



The Economic Case for Investing in Young Children

Dallas, Texas
November 1, 2016



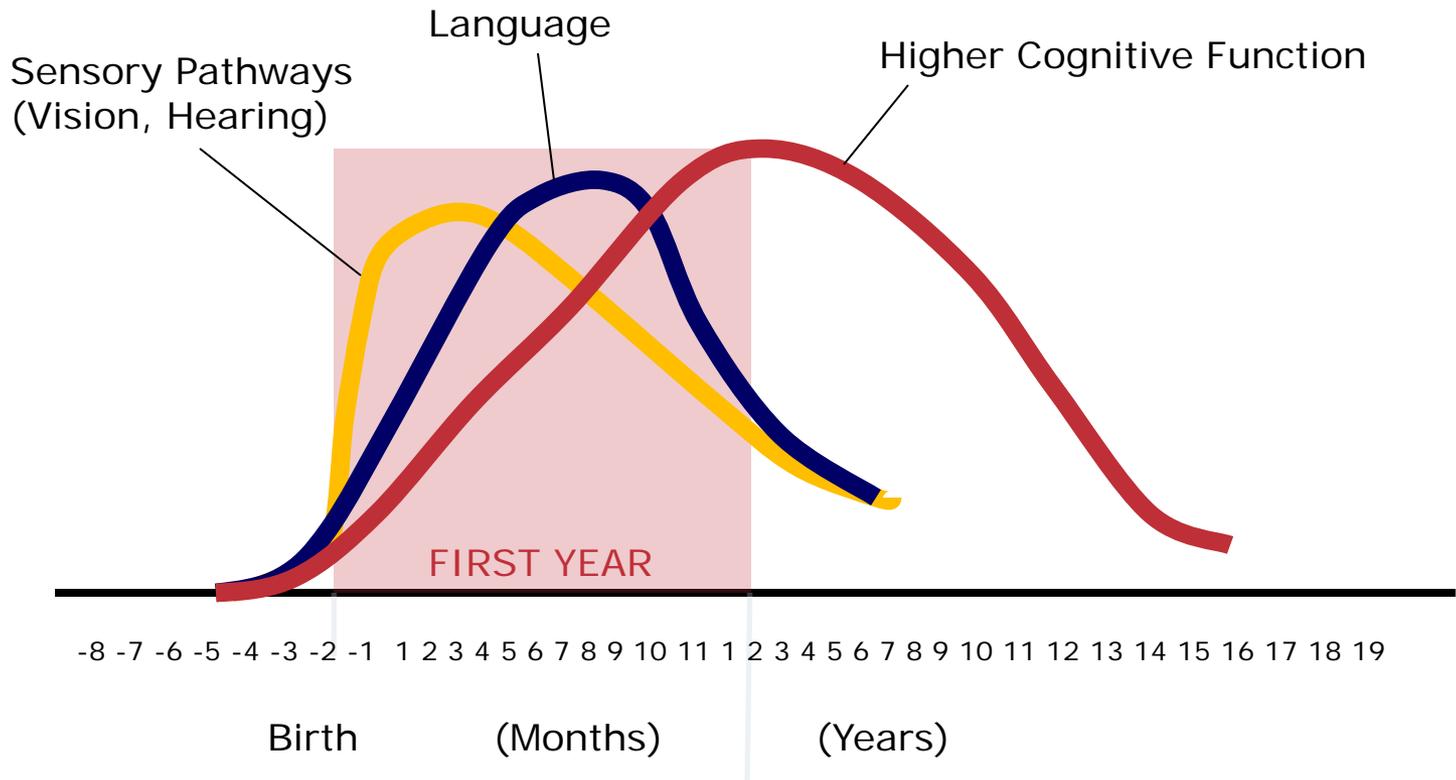
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**The views expressed here are those of the author and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.*

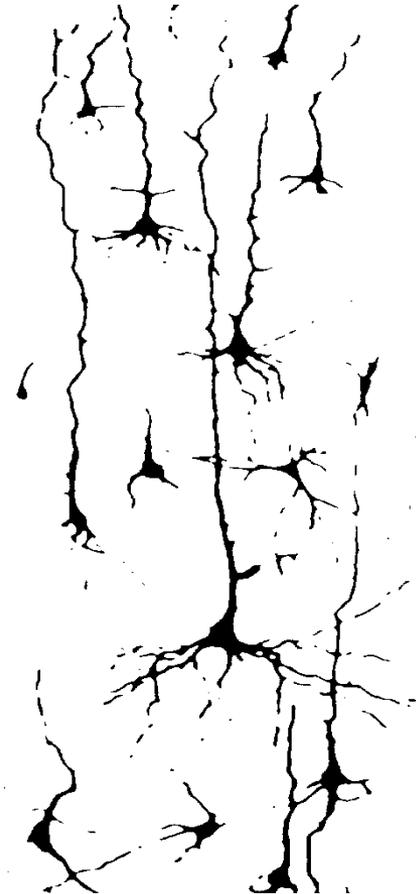


Human Brain Development

Synapse Formation Dependent on Early Experiences



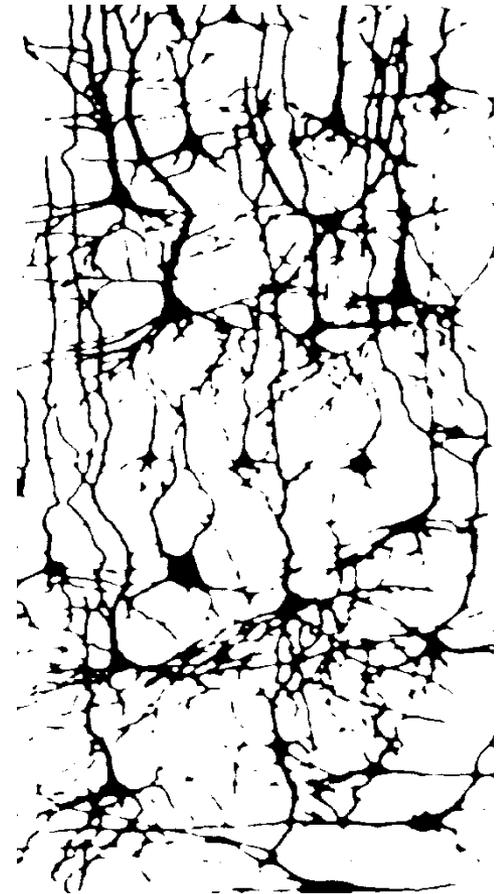
Human
Brain
at Birth



6 Years Old



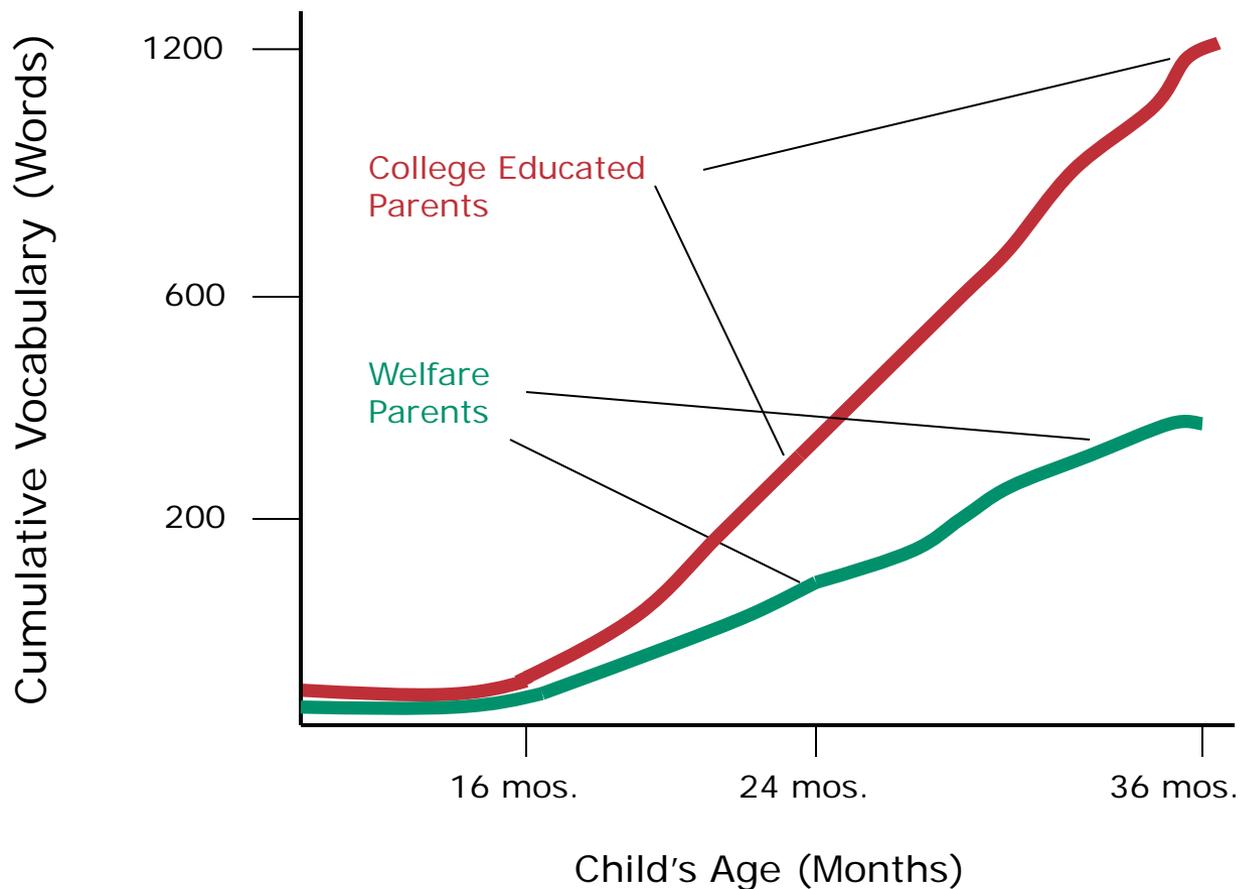
14 Years Old



Source: Chugani, Phelps & Mazziotta (1987)

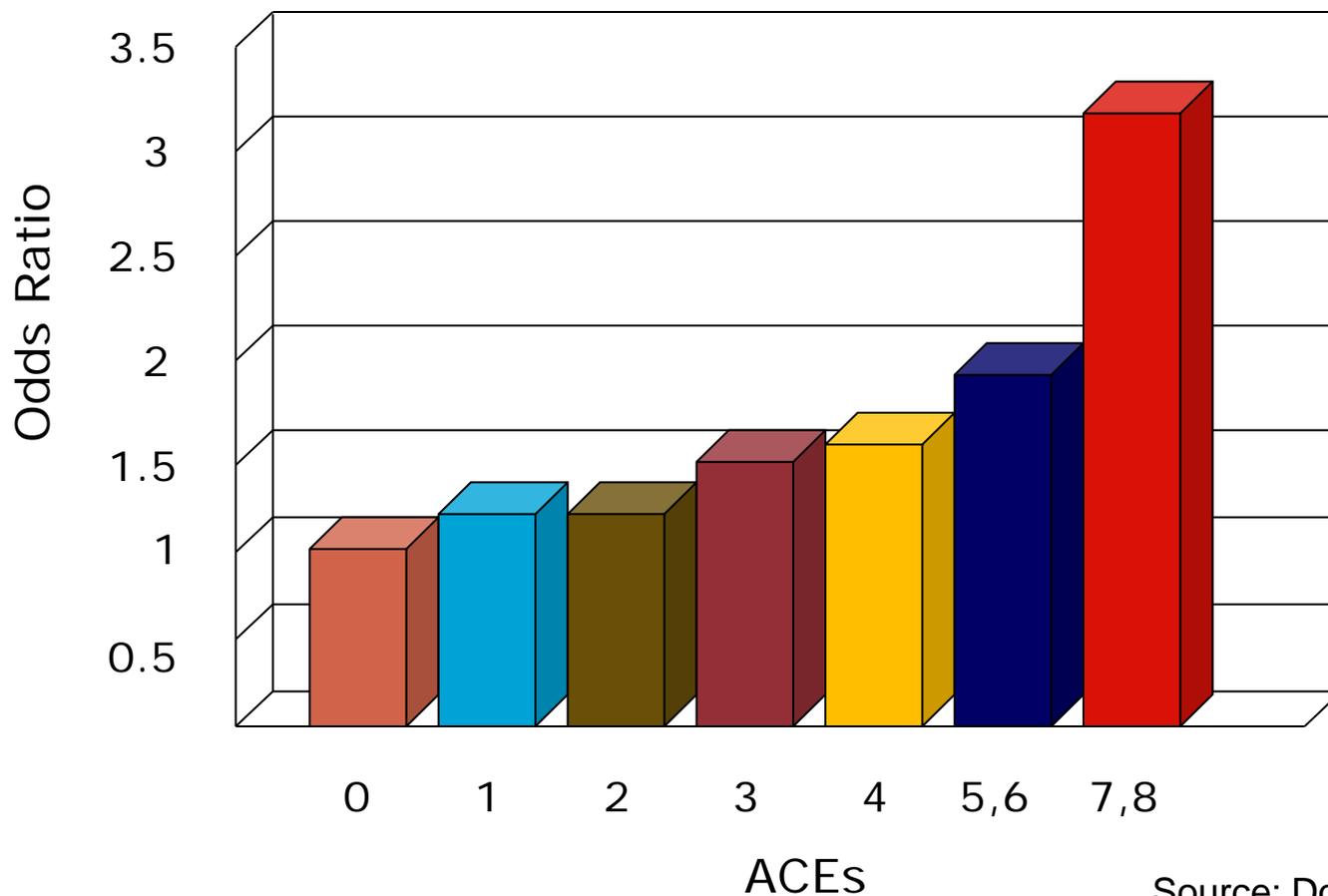


Barriers to Social Mobility Emerge at a Very Young Age





Risk Factors for Adult Heart Disease are Embedded in Adverse Childhood Experiences



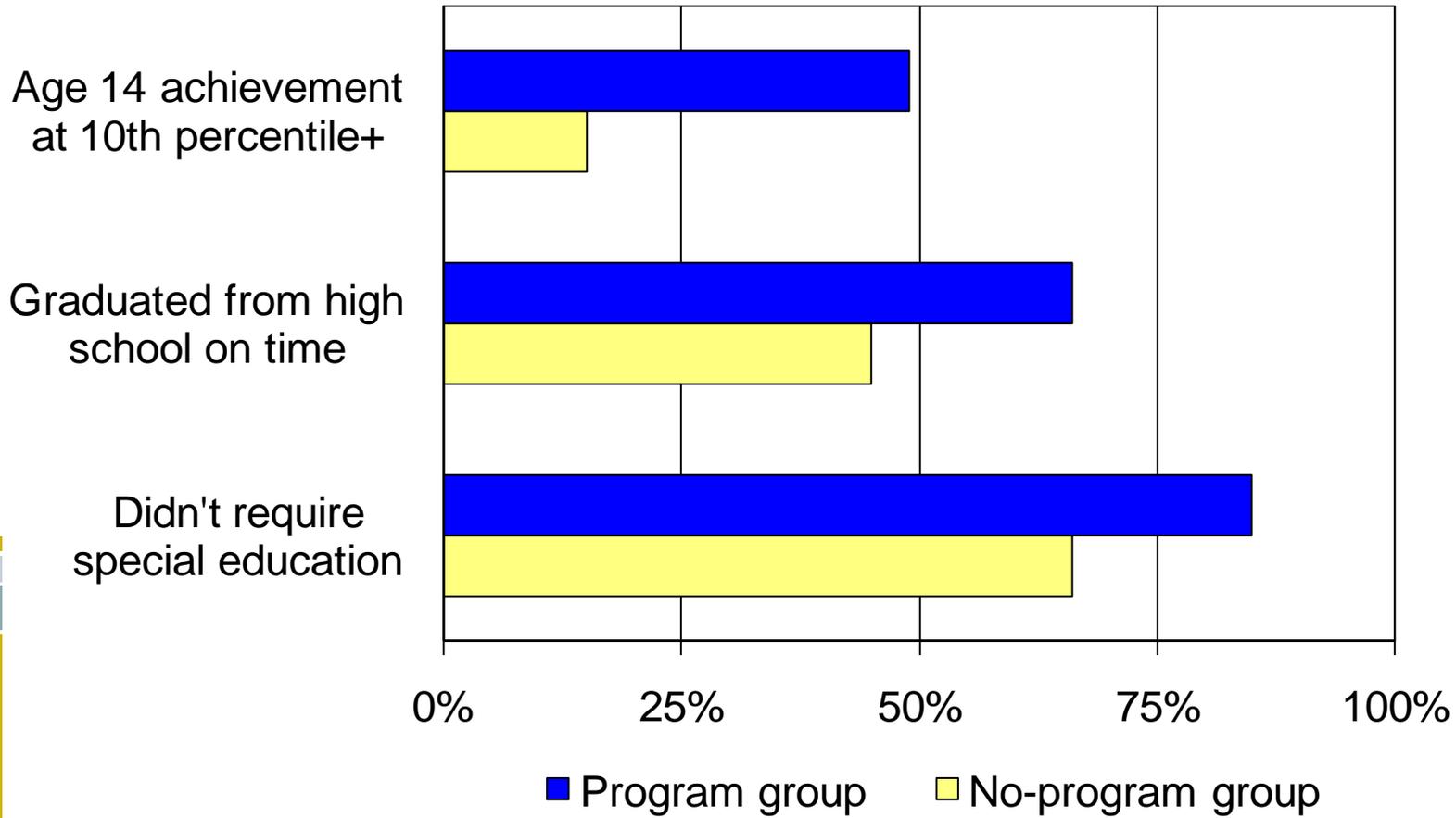
Source: Dong et al, 2004



High/Scope Study of Perry Preschool

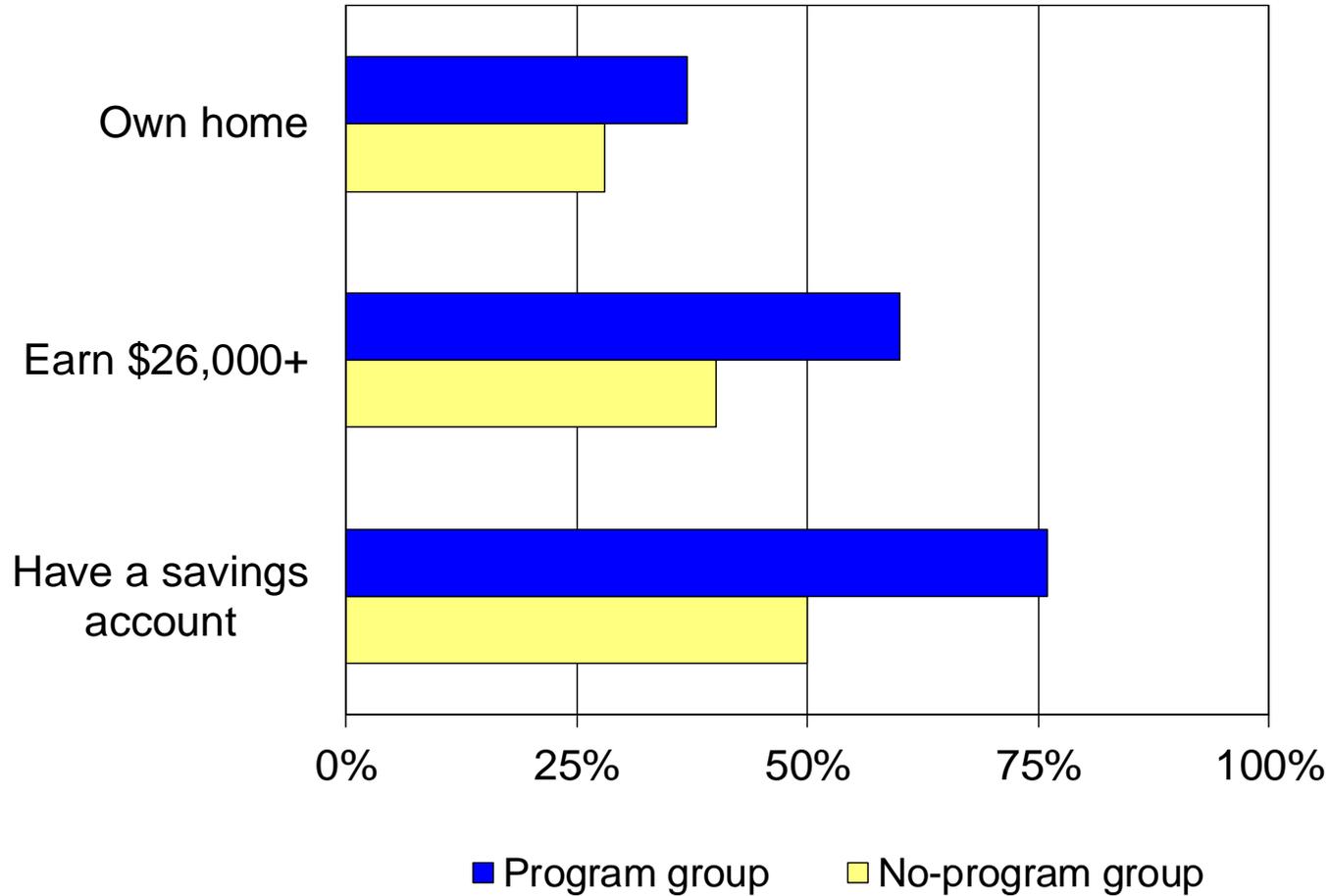
- In early 1960s, 123 children from low-income families in Ypsilanti, Mich.
- Children randomly selected to attend Perry or control group.
- High-quality program with well-trained teachers, daily classroom sessions and weekly home visits.
- Tracked participants and control group through age 40.

Perry: Educational Effects



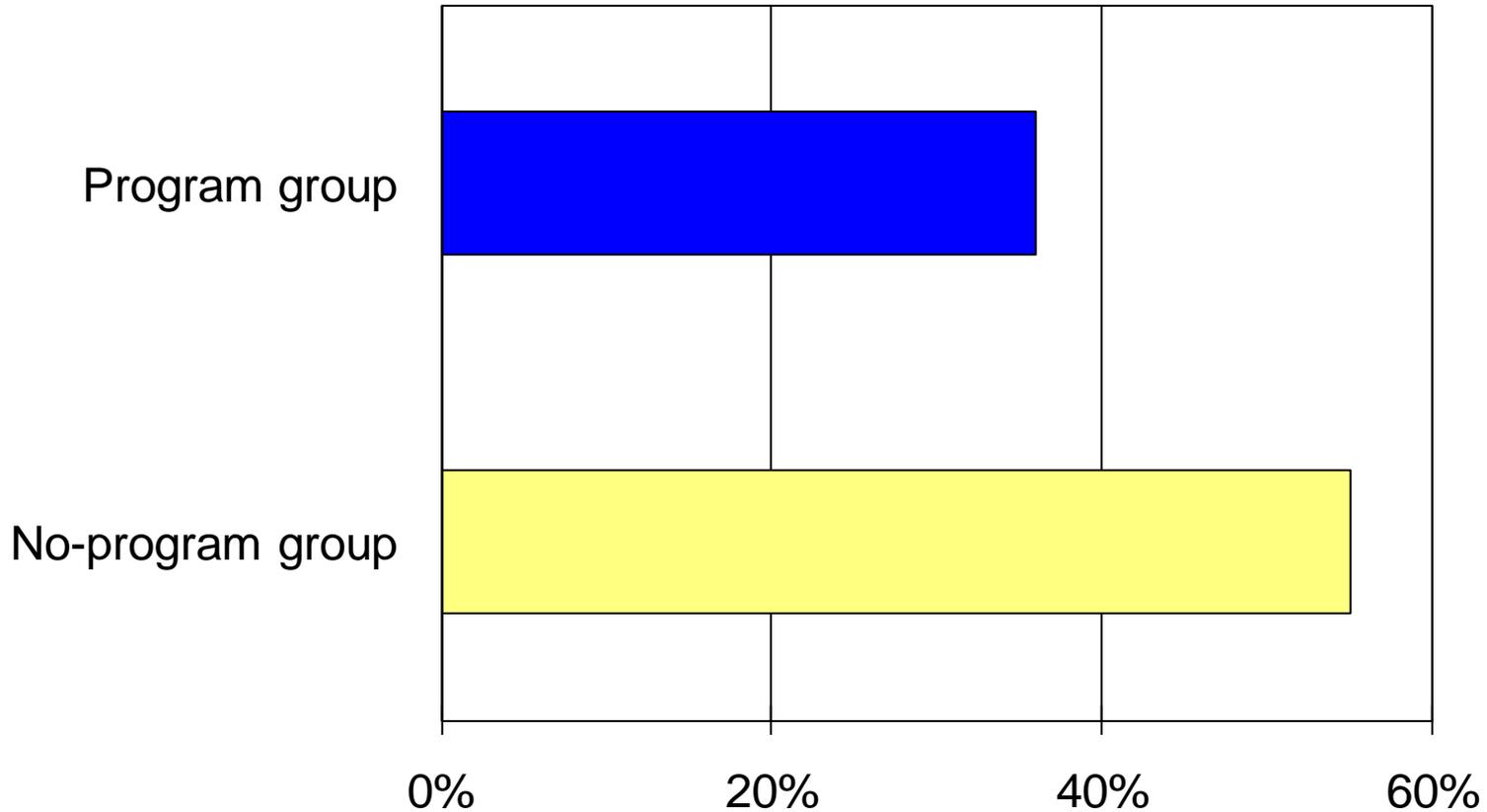
Source: Schweinhart, et al. (2005)

Perry: Economic Effects at Age 40



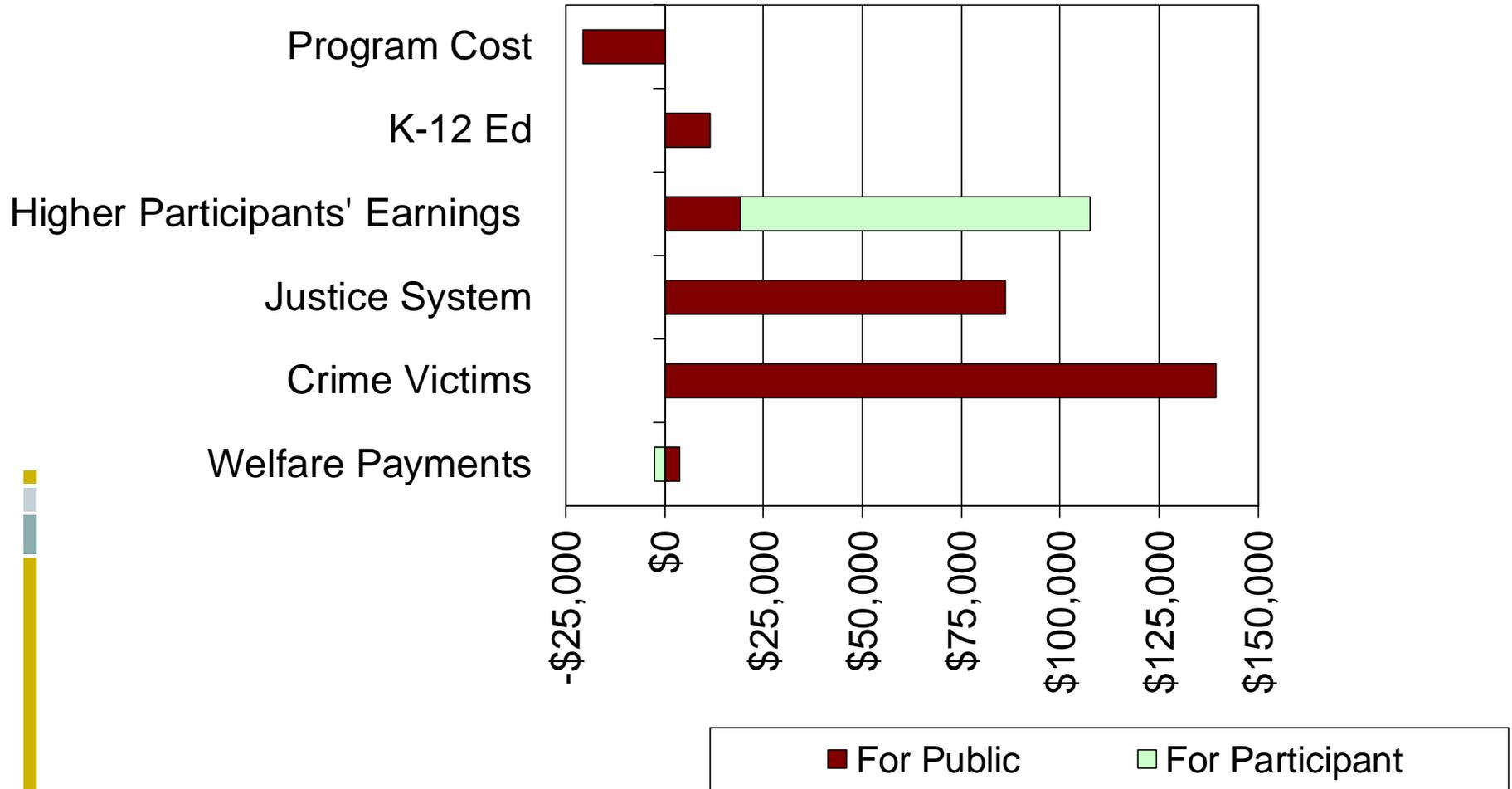
Source: Schweinhart, et al. (2005)

Perry: Arrested 5 or More Times Before Age 40



Source: Schweinhart, et al. (2005)

Perry Preschool Costs and Benefits Over 62 Years



Source: Schweinhart, et al. (2005)



Perry Preschool — Estimated Return on Investment

- Benefit-Cost Ratio = \$16 to \$1
- Annual Rate of Return = 18%
- Public Rate of Return = 16%
- Heckman Reanalysis = 10%



Sources: Schweinhart, et al. (2005); Author's calculations; Heckman, Moon, Pinto, Savelyez, & Yavitz (2010)



Benefit-Cost Ratios for Other Longitudinal Studies

- Abecedarian Educational Child Care
 - \$4 to \$1
- Chicago-Child Parent
 - \$10 to \$1
- Elmira Prenatal/Early Infancy Project
 - \$5 to \$1



Sources: Masse & Barnett (2002); Reynolds, Temple, White, Ou, & Robertson (2011); Karoly, et al (1998)



Recent Research Findings

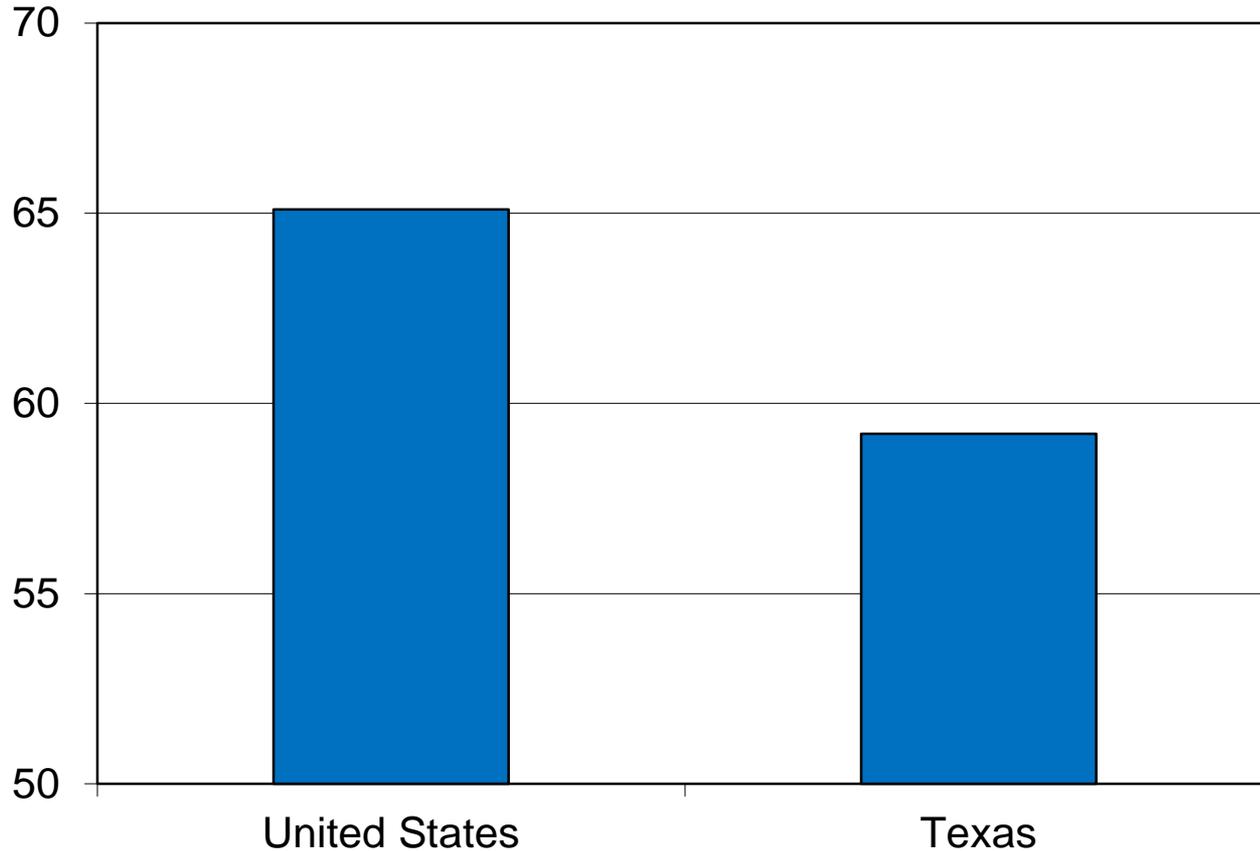
- State preschool program studies show positive gains in vocabulary and emerging math and literacy skills
- Analysis of Infant Health and Development Program for children ages 1 to 3 shows reduction in achievement gap
- Evaluations of Head Start and Early Head Start show positive impact on development with mixed findings regarding persistence



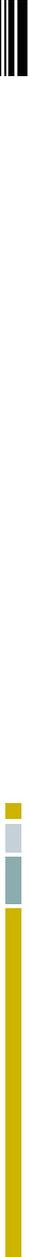
Short-Run Benefits

- Fewer low-weight and pre-term births
- Fewer emergency room visits
- Reduced child abuse and neglect
- Reduced grade retention and special education
- Reduced employee absenteeism and turnover

Percent of Children Under 6 Years Old With All Parents in the Labor Force, 2015



Source: American Community Survey



Lessons Learned from Research

- Invest in quality
- Involve parents
- Start early
- Reach vulnerable children and families
- Bring to scale



Key Investments

- Home visiting
- Access to high-quality early learning programs
- Quality improvement
- Parent education
- Health care





Sources

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