



INSTITUTE *for*  
RESEARCH *on*  
POVERTY

UNIVERSITY OF WISCONSIN-MADISON

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# Reducing the Effect of Poverty through Early Childhood Interventions

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Institute for Research on Poverty Webinar

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*Research | Training | Policy | Practice*

# Talk Outline

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- Stylized facts about “disadvantage” and inequality
- Differences in achievement by early disadvantage
- Explanatory pathways & developmental timing
- Discussion of effective policy and programmatic responses to poverty

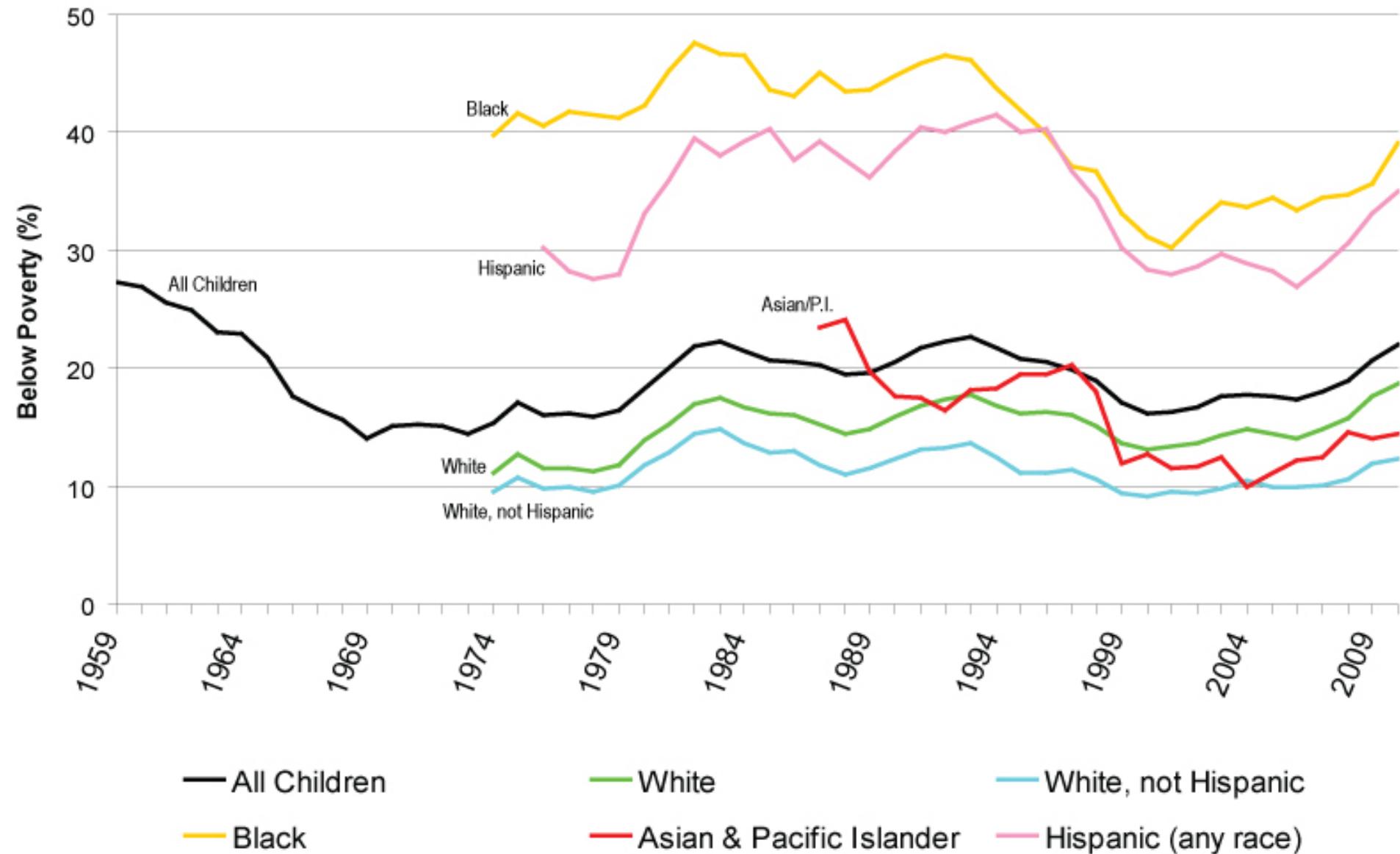
# What is Poverty?

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- *Having little or no money or means of financial support*
- Federal Government created a set of poverty thresholds in the 1960s
  - In 2012, the poverty threshold for family of three was \$19,090 and for a family of four it was \$23,050
  - 2011 US poverty rate was 15%
- Alternative poverty measures are increasingly recognized as important

# Children under 18 Years Living in Poverty, 1959-2010

Source: U.S. Bureau of the Census, Historical Poverty Tables, People, Table 3

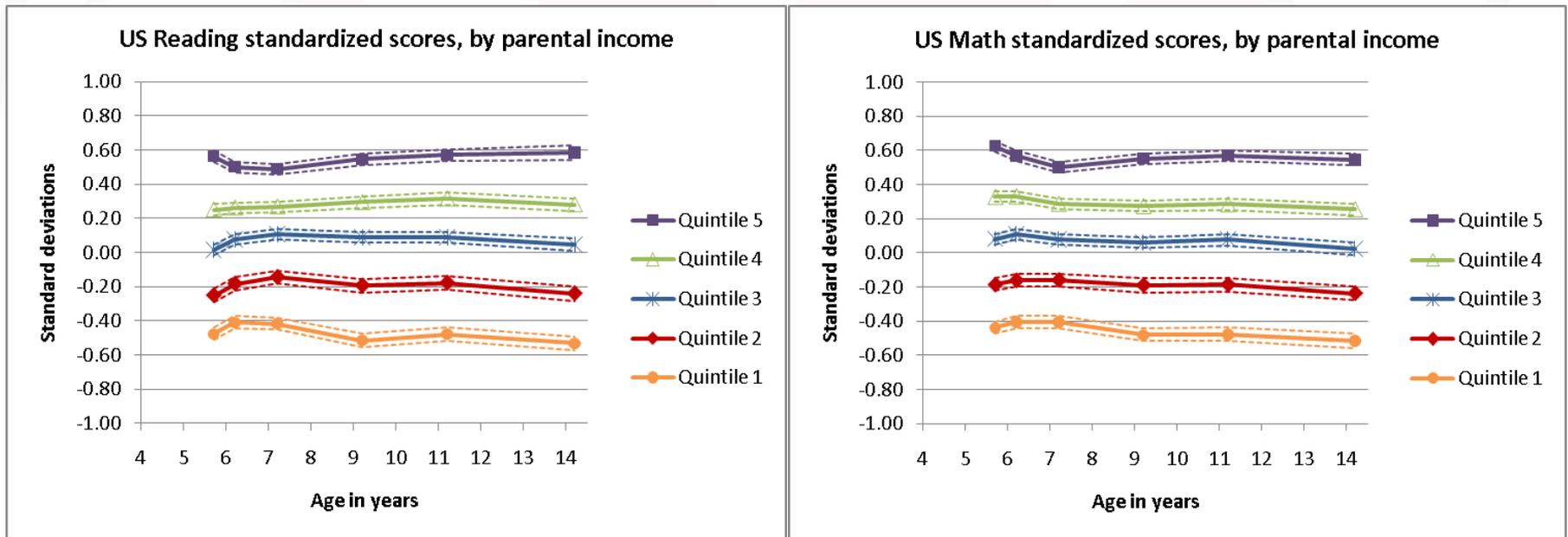


## Fifteen-year Poverty Experiences of Children in the Panel Study of Income Dynamics born between 1975-1987, by Race and Maternal Characteristics at Birth

	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.

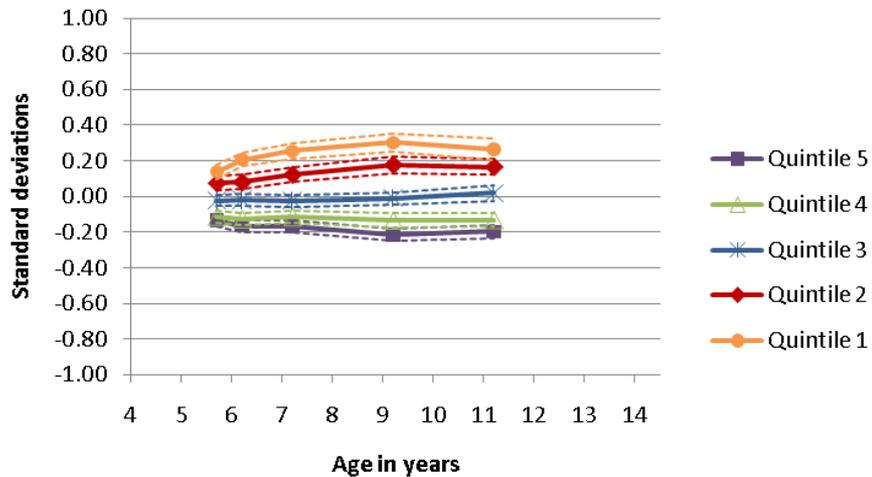
# Low-income children enter school with low-levels of academic skills & these differences persist



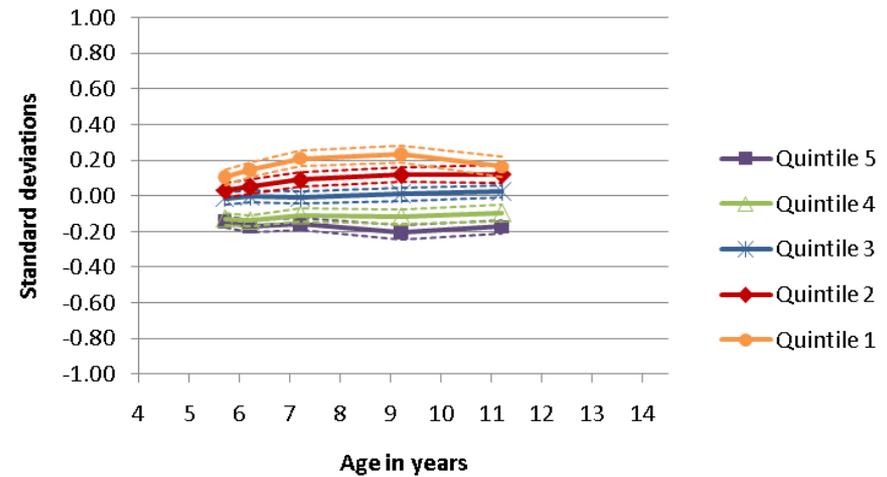
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2013

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

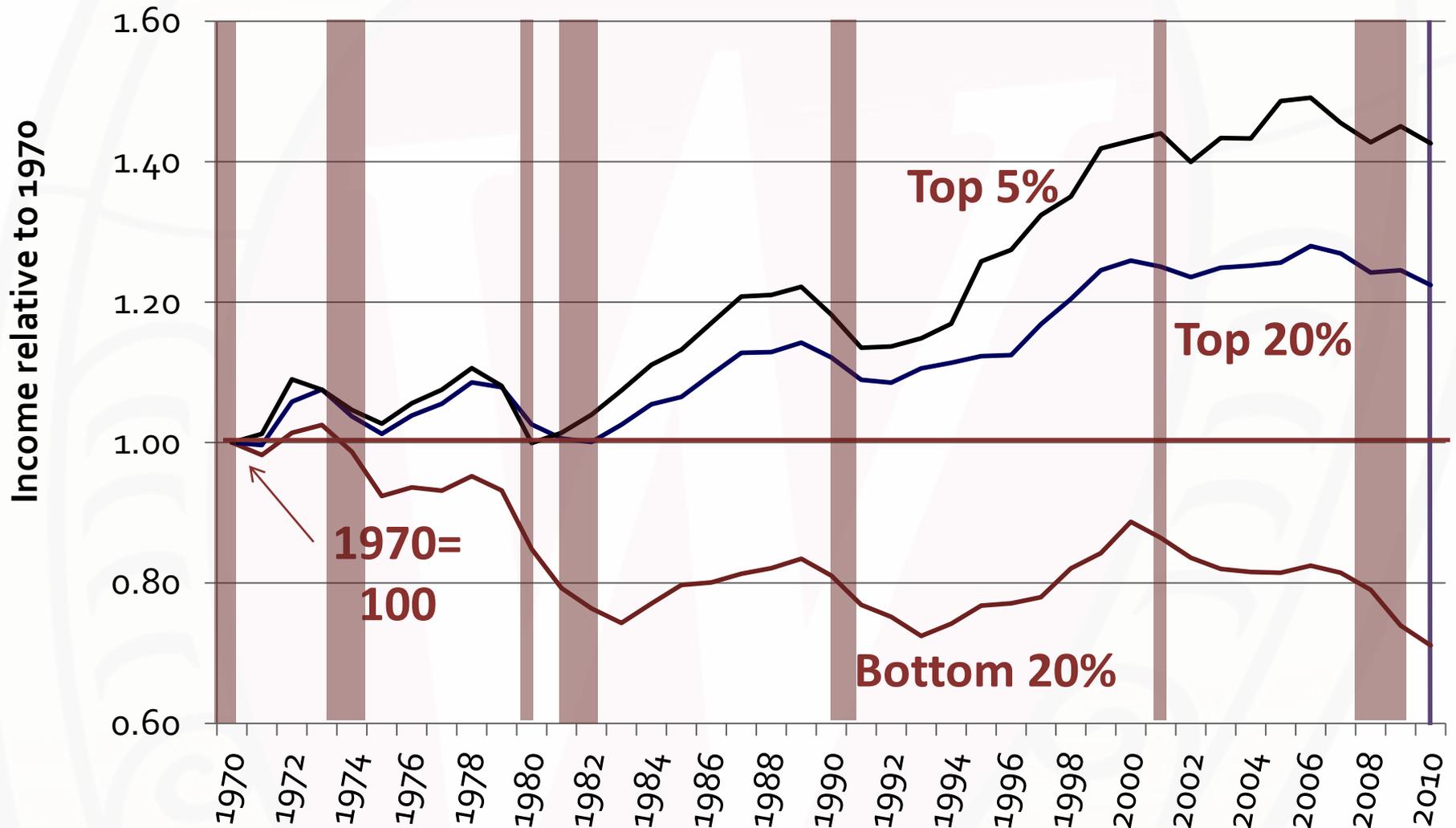
US Externalizing behavior standardized scores (teacher), by parental income



US Internalizing behavior standardized scores (teacher), by parental income

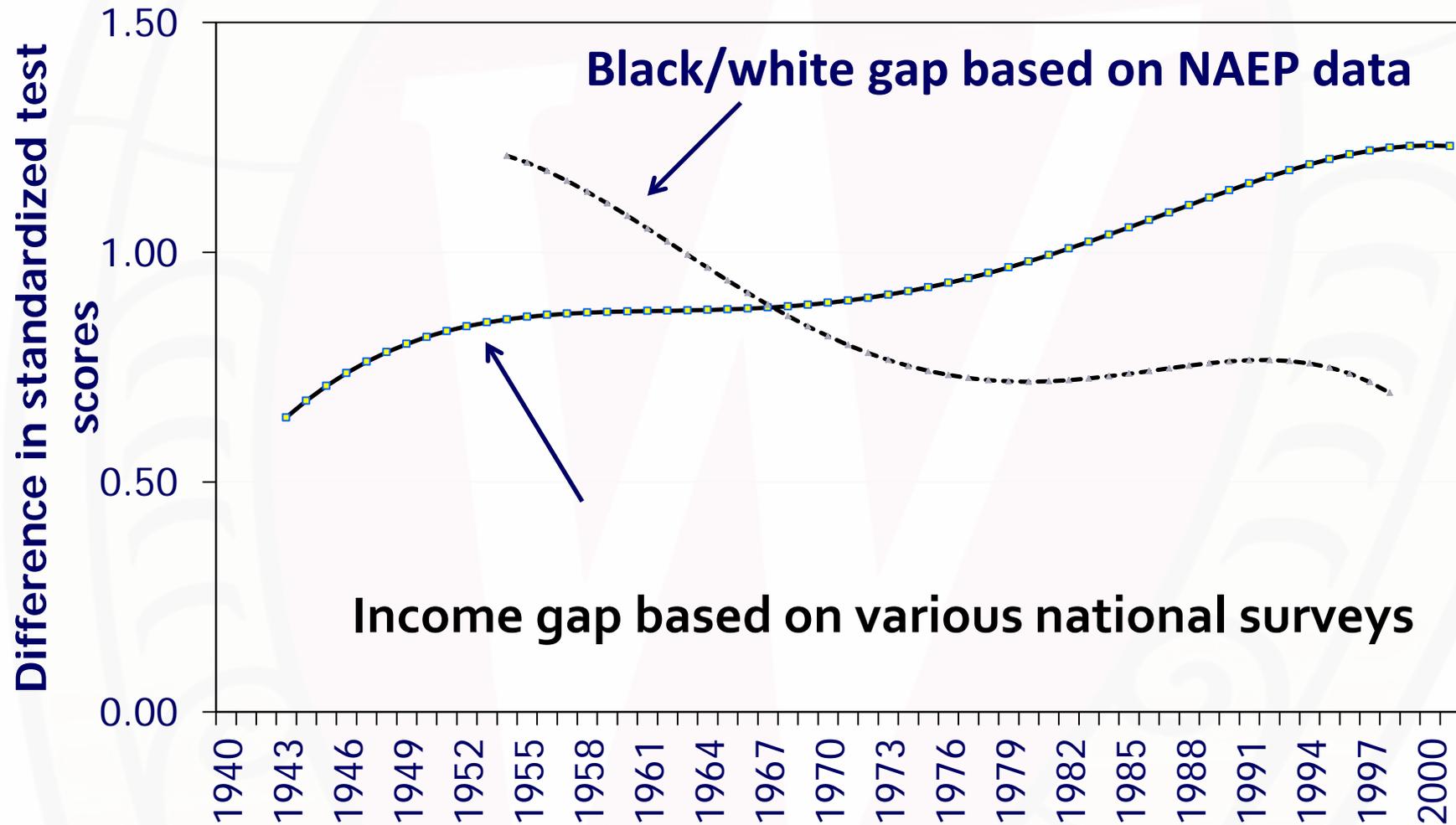


# Family income relative to 1970



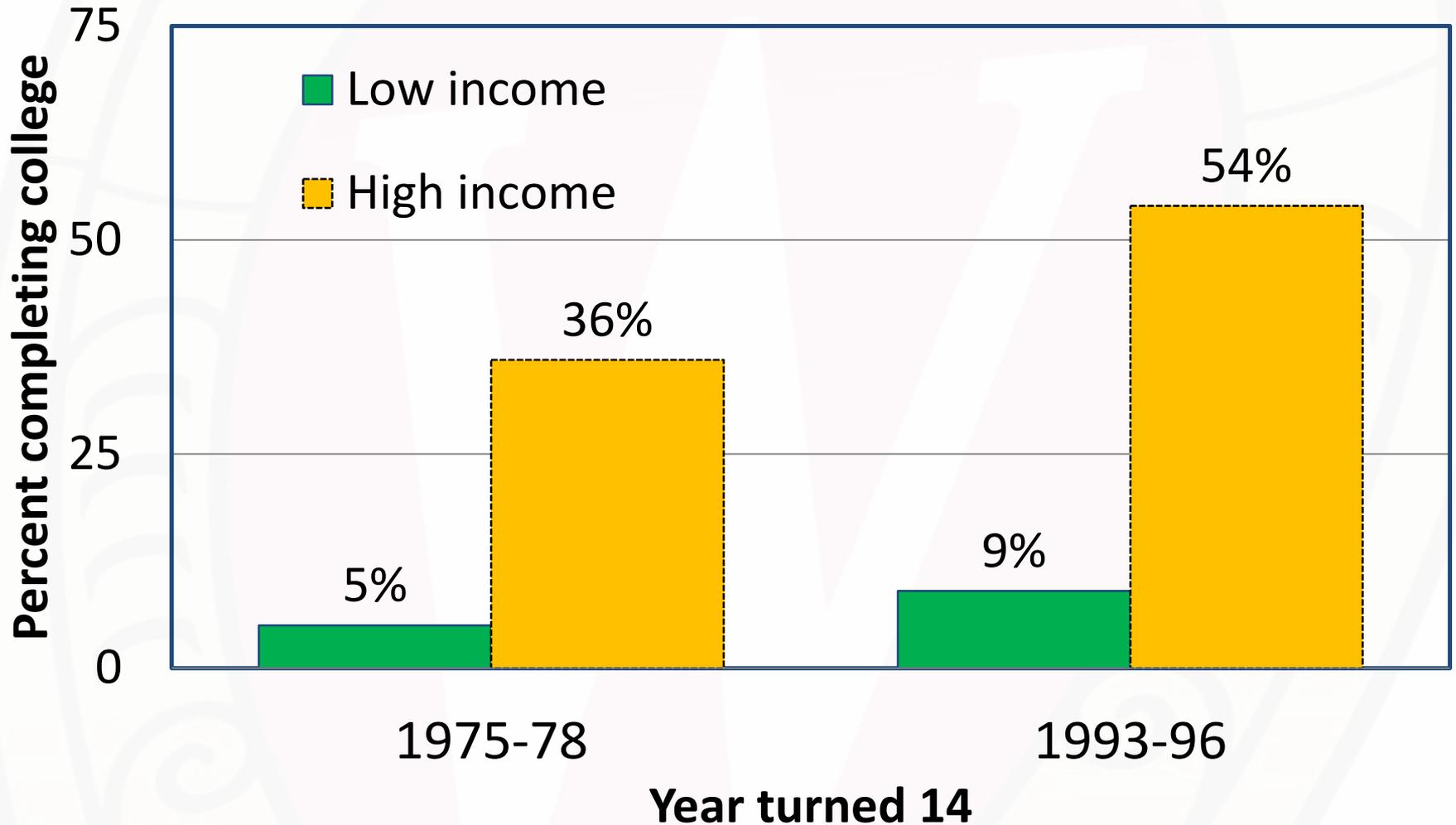
Source: Duncan & Murnane (2011) calculations based on data from the U.S. Bureau of the Census. Shaded areas indicate recession years

# Achievement gaps by race and income, by birth year



Source: Reardon, 2011

# Figure 3: College graduation rates for low and high income children



Source: Calculations based on Bailey and Dynarski (2011). Low and high incomes are defined as the bottom and top quartiles of the parent income distribution.

# How much does childhood **poverty** really matter?

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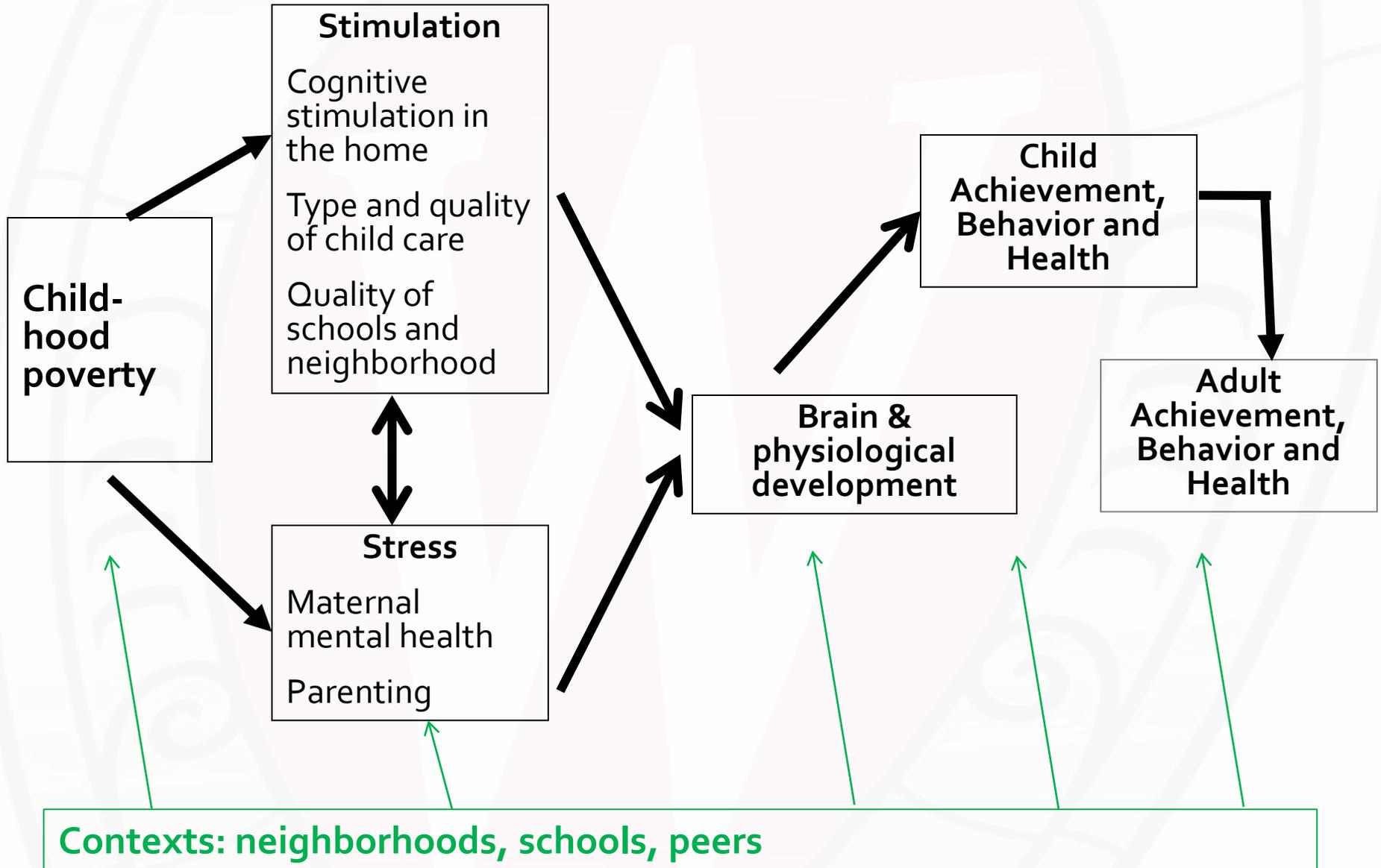
- From a scholarly perspective it's hard to know...
- “When we ask about the relationship between poverty and child outcomes it is not completely clear whether we are asking about the low income of poor families or the complex set of circumstances that results in low income.” Mayer (2010)

# How much does childhood poverty really matter?

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- Theory:
  - Increasingly good theoretical models (pieces of which have been confirmed)
- Empirically:
  - Never had a good experiment of income support
  - But, lots of clever attempts to use quasi-experiments to answer the question
    - On average these show larger effects than non-clever approaches
    - Some puzzles to figure out

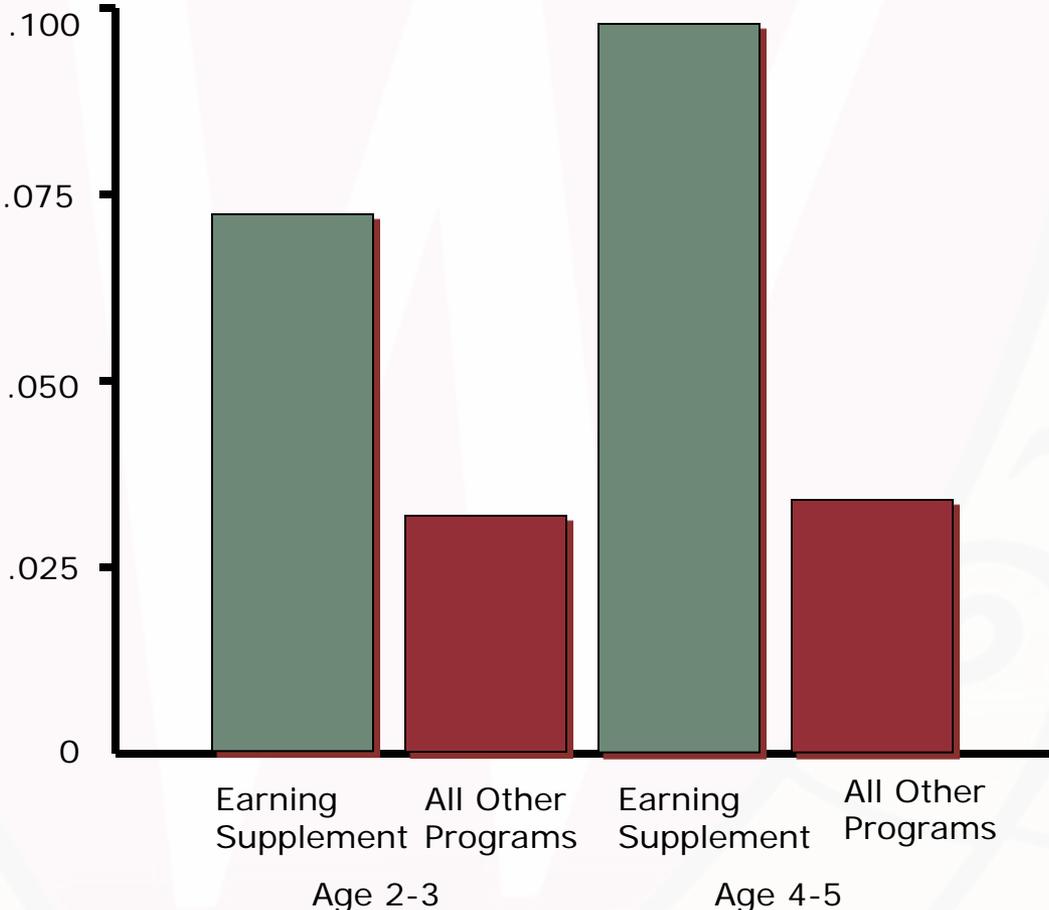
# An Explanatory Model



# Making Work Pay

## Pays off in Student Achievement

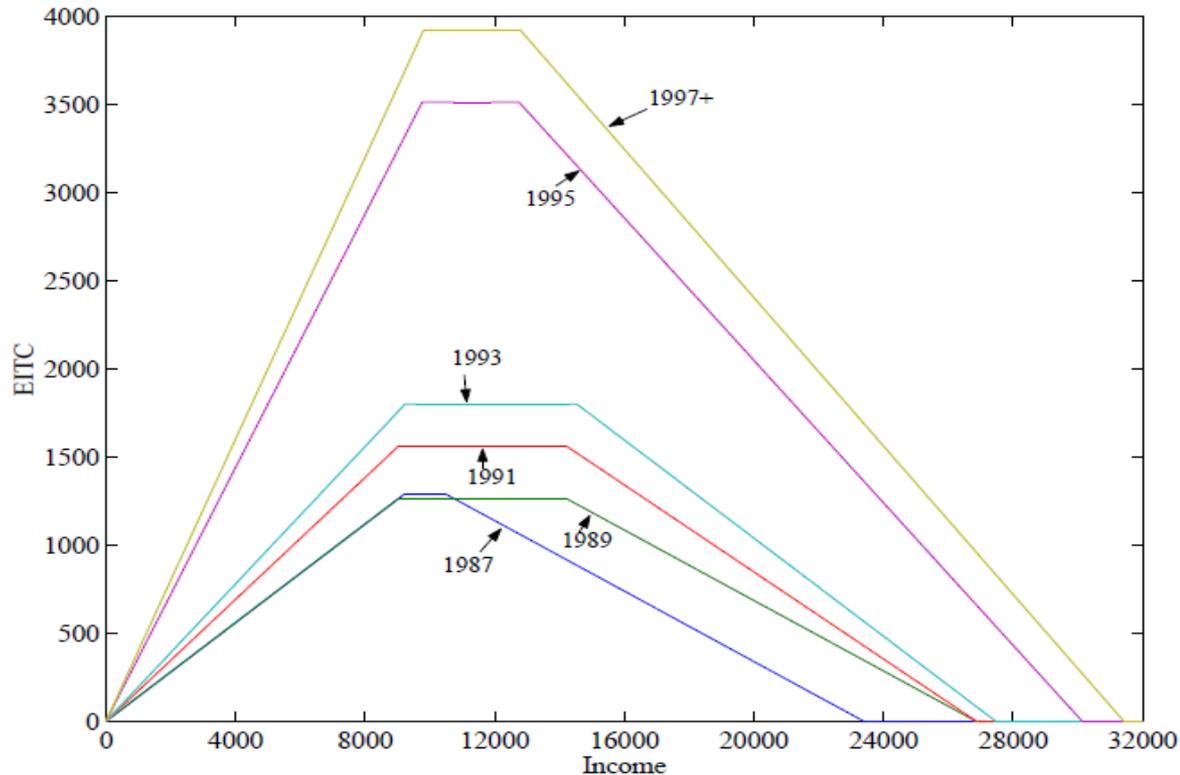
Effects on Student  
Achievement  
vs.  
No Intervention



Source: Morris et al. (2005)

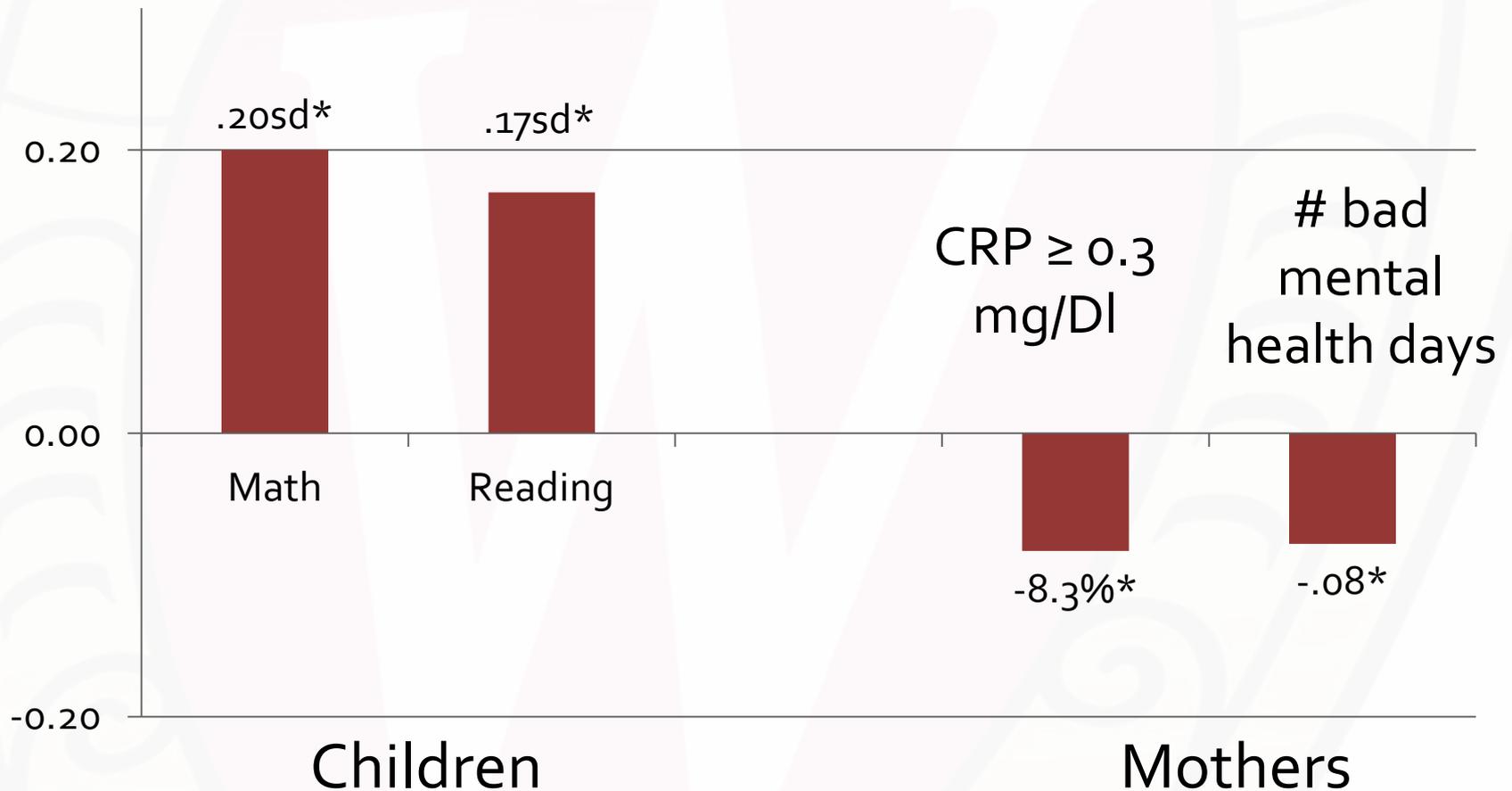
# Expansions in EITC during 1990s

Figure 1a: Federal EITC Schedules for Families with Two or More Children (2000 Dollars)



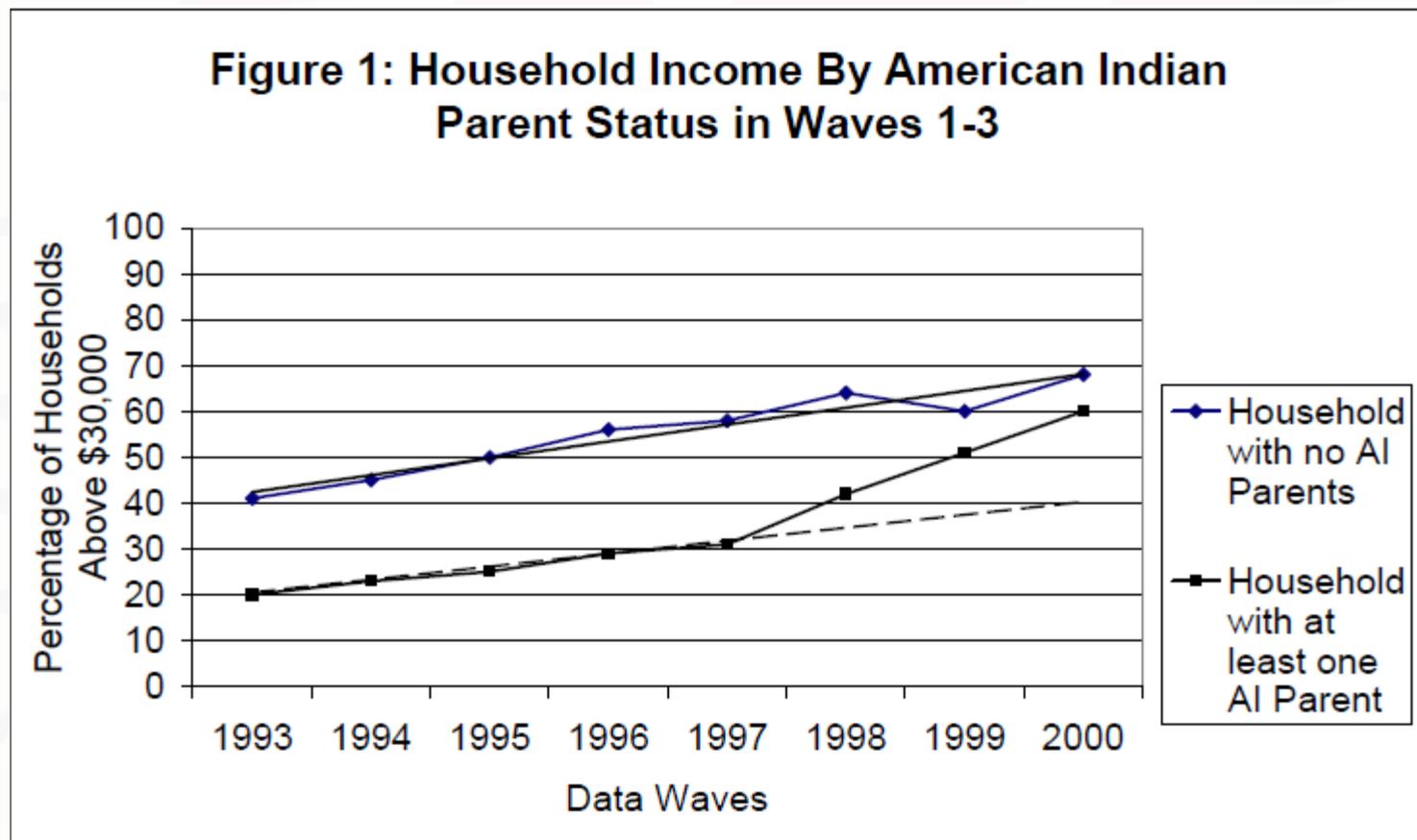
Source: Dahl & Lochner, 2009

# Effects of EITC expansion on children's test scores and mothers' health



Dahl and Lochner, forthcoming; Evans and Garthwaite, 2009

# Distribution of Casino Revenues to American Indian Families



Source: Akee et al., 2009

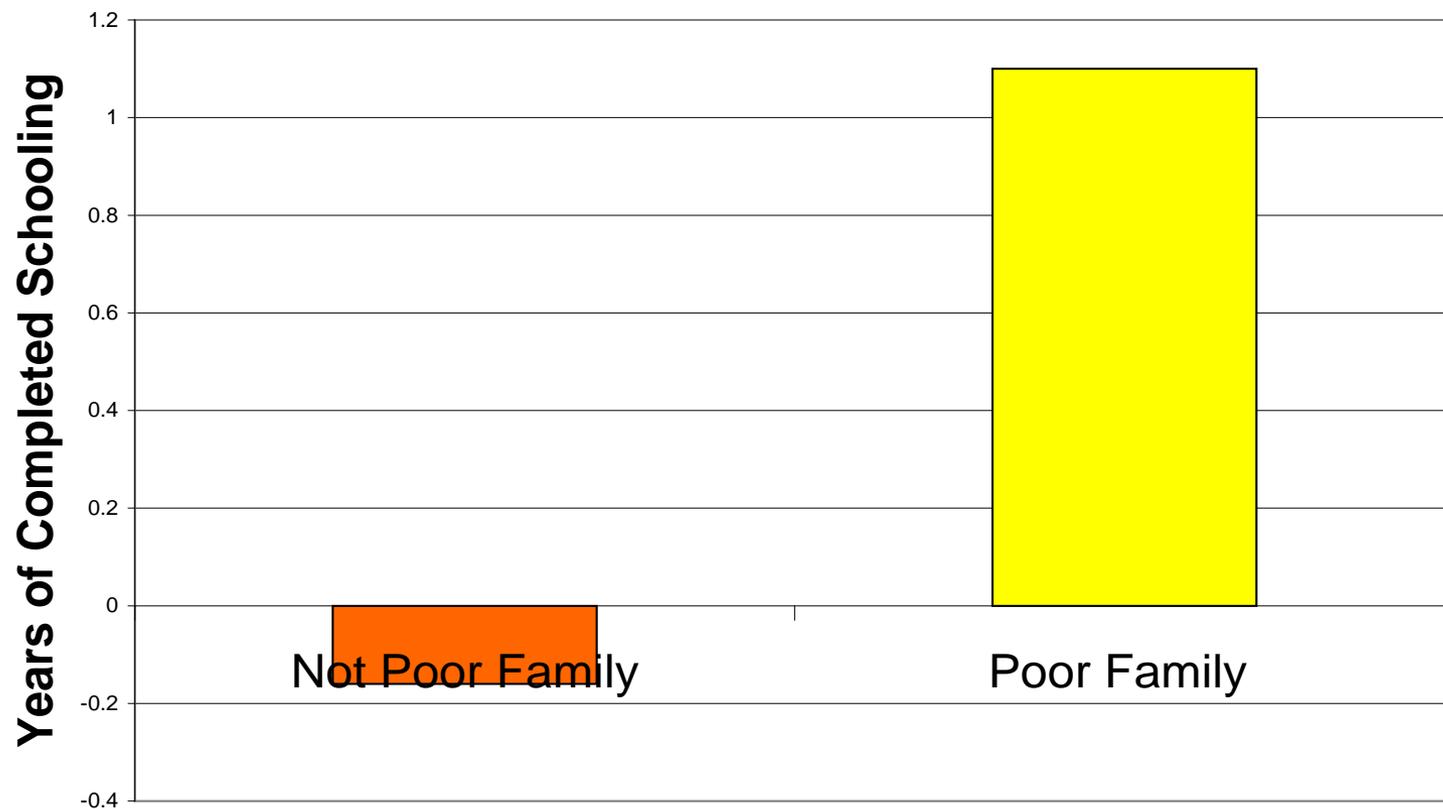
# Distribution of Casino Earnings (Akee et al., 2009)

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- Panel of 1420 children (ages 9-13 followed through ages 19-21)
  - American Indian n=350, non-Am. Indian n=1,070
- Compare AI and non-AI cohorts of children with casino income to those without (difference in difference approach)

# Casino Earnings Improve Youth Educational Attainment

## Estimated Effect of Having a AI Parent



Source: Akee et al., 2009

# MDRC's evaluation of CCT (Riccio et al., 2010)

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- 2007-2010 in low-income NYC neighborhood
- Provide financial incentives for positive behavior
  - School attendance, health visits, employment
  - Average increase in income >3,000
  - Reductions in poverty and extreme poverty
- Few main effects on children's school outcomes
  - Achievement, attendance
- **But** focuses on early implementation

# Notable gaps...

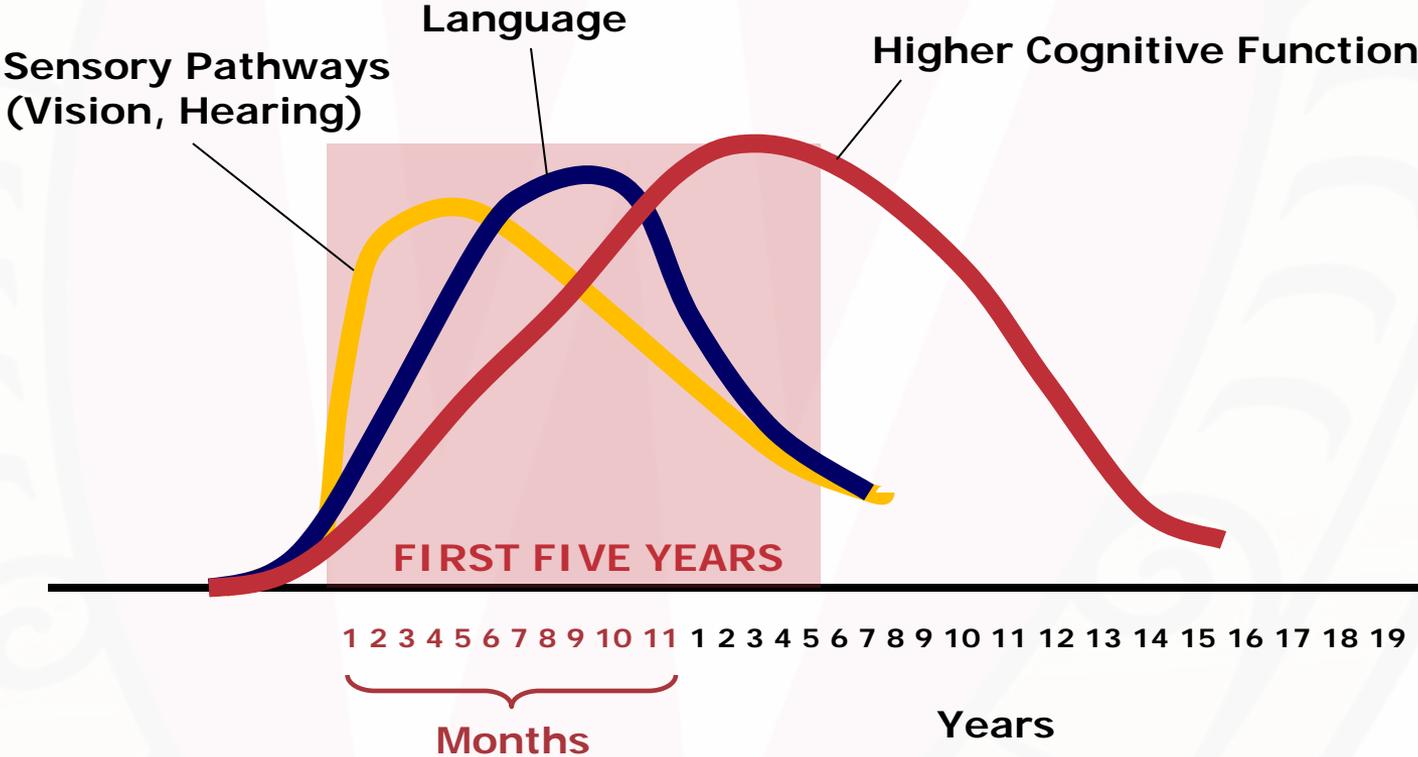
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- Health
- Behavior
- Persistence of effects over time
- Developmental timing

# The Importance of Early Childhood

## Neural Circuits are Wired in a Bottom-Up Sequence

(700 synapses formed per second in the early years)



Source: C.A. Nelson (2000)

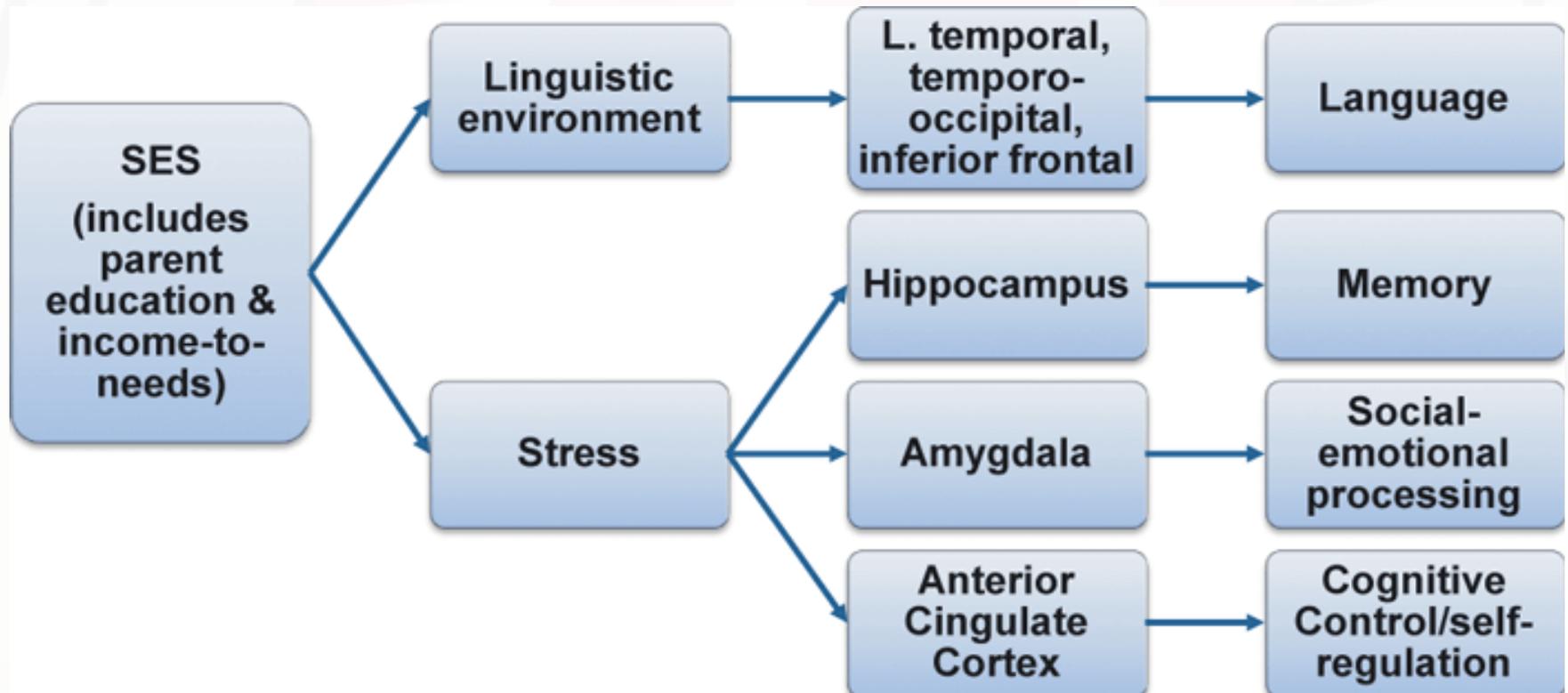
# **Early Life Experiences Are Built Into Our Bodies**

## **(For Better or For Worse)**

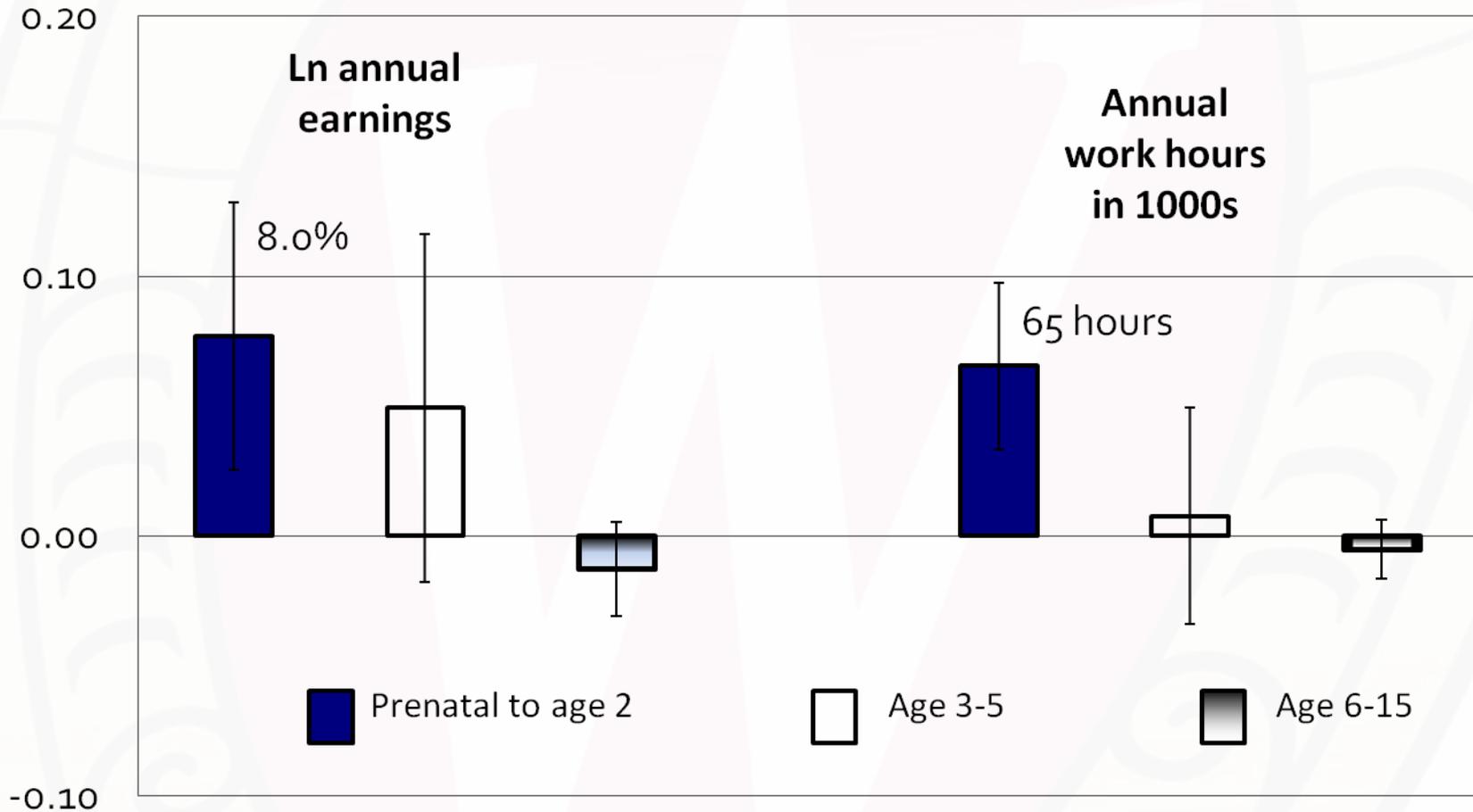
**Stimulation:** Stable and supportive relationships, language-rich environments, and mutually responsive, “serve and return” interactions with adults promote healthy brain architecture and adaptive regulatory systems.

**Stress:** Excessive or prolonged activation of stress response systems and reduced availability of the buffering protection of supportive relationships can weaken brain architecture and disrupt the development of other organ systems.

# Neural correlates of socioeconomic status in the developing human brain



# Changes in adult earnings and work hours associated with a \$5,000 per year increase in family income in different childhood stages



From Duncan et al., 2012

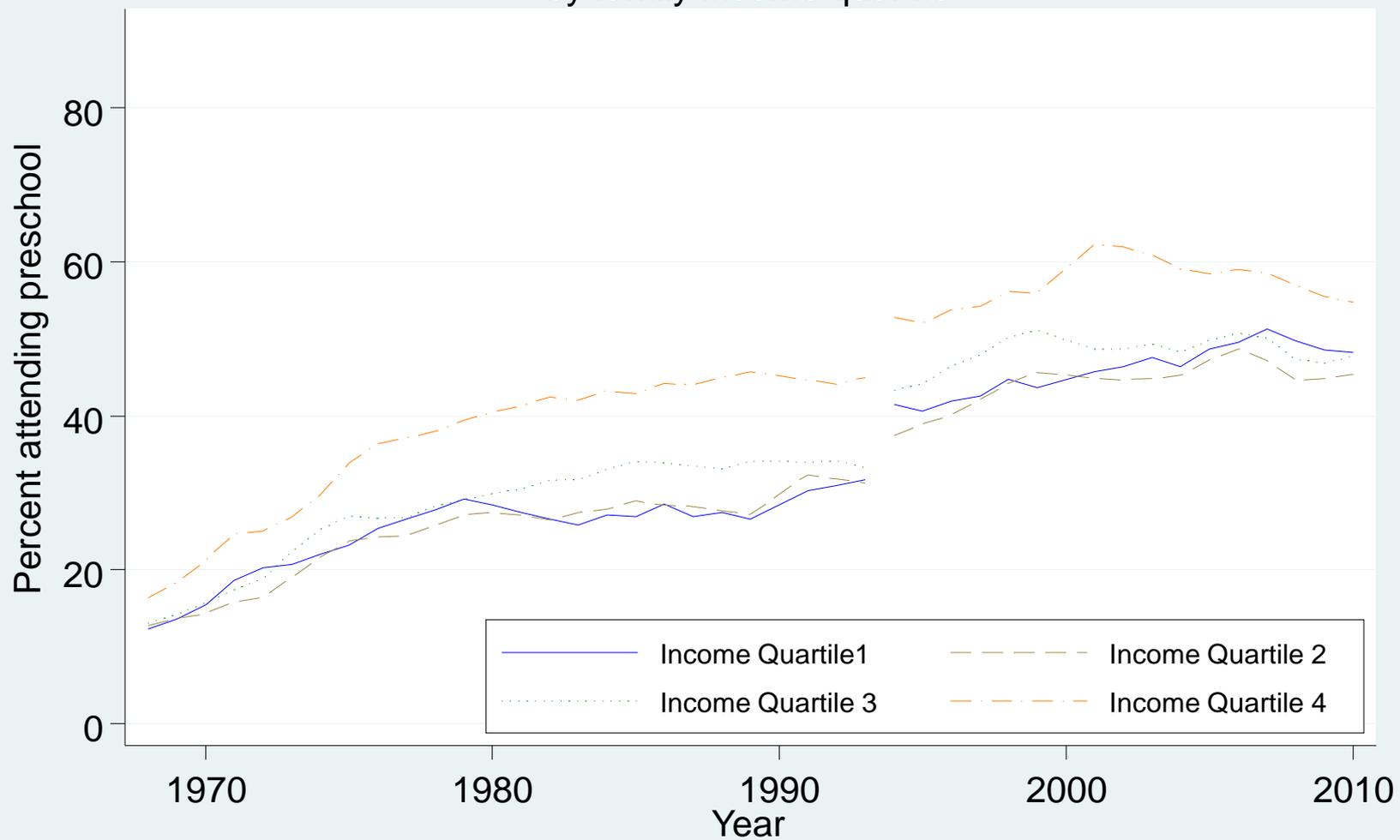
# Programs and Policy Responses

- Emphasis on employment conditioned income supports to improve family income
  - EITC, Income Supplements, casino revenues
- But, how easily generalized to other types of programs?
  - Some might seem like small leaps Child Tax Credit, SNAP
  - Others involve other incentives and experiences and thus are likely not direct corollaries (child care subsidies)
    - Do these programs increase stimulation & reduce stress?
- How much money? Conditioned on what? Paid how often? To whom?

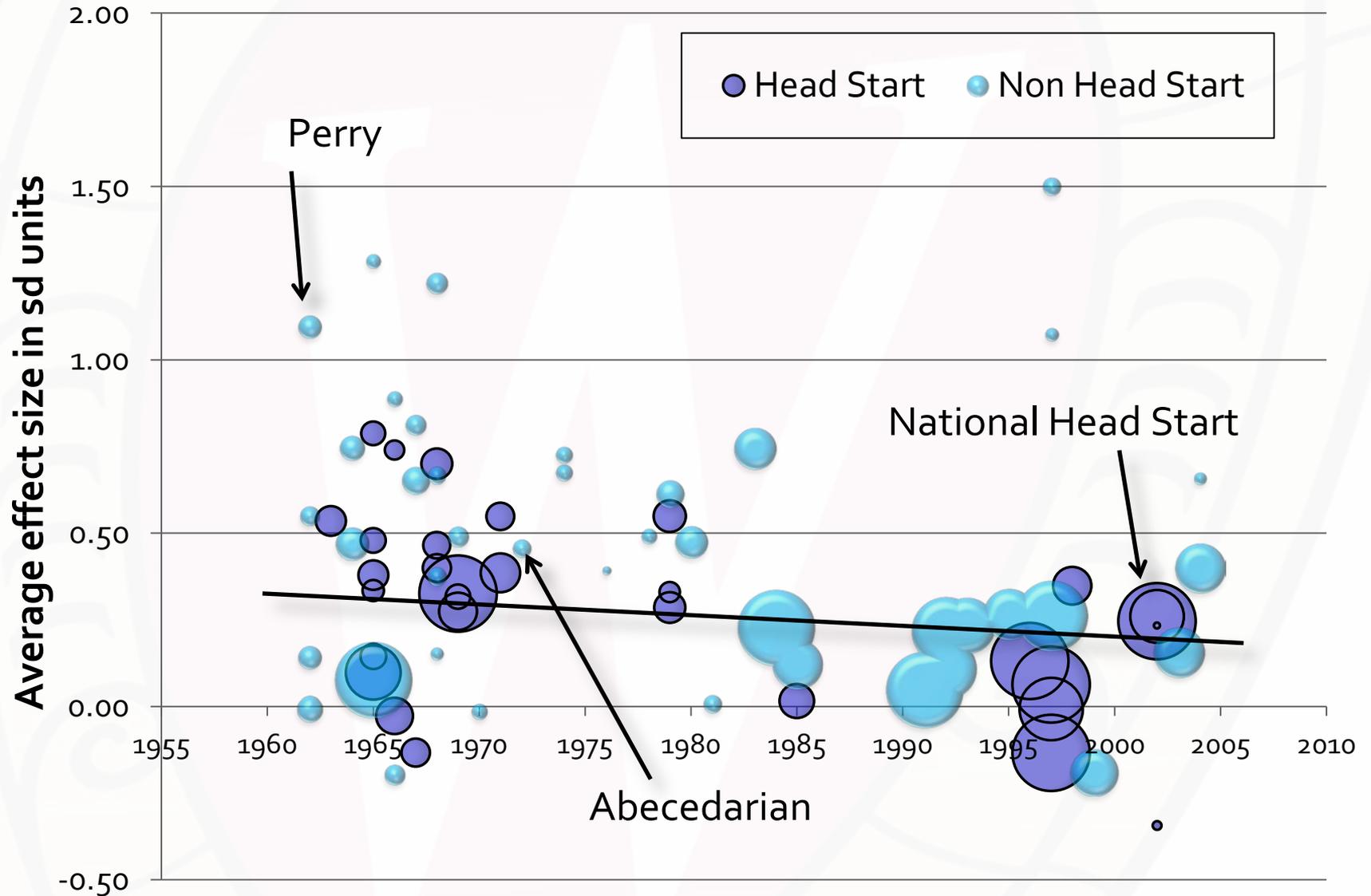
# Programs and Policy Responses

- Early Childhood Education for 3-5 year-olds
  - Consistent evidence of short-run effects non-experimental evidence of long-run benefits from several program models
  - Complicated comparisons across program models
    - More attention to learning how to improve program quality

Percent of children 3- and 4-year-olds enrolled in preschool  
by family income quartile



# Average ECE impact at end of treatment



# Innovation & Uncertainty

- Home visiting programs
  - Much to learn about how to promote positive parent-child interactions
- Approaches in very early childhood (birth-3)
  - How to balance income support & employment
- Place-based approaches (CHZ)
- Combining approaches...
  - Where should building parents' human capital fit in?