

Importance of Early Childhood Development

John Lippitt, Ph.D., Moderator, PDM Forum
6/10/21, jlippitt@verizon.net

Member, Common Start Coalition
(www.commonstartma.org), representing
Progressive Democrats of MA (PDM)
(www.progressivedemsofmass.org)

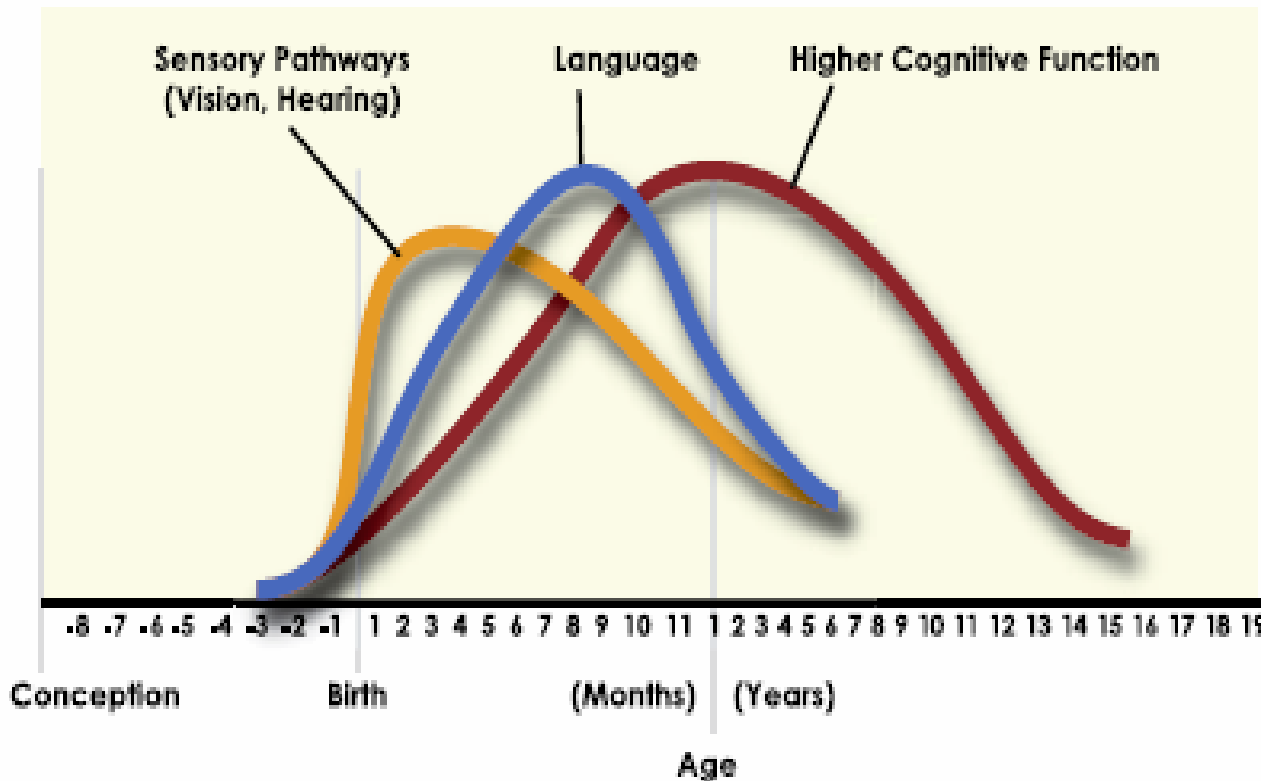
Vice chair, Reading Democratic Town Comm.

Blogger on national policy and politics at
<http://lippittpolicyandpolitics.org>

Critical Development Happens in Early Childhood

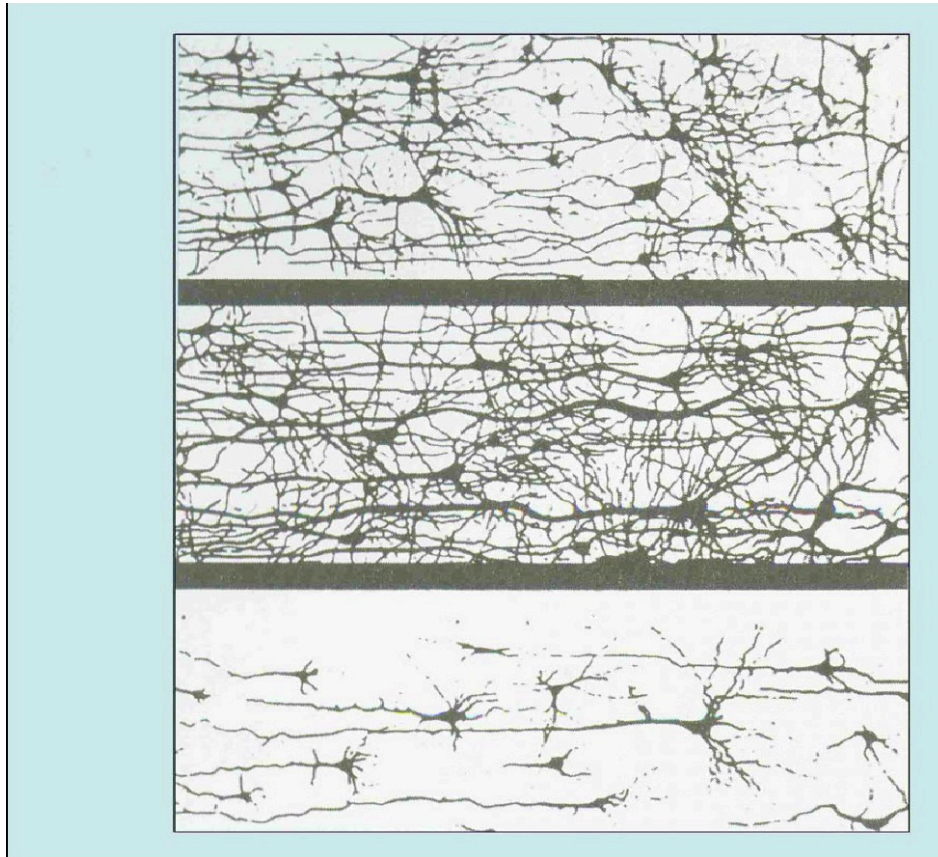
Human Brain Development

Synapse Formation Dependent on Early Experiences



Source: Nelson, C.A. in *Neurons to Neighborhoods* (2000). Shonkoff, J. & Phillips, D. (Eds.)

Early Brain Development Builds and then Prunes Connections (Synapses)



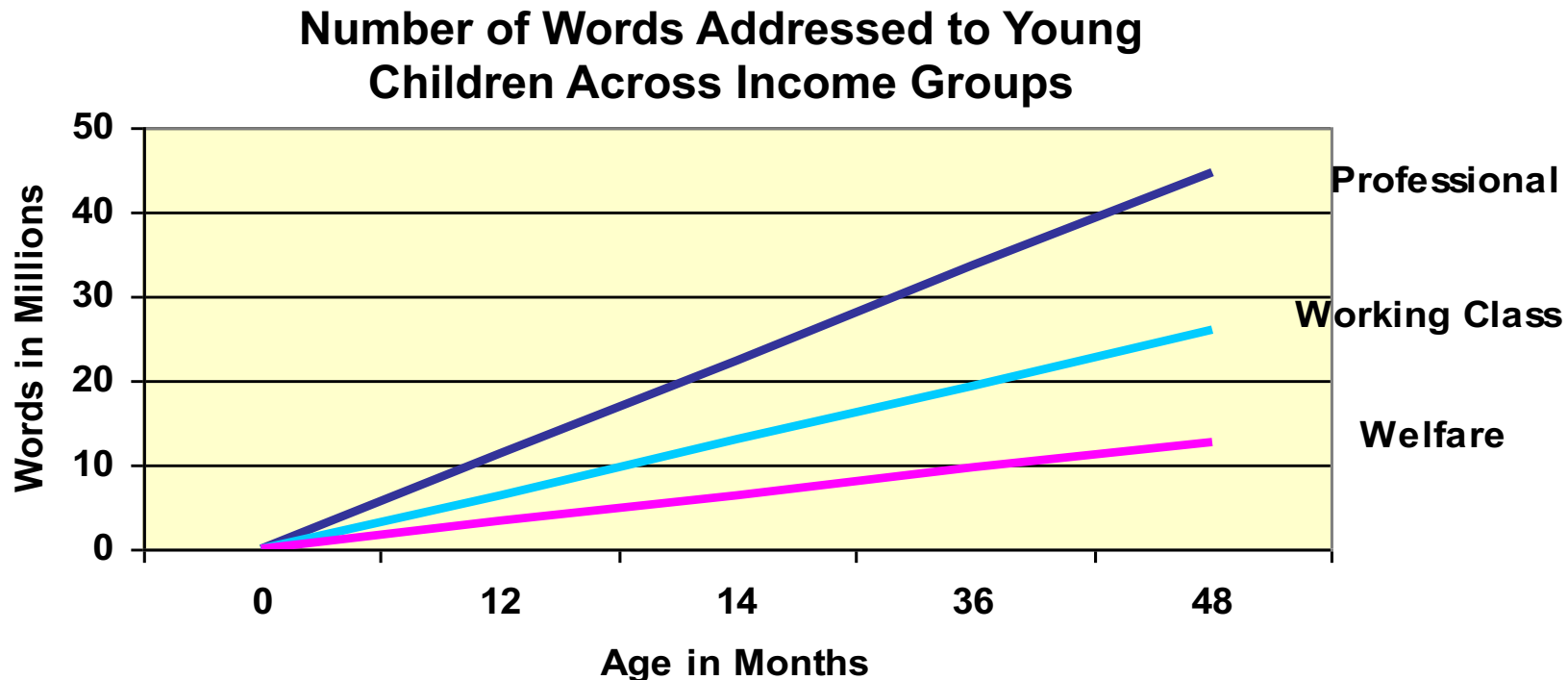
14 years old

6 years old

At birth

Shore, R. (1997) Rethinking the Brain. Families and Work Institute.

The Language Stimulation Gap



The average low-income child has heard **30 million fewer words** than his or her higher income peers by the age of four.

Core concepts of development

Experiences Build Brain Architecture

- Genes provide the basic blueprint, but experiences influence how genes are expressed
- Experiences sculpt brain architecture and establish either a sturdy or a fragile foundation for everything that follows
- Plasticity is greatest in the first years of life and decreases with age

(Center on the Developing Child at Harvard
<http://developingchild.harvard.edu>)

Stress in early childhood

- **Positive stress:** moderate, short-lived, & normal; learning to handle it is an essential part of development; for example, new people, places, & experiences
- **Tolerable stress:** serious stress, usually brief; supportive parents / adults help child feel safe & calm down; for example, a serious accident, loss of a loved one
- **Toxic stress:** strong, frequent, and/or prolonged; without supportive adult; for example, chronic abuse or neglect, economic insecurity (e.g., homelessness or hunger), parent with a behavioral health issue

(Center on the Developing Child at Harvard

<http://developingchild.harvard.edu/>)

Adverse Childhood Experiences (ACEs)

- 7 ACE categories: psychological, physical, or sexual abuse; household substance abuse, mental illness, domestic violence, and incarceration
- 18 adult health indicators, including smoking, obesity, mental health, substance abuse, and diseases (e.g., heart disease, stroke, cancer, diabetes)

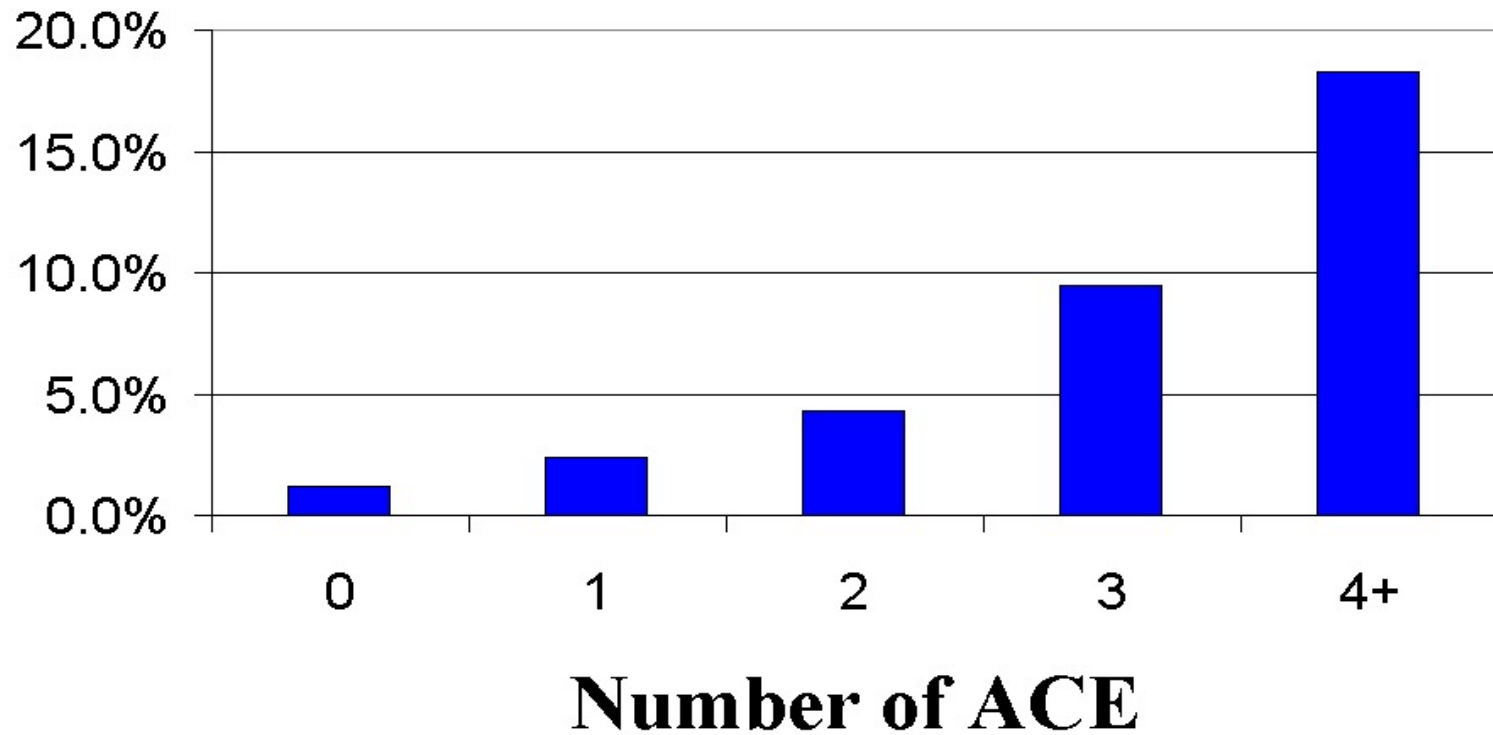
Adverse Childhood Experiences

- Study found a consistent, strong, graded relationship between number of categories of ACE and negative adult health indicators

(Felitti, V.J., et al. (1998) *Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults*. American Journal of Preventive Medicine, 14(4), 245-257.)

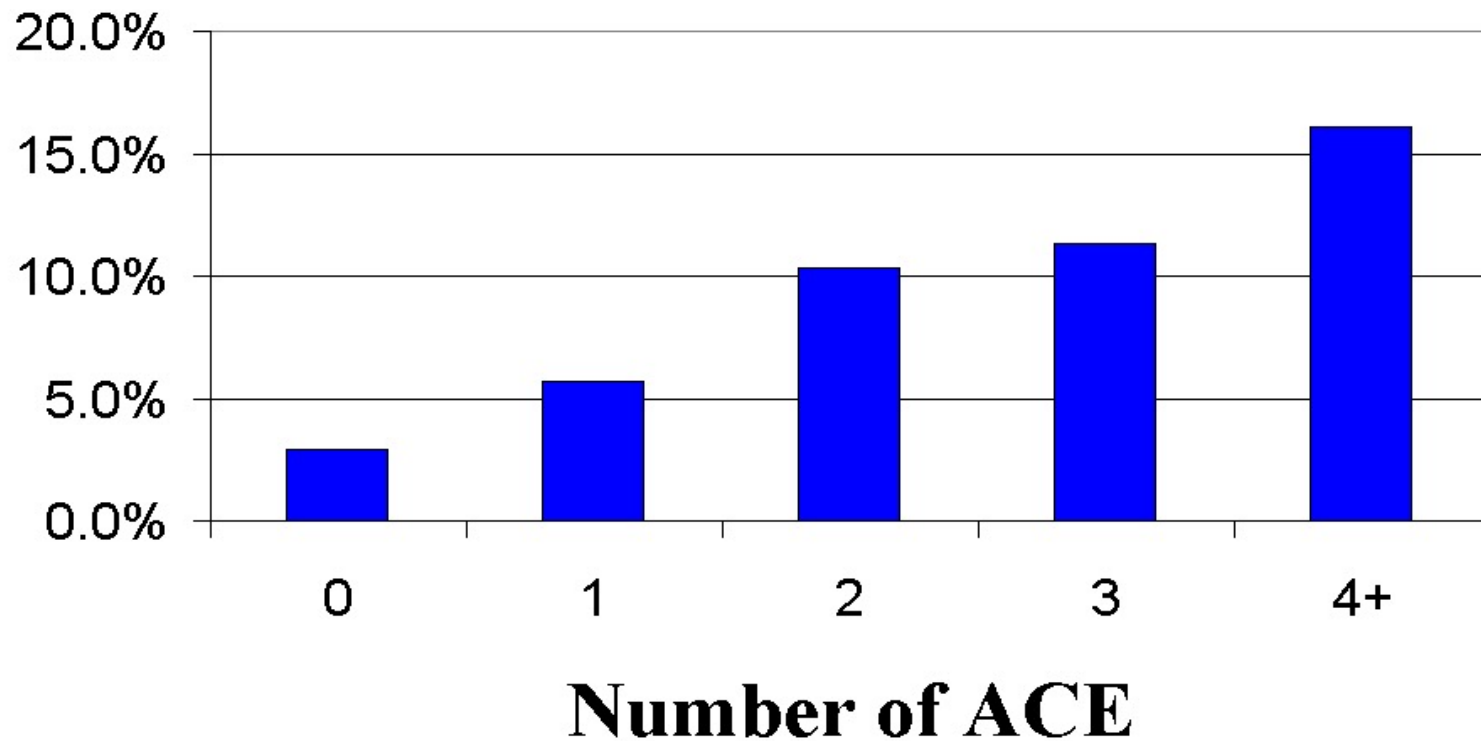
Adverse Childhood Experiences

Ever attempted suicide



Adverse Childhood Experiences

Considers self alcoholic



Long-term Effects of Early Childhood Experiences

Shonkoff et al.: Lifelong effects of early childhood (EC) adversity and toxic stress

- The interaction of the experiences and biology affects development
- EC experiences leave a “lasting signature on the genetic predispositions that affect emerging brain architecture and long-term health” (Abstract, p. e232)
- Toxic stress & early adversity (including in utero) are built into our bodies / physiology & are linked to impairments in learning, behavior, and long-term physical and mental health
- “The lifelong costs of childhood toxic stress are enormous” (p. e243)

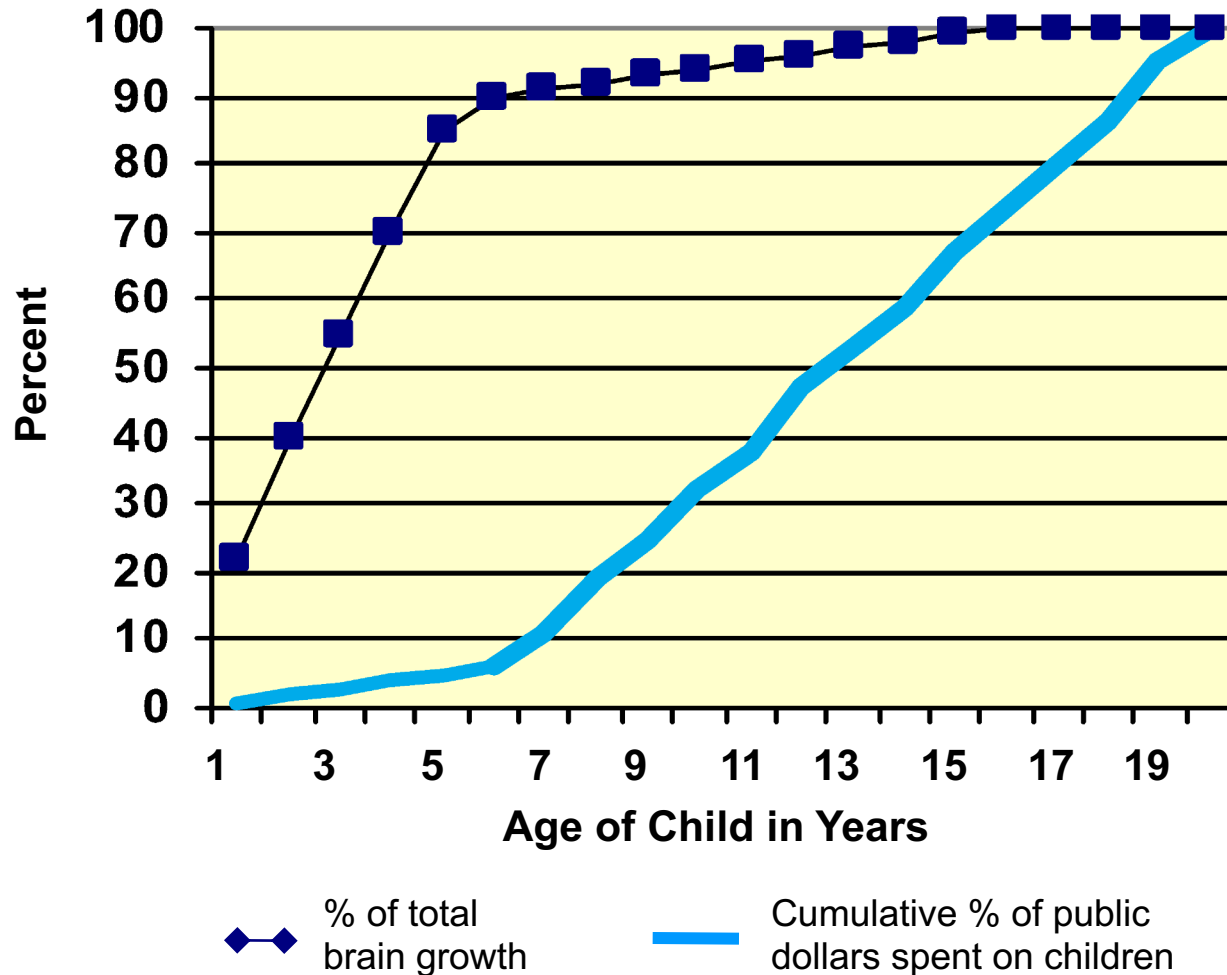
Long-term Effects of Early Childhood Experiences

Shonkoff et al. (cont'd)

- Persistent health disparities associated with poverty, discrimination, and maltreatment could be reduced by amelioration of toxic stress in early childhood
- This would improve lifelong health and developmental outcomes, including success in school, in the workplace, and as citizens
- **Many adult diseases should be viewed as developmental disorders of early childhood** including cardio-vascular, immune system, and metabolic problems (e.g., diabetes)

Public Investment Is Out of Synchrony

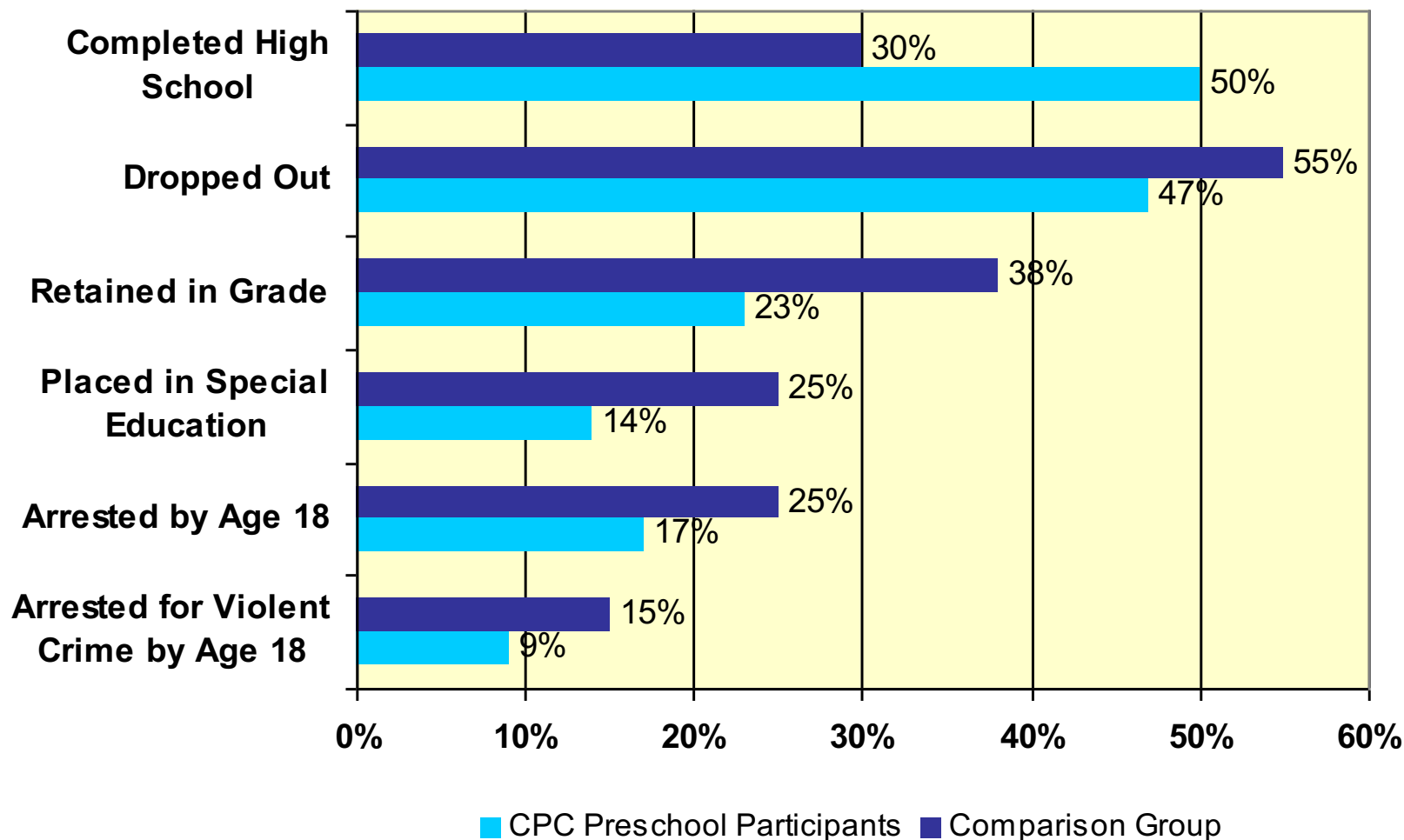
**Brain Growth Compared to Public Expenditures
on Young Children**



Sources: Public expenditures: RAND analysis of Table 1 in R. Haveman and B. Wolfe, "The Determinants of Children's Attainments: A Review of Methods and Findings," *Journal of Economic Literature*, Vol. 33, December 1995. Brain growth: Figure 2-0 in Purves, *Body and Brain*, Harvard University Press 1998, adopted from D.W. Thompson, *On Growth and Form*.

Benefits to Investing Early

The Children of the Chicago Parent-Child Centers at Age 20



Source: Reynolds, A. (2001.) Long-term Effects of an Early Childhood Intervention on Educational Achievement and Juvenile Arrest. JAMA.

Return on Investment (ROI)

Jim Heckman (A Nobel prize winning economist who quantitatively studies **human capital development**):

- “The best evidence supports the policy prescription: **Invest in the very young.**”

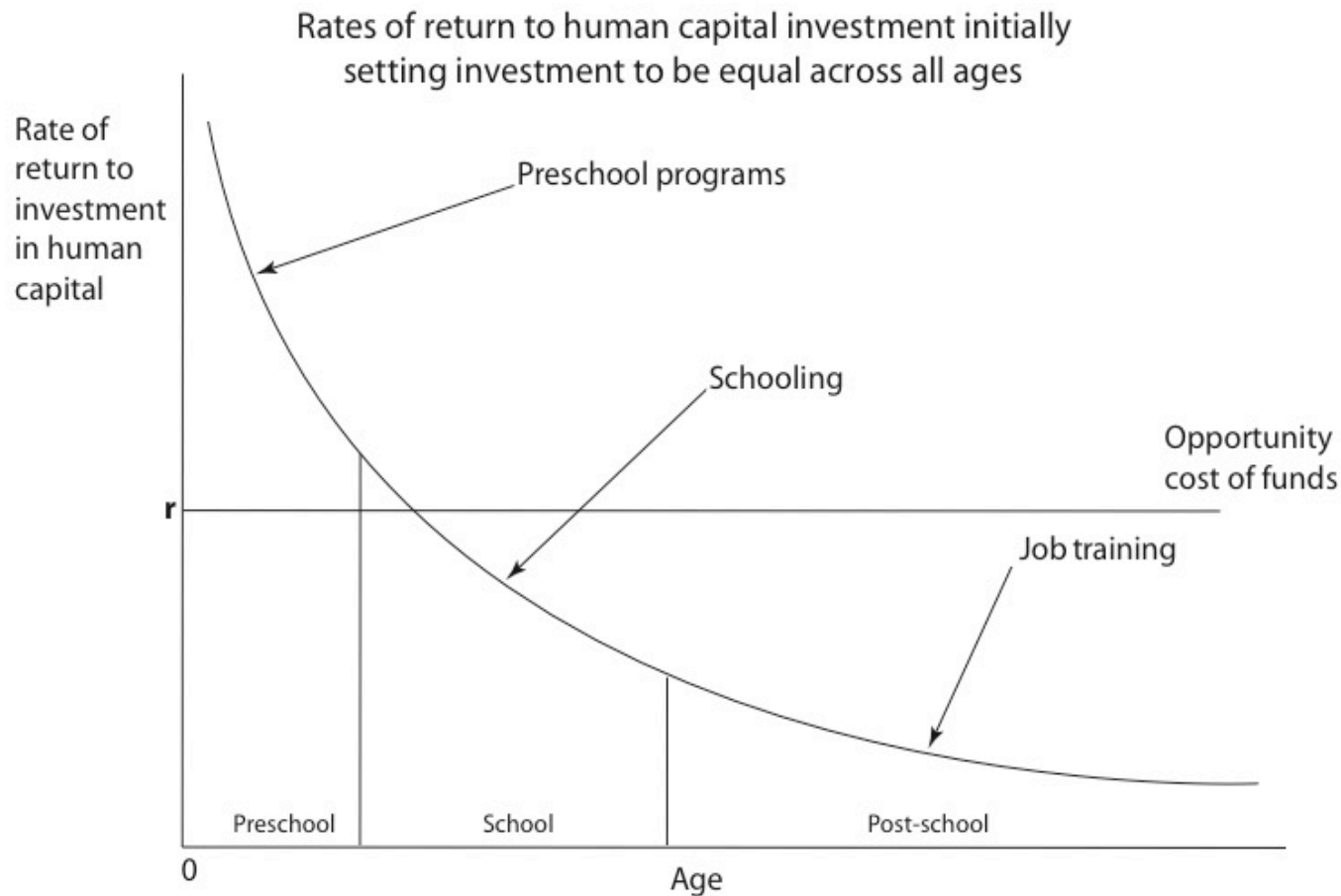
The Heckman Equation (<https://heckmanequation.org/>)

- **Invest** in educational and developmental opportunities for disadvantaged children and their families to provide **equal access to successful early human development**
- **Develop** cognitive skills and social skills in children early — from birth to age five when it matters most; skill begets skill
- **Sustain** early development with effective education through adulthood
- **Gain** more capable, productive and valuable citizens that pay dividends to America for generations to come: productive workforce, solid citizens, and good parents

Return on Investment (ROI)

Heckman: Economic Argument for Early Investments in Human Capital

(Heckman, J.J., & Masterov, D.V. (2004) The Productivity Argument for Investing in Young Children)



Rates of return to human capital investment initially setting investment to be equal across all ages

Return on Investment (ROI)

Art Rolnick (Economist and formerly VP for research at the Minneapolis Federal Reserve Bank):

- “Any proposed **economic development** list should have early childhood development at the top. **The return on investment from early childhood development is extraordinary.**”
- **Calculated ROIs range from \$6 for every dollar invested to \$17 per \$1, but none of them included long-term health and mental health benefits**

Importance of Early Childhood Development

Beyond its intrinsic value as a compelling moral responsibility, the healthy development of all young children, as supported by parents and high quality early education and child care, builds their readiness for school and life success. This benefits all of society and all of us by providing a solid foundation for responsible citizens, a productive workforce, a next generation of good parents, strong communities, and, ultimately, for a sustainable democracy and future prosperity.