

# **Benefits of Preschool for All**

## **Research on the Benefits of Preschool Education: Securing High Returns from Preschool for All Children**

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National Institute for Early Education Research

[www.nieer.org](http://www.nieer.org)

# *Why Preschool for all Children?*

- Investing early can yield high returns and is pro-growth
- School failure is not just a problem for children in poverty
- Universal programs are more cost-effective than targeted programs

# Benefits of High Quality Pre-K

- **Higher test scores**
- **Better social skills**
- **Less grade repetition & Spec. Ed.**
- **Higher graduation rates**
- **Increased earnings**
- **Less crime**
- **Less teen pregnancy, abortion, smoking**

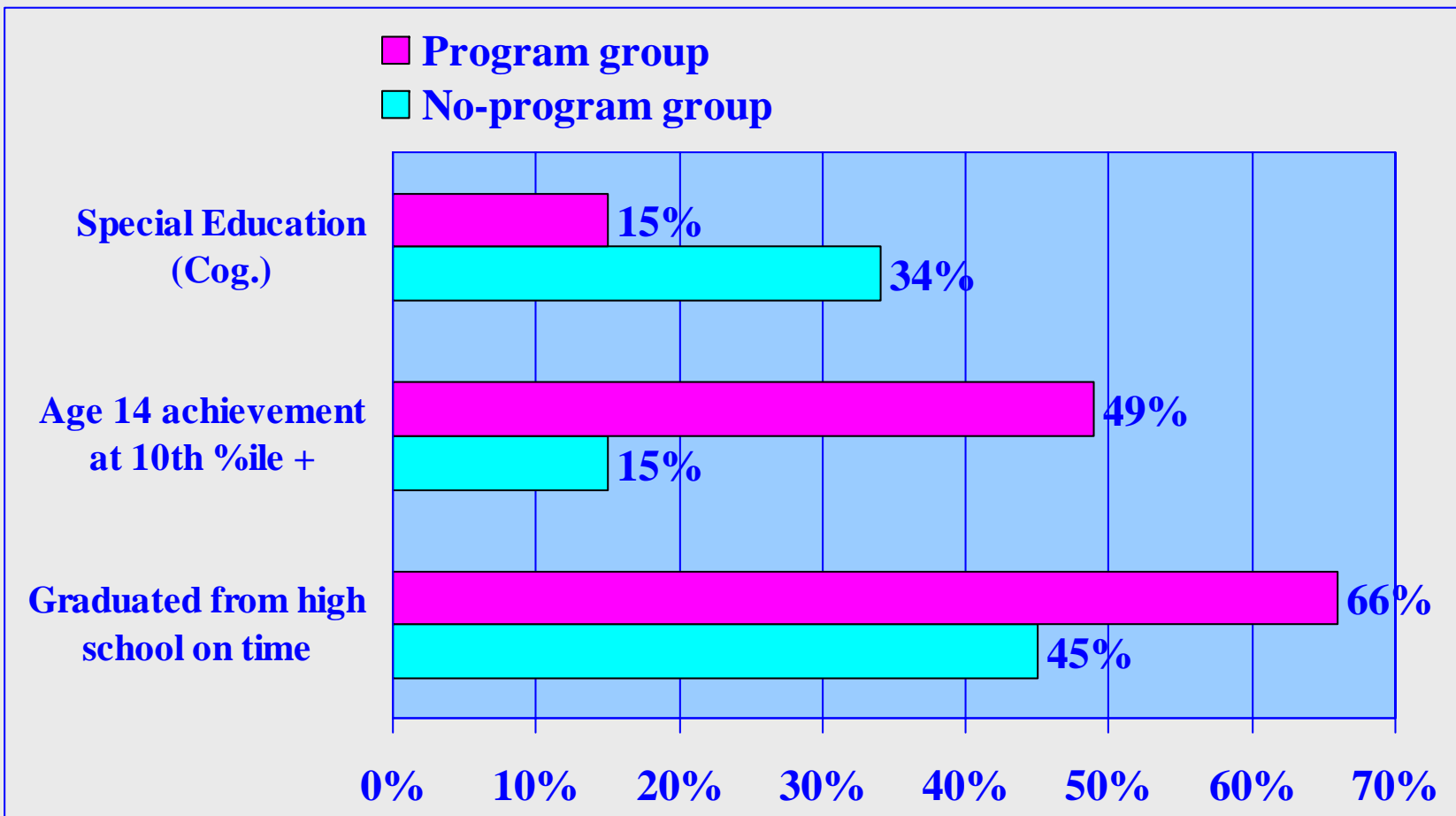
Barnett, W. S. & Masse, L. N. (In press). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications, *Economics of Education Review*.

# 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

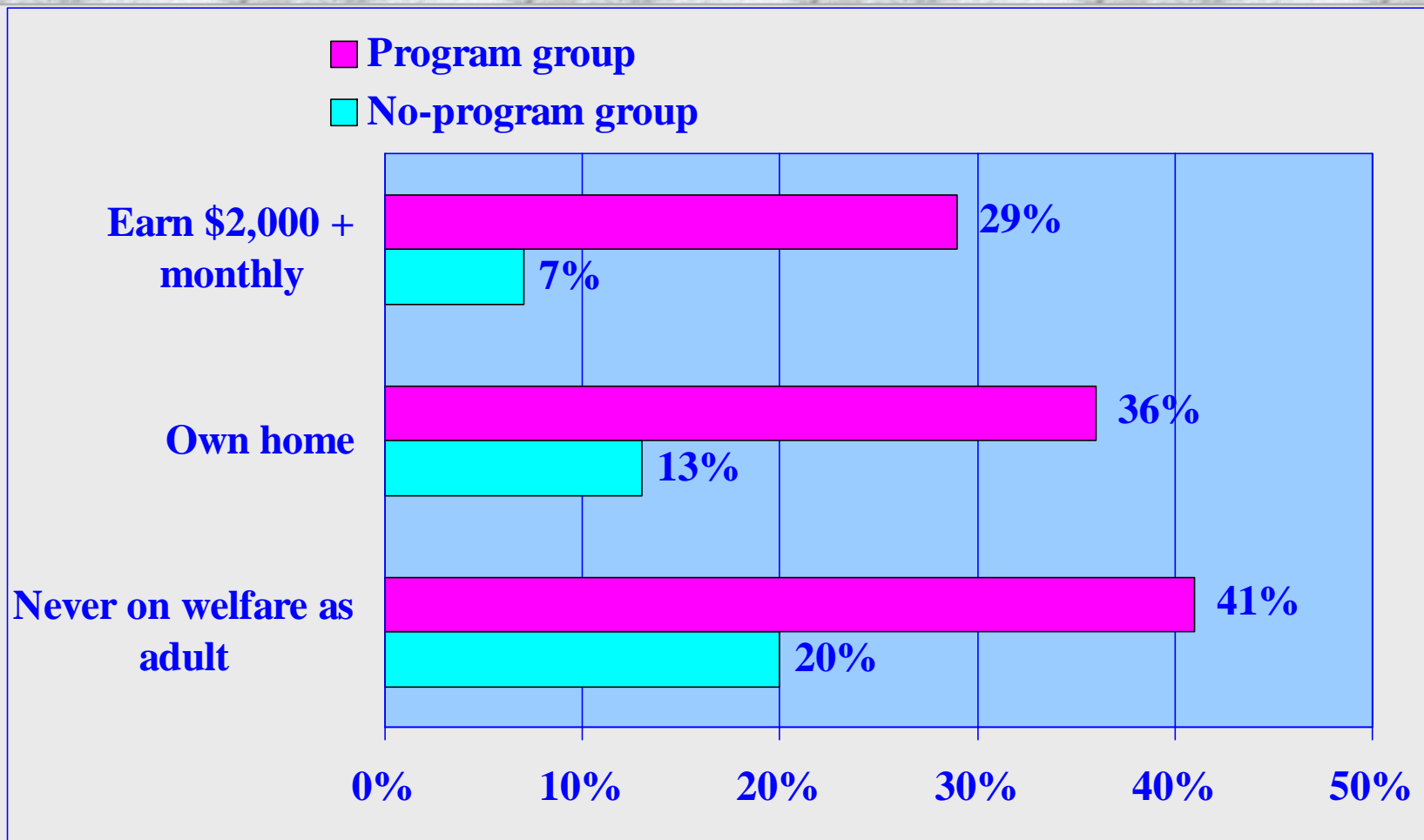
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# Perry Preschool: Educational Effects



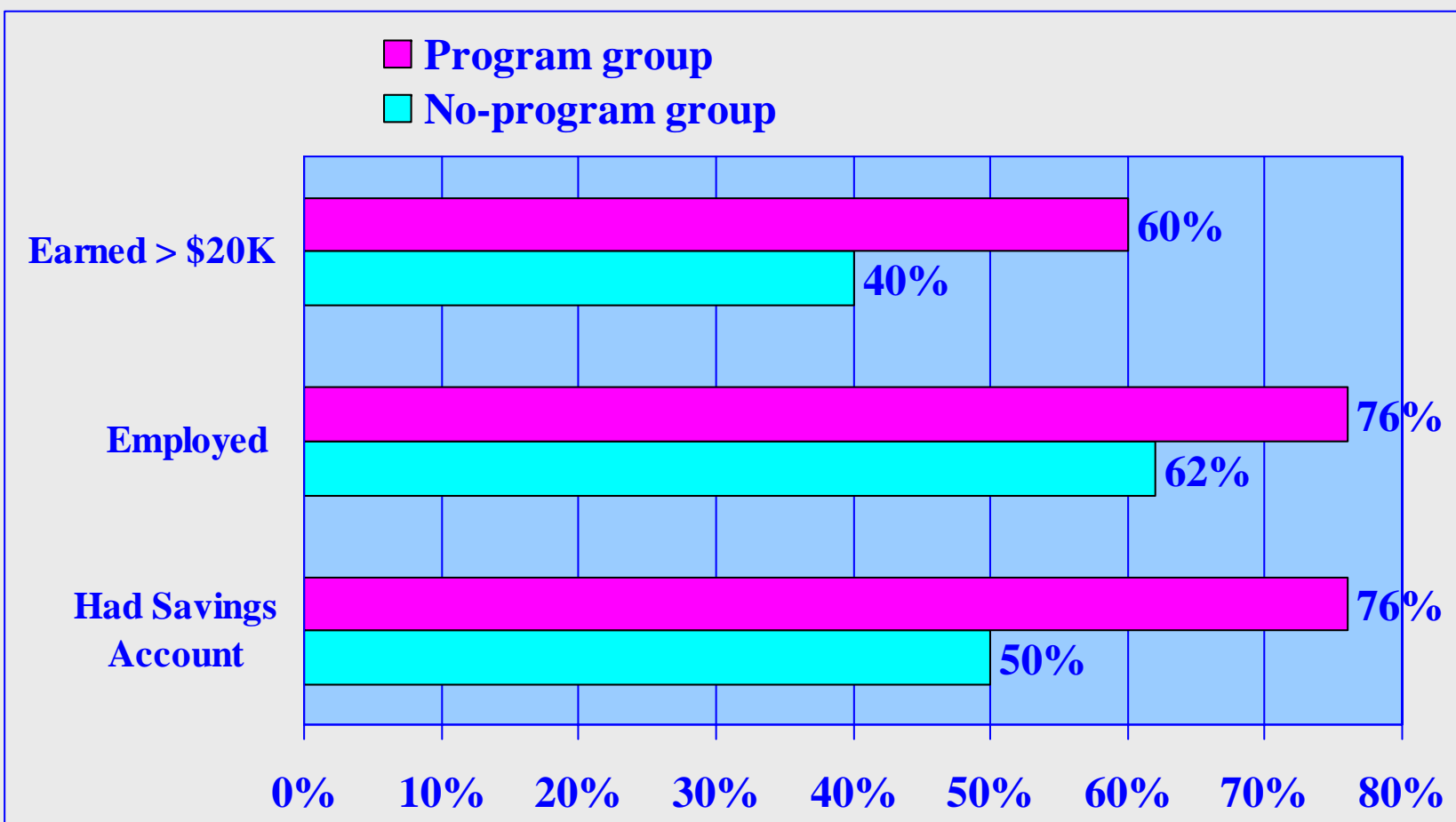
Schweinhart, L. J., Barnes, H. V., Weikart, D., Barnett, W.S., & Epstein, A. (1993). *Significant benefits: The High/Scope Perry Preschool study through age 27. Monographs of the High/Scope Educational Research Foundation No. 10.* Ypsilanti, MI: High/Scope Educational Research Foundation.

# Perry: Economic Effects at Age 27



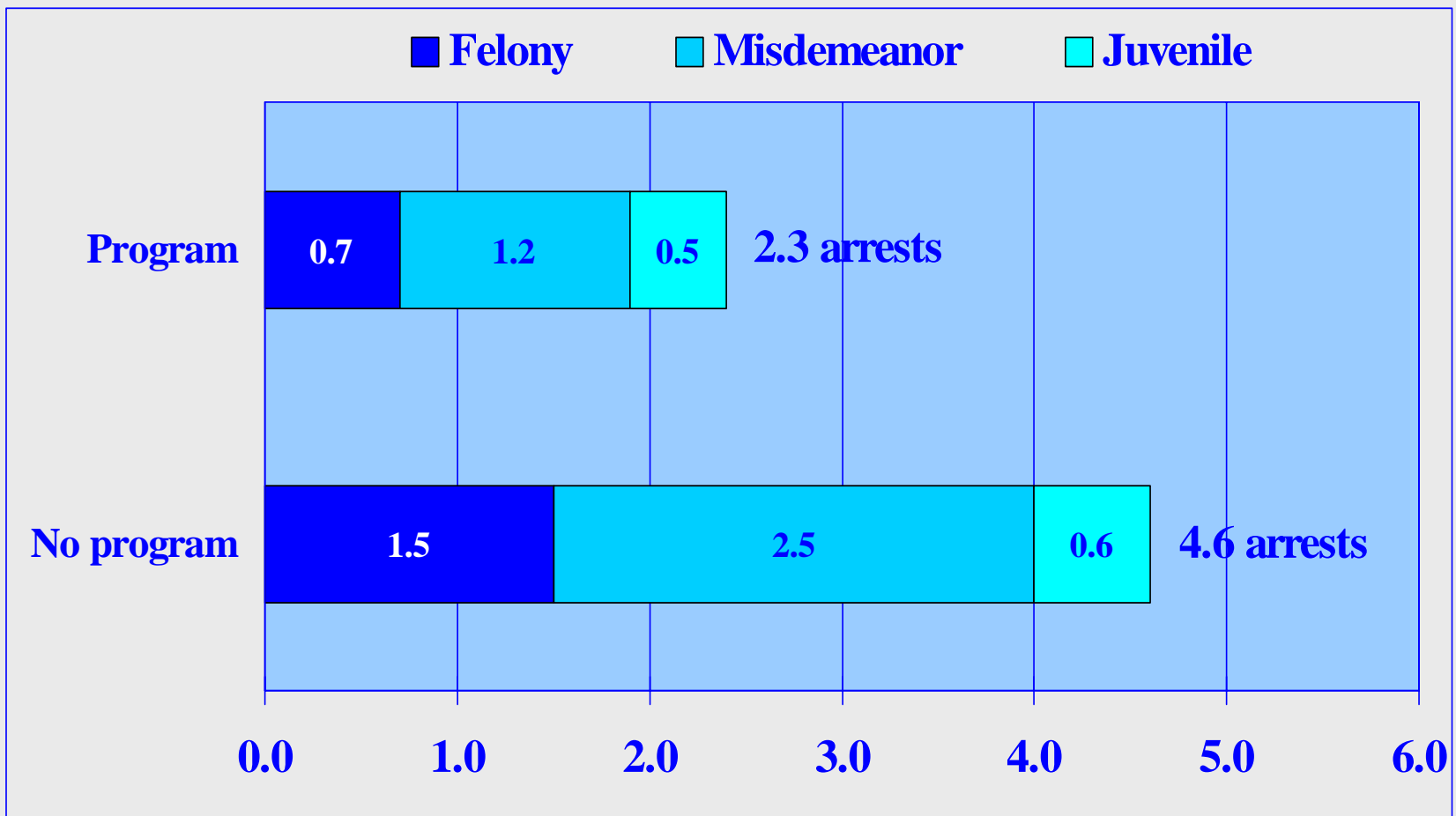
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# Perry Preschool: Economic Effects at 40



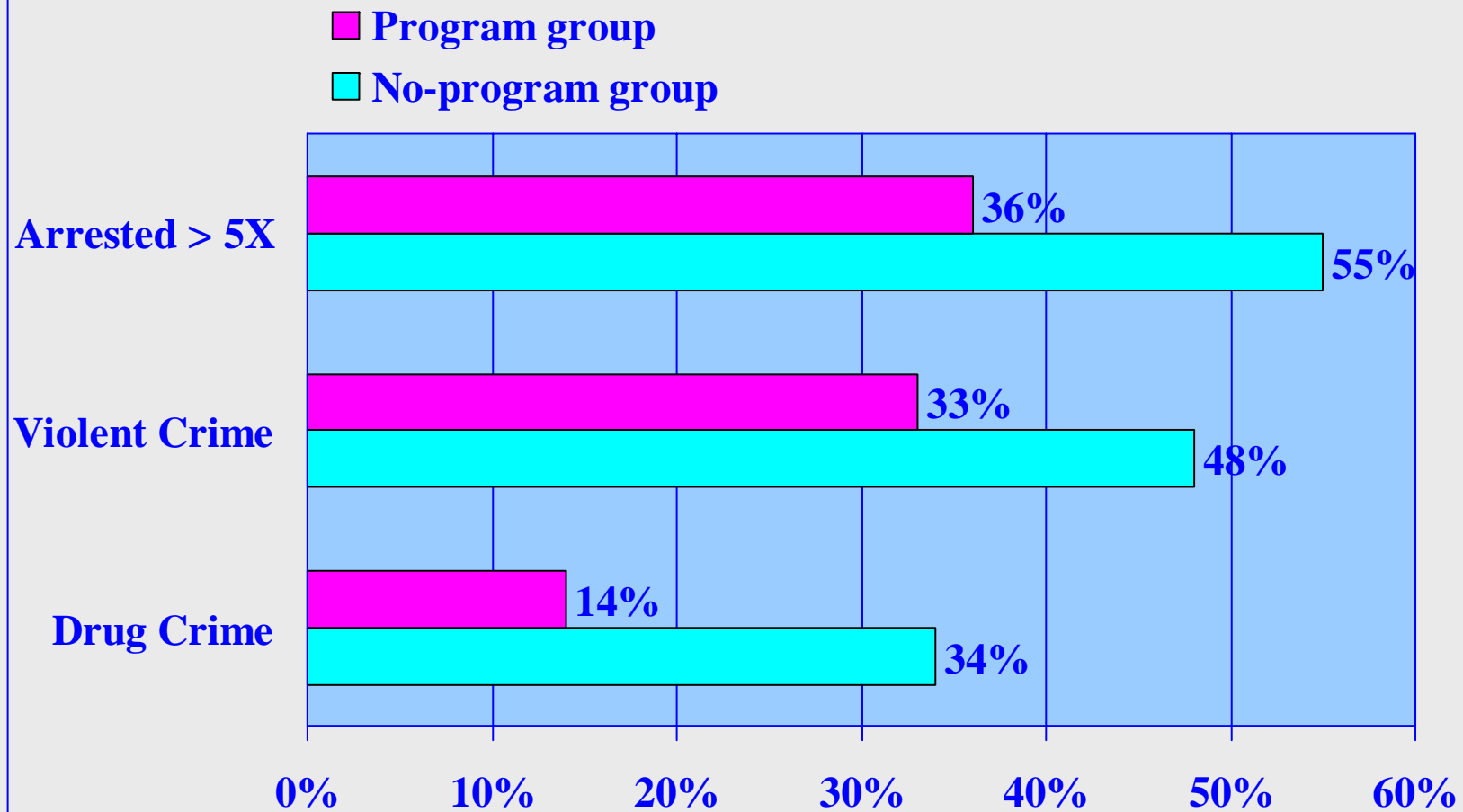
Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40* (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Educational Research Foundation.

# Perry: Arrests per person by age 27



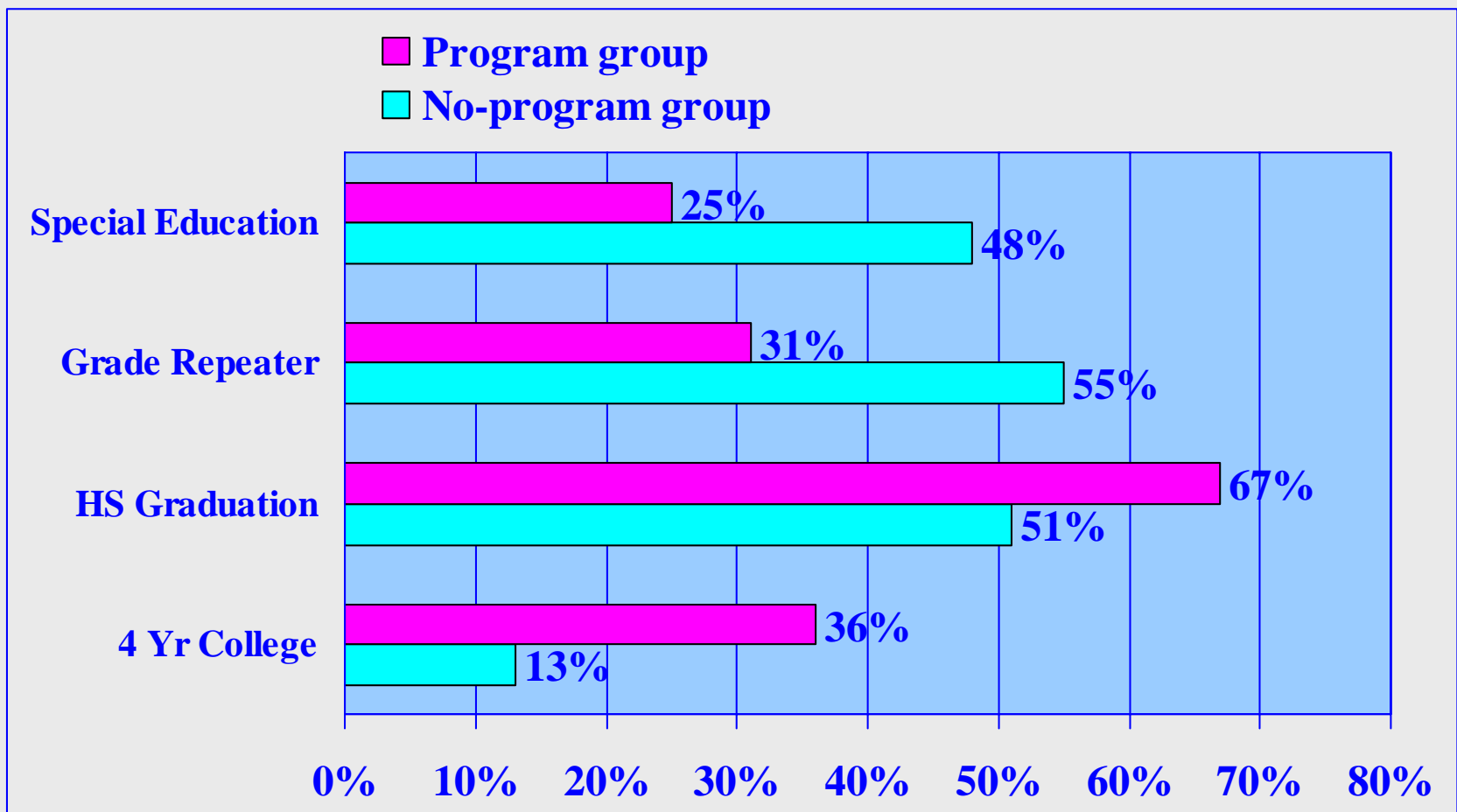
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# Perry Preschool: Crime Effects at 40



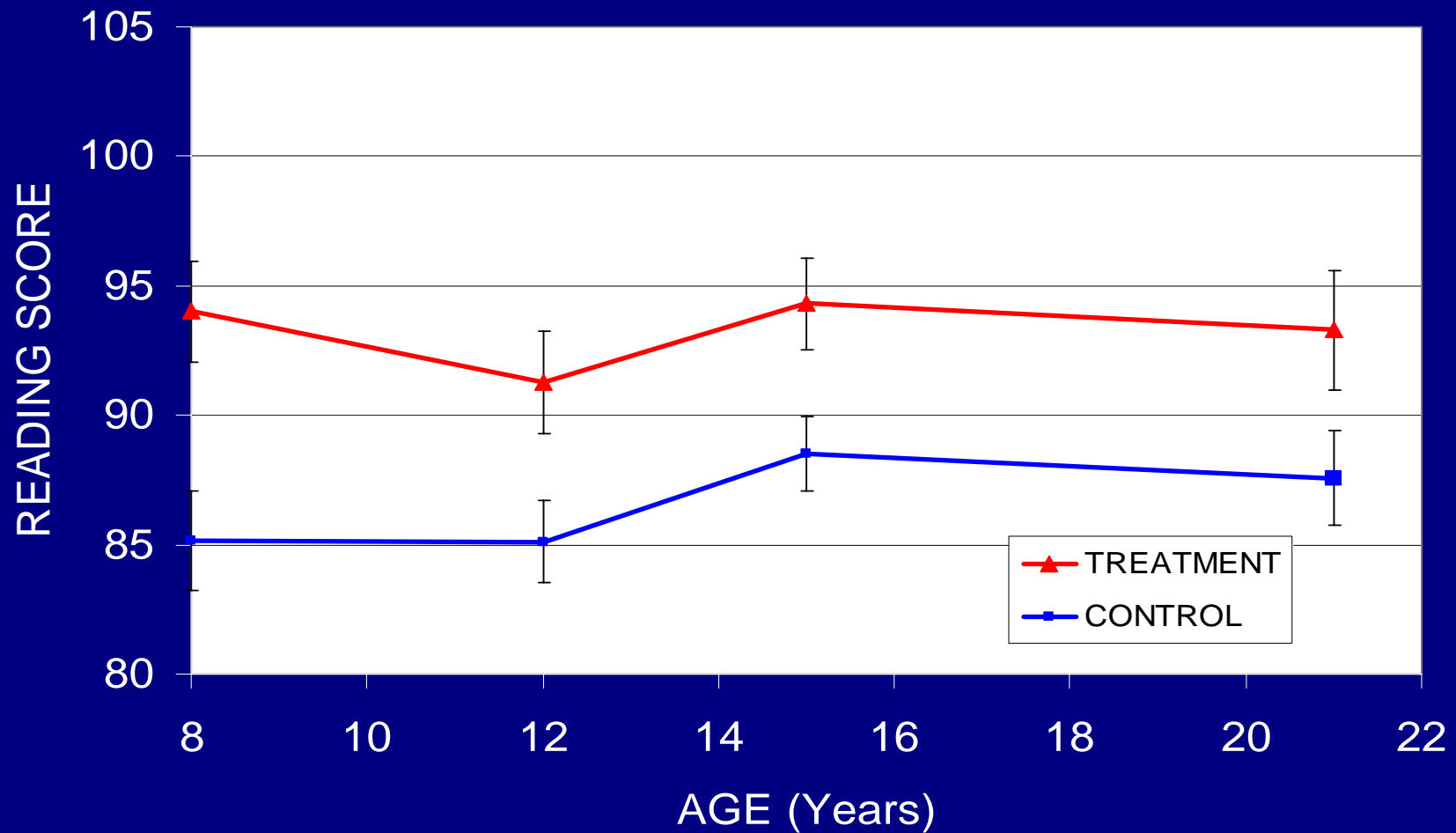
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# Abecedarian : Academic Benefits



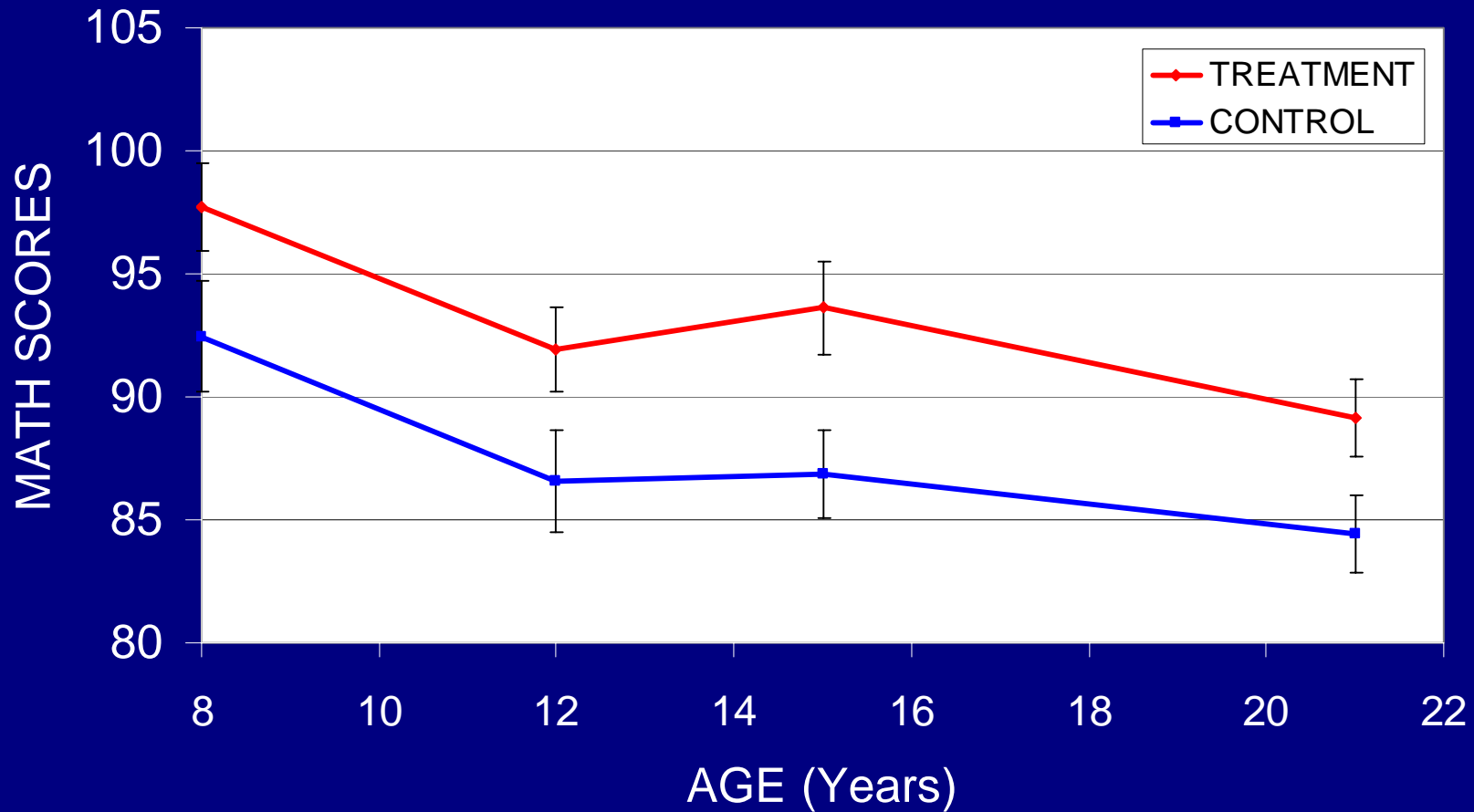
Campbell, F.A., Ramey, C.T., Pungello, E., Sparling, J. & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian project. *Applied Developmental Science*, Volume 6, Number 1, pp. 42-57.

# Abecedarian Reading Ach. Over Time



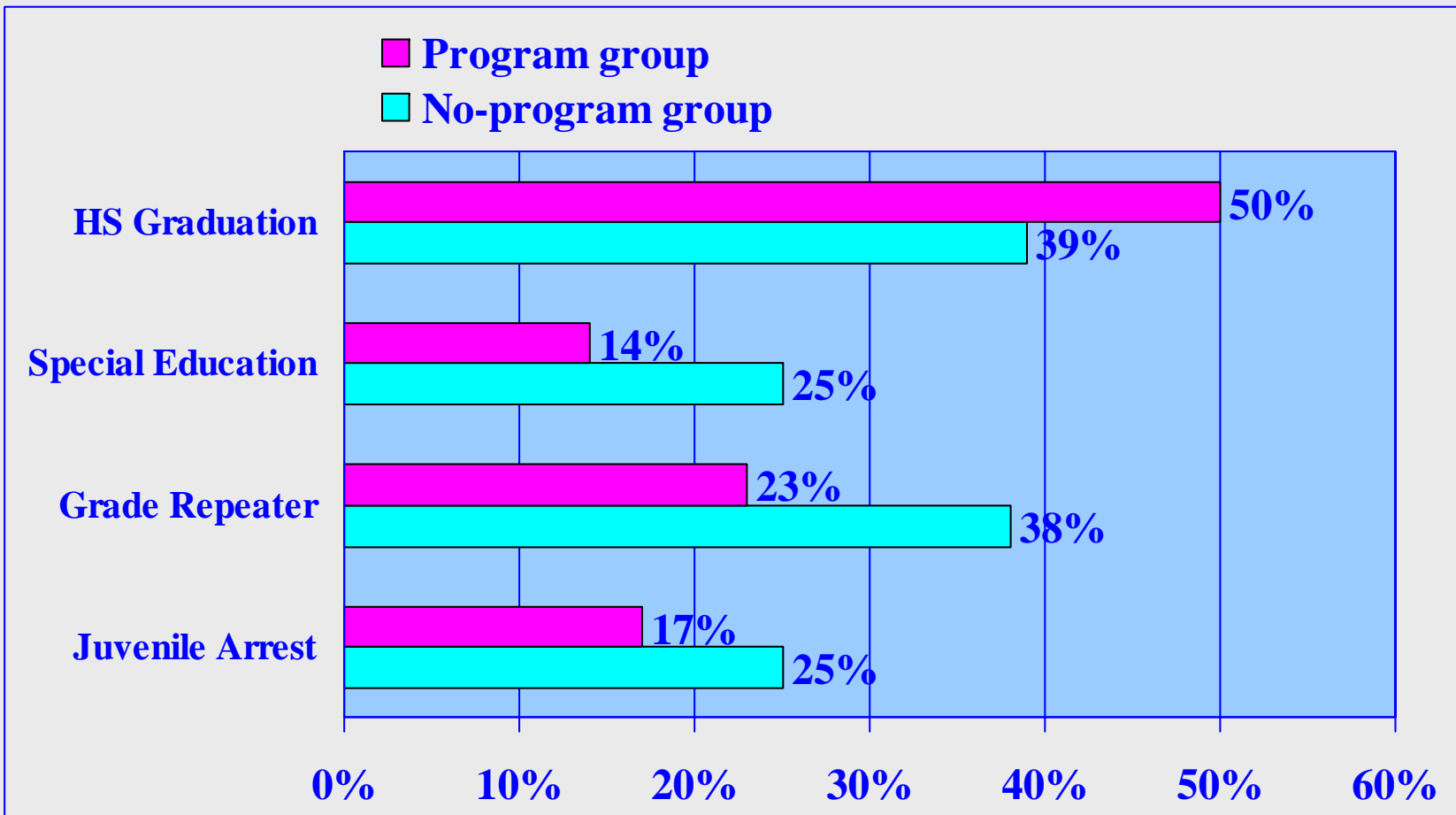
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# Abecedarian Math Achievement Over Time



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*, Volume 6, Number 1, pp. 42-57.

# CPC: Academic and Social Benefits at School Exit



Reynolds, A. J., Temple, J.A., Robertson, D.L., & Mann, E.A. (2002). *Age 21 cost-benefit analysis of the Title I Chicago Child-Parent Centers*. (Discussion Paper no. 1245-02). Madison, WI: Institute for Research on Poverty. Available on line at <http://www.irp.wisc.edu/publications/dps/pdfs/dp124502.pdf>

# Economic Returns to Pre-K for Disadvantaged Children

	Cost	Benefits	B/C
▪ Perry Pre-K	\$16,264	\$277,631	17.07
▪ Abecedarian	\$36,929	\$139,571	3.78
▪ Chicago	\$ 7,417	\$ 52,936	7.14

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; Barnett, W. S. & Masse, L. N. (In press). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications, *Economics of Education Review*; Reynolds, A. J., Temple, J.A., Robertson, D.L., & Mann, E.A. (2002). *Age 21 cost-benefit analysis of the Title I Chicago Child-Parent Centers*. (Discussion Paper no. 1245-02). Madison, WI: Institute for Research on Poverty. Available on line at <http://www.irp.wisc.edu/publications/dps/pdfs/dp124502.pdf>

# Why not Target Pre-K?

- **Targeting is costly and imperfect**
  - **Head Start misses most poor children**
  - **About half of Head Start children not poor**
- **Benefits do not stop at the poverty line**
  - **Many non-poor have similar problems**
  - **Benefits decrease gradually with income**
  - **Georgetown study of UPK in OK**
- **Benefits greater when all children exposed to Pre-K**

Barnett, W. S., Brown, K., & Shore, R. (2004). The universal vs. targeted debate: Should the United States have preschool for all? *Preschool Policy Matters*, 6. New Brunswick, NJ: National Institute for Early Education Research, Rutgers University.

# Could universal Pre-K produce similar benefits for the middle class?

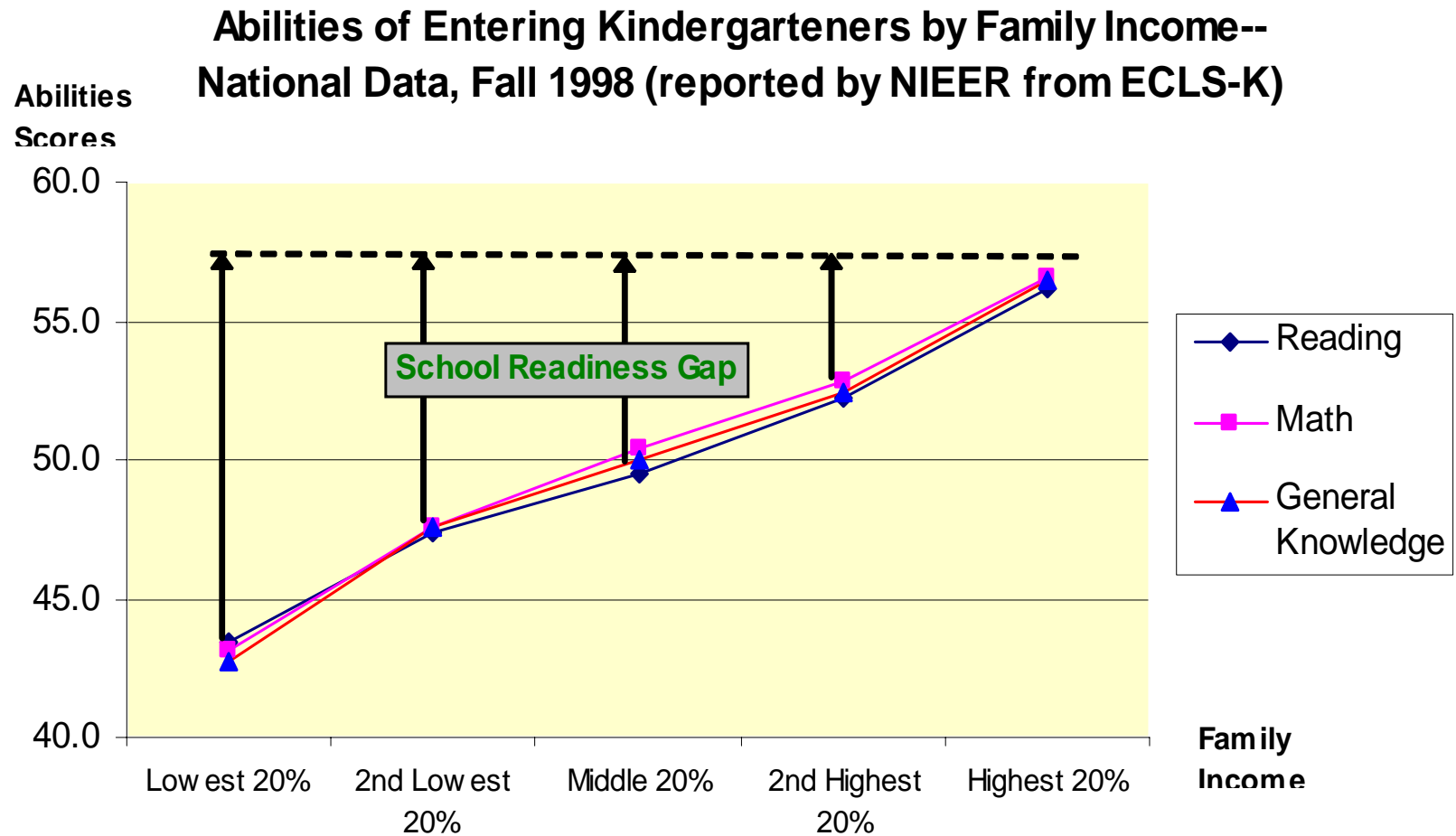
Middle class children have fairly high rates of the problems that preschool reduces for low-income children.

Reducing these problems could generate large benefits.

<u>Income</u>	<u>Retention</u>	<u>Dropout</u>
Lowest 20%	17%	23%
20-80%	12%	11%
Highest 20%	8%	3%

US Department of Education, NCES (1997). *Dropout rates in the United States: 1995*. Figures are multi-year averages.

# Cognitive Readiness Gap

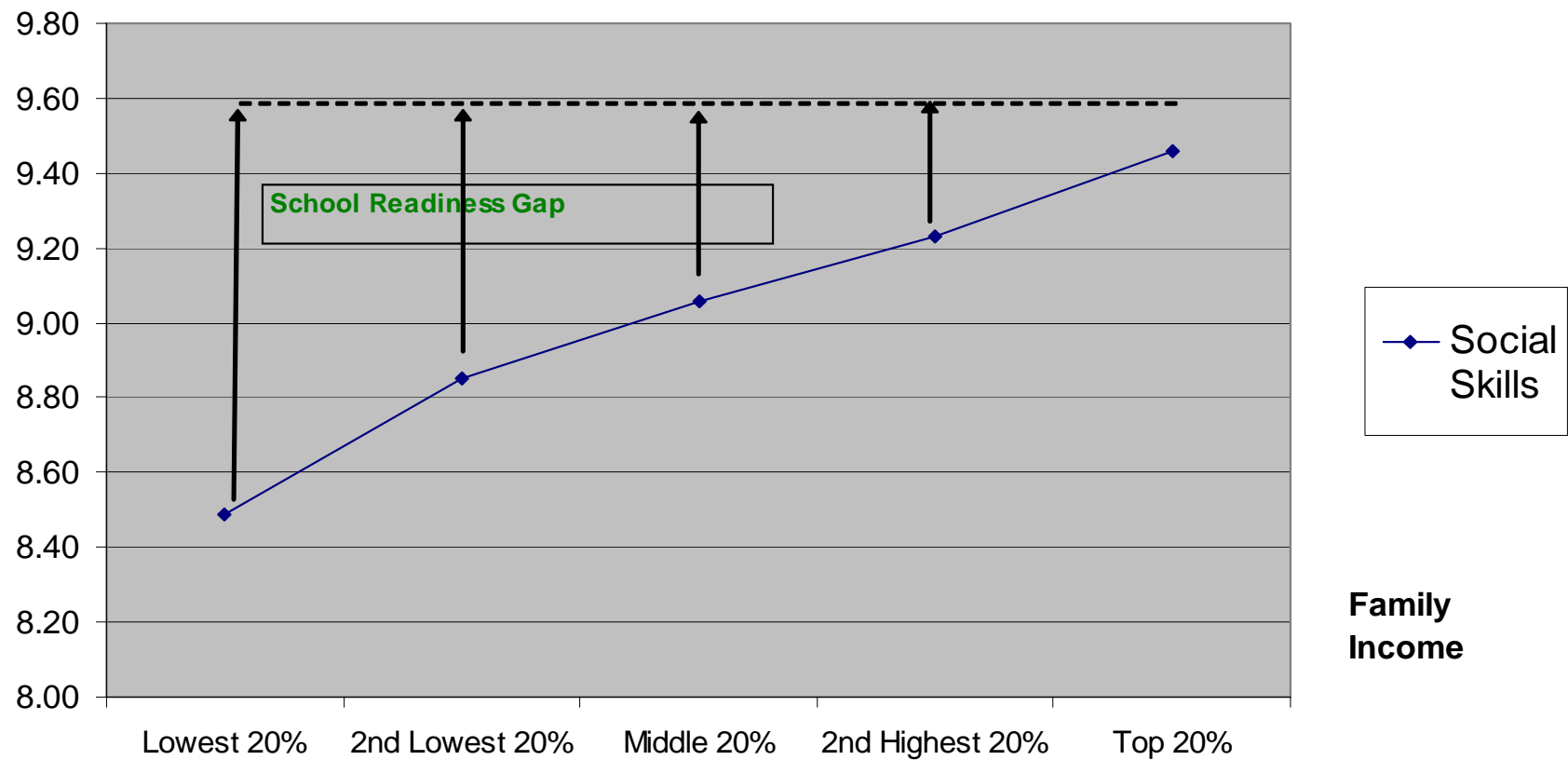


Barnett, W. S., Brown, K., & Shore, R. (2004). The universal vs. targeted debate: Should the United States have preschool for all? *Preschool Policy Matters*, 6. New Brunswick, NJ: National Institute for Early Education Research, Rutgers University.

# Social Readiness Gap

Social  
Scores

**Social Skills of Entering Kindergarteners by  
Family Income (NIEER Analysis of ECLS-K)**



**Barnett, W. S., Brown, K., & Shore, R. (2004). The universal vs. targeted debate: Should the United States have preschool for all? *Preschool Policy Matters*, 6. New Brunswick, NJ: National Institute for Early Education Research, Rutgers University.**

# Is State Pre-K/UPK Effective?

- Two new rigorous studies
- Large scale, state wide programs
- One year of quality public Pre-K at 4
- Effects at entry to Kindergarten
- Universal and targeted programs
- Standardized tests
- Look at effects by income

# Oklahoma's Universal Pre-K

- 3,028 children in Tulsa public schools
- Rigorous RD design
- Gains for all SES & ethnic groups
- Literacy and Math gains
  - Smaller than Perry and Abecedarian
  - Similar to CPC
- Larger gains for minority and poor children

Gormley, W.T. and Gayer, T. Phillips, D., & Dawson, B. (2005). The effects of universal pre-k on cognitive development. *Developmental Psychology*, 41(6), 872-884.

# NIEER Evaluation of 5 State Pre-K Programs

- 5,071 children in 5 States
- OK and WV are universal
- MI, NJ, & SC targeted
- Gains from Pre-K in all 5 states
- Gains in language, literacy & math
- All children gain, low-income gain more

# Extra Benefits from Serving All

- Disadvantaged children found to gain more when they have mixed SES peers in Pre-K
- Positive peer effects in kindergarten and beyond will be larger if all attend Pre-K

Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., Taggart, B. (2004). *The final report: Effective pre-school education. Technical paper 12*. London: Institute of Education, University of London; Belfield, C. & McEwan, P. (2004). *An economic analysis of investments in early childhood education in Massachusetts*. Retrieved November 2005 from <http://strategiesforchildren.org/images/pdfs/BelfieldMcEwanReport.pdf>

# High Quality Preschool Programs Needed to Produce Benefits

- Well-educated preschool teachers
- Adequate teacher compensation
- Small classes and reasonable teacher:child ratios
- Strong supervision
- High standards and accountability

Espinosa, L. M. (2002). High quality preschool: Why we need it and what it looks like. *Preschool Policy Matters, Issue 1*. New Brunswick, NJ: National Institute for Early Education Research; Barnett, W. S. (2003). Better teachers, better preschools: Student achievement linked to teacher qualifications. *Preschool Policy Matters, 2*. New Brunswick, NJ: National Institute for Early Education Research.

# Comparison of Plausible Returns to Targeted and Universal Pre-K

	Cost	Benefits	NPV
Targeted			
50% accur.	\$12.5	\$ 79.9	\$ 67.4
80% accur.	\$12.5	\$ 96.0	\$ 83.5
Universal (80% enrolled)	\$62.4	\$213.2	\$150.8

Barnett, W. S. (2004). *Maximizing returns from prekindergarten education*. In Federal Reserve Bank of Cleveland Research Conference: Education and economic development (pp. 5-18). Cleveland, OH: Federal Reserve Bank of Cleveland.

# Conclusions

- Quality Pre-K is pro-growth
- Quality Pre-K is effective response to NCLB
- All children can and should benefit
- UPK more cost-effective than targeting
- Must be intensive, quality program