

**ECONOMIC RETURNS
to
EARLY CHILDHOOD
DEVELOPMENT**

**Telluride Economic
Summit on Early
Childhood Investment**

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**THE
RAW MATERIAL
IN THE
NEW ECONOMY
IS
BRAIN POWER**

**September 10,
2007**

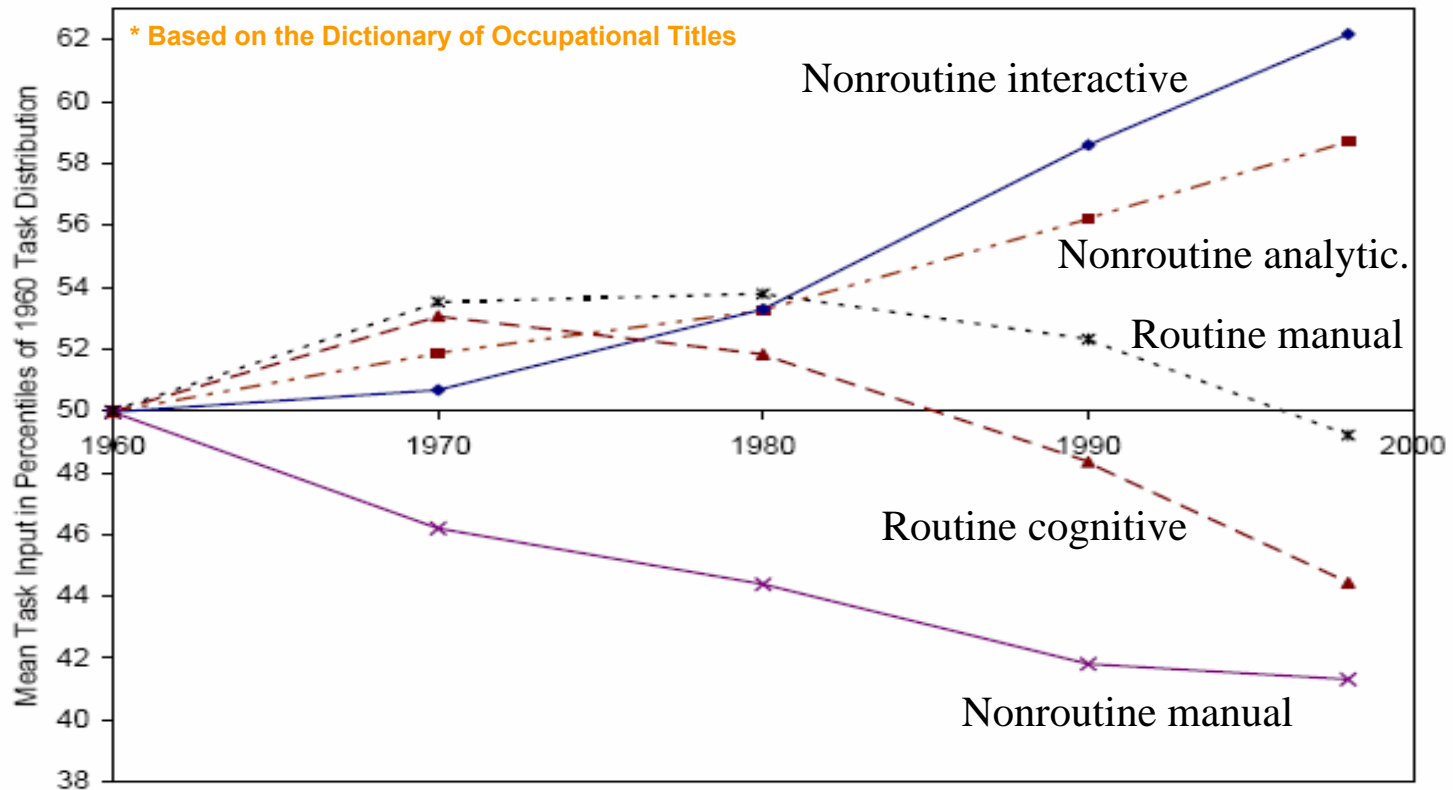
GLOBAL BRAIN POWER

QUANTITY

- **The 25% of China's population with the highest IQs ...
... is greater than the total population of North America**
- **In India, it's the top 28%**
- **Translation: They have more honors kids than we have kids**

WORKPLACE REQUIREMENTS

CHANGES IN SKILLS USED AT WORK*



—■— Nonroutine analytic
 —●— Nonroutine interactive
 —×— Nonroutine manual
-▲- Routine cognitive
 -∗- Routine manual

Source: Autor, Levy and Murnane, 2003.

— Source: K-12 Education and Economic Summit presentation by Alan B. Krueger, Princeton University

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GLOBAL WORKFORCE

SOBERING TRENDS

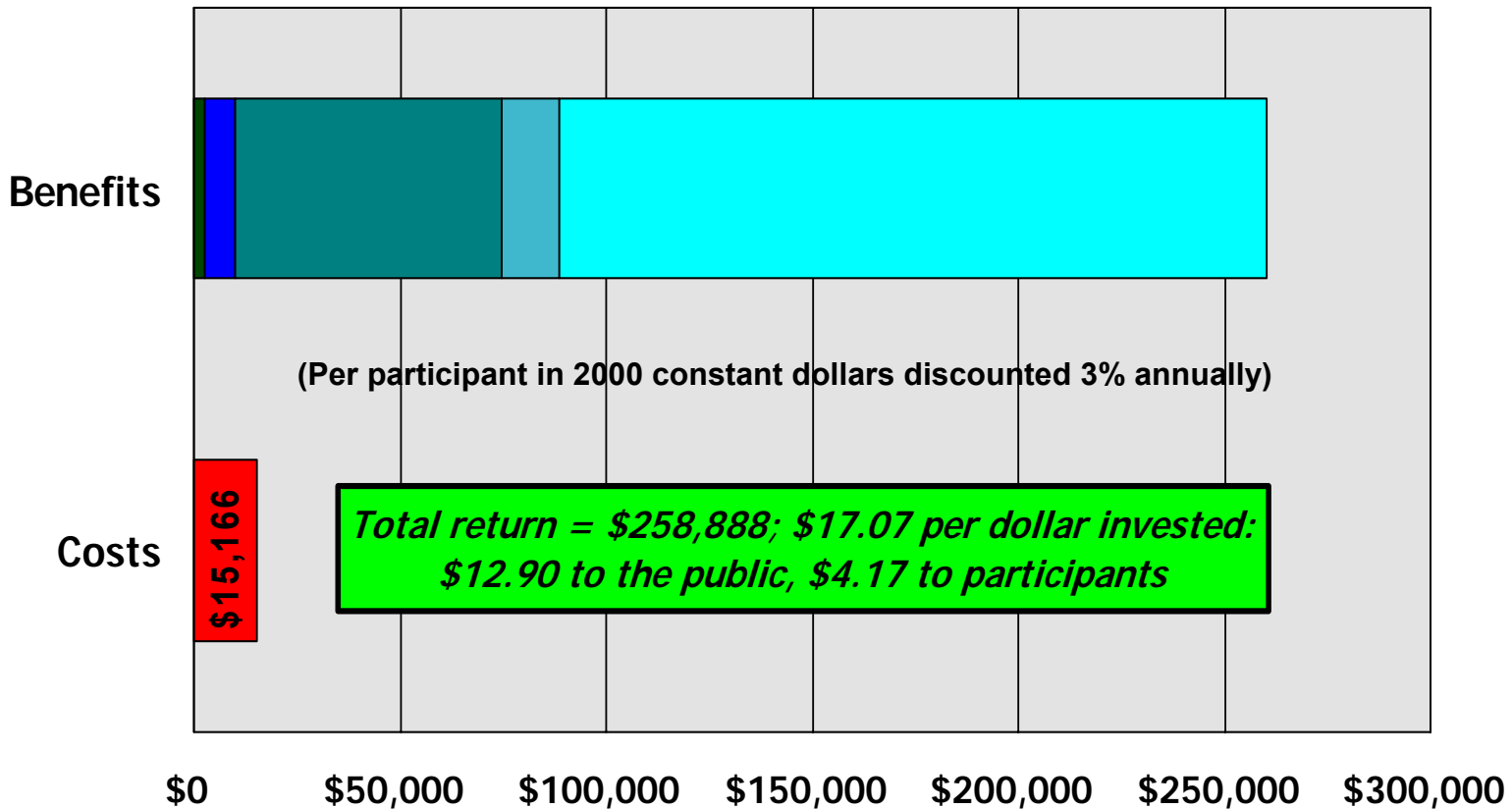
- **In 2000, more than 25 countries had higher percentage of 24-year-olds with degrees in science and engineering than U.S.**
- **By 2010, China will produce more S&E doctorates than the U.S.**
- **In 1997, China had 50 research centers; by 2004, China had 600**

**WHAT ARE THE
ECONOMIC RETURNS
TO
EARLY CHILDHOOD
DEVELOPMENT?**

HUGE RETURN ON INVESTMENT

HIGH/SCOPE PERRY PRESCHOOL

■ Welfare
 ■ Education
 ■ Earnings
 ■ Taxes paid
 ■ Crime



Larry Schweinhart, *High/Scope Educational Research Foundation*, www.highscope.org

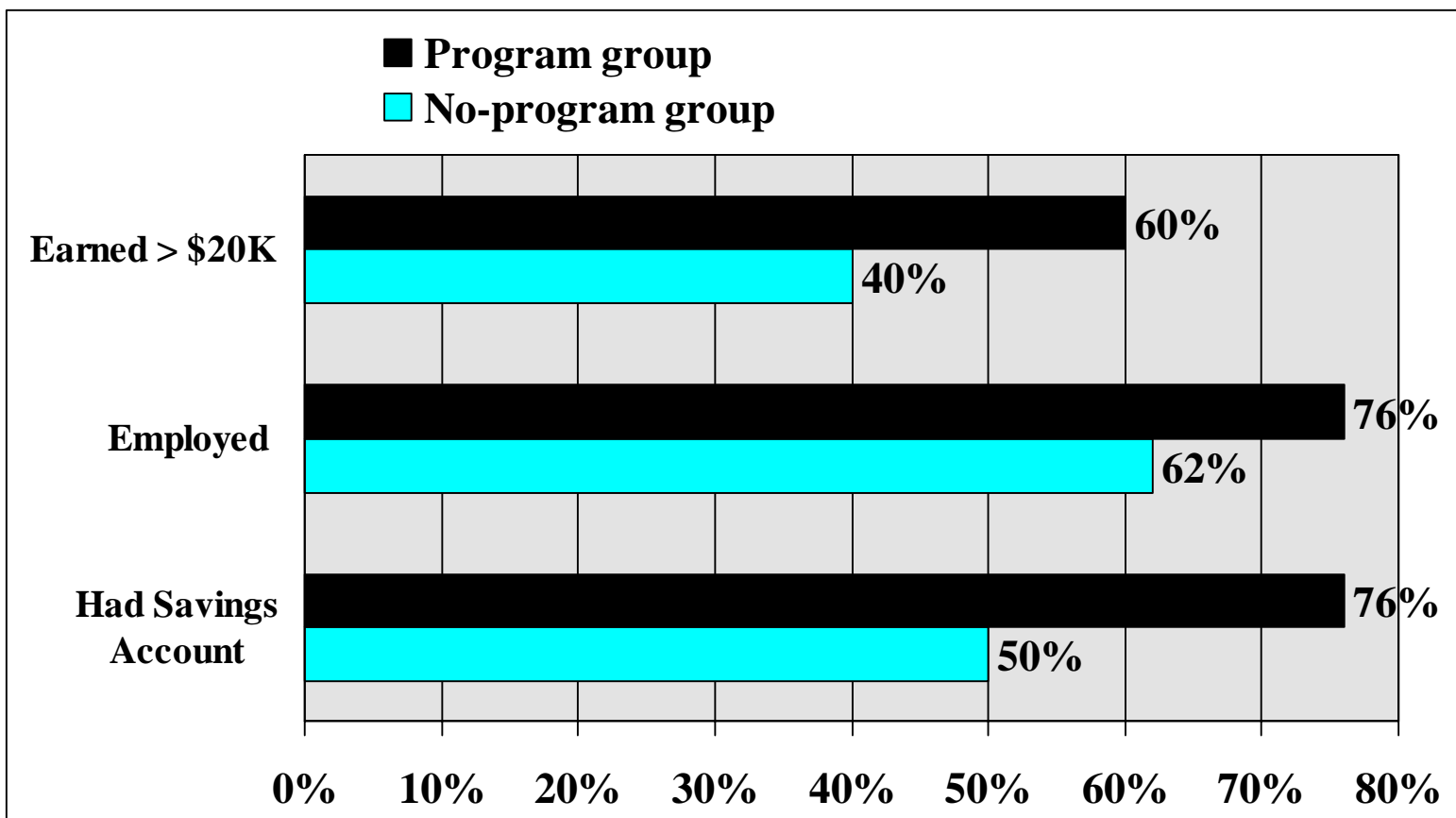
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PERRY PRESCHOOL

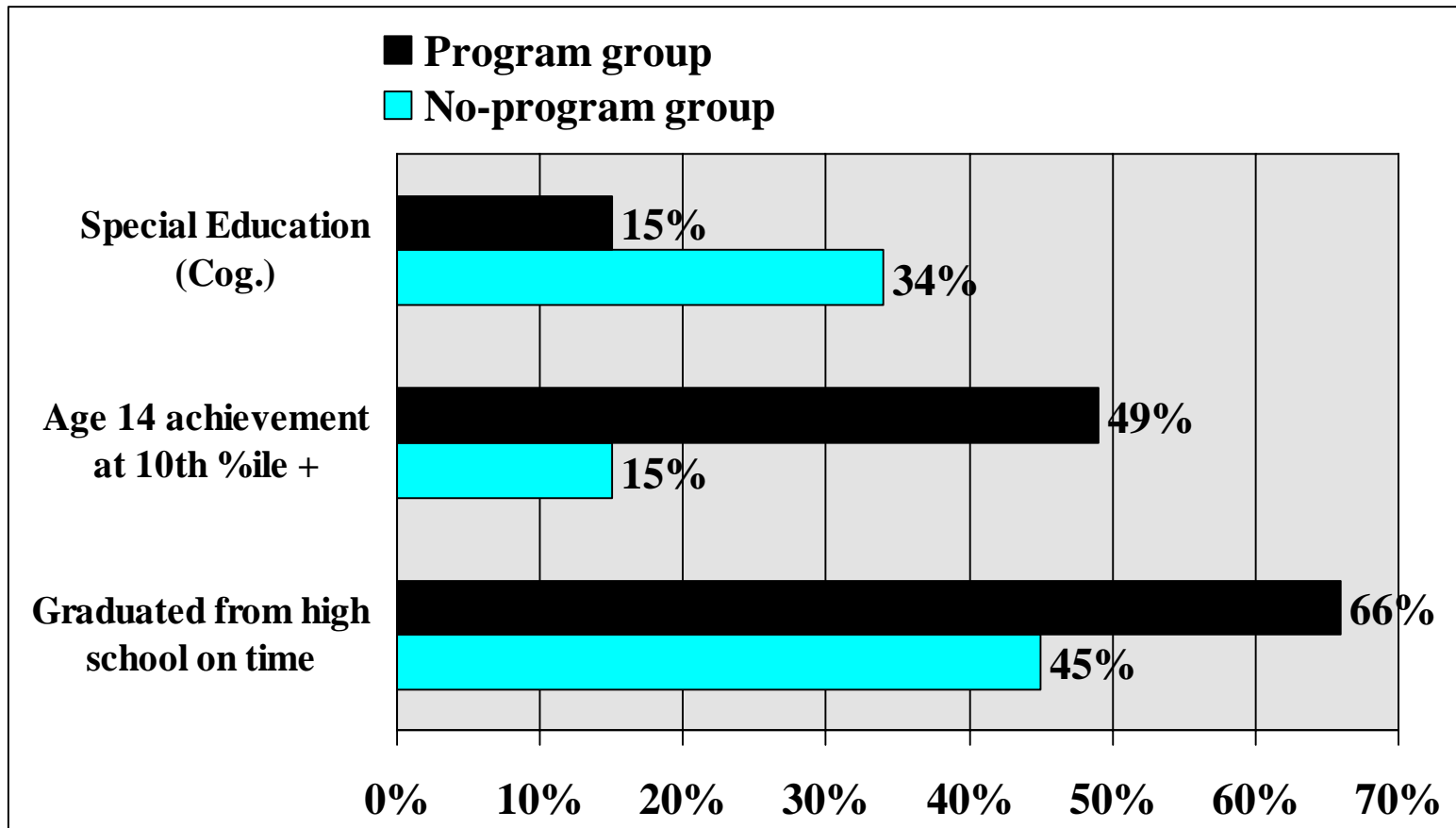
ECONOMIC EFFECTS AT AGE 40



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. Graphic from National Institute for Early Education Research.

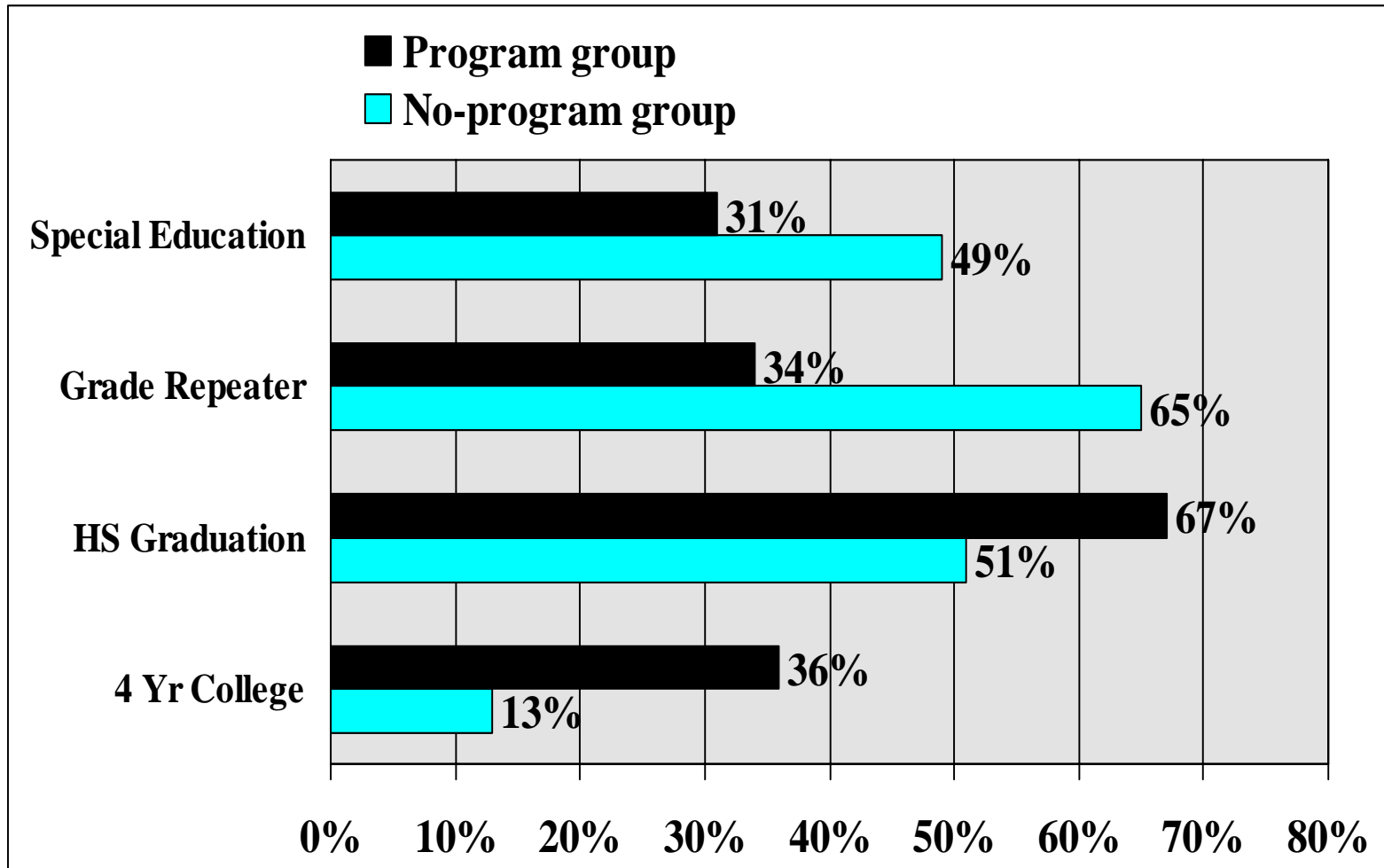
PERRY PRESCHOOL

EDUCATIONAL EFFECTS



Berrueta-Clement, J.R., Schweinhart, L.J., Barnett, W.S., Epstein, A.S., & Weikart, D.P. (1984). *Changed lives: The effects of the Perry Preschool Program on youths through age 19*. Ypsilanti, MI: High/Scope Press. Graphic from National Institute for Early Education Research.

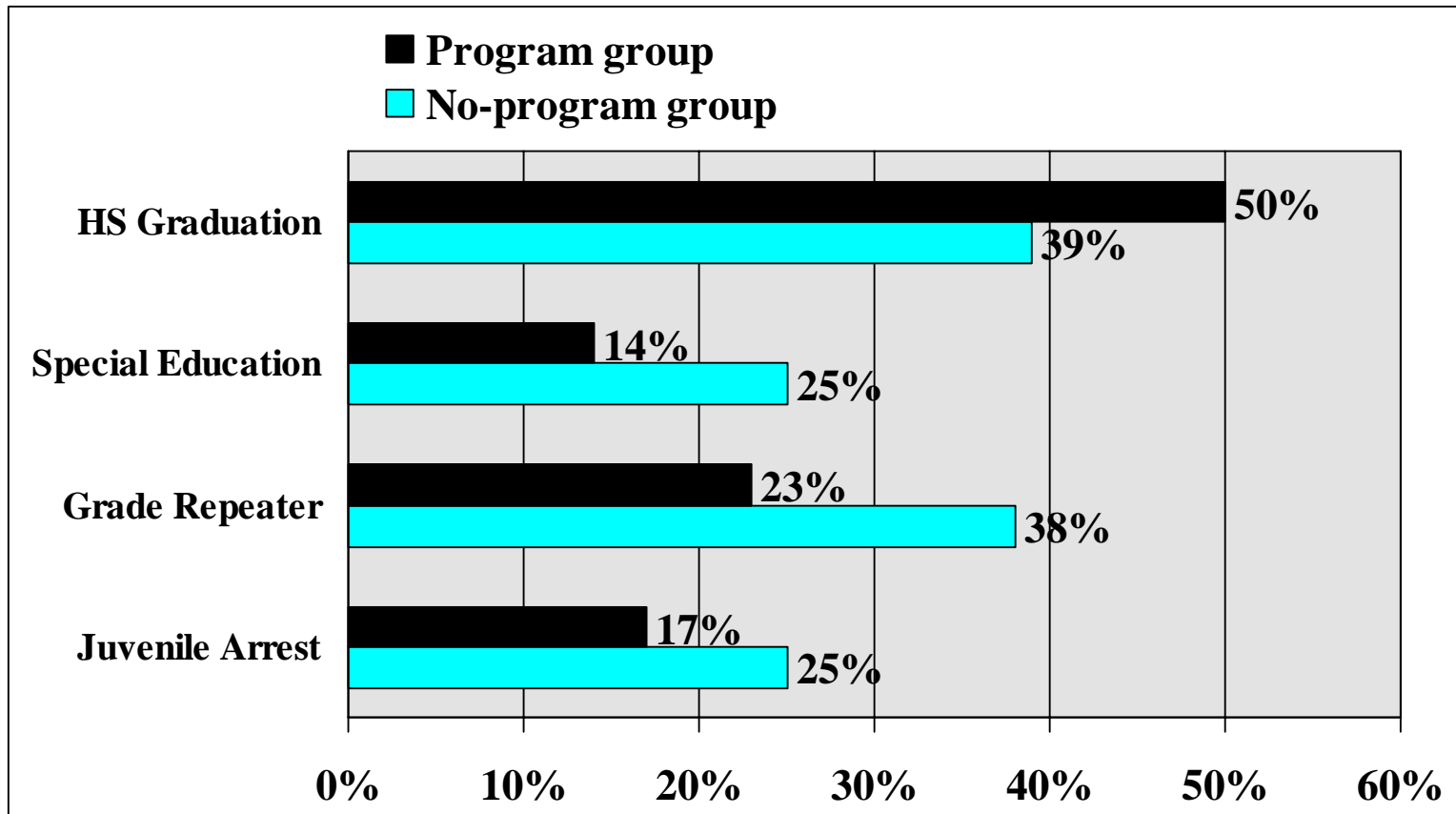
ABECEDARIAN (Birth - 5) EDUCATIONAL EFFECTS



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; Campbell, F.A., Ramey, C.T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science*, 6(1), 42-57. Graphic from National Institute for Early Education Research.

CHICAGO CPC

ACADEMIC & SOCIAL BENEFITS AT SCHOOL EXIT



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. Graphic from National Institute for Early Education Research.


NURSE-FAMILY PARTNERSHIP

LASTING EFFECTS

Benefits to Children

**Reduction in abuse &
neglect**  **48%**

Reduction in arrests  **59%**

**Reduction in adjudication
as PINS (person in need
of supervision) for
incurrrible behavior**  **90%**

SUMMARY OF KEY HEALTH BENEFITS

PRENATAL – 2 YEARS

- **Improved prenatal health**
 - reductions in cigarette smoking (Elmira) and hypertensive disorders (Memphis)
- **Reduction in high-risk pregnancies**
 - 32% (Elmira) and 23% (Memphis) fewer subsequent pregnancies
 - 31% fewer closely spaced (<6 months) subsequent pregnancies (Memphis)
- **Reductions in health care services for injuries and ingestions**
 - 23% reduction in healthcare encounters (Memphis)
 - 56% reduction in ER visits (Elmira)
 - 80% reduction in days hospitalized (Memphis)
- **50% reduction in language delays** (Denver)

ECONOMIC RETURNS TO EARLY CHILDHOOD EDUCATION

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(In 2002 dollars, 3% discount rate)	<u>Cost</u>	<u>Benefits</u>	<u>B/C</u>
▪ Perry Pre-K	\$15,386	\$262,642	17.1
▪ Chicago P/C	\$ 7,384	\$ 74,981	10.1
▪ Elmira Prenatal	\$ 7,109	\$ 49,217	6.9
▪ Abecedarian	\$35,864*	\$130,666	3.6
▪ Nurse-Family	\$ 9,118	\$ 26,298	2.9

*Marginal cost, net of existing child care costs.

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.

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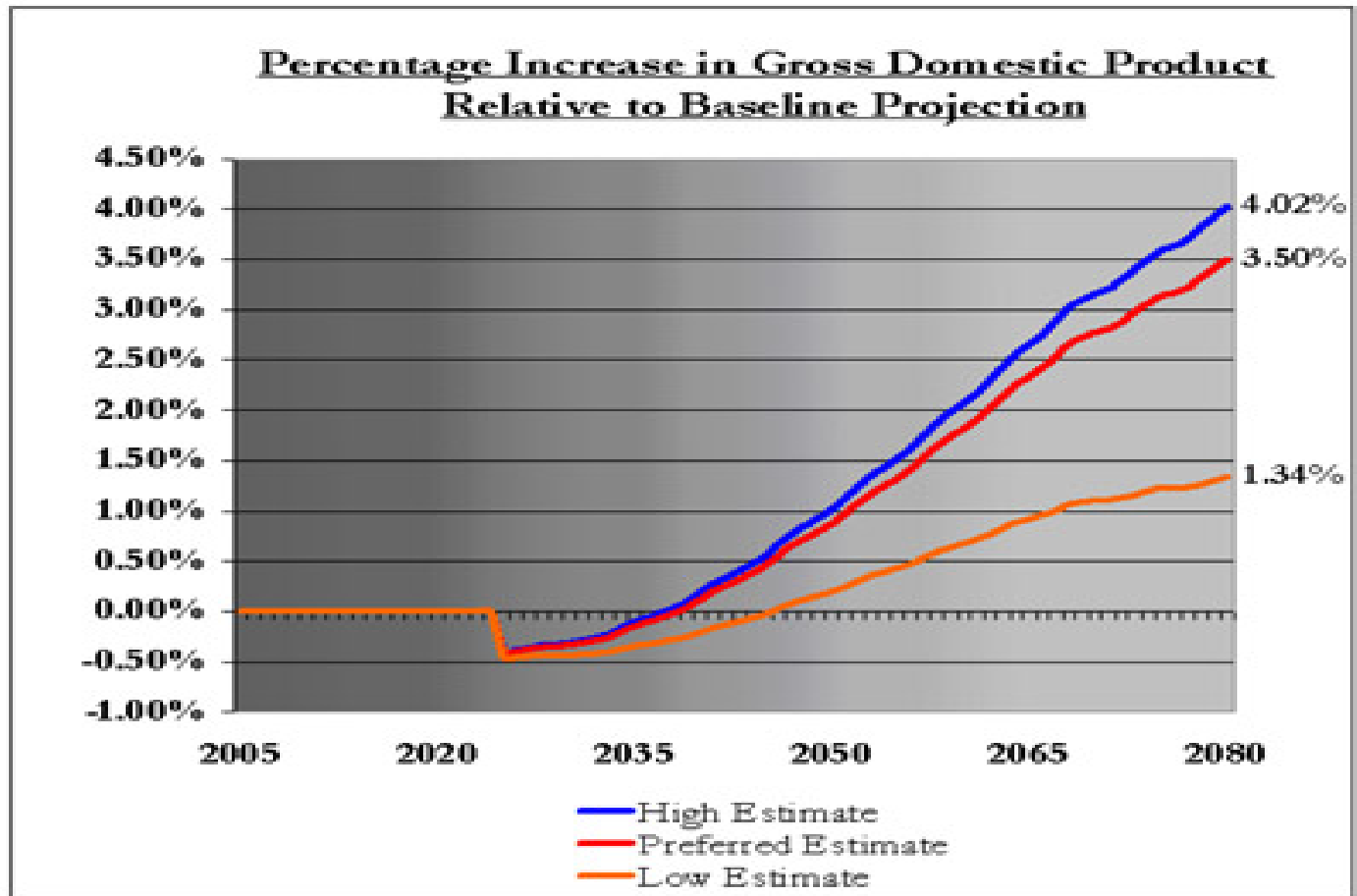
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IMPACTS ON NATIONAL ECONOMY

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NATIONAL IMPACTS

BENEFICIAL AND PERPETUAL



Graph representative of data portrayed in [The Effects of Investing in Early Education on Economic Growth](#), Dickens, Sawhill, and Tebbs The Brookings Institute, 2006

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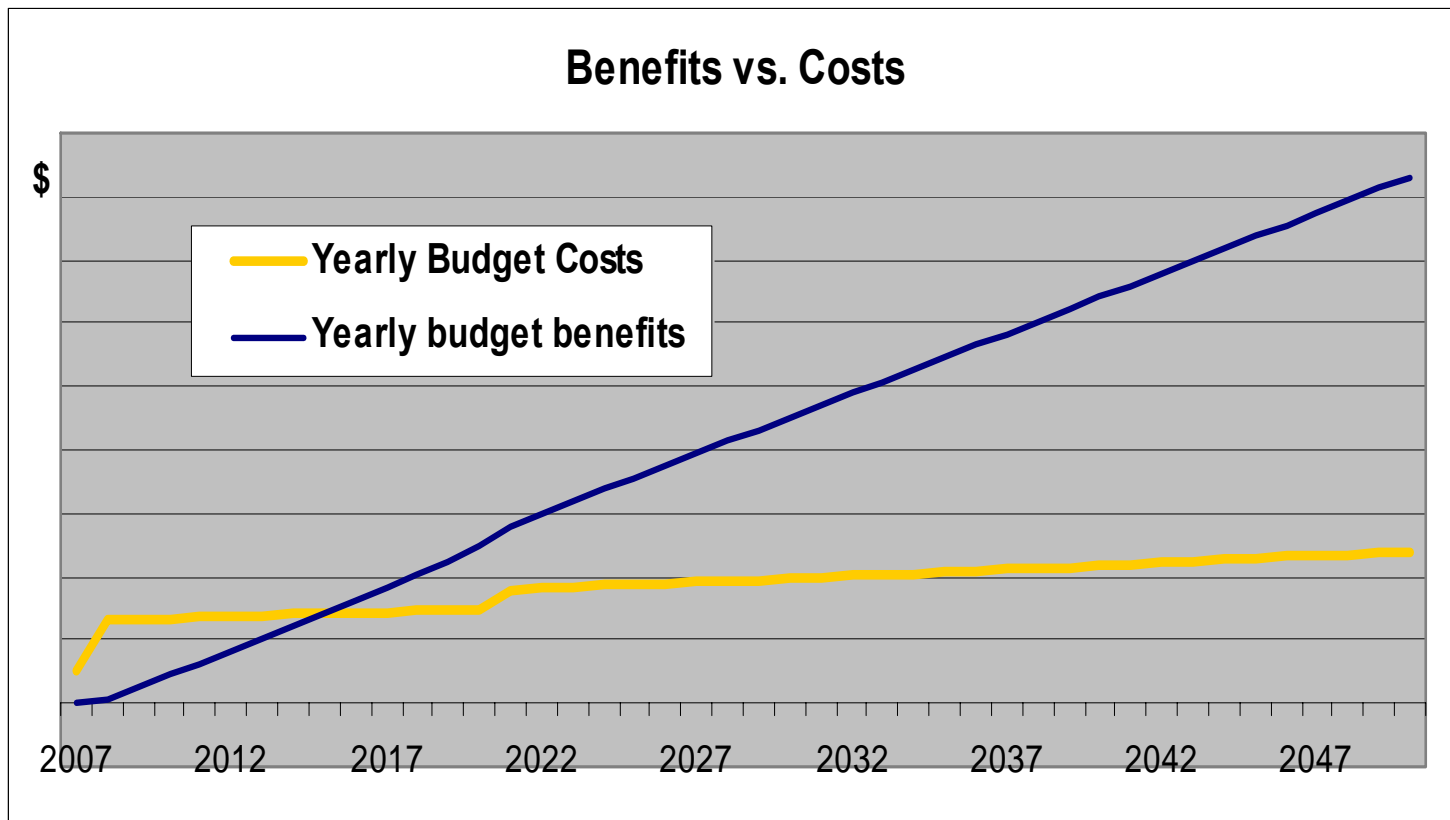
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IMPACTS ON STATE BUDGETS

**September 10,
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STATE IMPACTS

BENEFICIAL AND PERPETUAL



Graph representative of data portrayed in *Enriching Children, Enriching the Nation*, Robert Lynch, Economic Policy Institute, 2007.

STATE BUDGET IMPACTS

BENEFICIAL AND PERPETUAL

- **Years before benefits exceed costs range from 4 years to 17 years**
 - 14 states recoup in less than 8 years
 - 4 states recoup in more than 13 years
- **Cost/Benefit ratios range from 8:1 to 29:1**
 - 3 states C/B less than 10:1
 - 5 states C/B greater than 20:1
- **Cost bump up in 2021 due to higher post-secondary enrollments**
- **Benefits rise faster after 2021 due to higher earnings of graduates**
- Robert Lynch, *Enriching Children, Enriching the Nation*, Economic Policy Institute, 2007.

SUMMING UP

- **What is the greatest job need?**
 - Skilled, creative, interactive occupations
- **What are the returns?**
 - 17: 1 returns; 80% to the Public
- **Is it fiscally prudent?**
 - Tiny fraction of total public K-12 school funding
- **What is your alternative investment?**
 - Not a new mall !

POVERTY v. EDUCATION

USE THE CORRECT POLICIES

➤ **Ed \neq f (Poverty)**

➤ **Poverty $=$ f (Education)**