



# Investing in Early Child Education and Care (ECEC)

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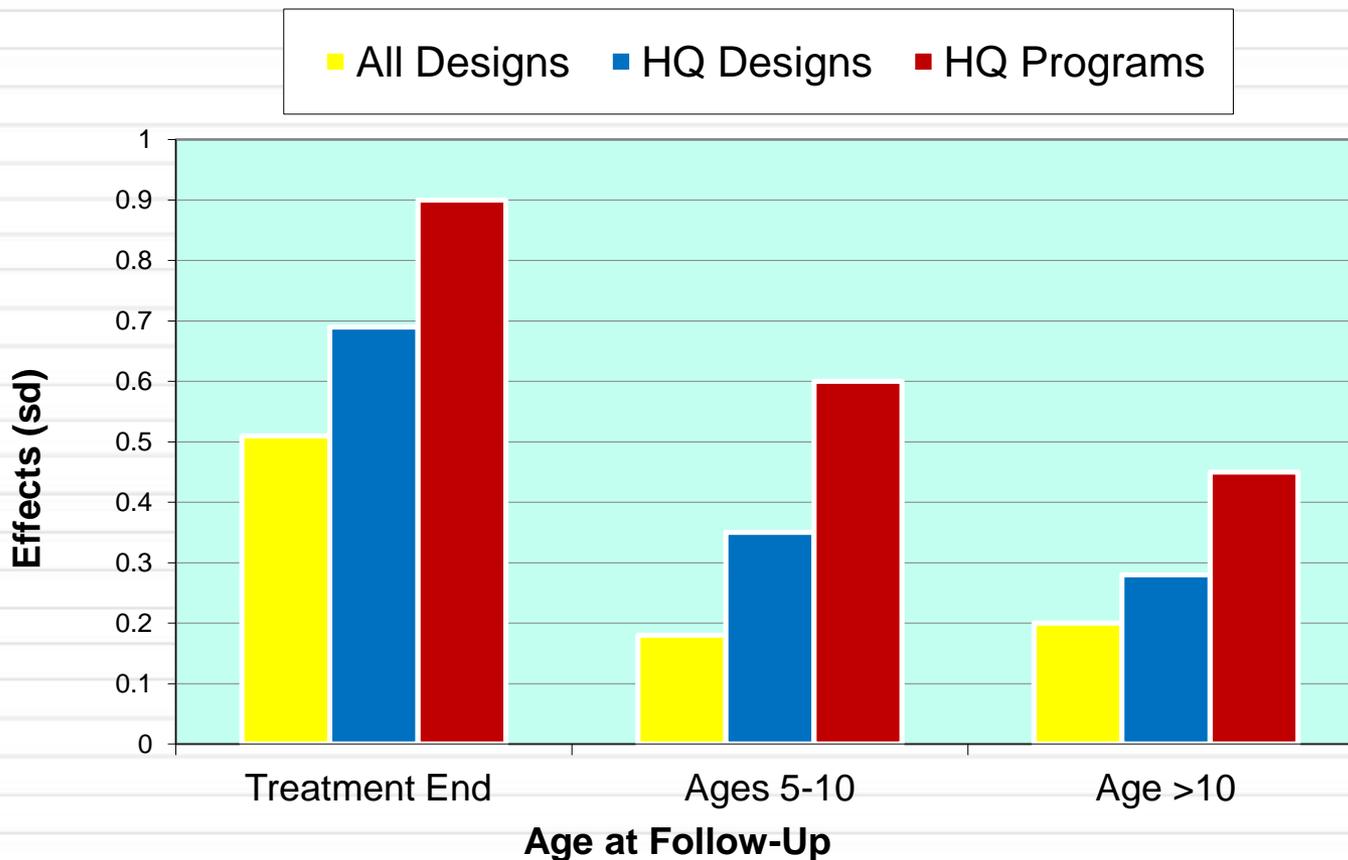


## Why invest in Early Childhood Education?

- First 5 years lay foundations for language, academic abilities, habits & socio-emotional development
- The window for change does not close after age 5, but “catch up” is costly
- Worldwide more than 200 million children under 5 are failing to reach their developmental potential
- ECEC can enhance learning and development for the long-term with high economic returns



## ECEC 0-5 in the US Produce Long-Term Gains (results of 123 studies since 1960)





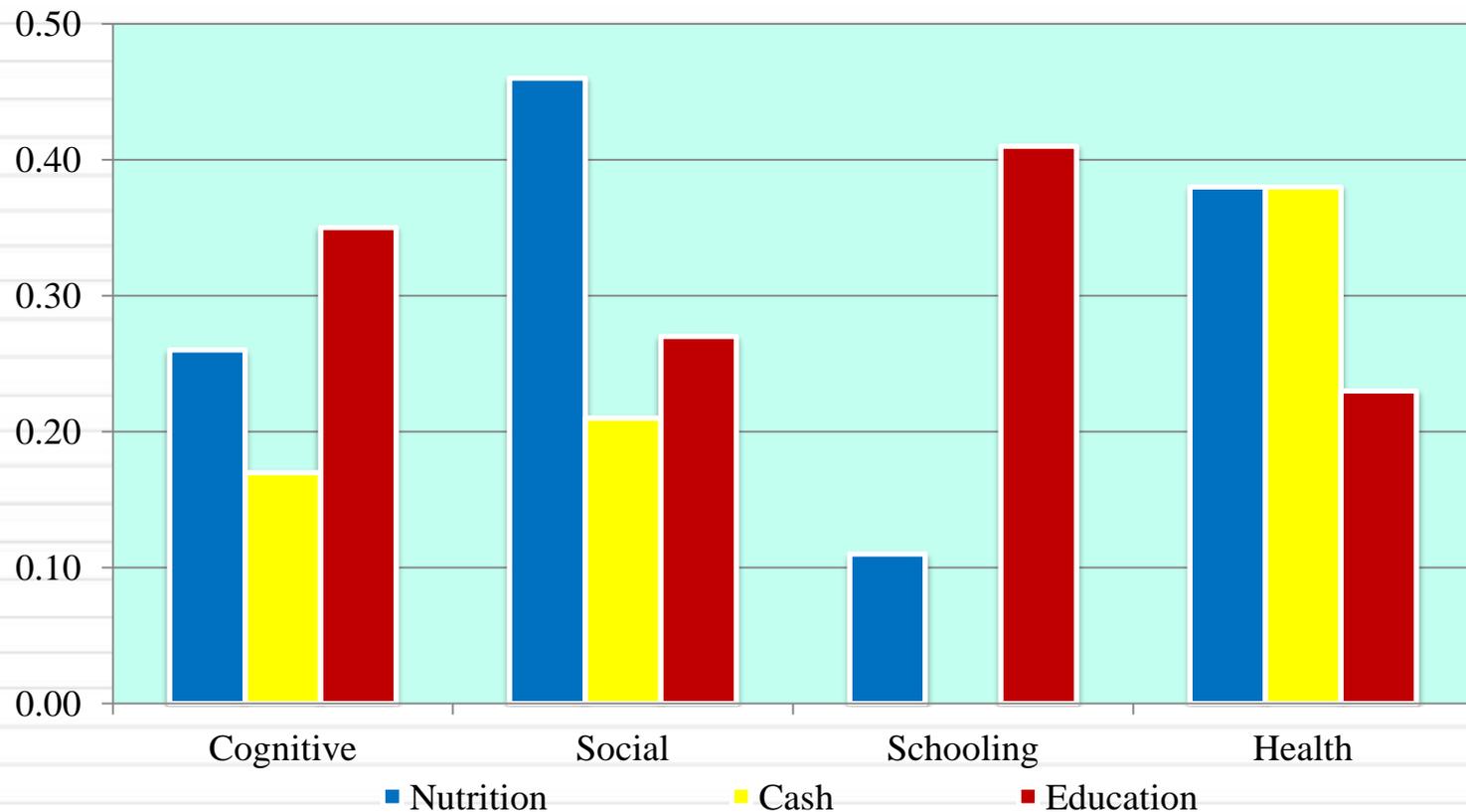
# What determines cognitive gains?

<b>Time of Follow-Up</b>	<b>Negative</b>
<b>Research Design Quality</b>	<b>Positive</b>
<b>Intentional Teaching</b>	<b>Positive</b>
<b>Individualization</b> (small groups and 1 on 1)	<b>Positive</b>
<b>Comprehensive Services</b>	<b>Negative</b>

n= 123 Studies



## Effects of Early Childhood Investments for 4 Outcomes by Type of Program: Global Research





# Potential Gains from ECD Investments

## *Greater Educational Success and Economic Productivity*

- Increased achievement test scores
- Decreased special education and grade repetition
- Increased educational attainment
- Decreased behavior problems, delinquency, and crime
- Increased employment, earnings, and self-sufficiency
- Decreased smoking, drug use, depression

## *Decreased Costs to Government*

- Schooling costs
- Social services costs
- Crime costs
- Health care costs



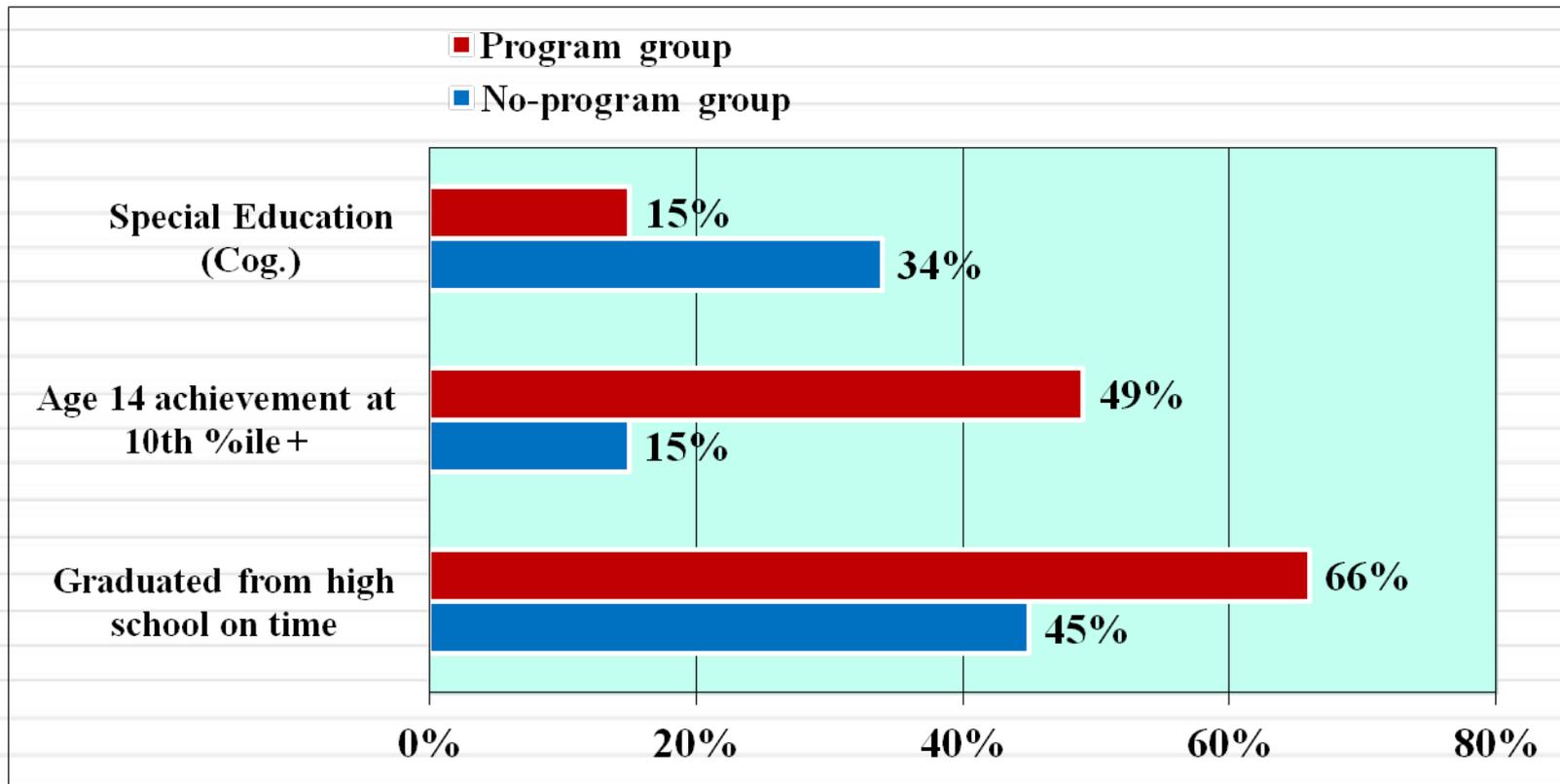
## Three Benefit-Cost Analyses with Disadvantaged Children

	<b>Abecedarian</b>	<b>Chicago</b>	<b>High/Scope</b>
<b>Year began</b>	1972	1985	1962
<b>Location</b>	Chapel Hill, NC	Chicago, IL	Ypsilanti, MI
<b>Sample size</b>	111	1,539	123
<b>Design</b>	RCT	Matched neighborhood	RCT
<b>Ages</b>	6 wks-age 5	Ages 3-4	Ages 3-4
<b>Program schedule</b>	Full-day, year round	Half-day, school year	Half-day, school year

Barnett, W. S., & Masse, L. N. (2007). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications, *Economics of Education Review*, 26, 113-125; Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. *Economics of Education Review*, 26(1), 126-144; Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40* (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Educational Research Foundation.

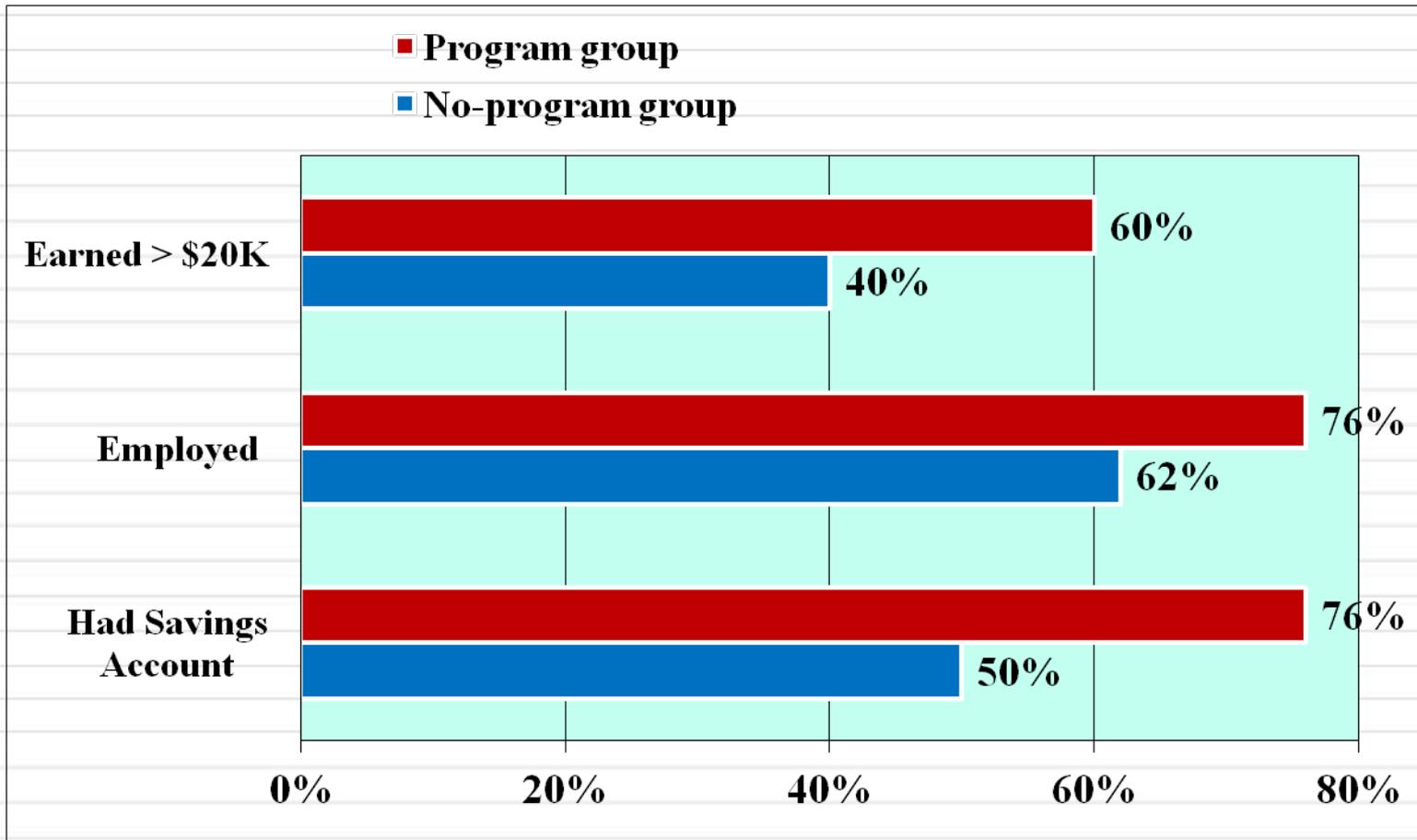


## High/Scope Perry Preschool: Educational Effects





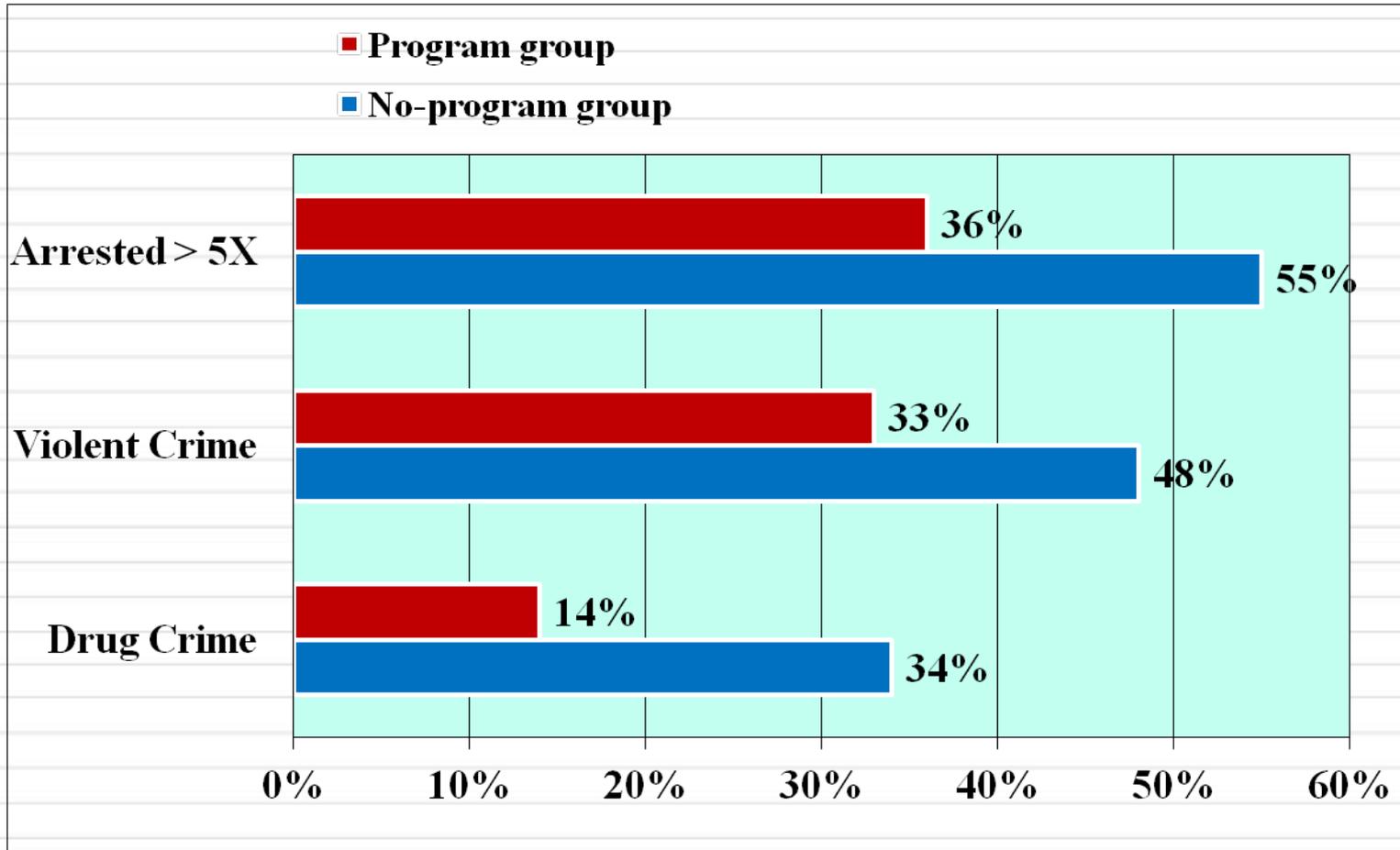
## Perry Preschool: Economic Effects at 40



Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40* (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Educational Research Foundation.

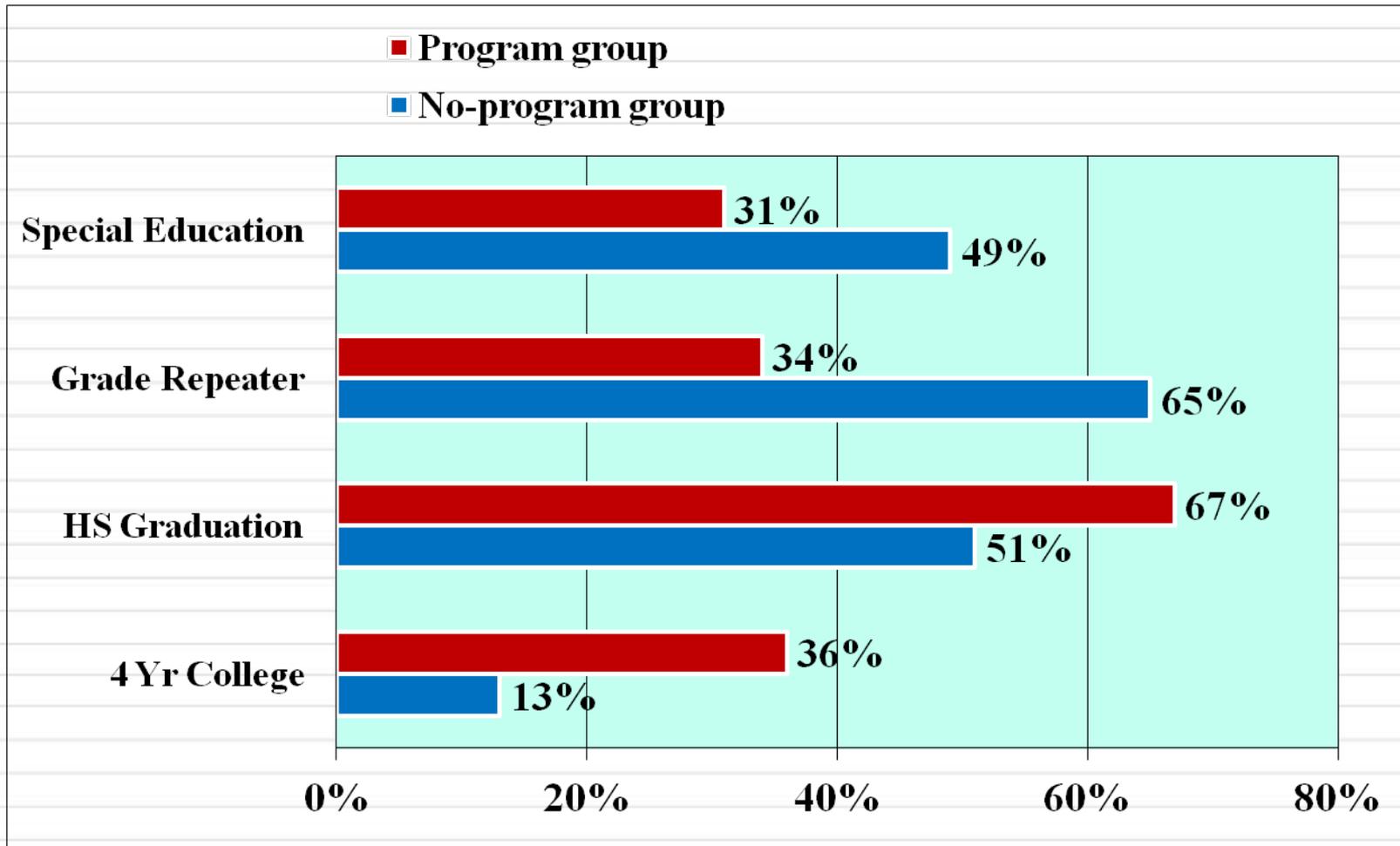


## Perry Preschool: Crime Effects at 40



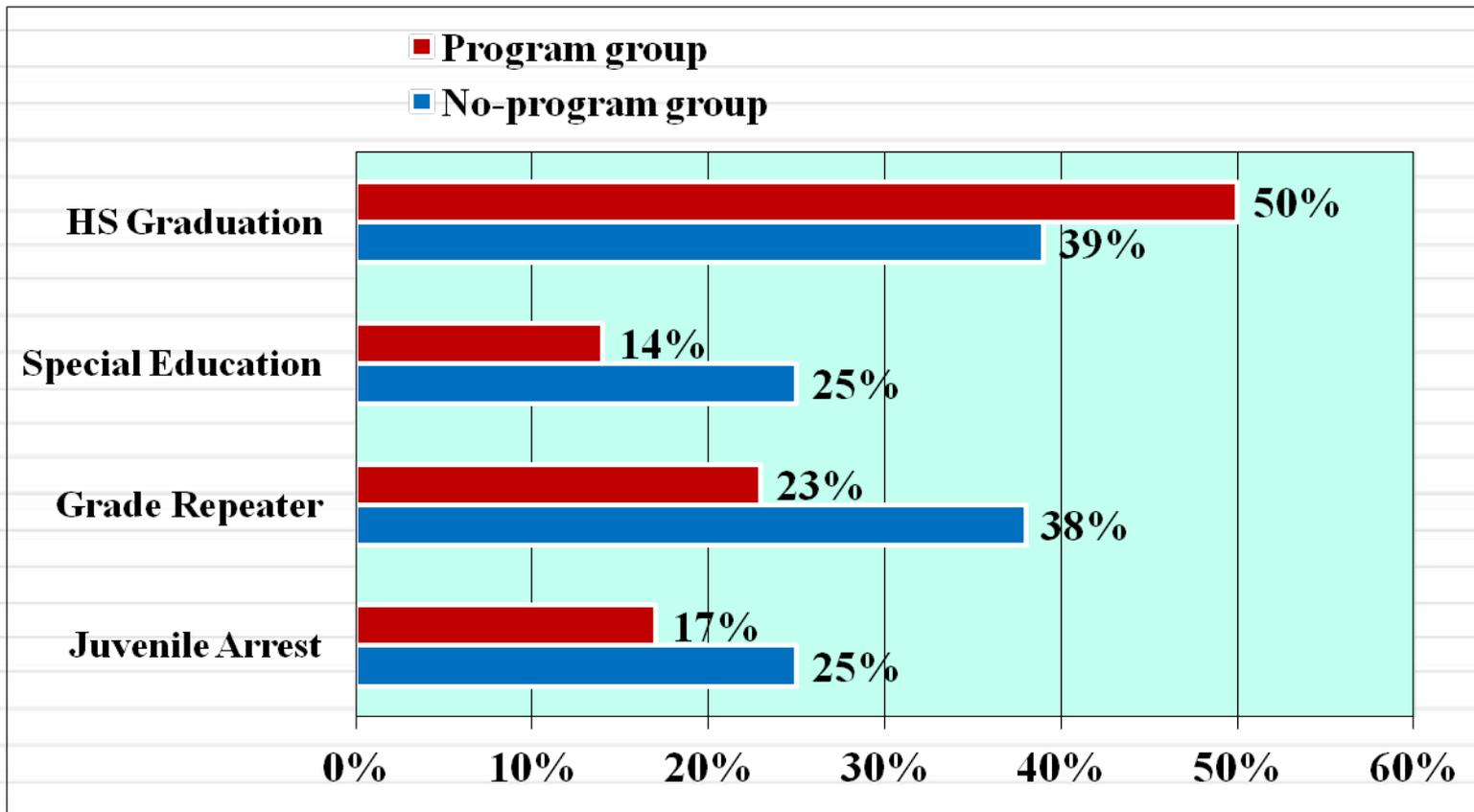


## Abecedarian : Academic Benefits





## Chicago CPC: Academic and Social Benefits at School Exit





# Economic Returns to Pre-K for Disadvantaged Children

(In 2006 dollars, 3% discount rate)

	Cost	Benefits	B/C
▪ Perry Pre-K	\$17,599	\$284,086	16
▪ Abecedarian	\$70,697	\$176,284	2.5
▪ Chicago	\$ 8,224	\$ 83,511	10

Barnett, W. S., & Masse, L. N. (2007). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications, *Economics of Education Review*, 26, 113-125; Belfield, C., Nores, M., Barnett, W.S., & Schweinhart, L.J. (2006). The High/Scope Perry Preschool Program. *Journal of Human Resources*, 41(1), 162-190; Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. *Economics of Education Review*, 26(1), 126-144.



# Effects of Universal ECEC Globally

**OECD test scores higher & more equal as participation approaches 100%**

**FR: universal preschool education improves long-term education outcomes and earnings (earlier is better)**

**UK, AR, UY: universal preschool raises long-term achievement**

**US: state and municipal UPK improves test scores and executive function**

**NO: increased access to child care improves education outcomes and equalizes earnings**

**CA (Quebec): universal low cost child care has negative effects cognitive development and social behavior**

**DK: higher quality universal child care increases long-term test scores in some studies, but not in others—quality matters**



## **Enhanced Pre-K in Mauritius: Results of a Randomized Trial**

**Intervention: Nutrition, Education, & Exercise  
Ages 3-5, teacher-child ratio 1:5.5 v. 1:30**

**Outcomes: Decreased behavior problems,  
conduct disorder, crime and mental illness at  
ages 17-23**

**Malnourished children gained more**



# Economic Returns in Middle and Low Income Countries

- Estimated returns are 6:1 to 18:1 from increased earnings alone.
- 25% increase in preschool education would yield an estimated return of US \$10.6 billion worldwide.

*Source: The Lancet, Volume 378, p. 1276, 8 October 2011*



# ECEC Lessons from around the Globe

Not all ECEC is equal: effects and returns depend on quality and quantity (if there is quality)

Quality teacher-child interaction depends on teacher skills and numbers of students per teacher

Teacher development requires a continuous improvement cycle with reflection & planning

Policy steps to quality: high standards for learning and teaching, adequate funding, monitoring and evaluation



# Education Quality Matters

- Begin with a proven model
- Balanced—cognitive, social, emotional
- Implement the model as designed
- Well-trained, adequately paid staff
- Strong supervision and monitoring
- Use data to inform and reform practice



# Conclusions

- ECEC *can* be a wise public investment
  - Increased hard and soft skills grow jobs and GDP
  - Decreased social problems reduces costs to society
- Universal ECEC can reduce educational inequality
- Quality is essential for high returns to ECEC
- A continuous improvement cycle is necessary to develop quality
- Quality costs—but a lack of quality ECEC already costs societies far more



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