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UNIVERSITY OF WISCONSIN–MADISON

Teaching Poverty: Eearly Child Care and Education

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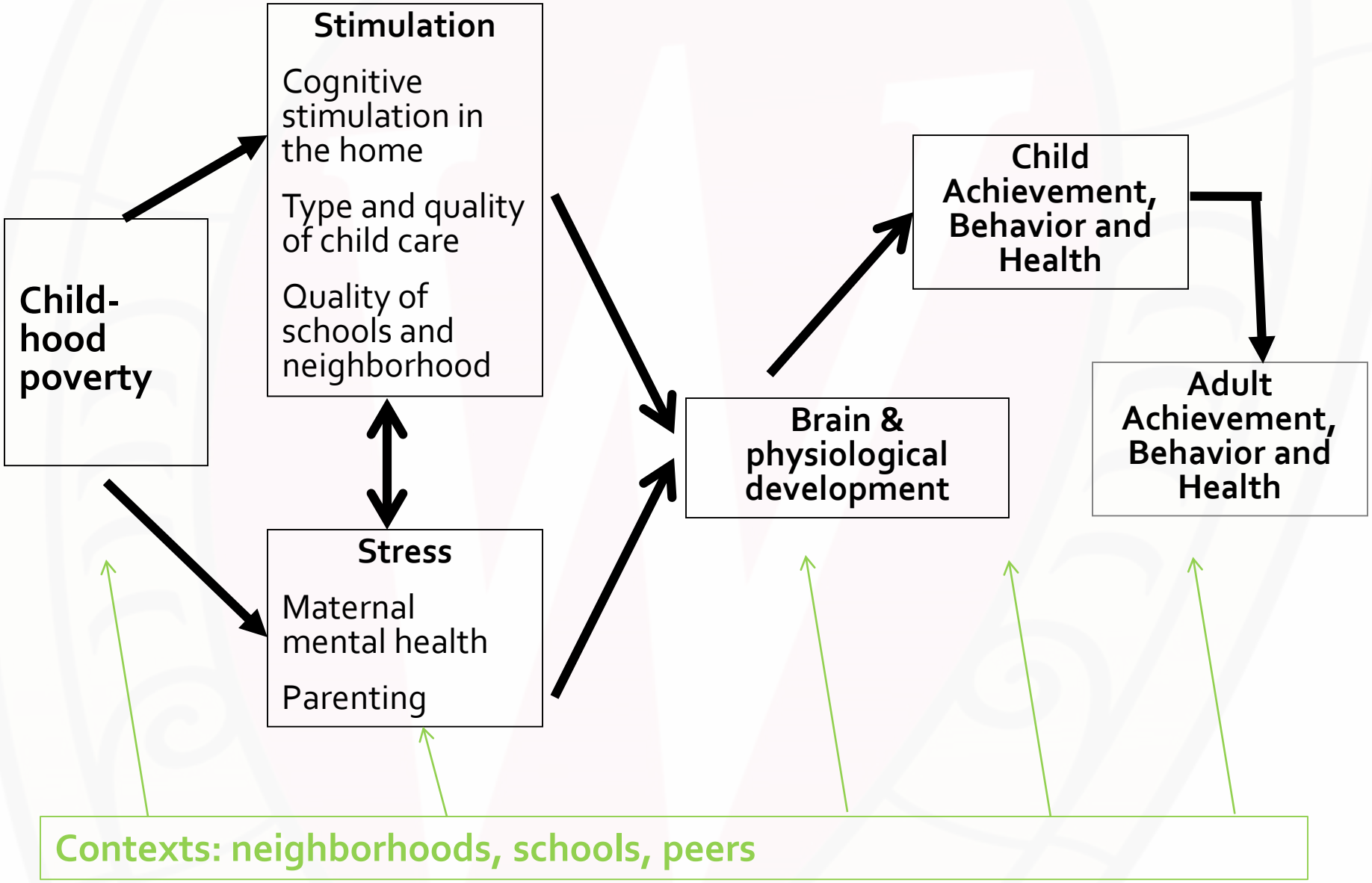
Talk Outline

- Stylized facts about "disadvantage" and inequality wrt to children
- Descriptive differences in achievement by early disadvantage
- Early childhood care and education as a response

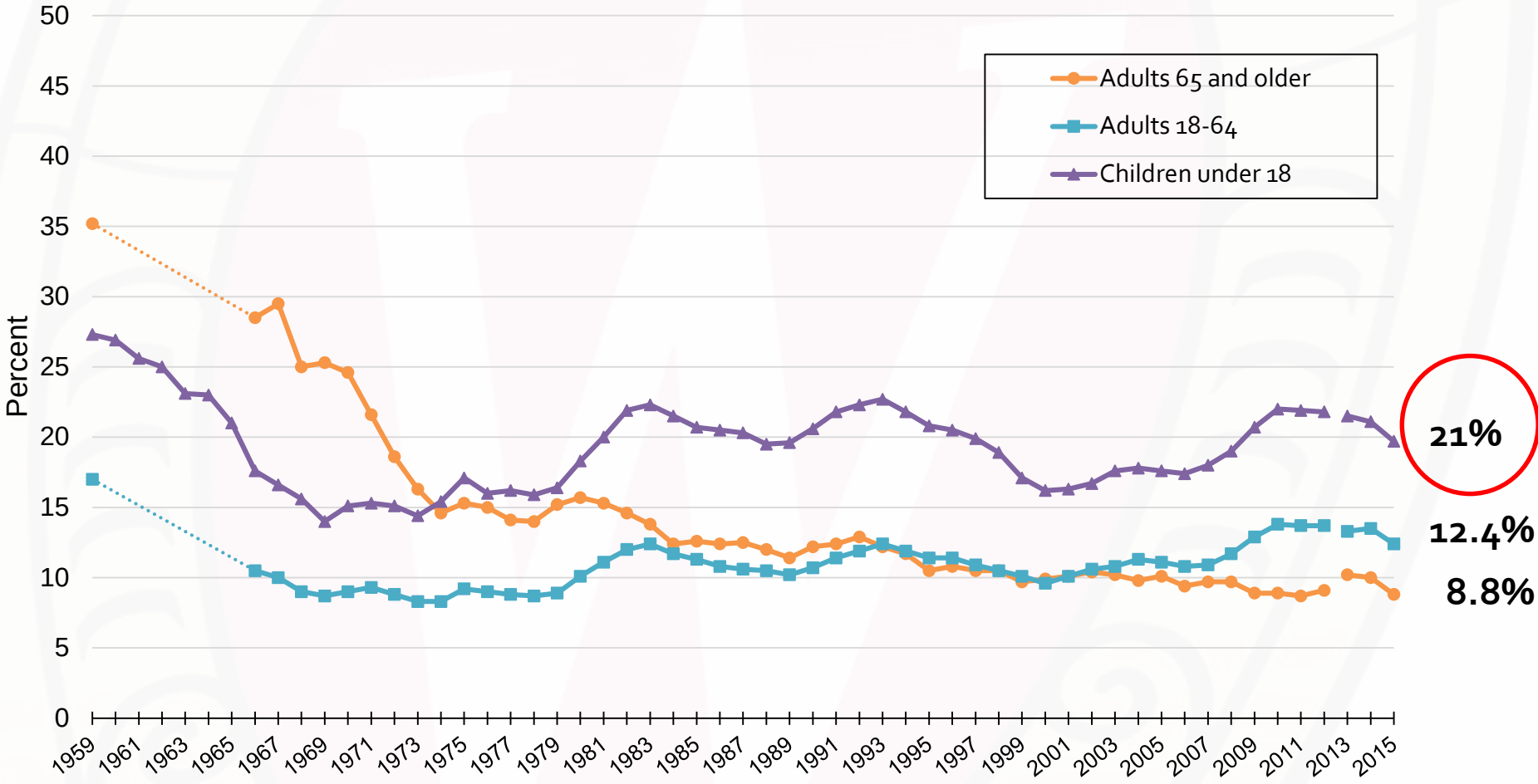
Poverty and children

- *Children provide an interesting angle to understand social (and biological) processes of inequality*
  - *Tends to evoke sympathy, children experience the consequences of their parents inadequacies*
    - *Trends in child poverty mirror trends in adult poverty*
  - *BUT childrearing practices are closely linked to cultural processes, so Oscar Lewis looms large*
  - *Easy to overlook heterogeneity among poor children*
    - *Hopefully avoid pathologizing poor children and recognize resilience*

An Explanatory Model



U.S. Poverty Rates by Age Group: 1959 to 2015



**Estimates for 2013 and beyond are not directly comparable to previous years due a re-design of the income questions.*

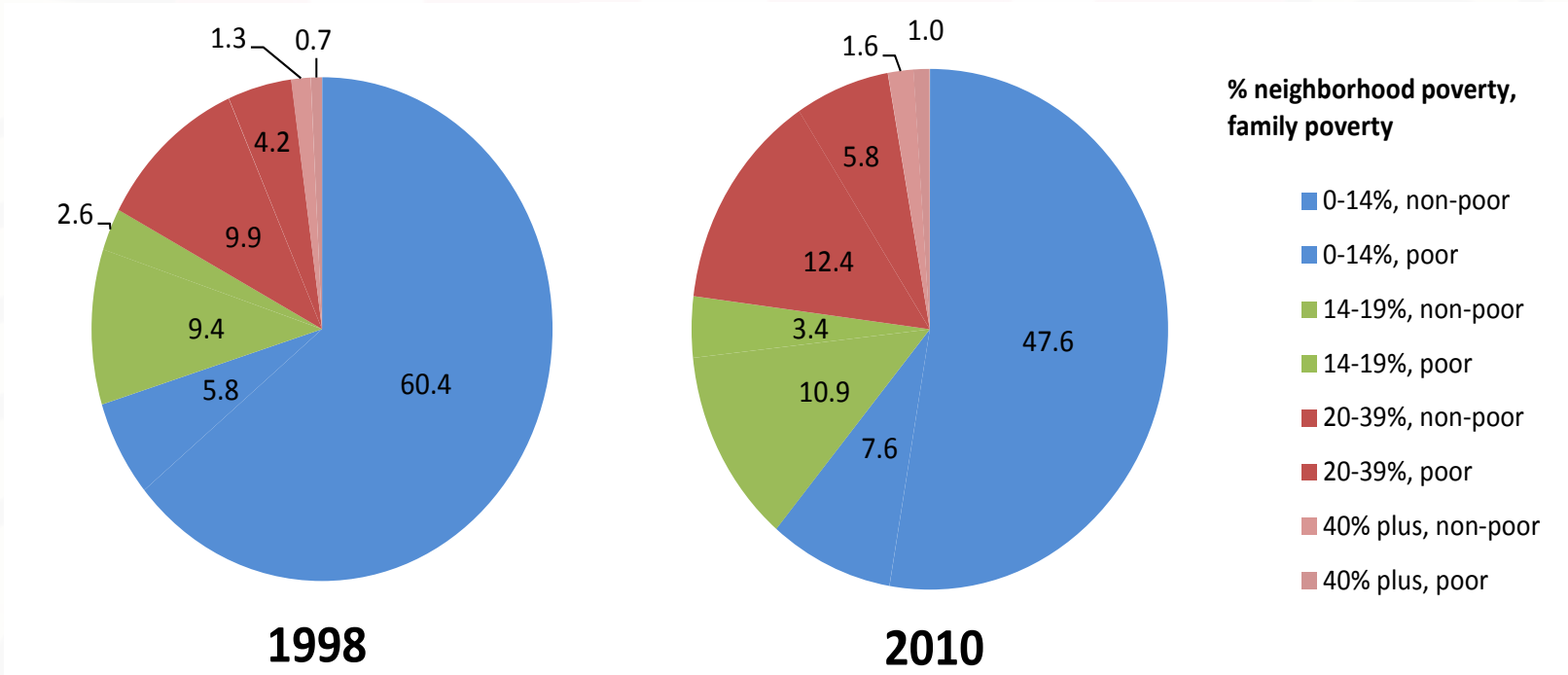
Slide courtesy Benard Dreyer, MD
Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement (https://www.census.gov/content/dam/Census/library/publications/2016/demo/p60-256.pdf)

Fifteen-year Poverty Experiences of Children in the Panel Study of Income Dynamics born between 1975-1987, by Race and Maternal Characteristics at Birth

	Ave. Number of Years Poor	Never Poor	Poor for at least 5 years	Poor for at least 8 years
Total Sample	1.81	65%	15%	10%
African American	5.53	30%	46%	37%
White	0.93	75%	7%	4%
Unmarried Mother	5.39	24%	46%	33%
Mother Education: < High School Degree	5.03	31%	44%	33%

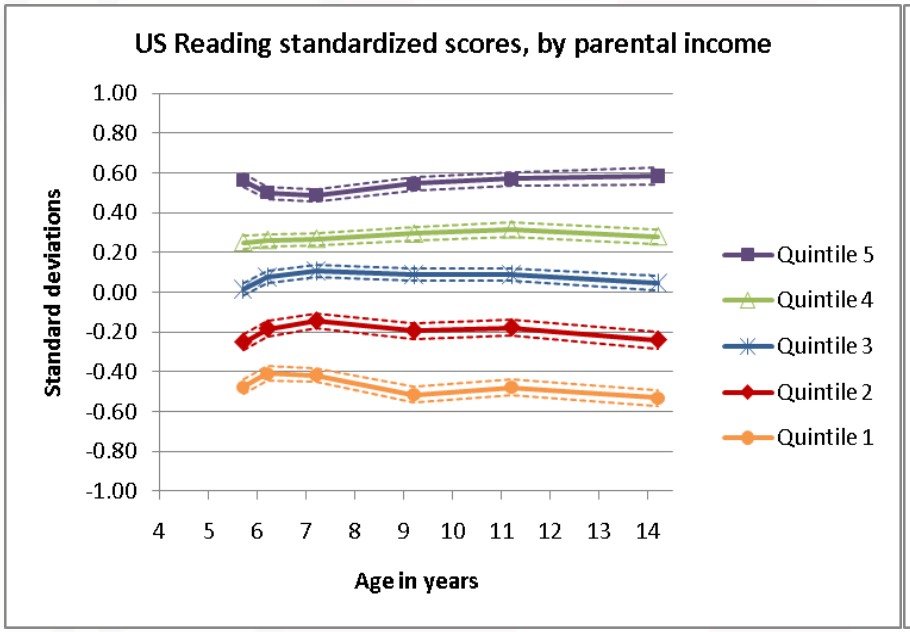
Notes: Calculations of the Panel Survey of Income Dynamics conducted by Kathleen Ziol-Guest. Figures in this table are based on weights that adjust for differential sampling and response rates.

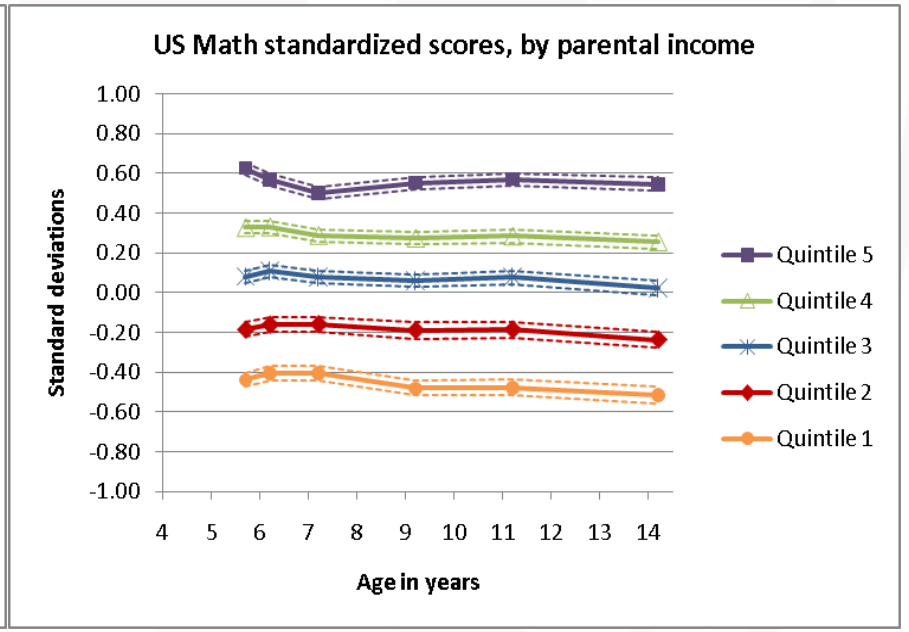
Kindergarteners living in neighborhoods with concentrated poverty in 1998 and 2010 (ECLSK)



From: Wolf et al (2017)

Low-income children enter school with low-levels of academic skills & these differences persist





Percent of Children able to Recognize Letters, By SES (ECLSK)

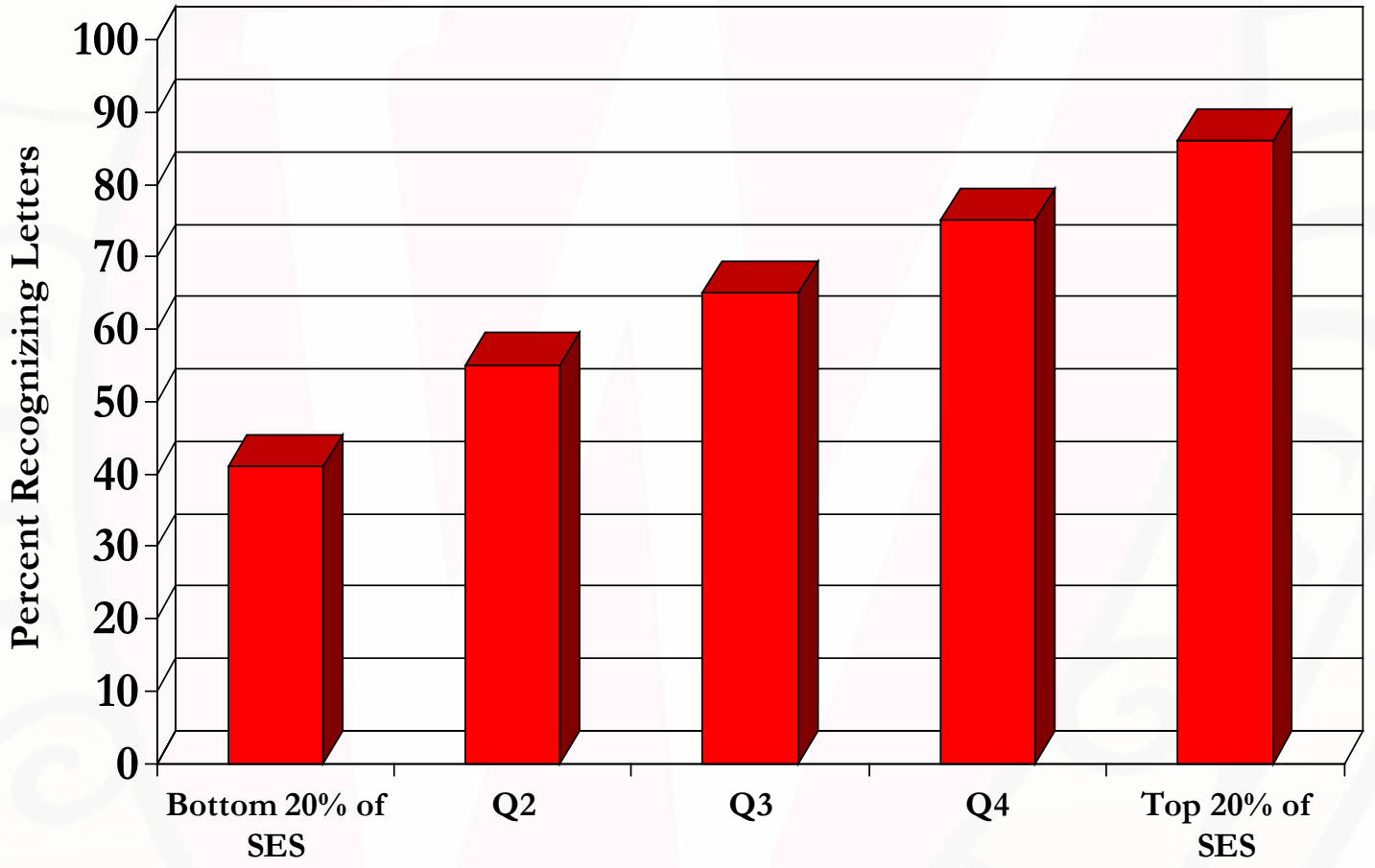
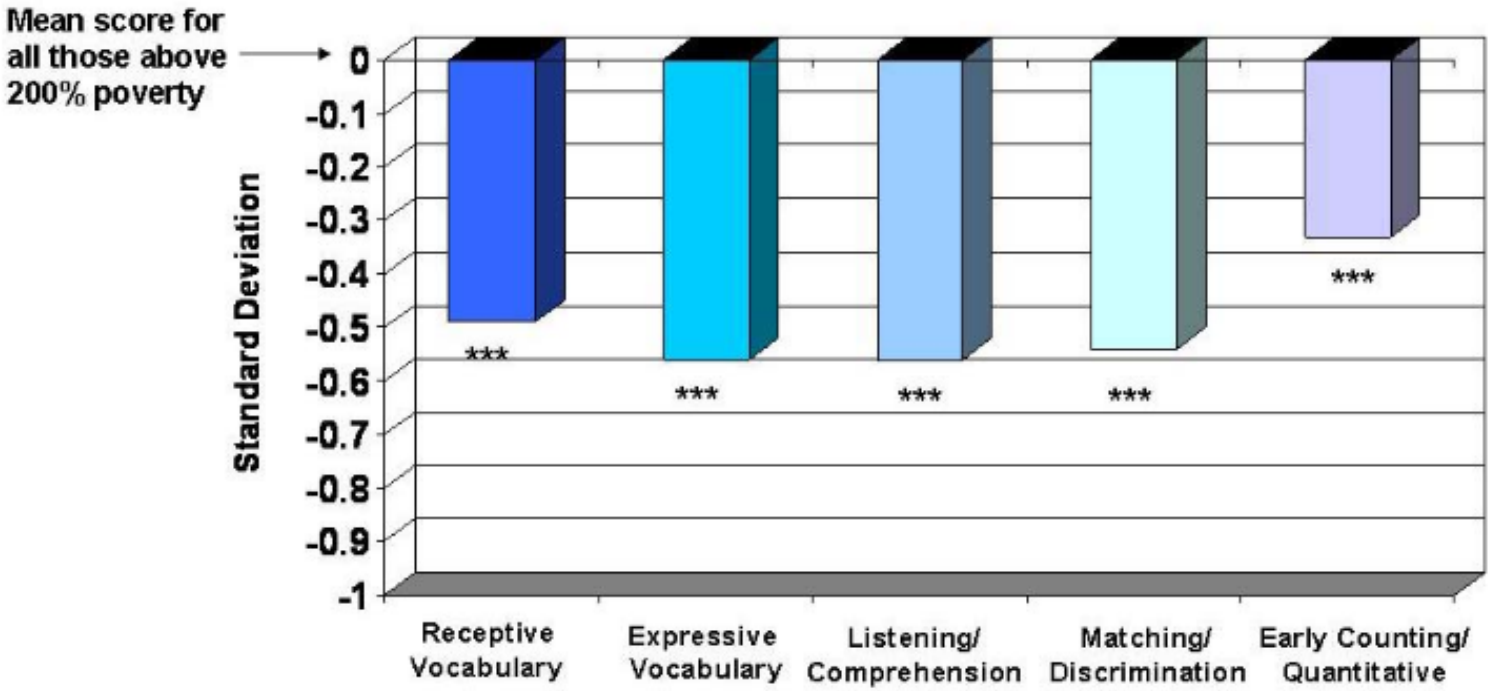
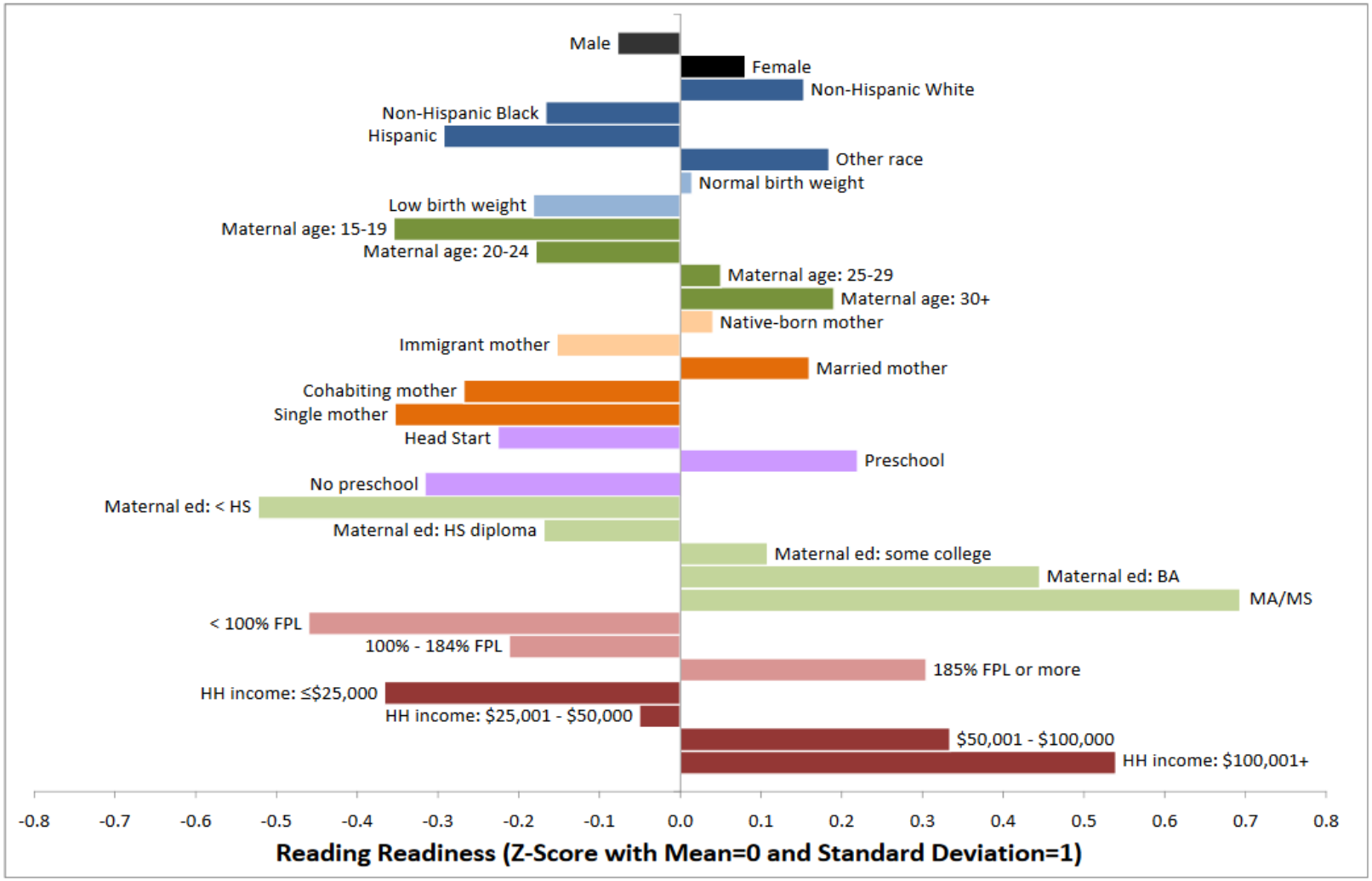


Figure 2: Disparities in Mastery of Language and Cognitive Skills between Higher- and Lower-Income Toddlers at 24 Months



Halle, T., Forry, N., Hair, E., Perper, K., Wandner, L., Wessel, J., & Vick, J. (2009). Disparities in Early Learning and Development: Lessons from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B). Washington, DC: Child Trends

Figure 2. Reading Readiness by Child and Family Characteristics



ECLS-B, Isaacs & Magnuson, 2011

Neighborhood Poverty Gradients in School Readiness are found within Family Poverty Categories

Figure 1: Average Reading Scores by Neighborhood & Family Poverty, ECLSK

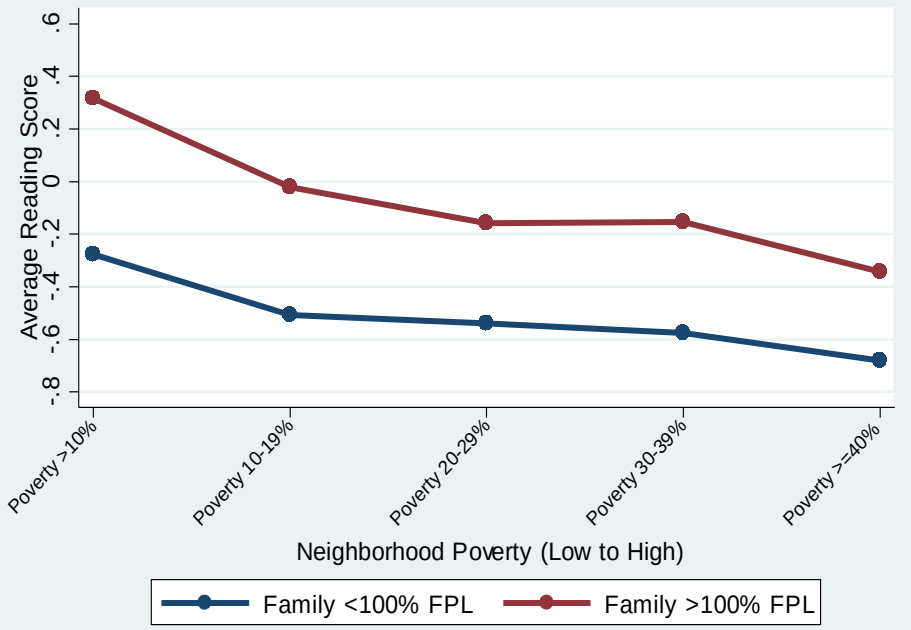
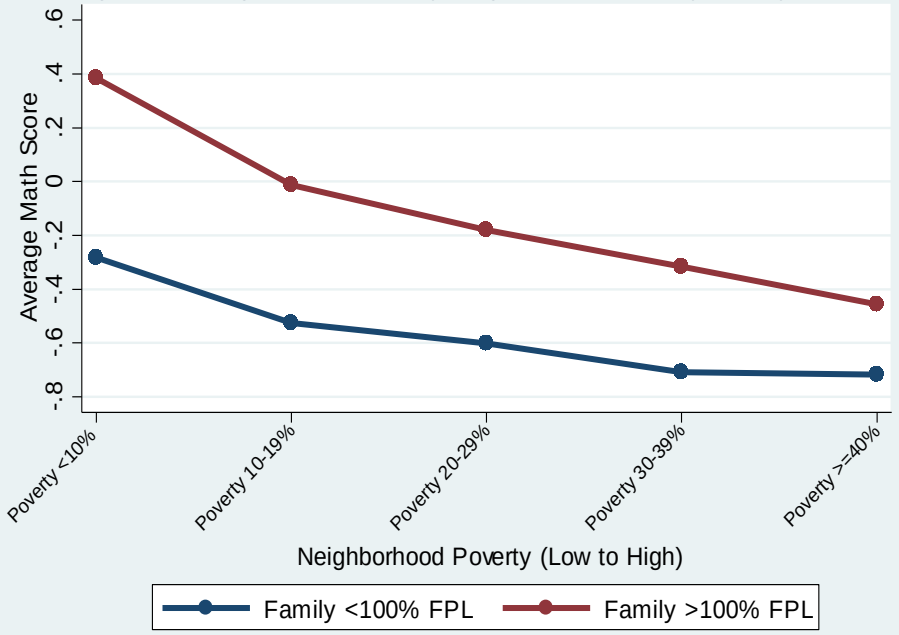
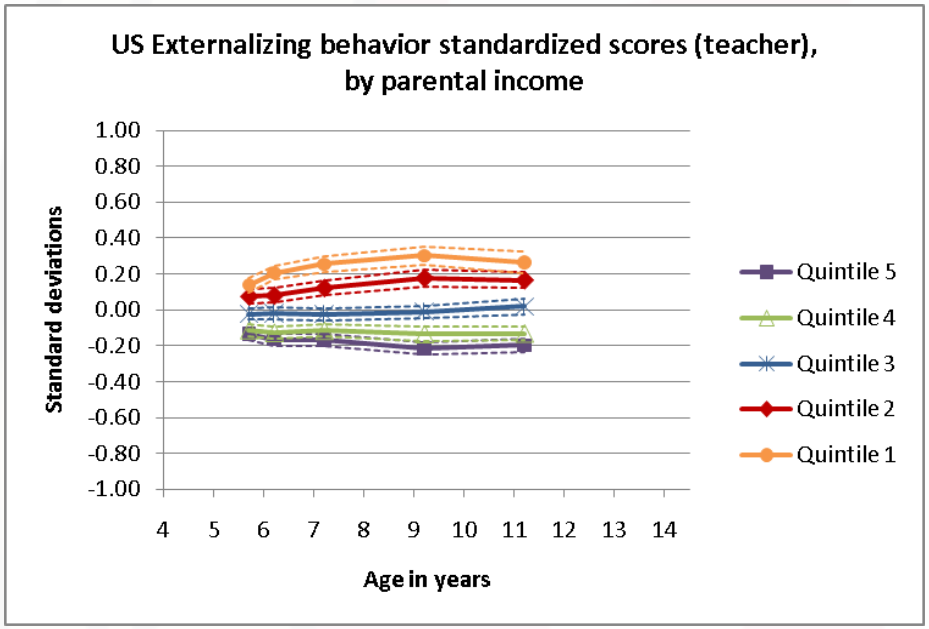
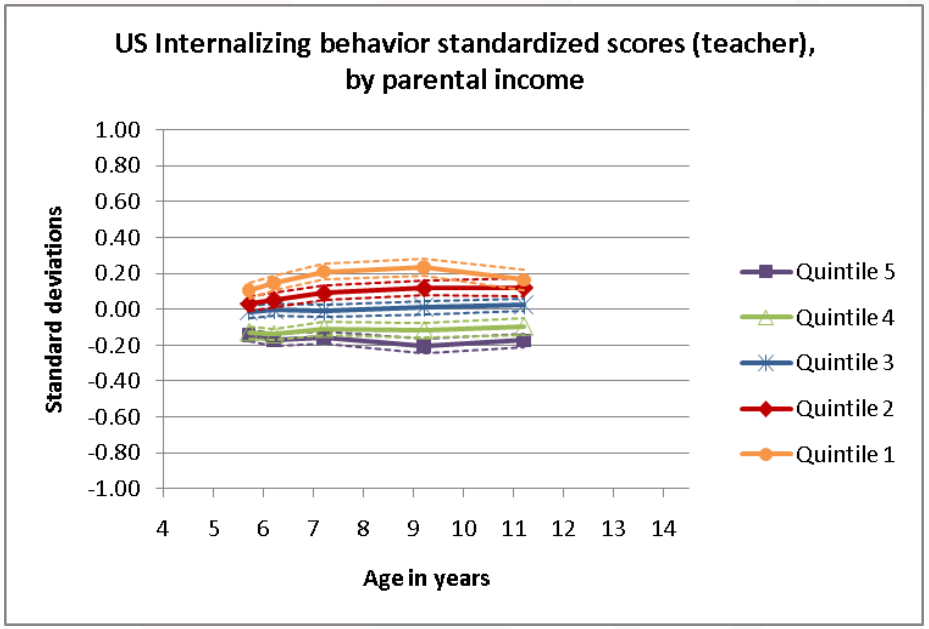


Figure 2: Average Math Scores by Neighborhood & Family Poverty, ECLSK



Low-income children enter school with higher levels of problem behavior & these differences persist





Predictive importance for later school achievement (standardized coefficients)

School-entry:	Grades 1 to 8:	
	Reading	Math
Reading	.24*	.09*
Math	.26*	.41*
Engagement/attention	.08*	.10*
Anti-social (- expected)	.01 ns	.01 ns
Mental health (- expected)	-.01 ns	.01 ns

Duncan et al (2007)'s meta-analysis of six longitudinal data sets, five of which control for prior IQ

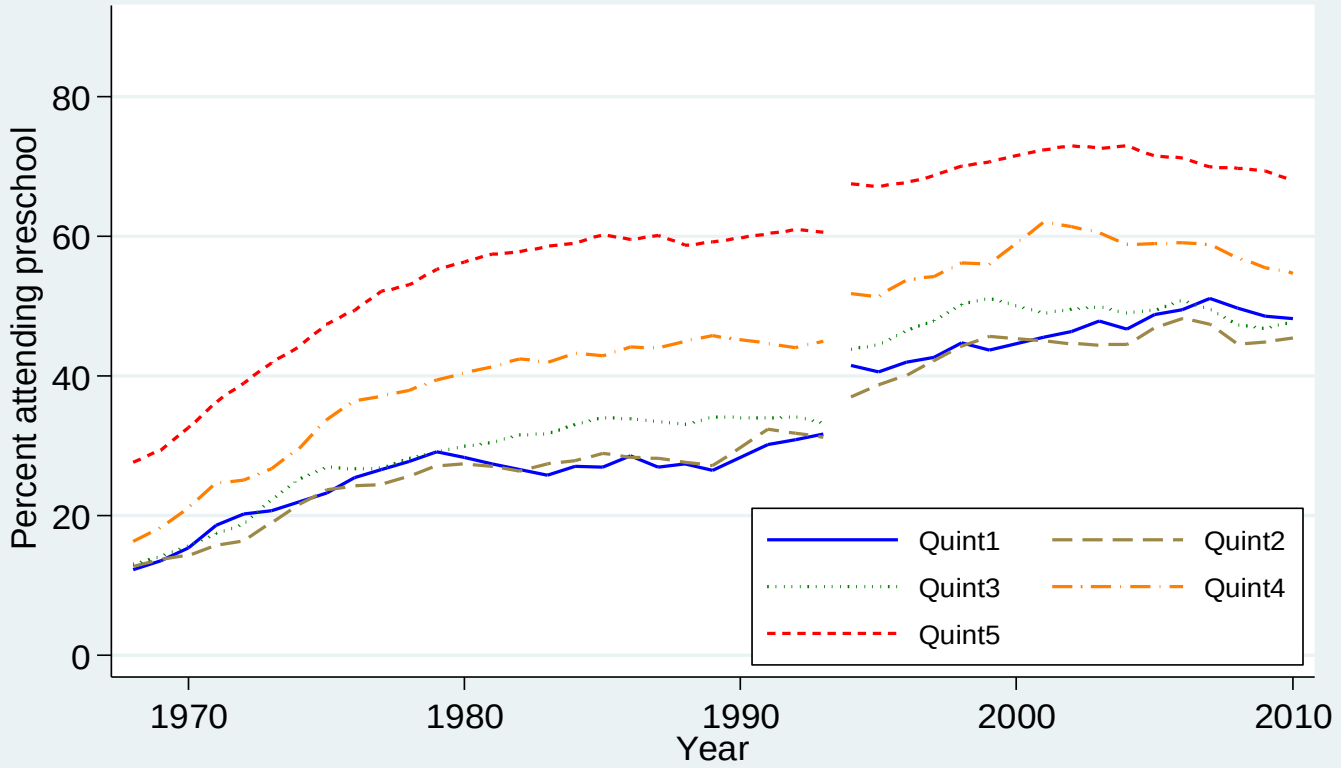
To improve later achievement build early math and reading skills

BUT, for educational attainment and crime, early aggressive problem behavior and especially persistent problem behavior matters too.

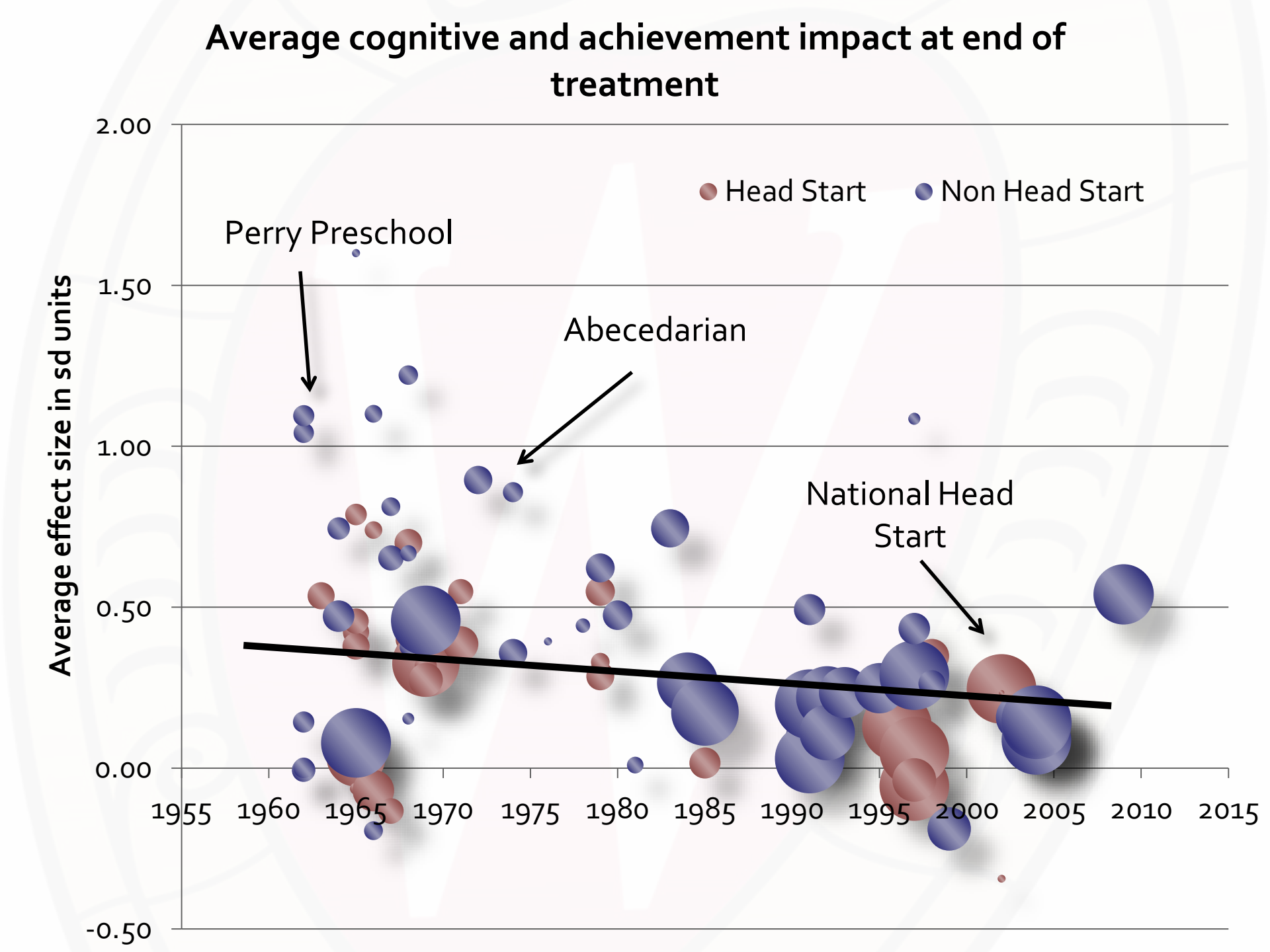
Current ECE Enrollment Trends by Income Quintile

Figure 5: Percent of children enrolled in preschool by family income quintile:

3- and 4-year olds

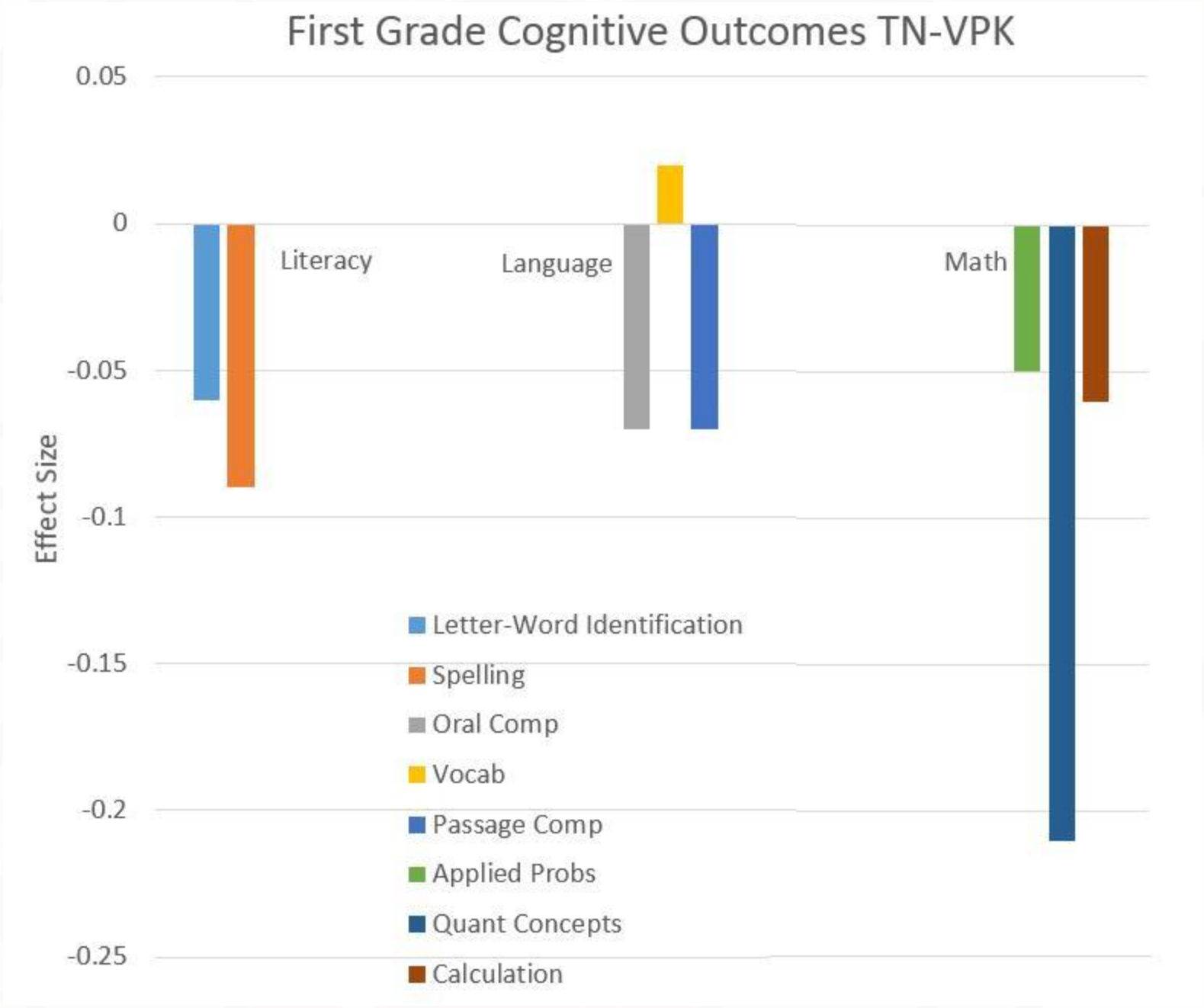


Note: Data from October CPS, data shown are from 3 year moving averages


Average cognitive and achievement impact at end of treatment
Average effect size in sd units
2.00
1.50
1.00
0.50
0.00
-0.50
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
Head Start
Non Head Start
Perry Preschool
Abecedarian
National Head Start

What About Long-Run ECE Effects?

- Short-term impacts on achievement skills fade over time
  - Meta-analysis: Decline geometrically
  - Tennessee Prk Evaluation shows negative impacts
- Yet, consistent impacts adult educational attainment, earnings and crime across diverse ECE programs
  - Example: Deming (2009) fixed effect Head Start study using an index of adult outcomes shows effect size .23 sd


First Grade Cognitive Outcomes TN-VPK
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
Effect Size
Literacy
Language
Math
Letter-Word Identification
Spelling
Oral Comp
Vocab
Passage Comp
Applied Probs
Quant Concepts
Calculation

The Mechanism Puzzle

- Identifying why there are long-run effects on human capital when short-run achievement impacts fade is hard
- BUT evidence suggests that there is not one explanation for all evaluation study findings
  - It's not only because of "character" or behavior
  - Also not clear what is going on in TN
- Good News: Equifinality--A variety of ECE programs with a differing approaches have positive impacts on adult human capital through differing pathways

ECE Funding & Enrollment

- Two largest funding streams for ECE: Head Start ($8.8 billion) and State Prekindergarten ($7.4 billion)
  - Head Start serves 3- and 4-year-olds
  - Prek serves mostly 4-year-olds

- In year before Kindergarten about 75% of children experience ECE in a mix of full- and part-day programs
  - 90% of top income quintile
  - 65-69% of bottom three income quintiles
- Lower enrollment among Hispanics, Immigrants, and Rural populations

- Complexity added by private market providers

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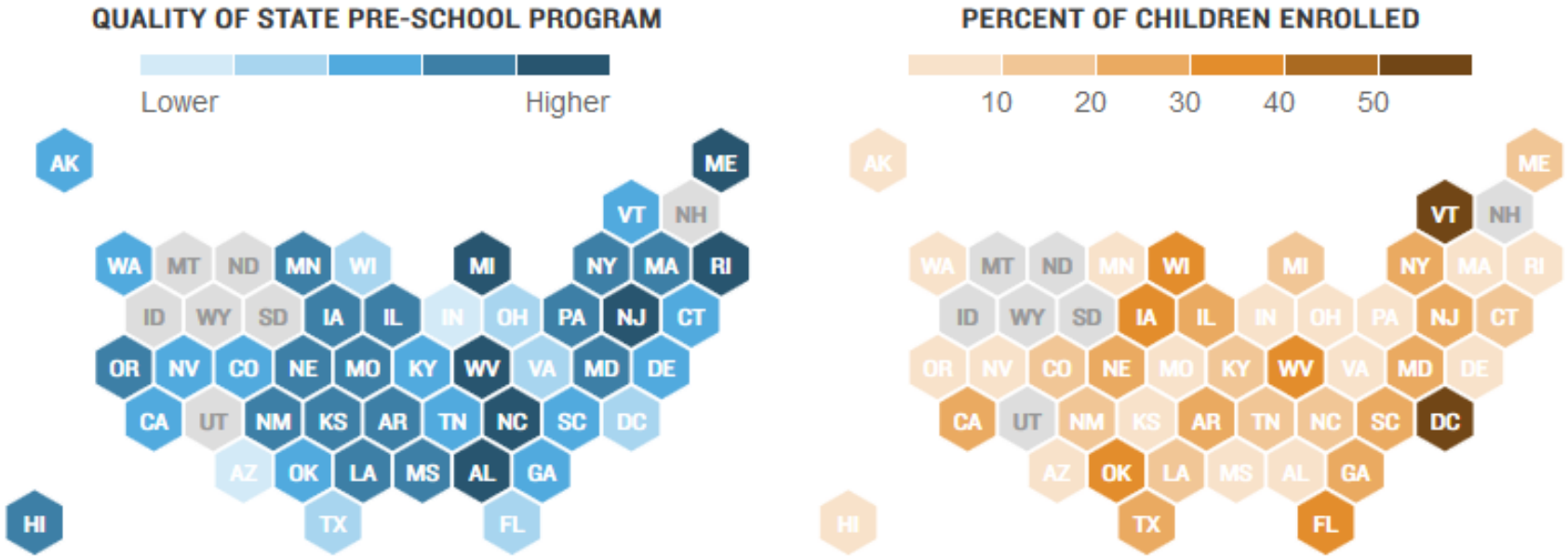
How State-Funded Pre-K Stacks Up

The quality of state-funded pre-school programs has improved, with Alabama and Rhode Island leading the way. Measures of quality include smaller class sizes, well trained teachers and medical services like hearing and vision. Many of these programs only reach a fraction of a state's 3- and 4-year-olds.



Notes

Idaho, Montana, New Hampshire, North Dakota, South Dakota, Utah and Wyoming have no state pre-school program.

Source: National Institute for Early Education Research

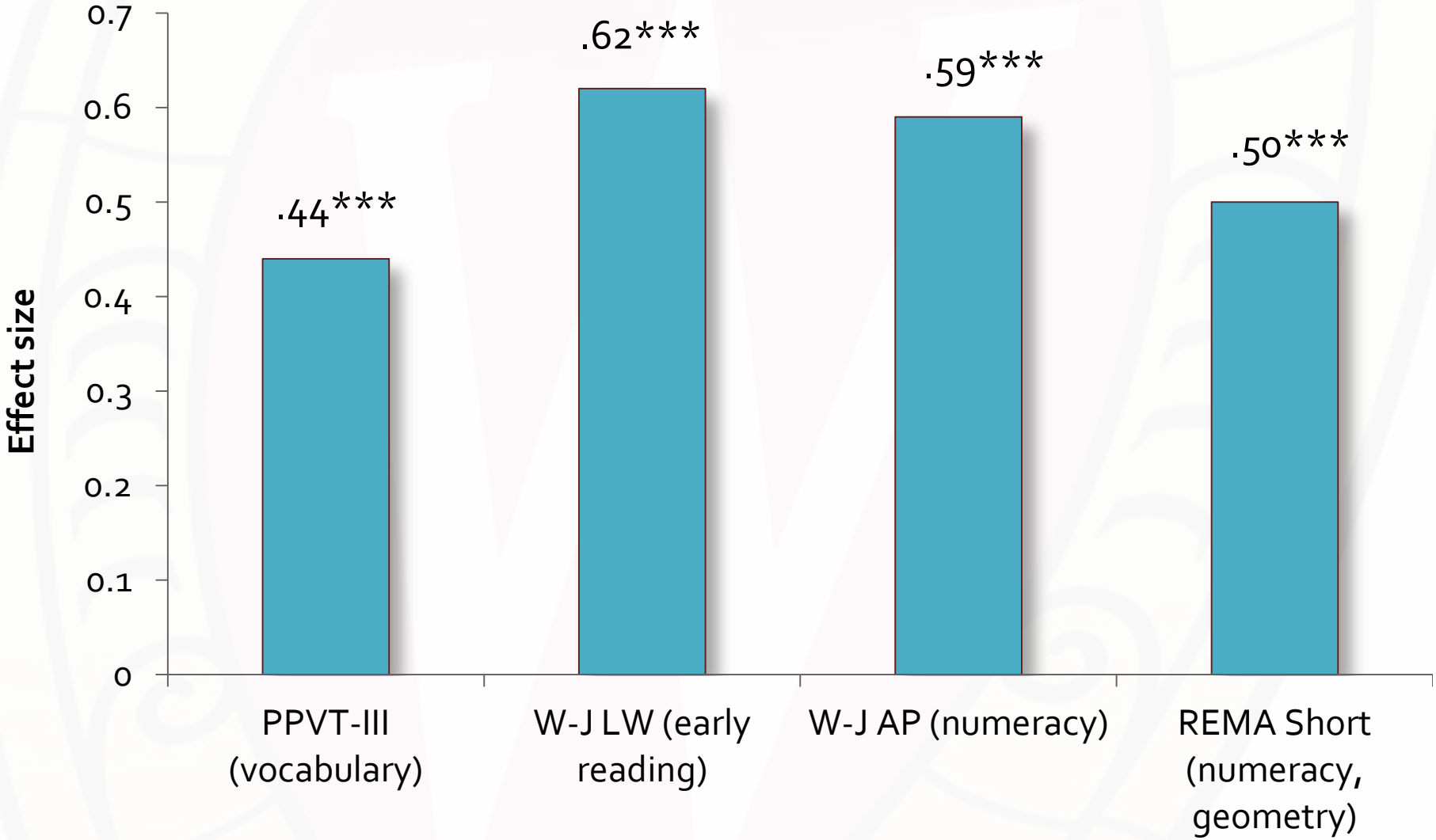
Credit: Katie Park/NPR

Other Directions for Investment

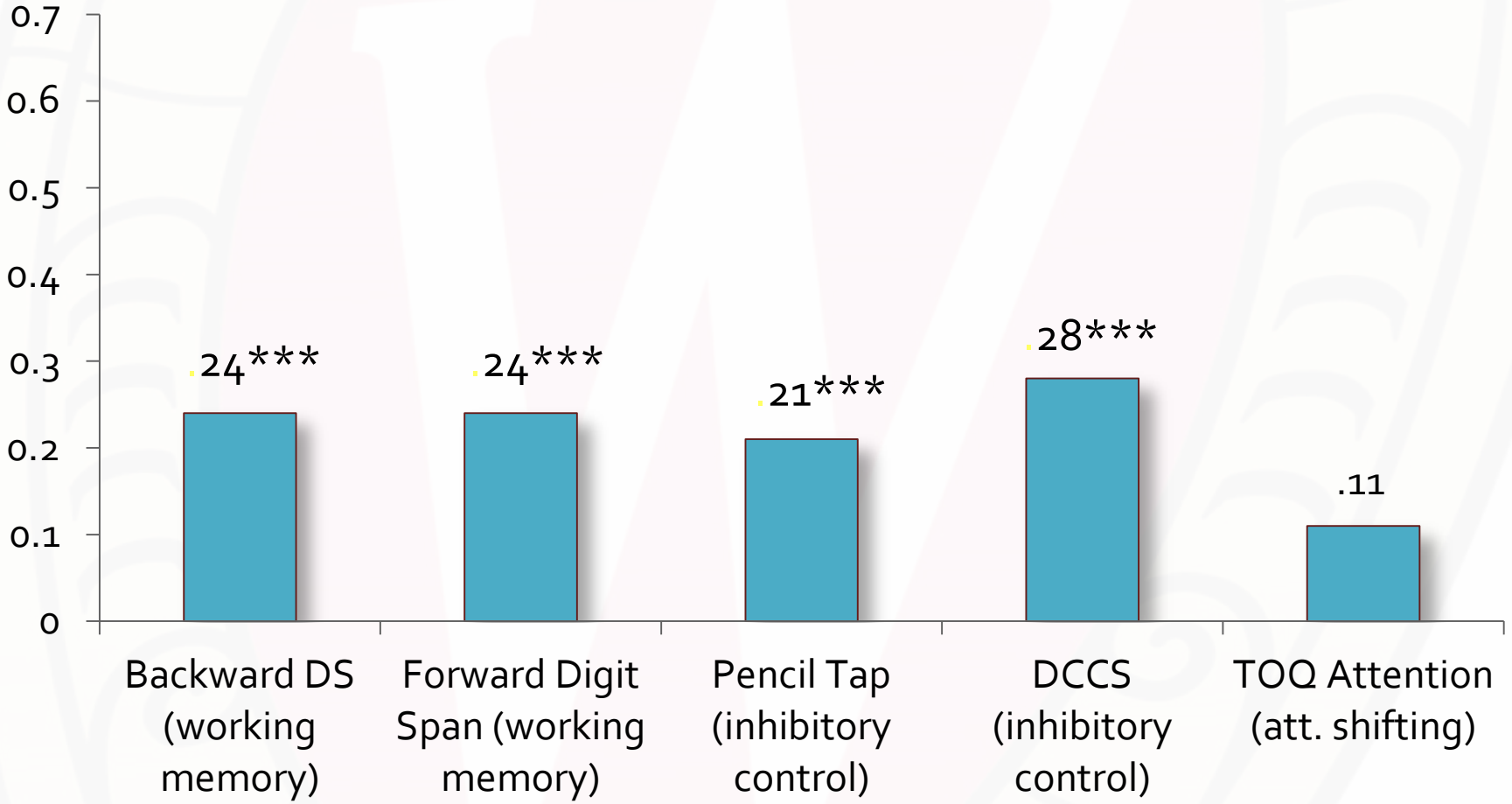
- More development and evaluation of programs for infants and toddlers
  - Need to consider home visiting approaches
- How to increase the effectiveness of existing ECE programs?
  - Promising approach content focused, developmentally appropriate reading and math skills curricula
  - Example: Boston Pre-K's effects (Weiland & Yoshikawa, 2013)

Boston pre-K

Weiland & Yoshikawa, 2013 *Child Development*



Positive "Spillover" Effects on All Three Dimensions of Executive Function Skills



Conclusions

- Poverty is common, but persistent poverty is less common
- Early Childhood is a foundation for human capital development & poverty is associated with lower levels of school readiness
- ECE Investments are likely to increase school readiness– and likely bring improved adult outcomes
- Expanded ECE access is most important for low-income children