

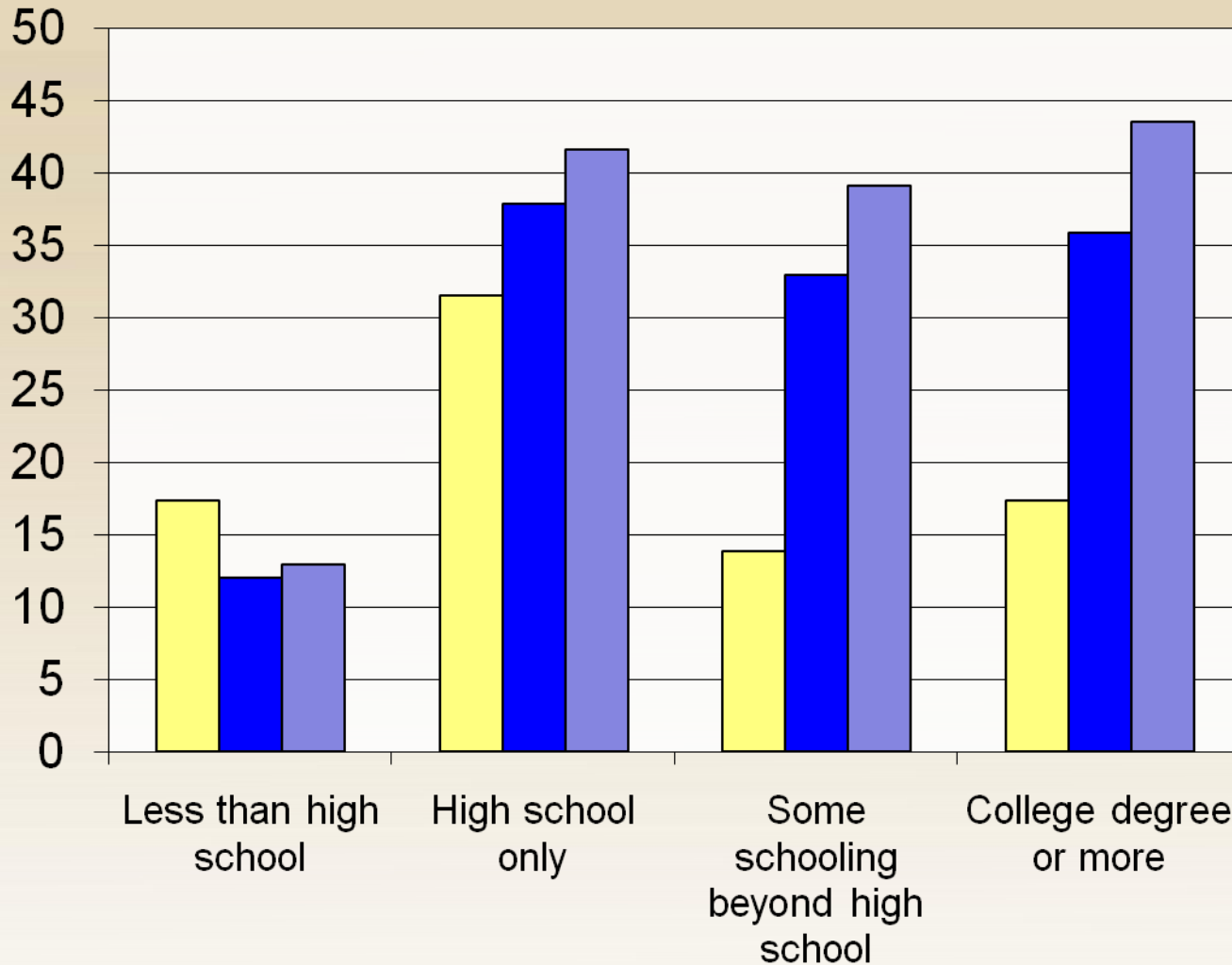
The Economic Case for Investments in Young Children



Rob Grunewald
Federal Reserve Bank of Minneapolis

Educational Characteristics of the Labor Force

Millions of Workers Age 25 and Over



Source: Ellwood (2001)

■ 1980

■ 2000

■ 2020 (Projection)



Four Numbers to Remember

700 per second

18 months

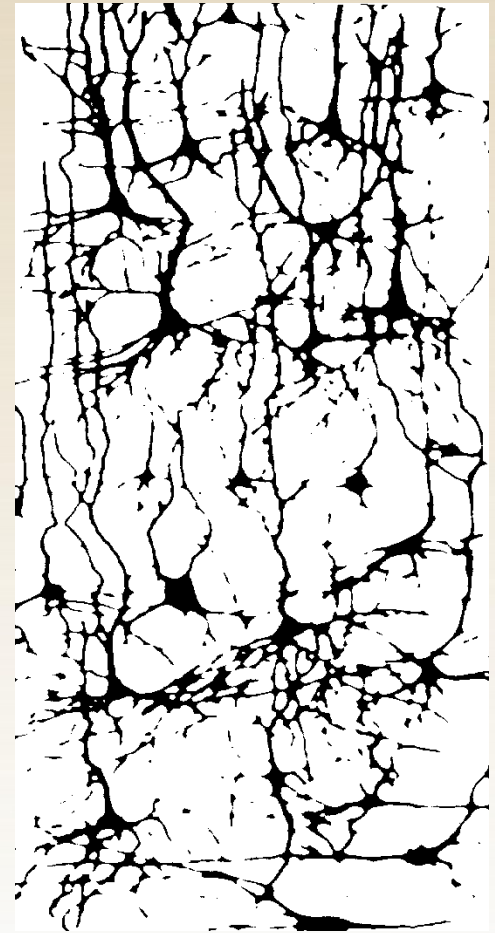
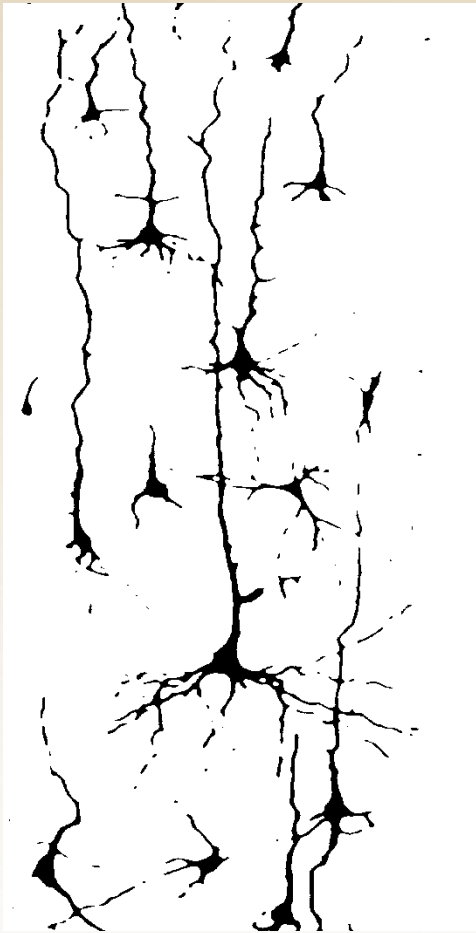
2:1 ratio

3:1 odds

Human
Brain
at Birth

6 Years
Old

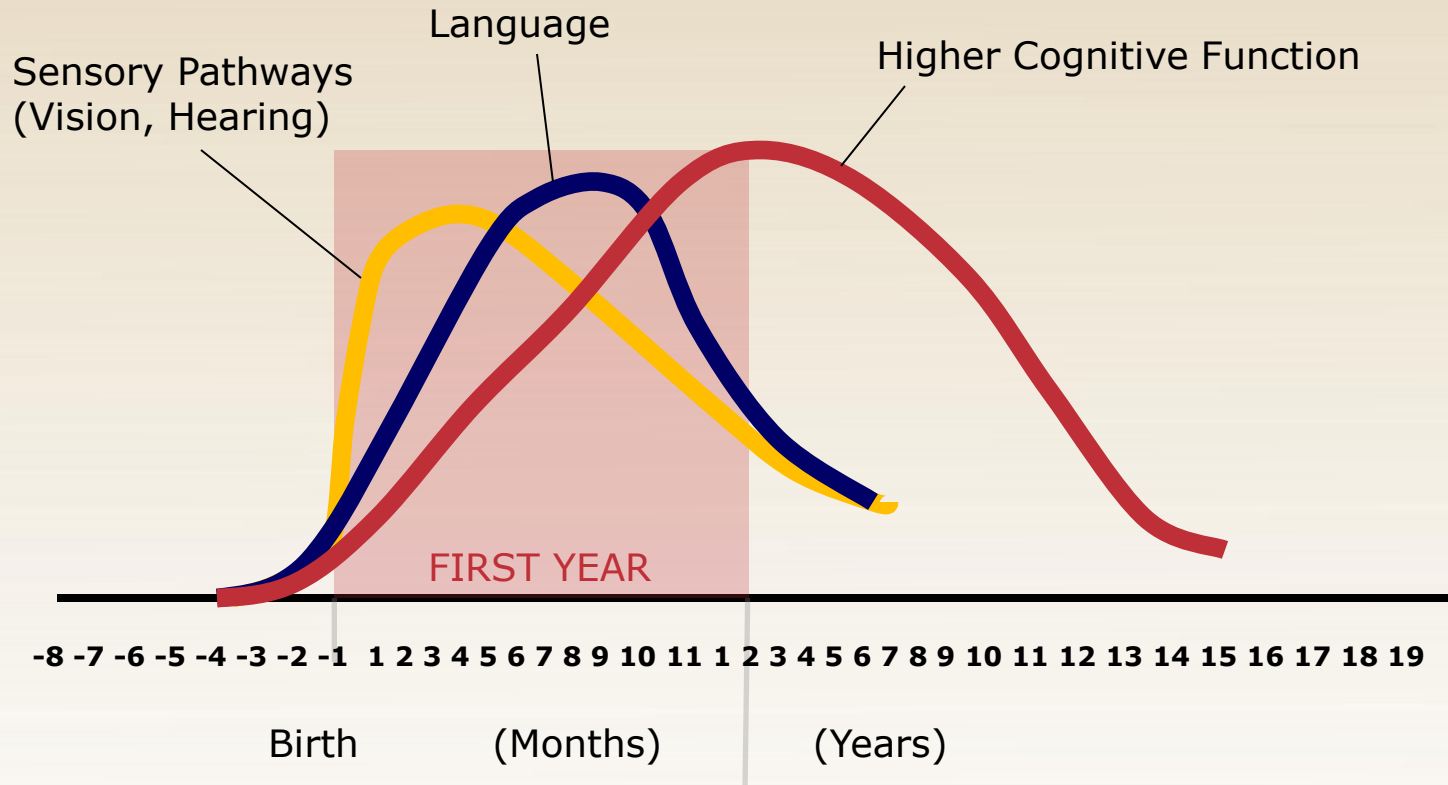
14 Years
Old





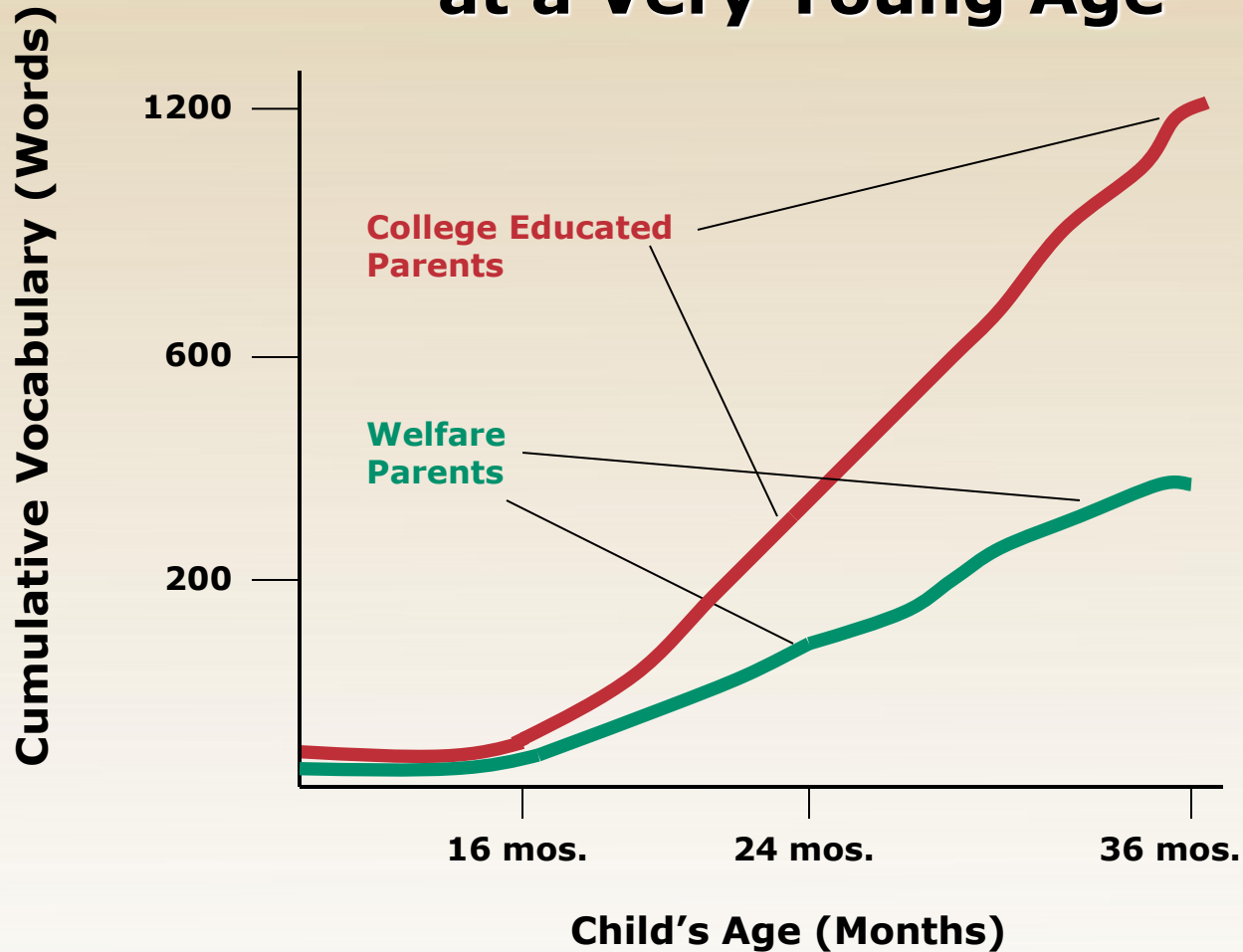
Human Brain Development

Synapse Formation Dependent on Early Experiences





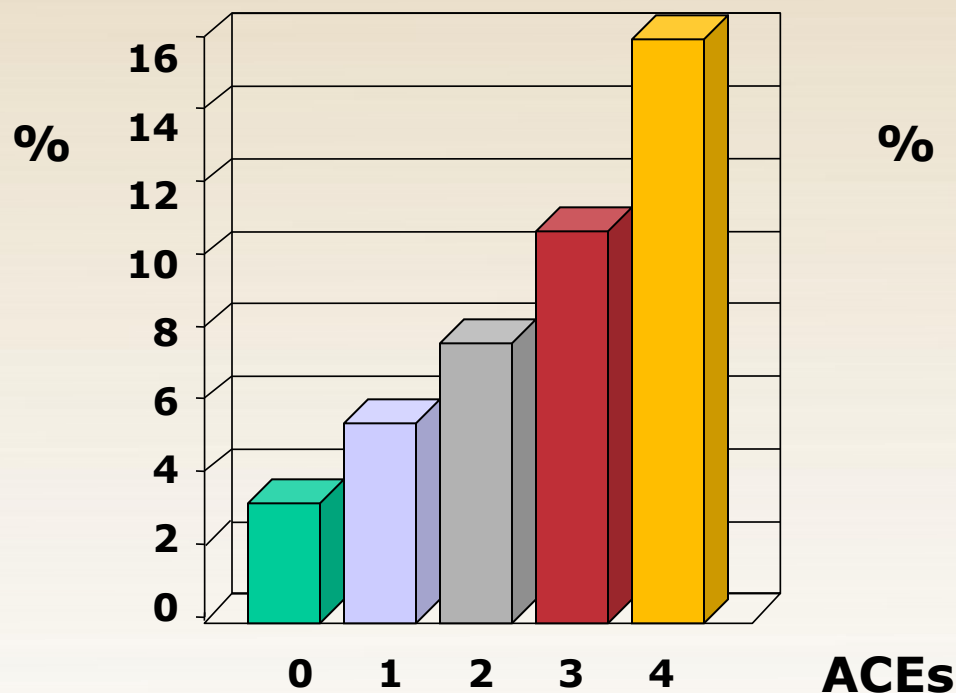
Barriers to Social Mobility Emerge at a Very Young Age





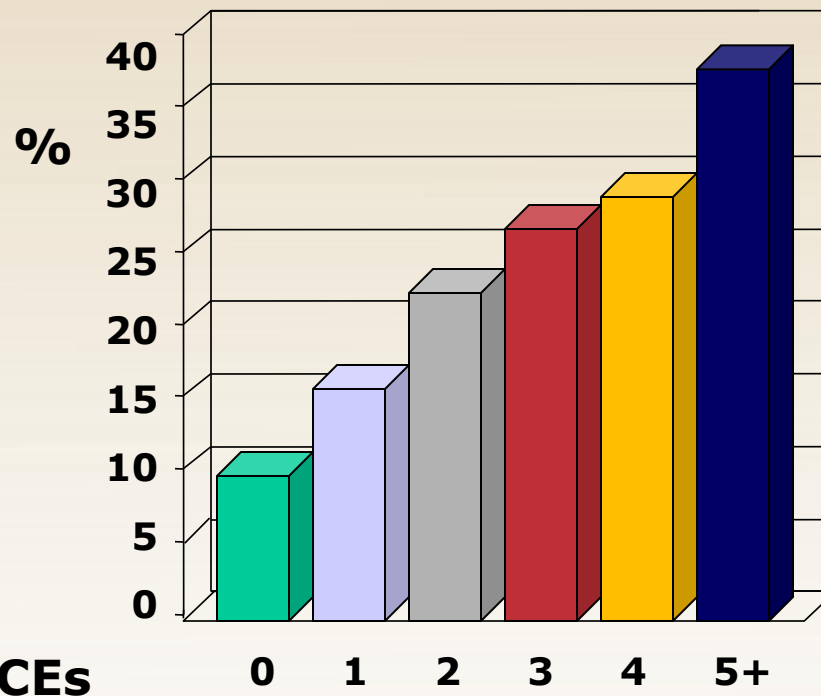
Risk Factors for Adult Substance Abuse are Embedded in Adverse Childhood Experiences

Self-Report: Alcoholism



Source: Dube et al, 2002

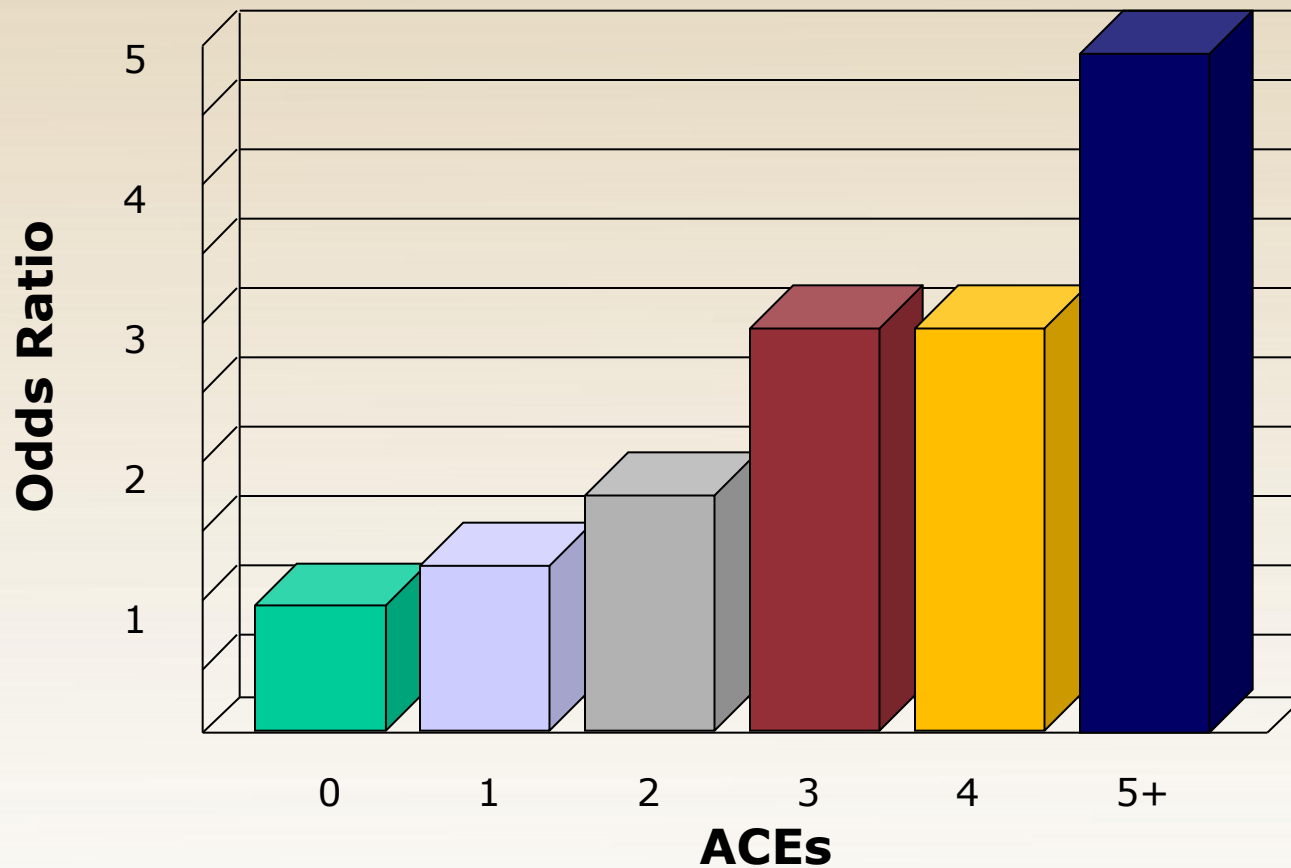
Self-Report: Illicit Drugs



Source: Dube et al, 2005

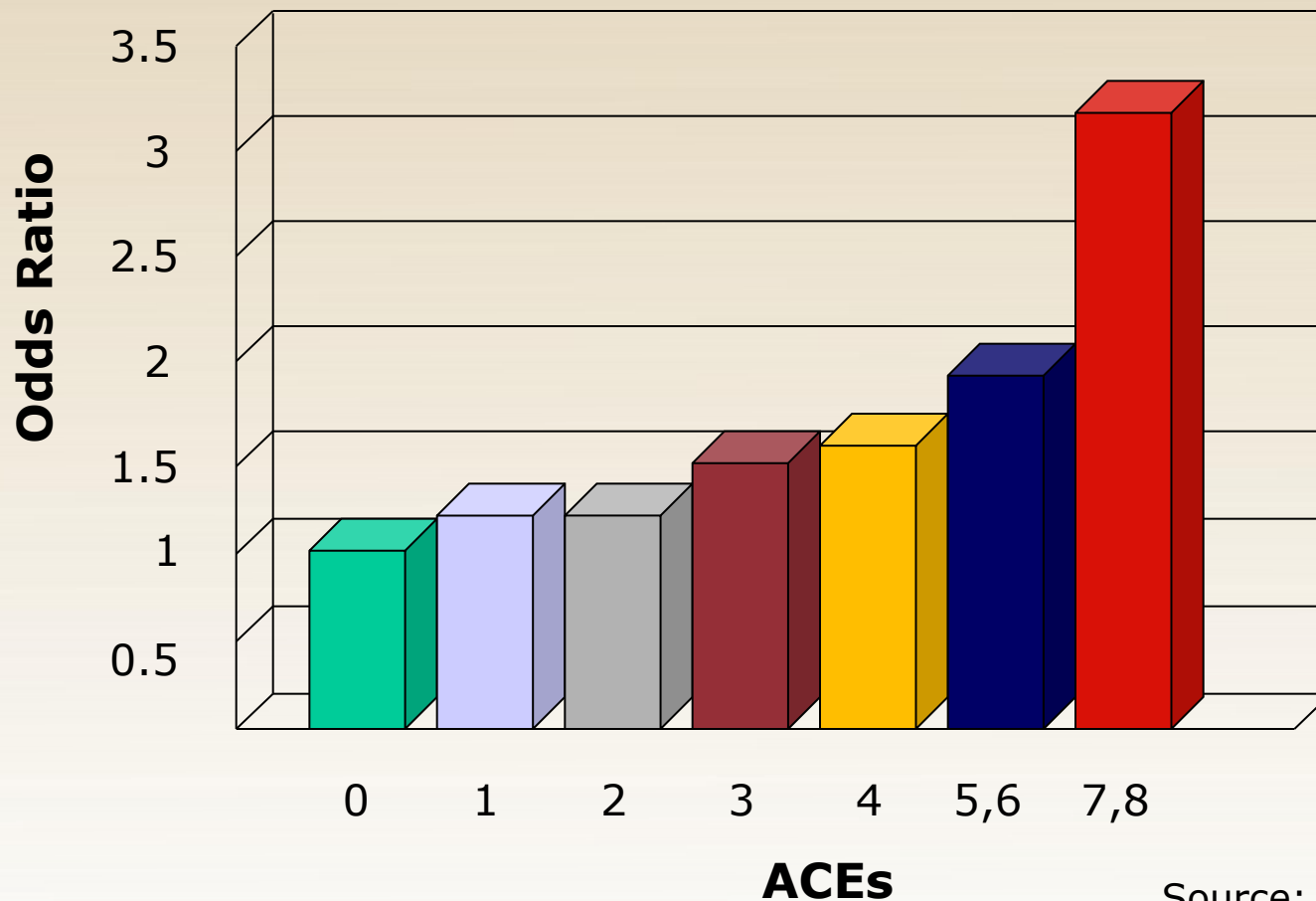


Risk Factors for Adult Depression are Embedded in Adverse Childhood Experiences





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



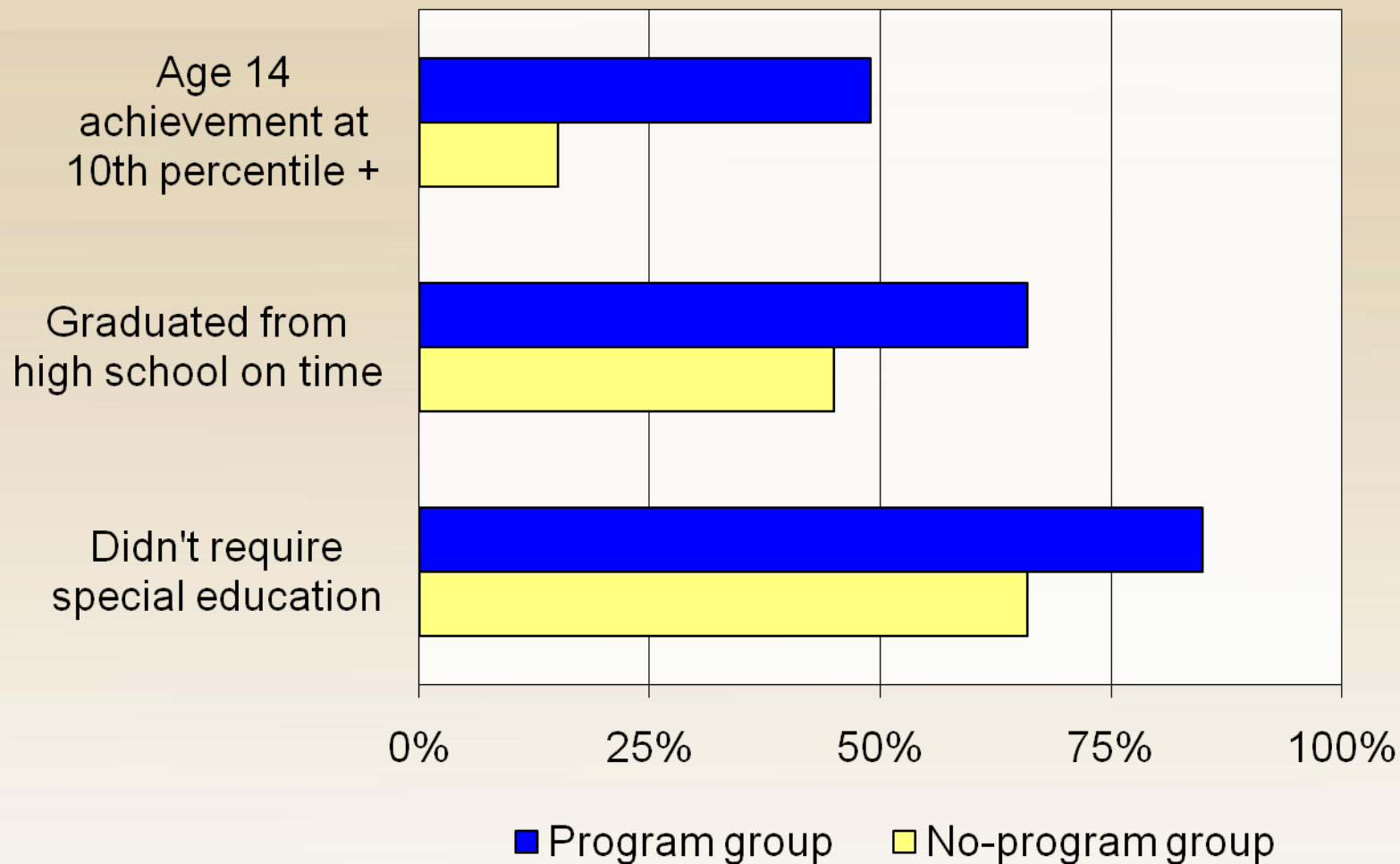


High/Scope Study of Perry Preschool

- 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.



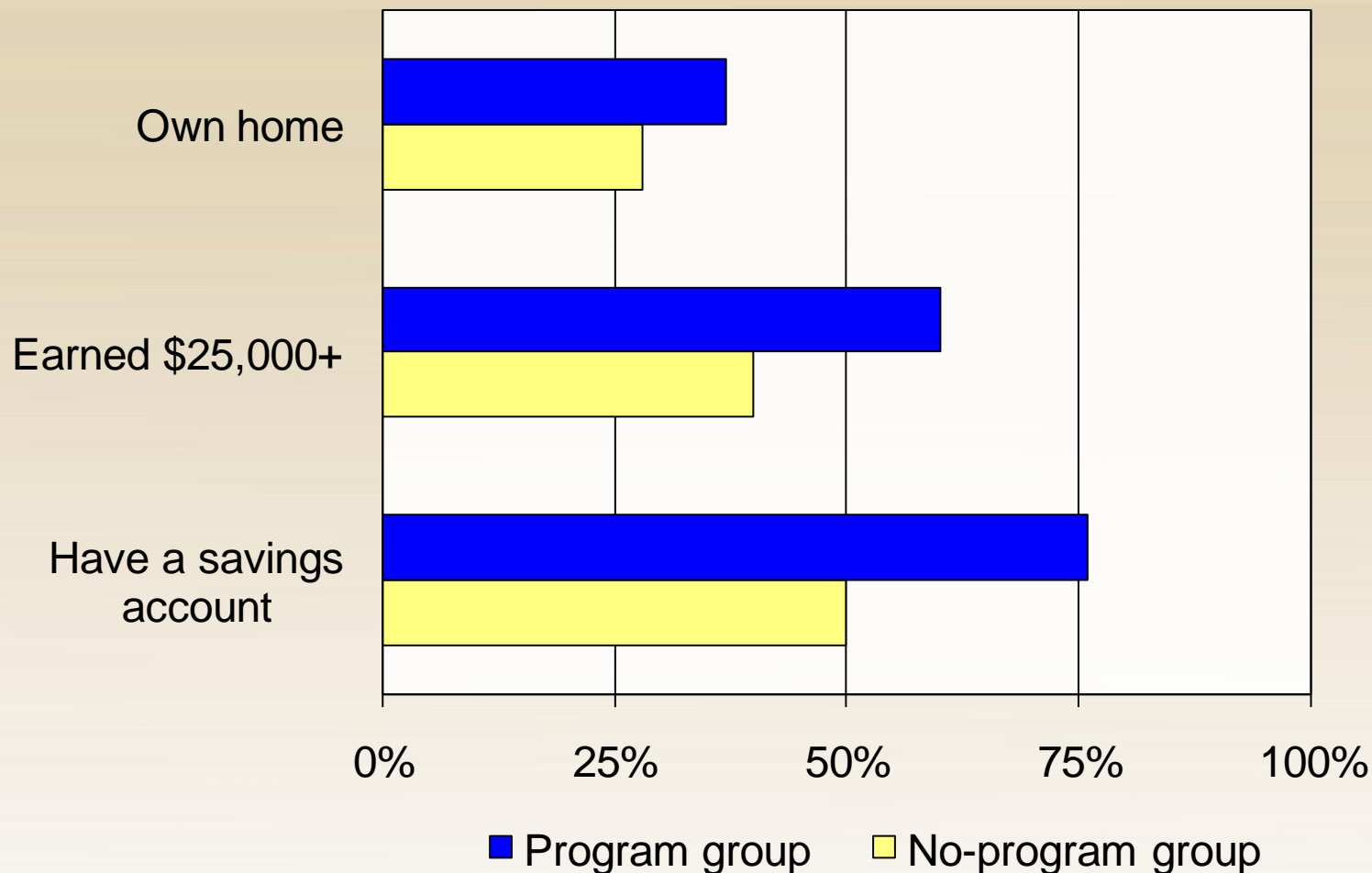
Perry: Educational Effects



Source: High/Scope Educational Research Foundation



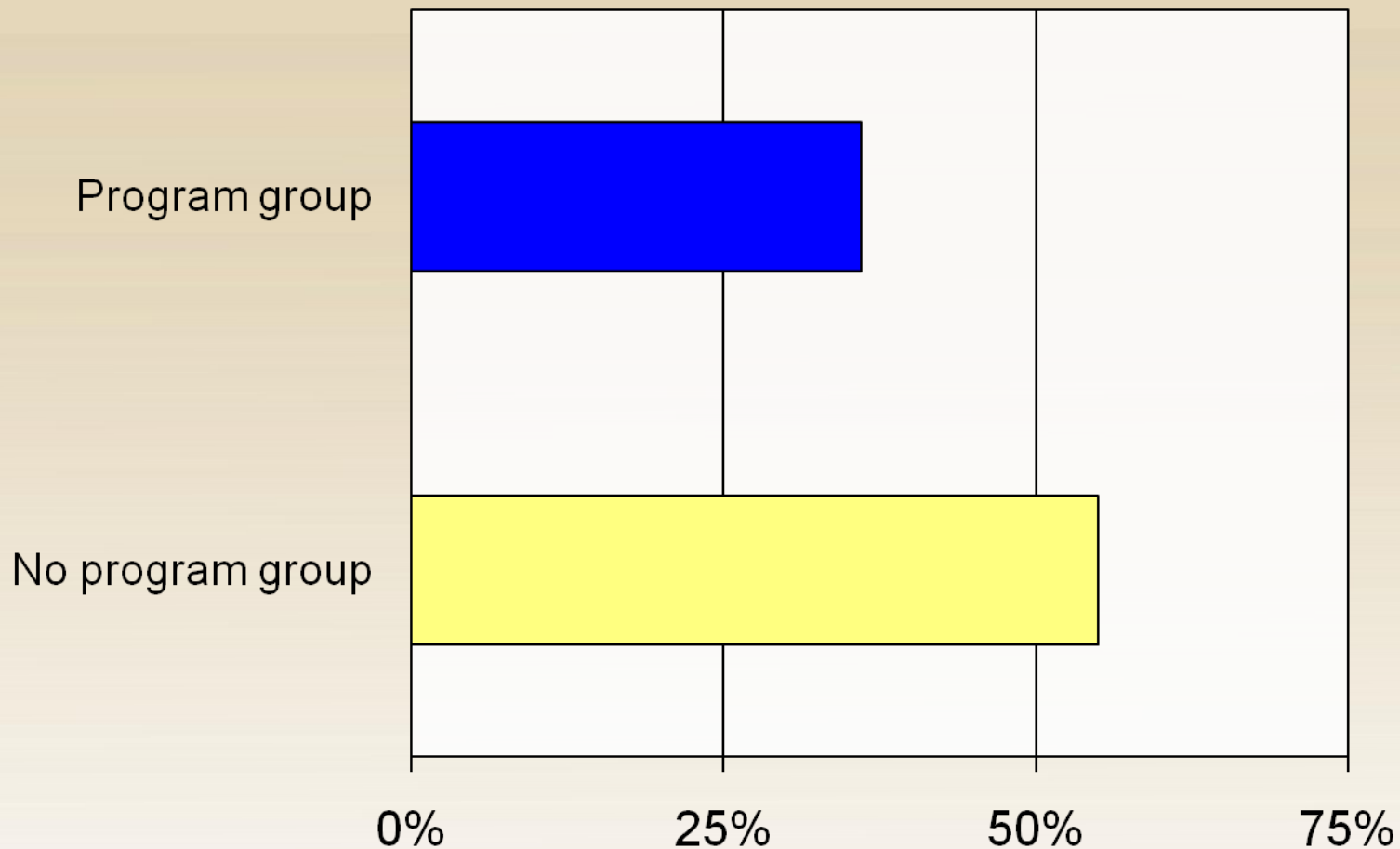
Perry: Economic Effects at Age 40



Source: High/Scope Educational Research Foundation



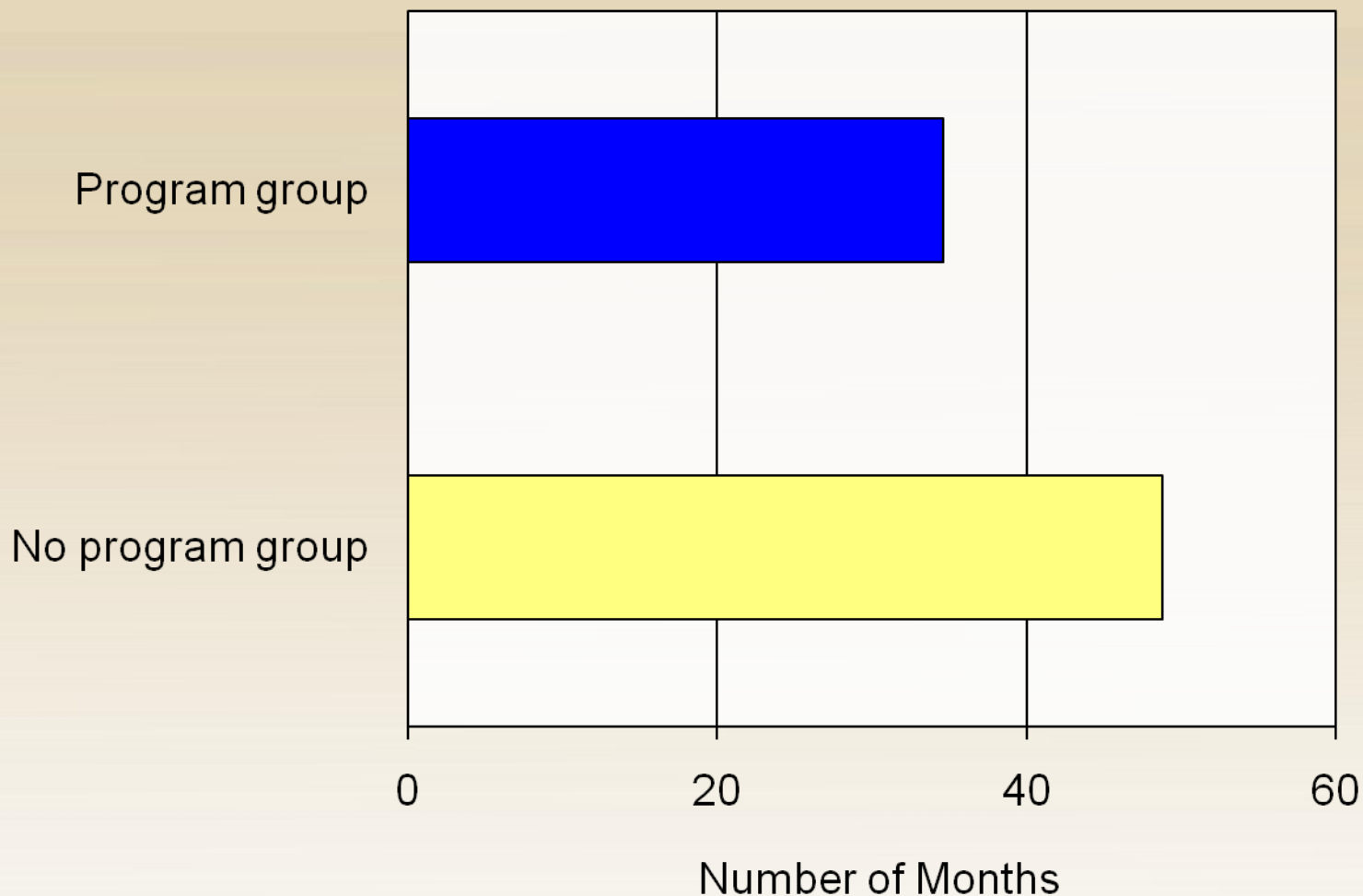
Perry: Arrested 5 or More Times Before Age 40



Source: High/Scope Educational Research Foundation



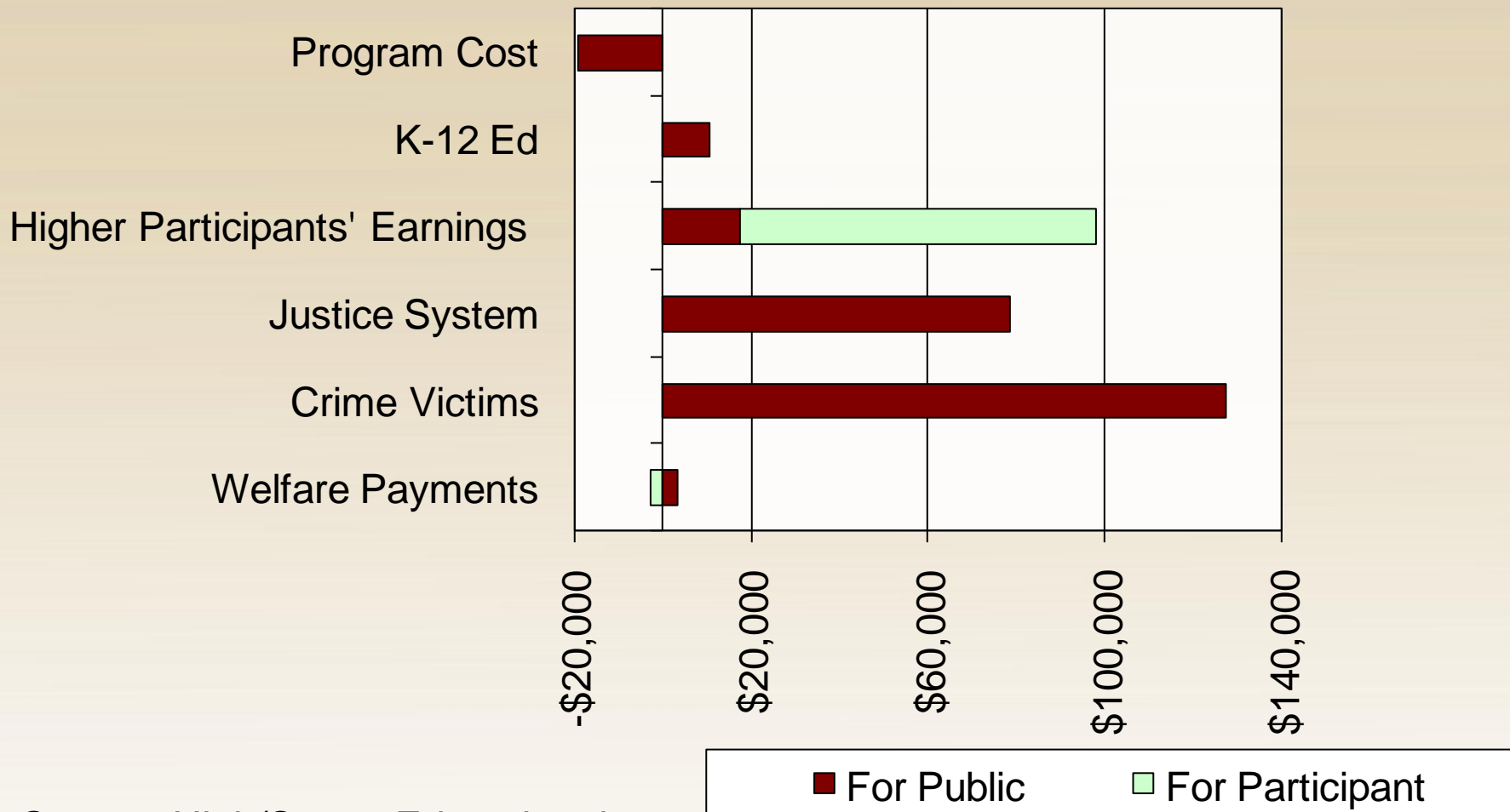
Perry: Average Number of Months Served in Prison by Age 40



Source: High/Scope Educational Research Foundation



Perry Preschool Costs and Benefits Over 62 Years



Source: High/Scope Educational
Research Foundation



Perry Preschool — Estimated Return on Investment

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

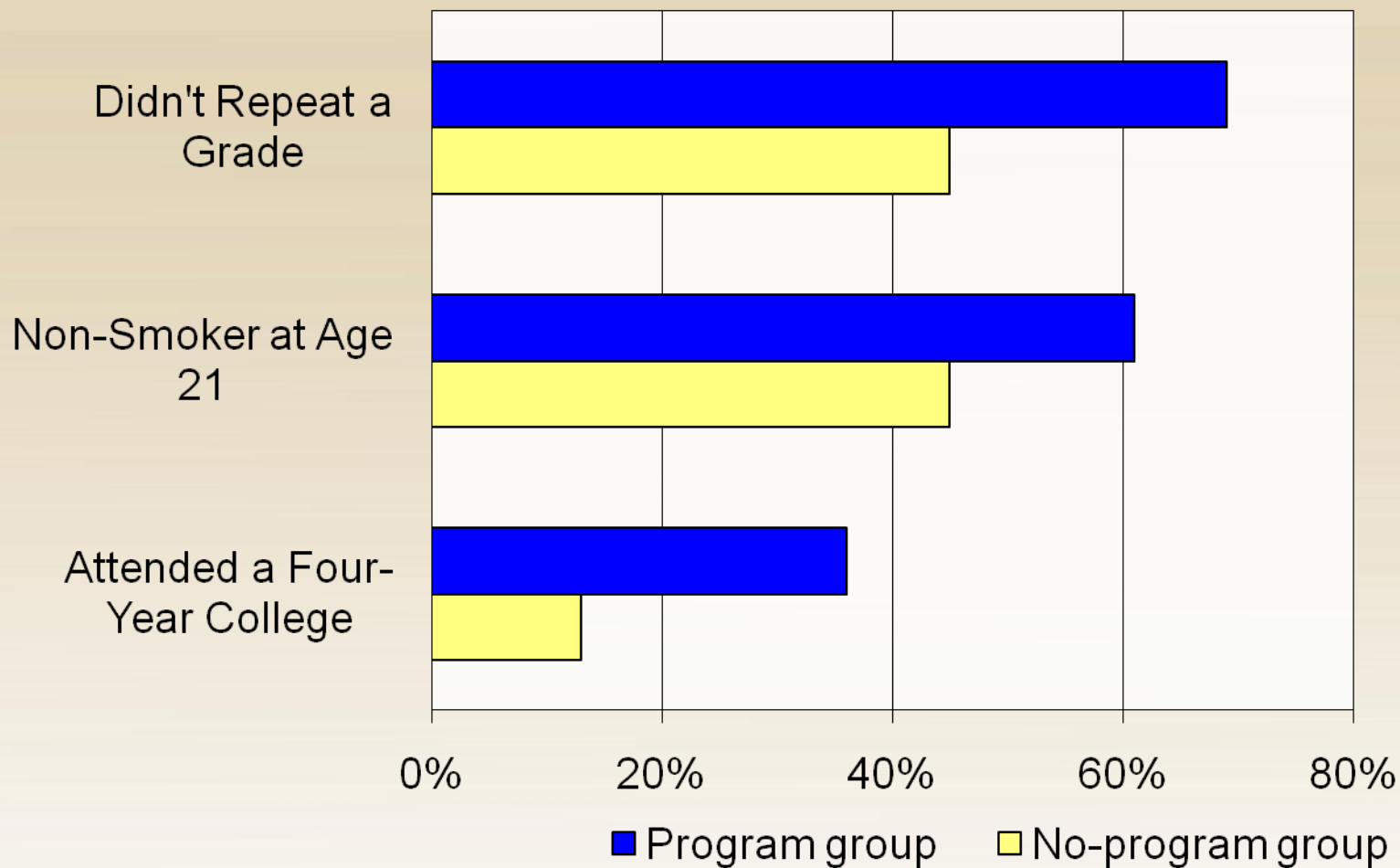


Abecedarian, Educational Child Care

Full-day, year-round program near Chapel Hill, N.C. Children from low-income families were randomly selected to attend Abecedarian or control group.



Abecedarian: Educational and Health Effects



Source: Carolina Abecedarian Study

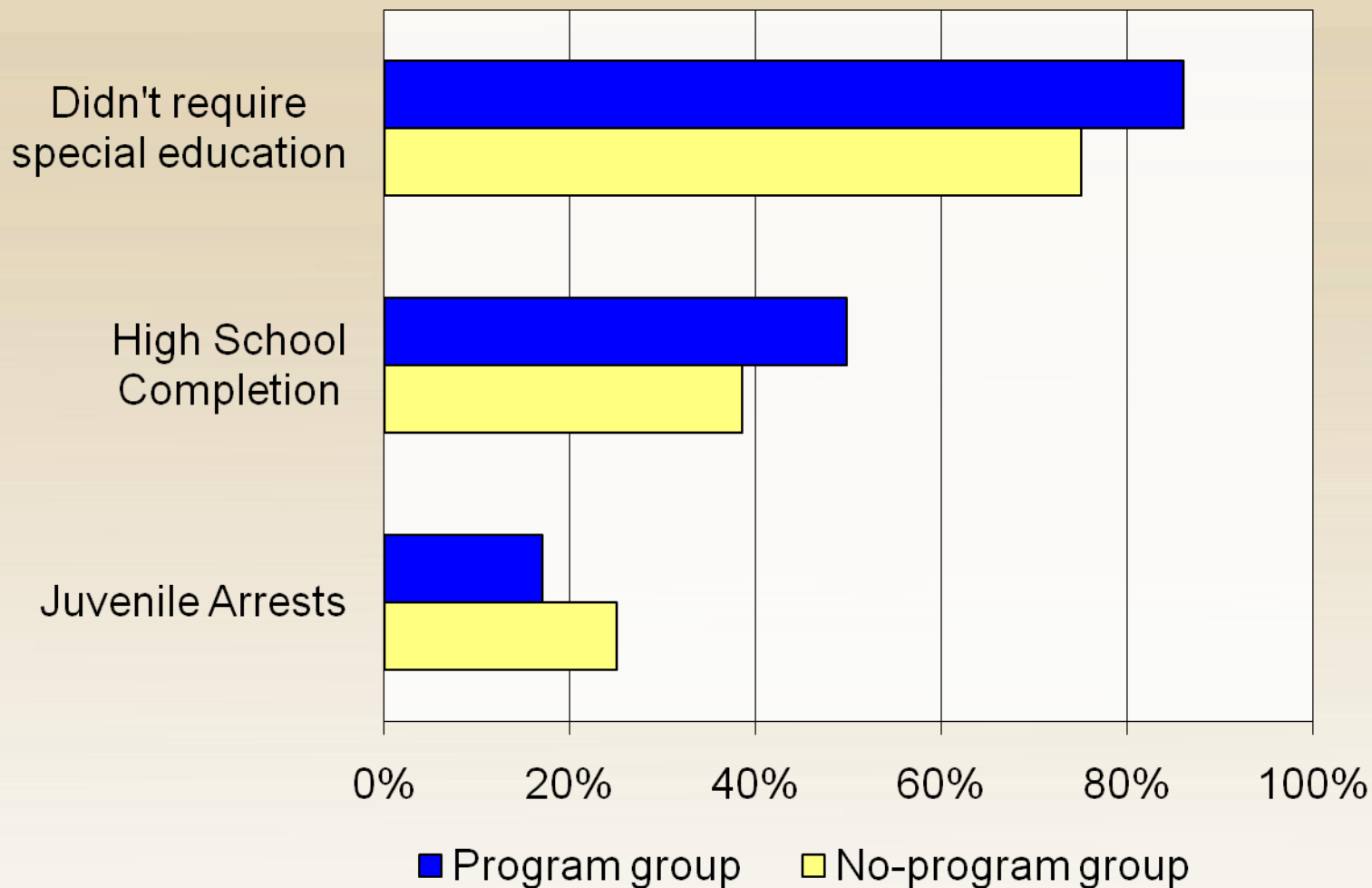


Chicago Child-Parent Centers

Half-day, large-scale program in Chicago public schools. Comparison group was a sample of eligible nonparticipants.



Chicago Child-Parent Centers



Source: Arthur Reynolds, et al.

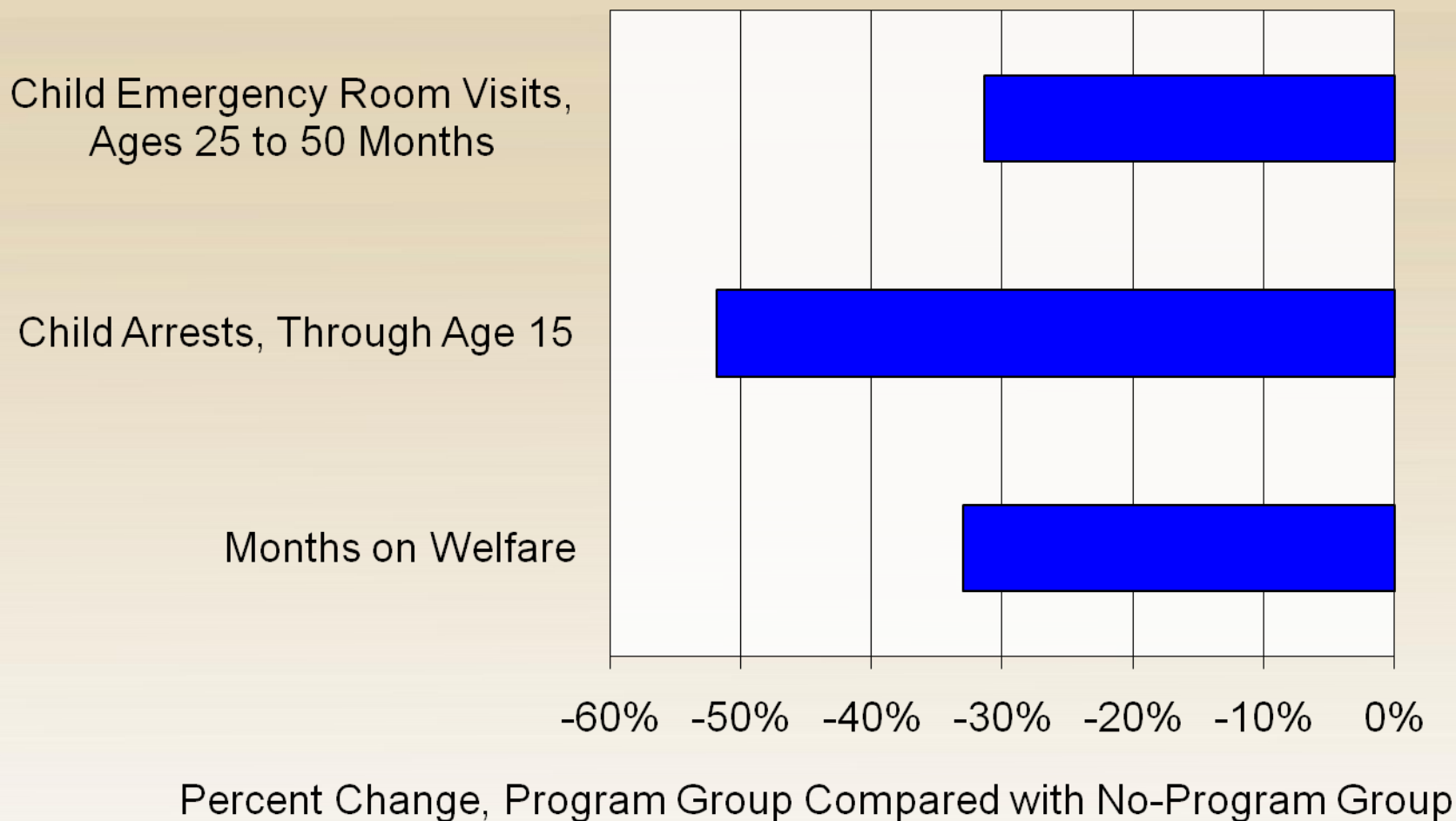


Elmira Prenatal/Early Infancy Project Higher-Risk Families

Home visiting program by registered nurses for at-risk mothers, prenatal through first two years of child's life. Randomly selected participants were compared with a control group.



Elmira Prenatal/Early Infancy Project High-Risk Families



Source: David Olds, et al.



Benefit-Cost Ratios for Other Longitudinal Studies

- Abecedarian Educational Child Care
 - \$4 to \$1
- Chicago-Child Parent
 - \$7 to \$1
- Elmira Prenatal/Early Infancy Project
 - \$5 to \$1



Short-Run Benefits

- Allow parents to enter workforce
- Reduce absenteeism and turnover
- Attract businesses



Lessons Learned from Research

- Invest in quality
- Involve parents
- Start early
- Reach at-risk population
- Teach cognitive and noncognitive skills
- Bring to scale



Moving Forward

- Prenatal/early infant home visits for at-risk mothers
- Access to health care
- Parent education
- Quality child care
- Access to preschool

The Saint Paul

Early Childhood Scholarship Program

Helping Families Get High-Quality Child
Care and Early Education

Now enrolling 3-year-old children in Saint Paul's Frogtown and
North End neighborhoods

Tam si no yoo. Loo si jhawn rau cov nruyane nruj lhab nrujog 3 yooj uis nruj haw
St. Paul oif lloog zej zog Frogtown thab North End cov nruj haw jeeb!

Herinda uasa la qonruyane lhabna 3 nruj jruj ah ee saaholaha Frogtown yoo North
End ee Saint Paul!

¡Ahora estamos a los niños de 3 años de edad de los vecindarios de Saint Paul,
Frogtown y North End!





Business Leadership in Early Childhood Development

- Partnership for America's Economic Success & Committee for Economic Development
- Success By 6 – United Way
- PNC Financial Services, Gates Foundation
- Minnesota Early Learning Foundation



“Although education and the acquisition of skills is a lifelong process, starting early in life is crucial. Recent research – some sponsored by the Federal Reserve Bank of Minneapolis in collaboration with the University of Minnesota – has documented the high returns that early childhood programs can pay in terms of subsequent educational attainment and in lower rates of social problems, such as teenage pregnancy and welfare dependency.”

Remarks by Federal Reserve Board Chairman Ben S. Bernanke
Before the Greater Omaha Chamber of Commerce,
February 6, 2007



minneapolisfed.org