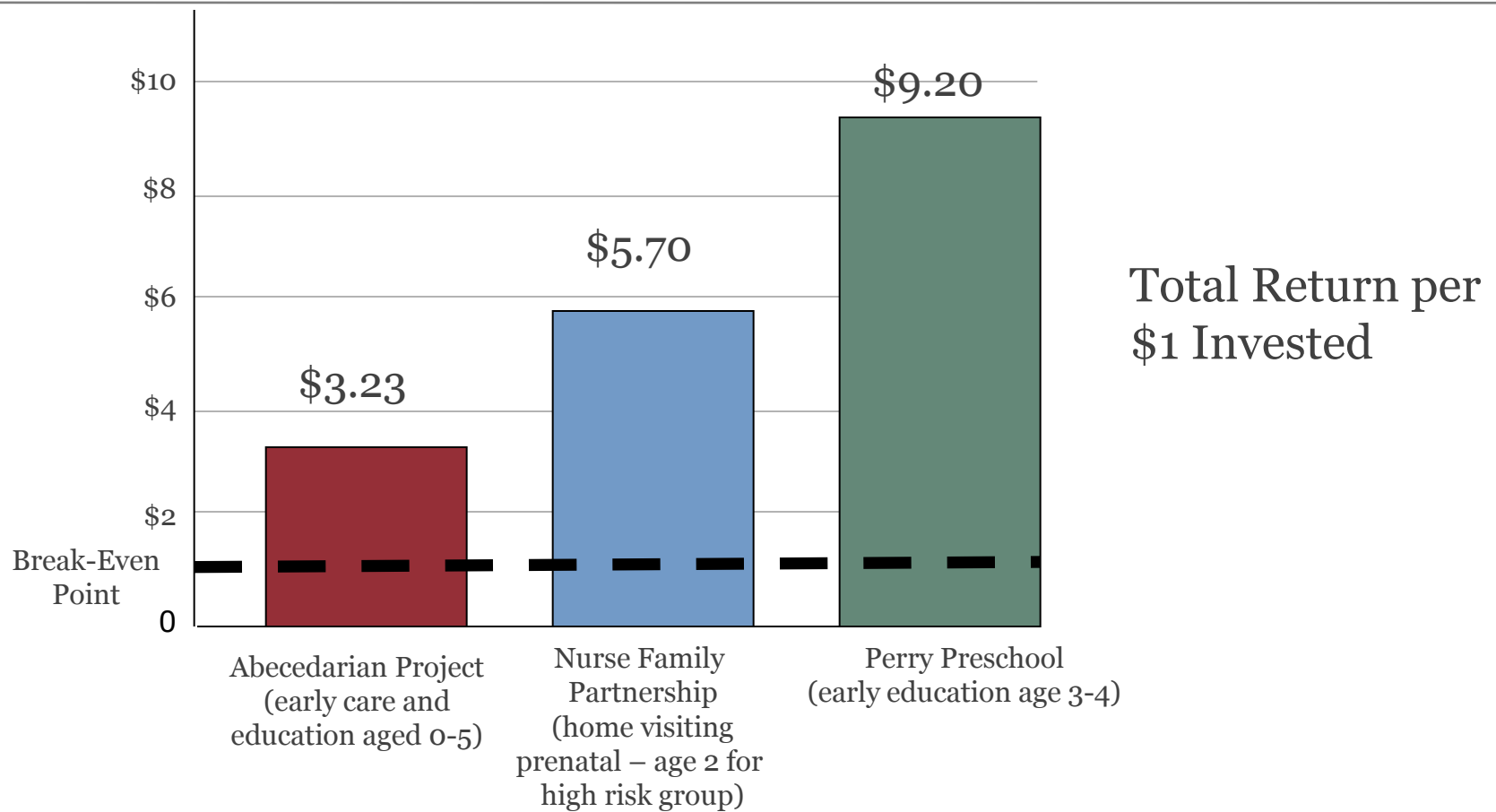


# Significant Adversity Impairs Development in the First Three Years



Data Source: Barth, et al. (2008)

# Quality Early Care and Education Pays Off: Cost/Benefit Analyses Show Positive Returns



Data Sources:

Karoly et al. (2005)

Heckman et al. (2009)

# Keys to Healthy Development



A balanced approach to emotional, social, cognitive, and language development, starting in the earliest years of life.

Supportive relationships and positive learning experiences that begin with parents but are strengthened by others outside the home.



Highly specialized interventions as early as possible for children and families experiencing significant adversity.

*For more on the science:*  
[www.developingchild.harvard.edu](http://www.developingchild.harvard.edu)

*For more on business champions:*  
[www.ReadyNation.org](http://www.ReadyNation.org)