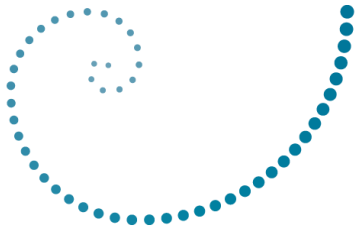
Promoting Skills

James J. Heckman



CENTER FOR THE ECONOMICS
OF HUMAN DEVELOPMENT
THE UNIVERSITY OF CHICAGO

Econ 350, Winter 2021

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Intergenerational Mobility and Inequality

(Child Income) = $\alpha + \beta$ (Family Income) + Other Factors

The Traditional Approach to Poverty and Social Immobility: **“Alms to the Poor”** Redistribution Through the Tax-Transfer System

The U.S. Great Society Programs tried this, as part of a broader strategy, to end poverty and intergenerational poverty through large scale cash transfers.

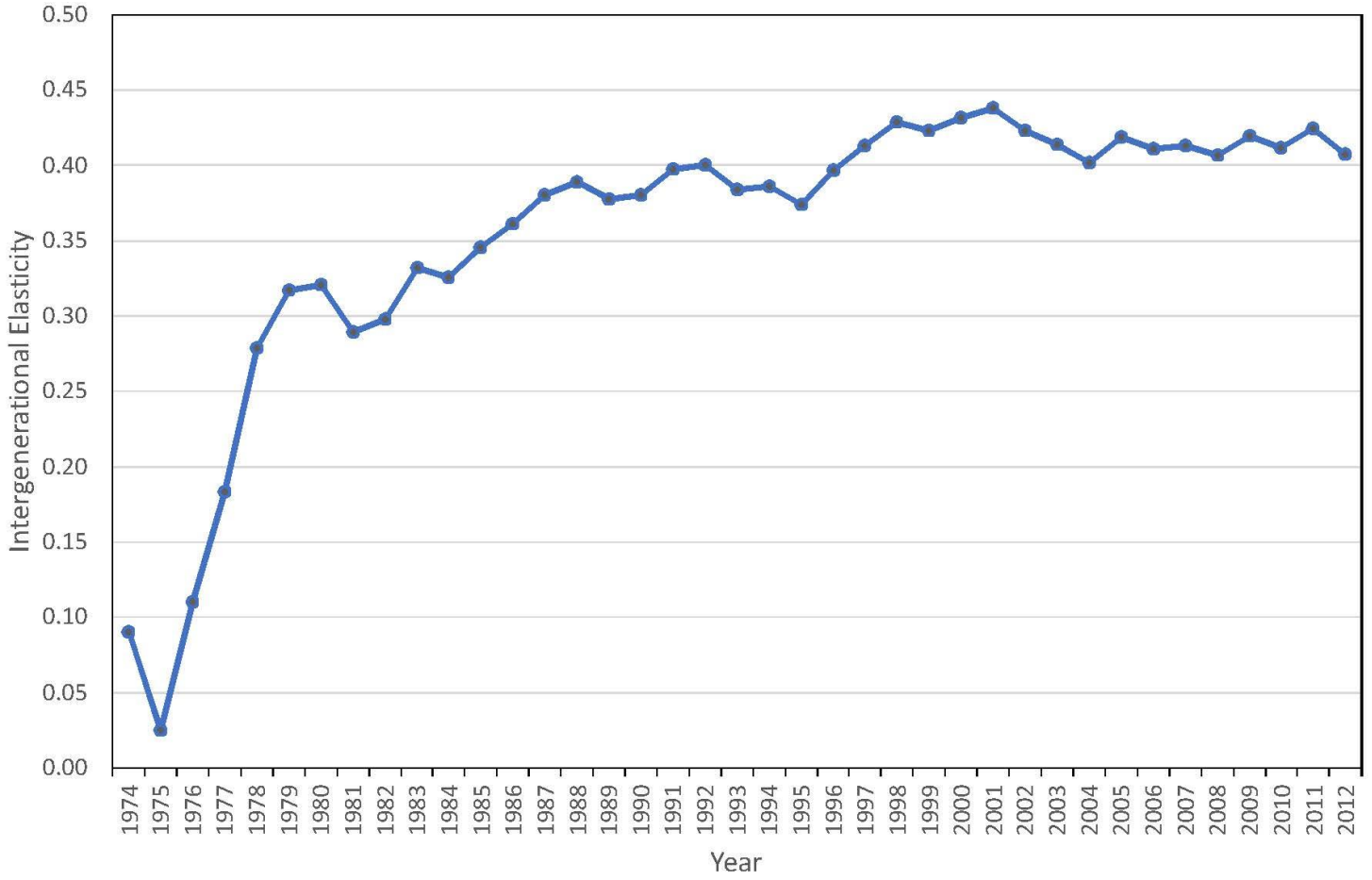
It also had a “shotgun skills strategy”: Invest at all stages of the life cycle

War on Poverty

Welfare Policy Subsidized Poverty Enclaves – Detached the Poor from Society

U.S. Experience with Income Transfers: Failed in its Attempt to Use Income Transfers to Promote Social Mobility

Trends in the Intergenerational Correlation of Welfare Participation: Neither Transfers Nor Work Requirements Reduced Intergenerational Poverty



Source: Hartley et al. 2016

Note: Welfare participation includes AFDC/TANF, SSI, Food Stamps and Other Welfare.

Many of the policies had strongly regressive components: heavy implicit taxes on the working poor and penalties for marriage

New Policies: After The War on Poverty

1. Eliminate tax on earnings for poor
2. Incentivize work
3. America now has progressive tax and transfer policy
4. Retains an unfocused “shotgun” skills policy

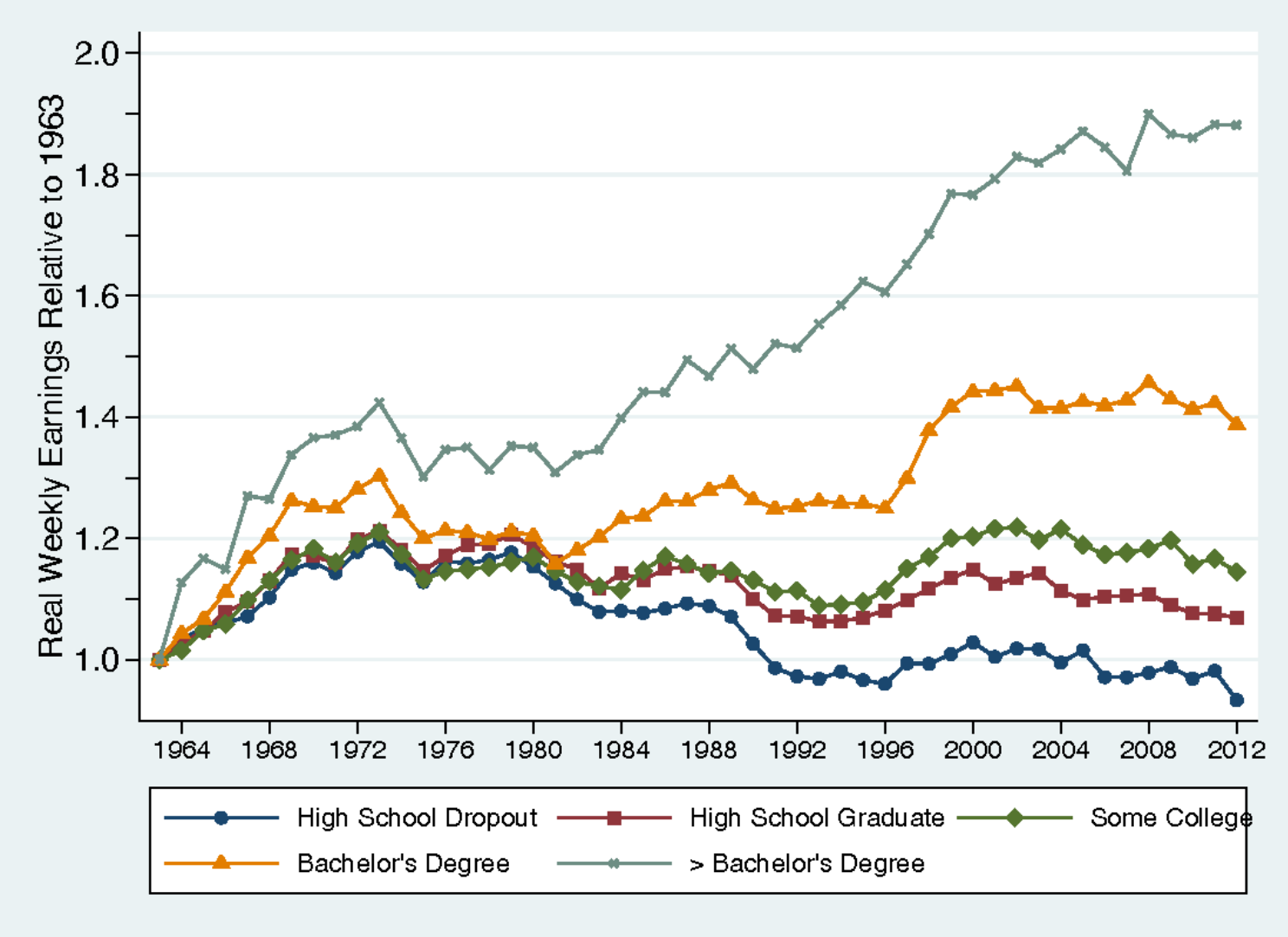
An effective way to alleviate poverty and inequality and to enhance social mobility

Build skills, not rely on tax and transfer policy which is still the main vehicle used by most countries.

But create a focused skill enhancement policy that draws on recent knowledge about the dynamics of life cycle skill formation

Skills are major determinants of flourishing lives

Changes in Real Wage Levels of Full-time U.S. Workers by Education, 1963-2012, Males



Source: Autor 2014, Skills, Education, and the Rise of Earnings Inequality Among the "Other 99 Percent."

Promoting inclusion and social mobility by fostering skills is an effective policy

Boosts aggregate growth and builds successful lives

A skilled workforce is a flexible, adaptable, and productive workforce.

Building skills creates dignity, agency, and engagement in society.

Need a comprehensive life cycle approach to build skills

Sources of Rising Inequality

Estimated Average Annual Percentage Change in Various Inequality Measures Accounted for by Factor Components, US 1979-2007

	Gini	P90/P10
Actual	*0.4*	*0.82*
Household Structure	*23%*	*33%*
Men's Employment	*5%*	*5%*
Men's Earning Disparity	*73%*	*50%*
Women's Employment	*-25%*	*-22%*
Women's Earning Disparity	*20%*	*29%*
Assortative Mating	*10%*	*11%*
Other	*-5%*	*-6%*

Note: Household Structure: Marriage Rate, Men's Employment: Male Head Employment, Men's Earning Disparity: Male head earnings distribution, Women's Employment: Female Head Employment, Women's Earning Disparity: Female head earnings distribution, Assortative Mating: Spouses' earnings correlation.
Source: Larrimore, Je. \Accounting for United States household income inequality trends: The changing importance of household structure and male and female labor earnings inequality." Review of Income and Wealth. 60.4 (2014): 683-701.

How to address social problems?

Address them as they arise, or prevent them from occurring in the first place?

Fragmented Solutions

- Current policy discussions around the world have a fragmented quality.
- They focus on one problem at a time when they arise in the life cycle with policies that are designed to address that one problem, often (but not always) by some remediation strategy.

Examples of Fragmented Solutions

- For employment, subsidize job creation, using tax breaks.
- For crime, have more police.
- For health, have more doctors and medical facilities.
- For teenage pregnancy, conduct pregnancy prevention programs.
- To reduce inequality, give cash transfers and promote housing programs for the poor.
- To promote skills, focus on schooling and school quality, especially college-going.
- None of these ideas are necessarily wrong, but there is a better and more effective way.

Fragmented solutions are often not the most effective ones—the problems and their causes are interrelated.

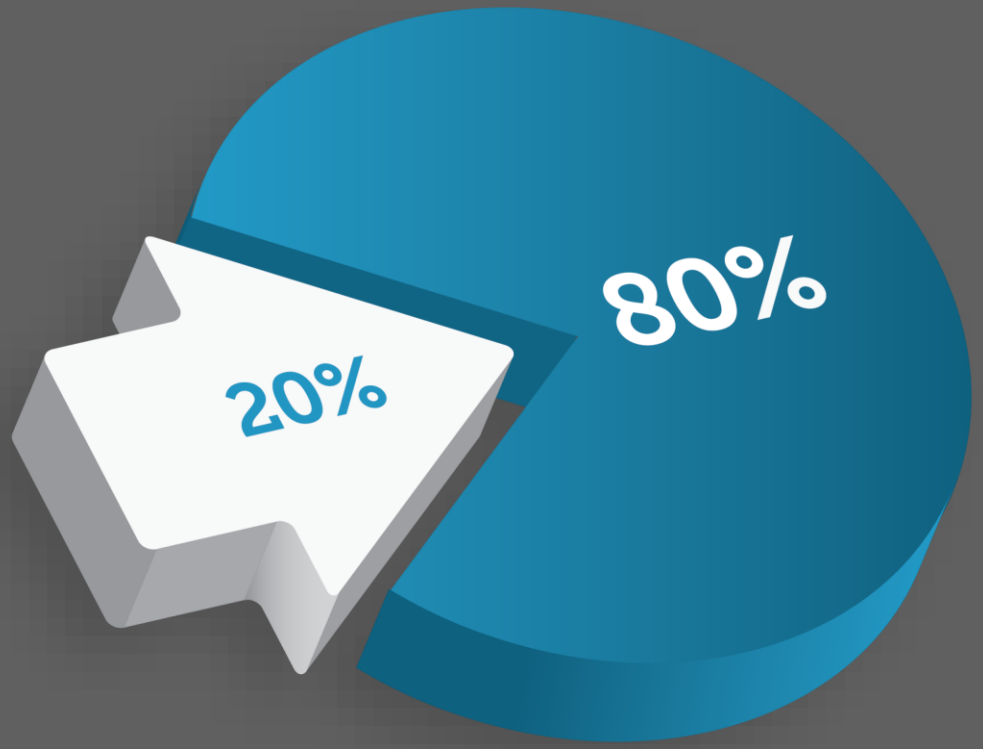
Rethink Public Policy

Should only the squeaky wheel get the grease?

Wait for Problems to Appear?

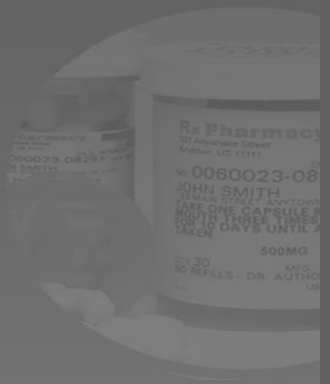
Depends crucially on how well we can predict later life problems and target populations at risk.

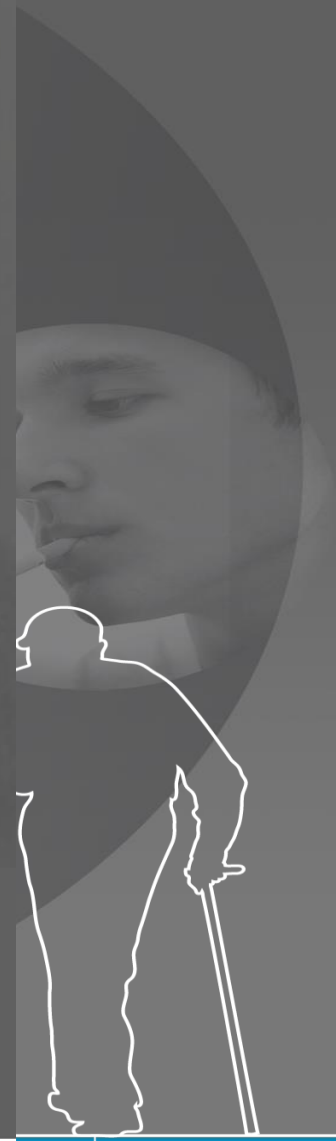
The Pareto Principle



20% of the Actors Account for **80%** of the Results.

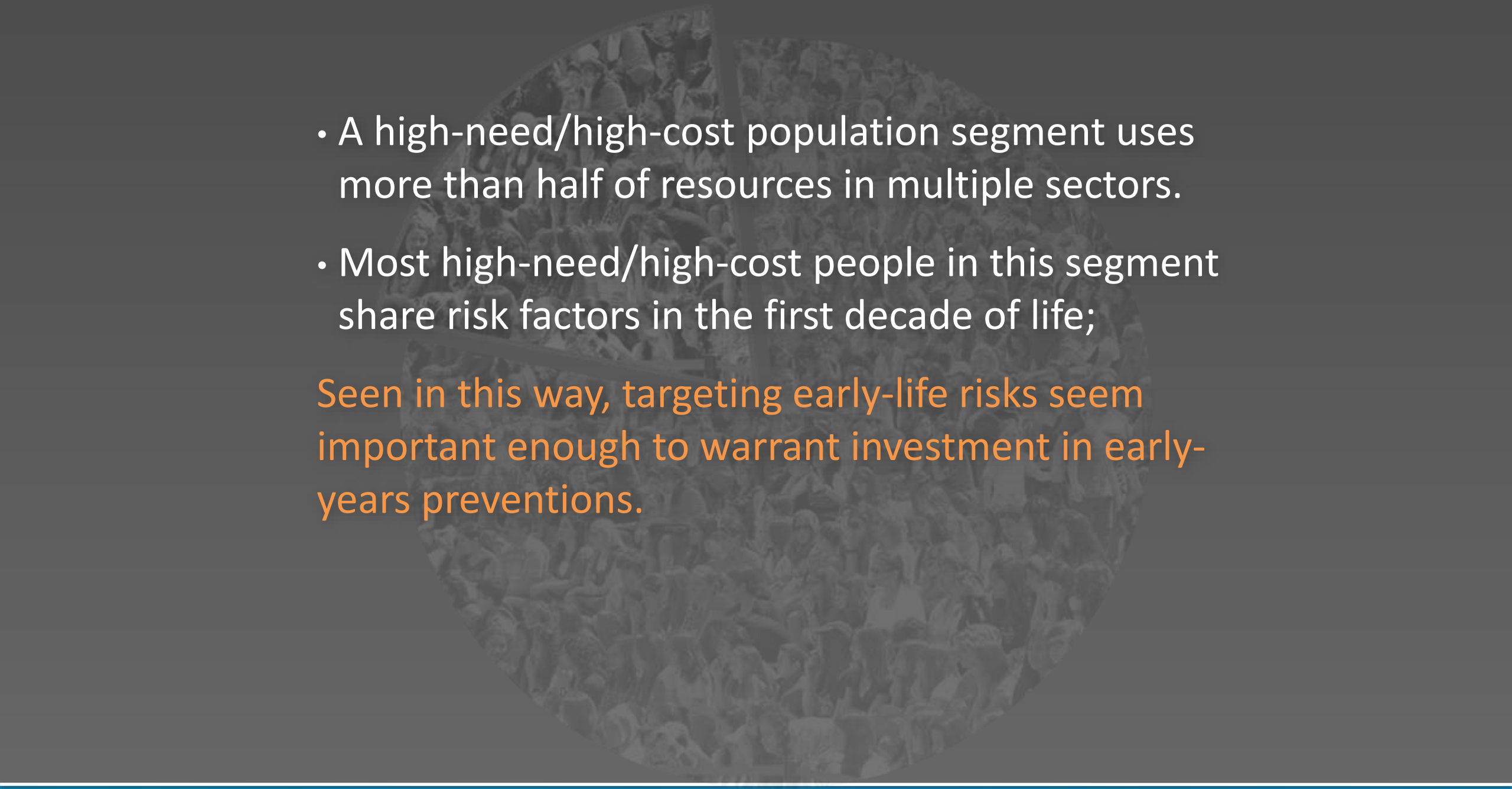
Vilfredo Pareto, 1848-1923





1972 (Birth)

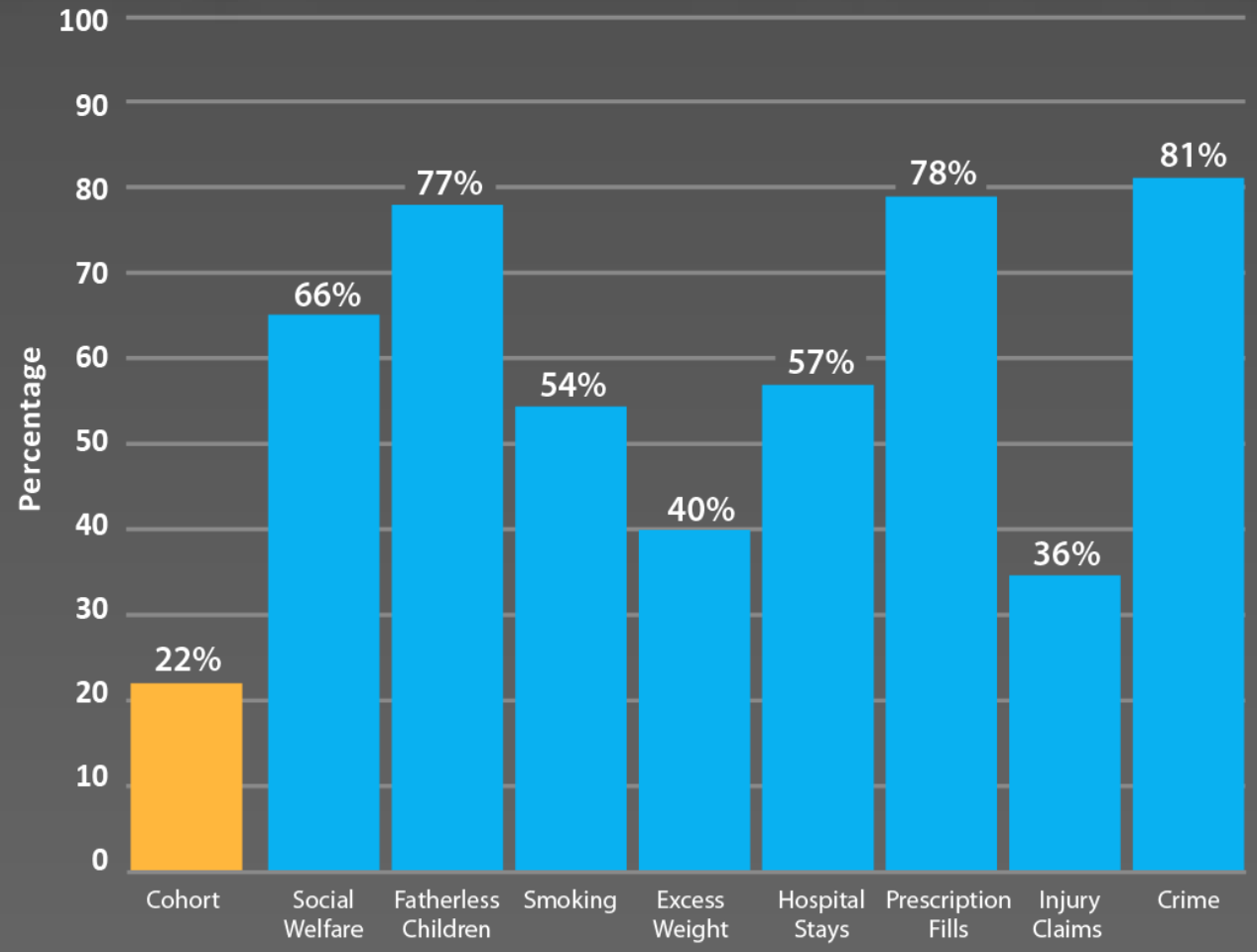
2052



- A high-need/high-cost population segment uses more than half of resources in multiple sectors.
- Most high-need/high-cost people in this segment share risk factors in the first decade of life;

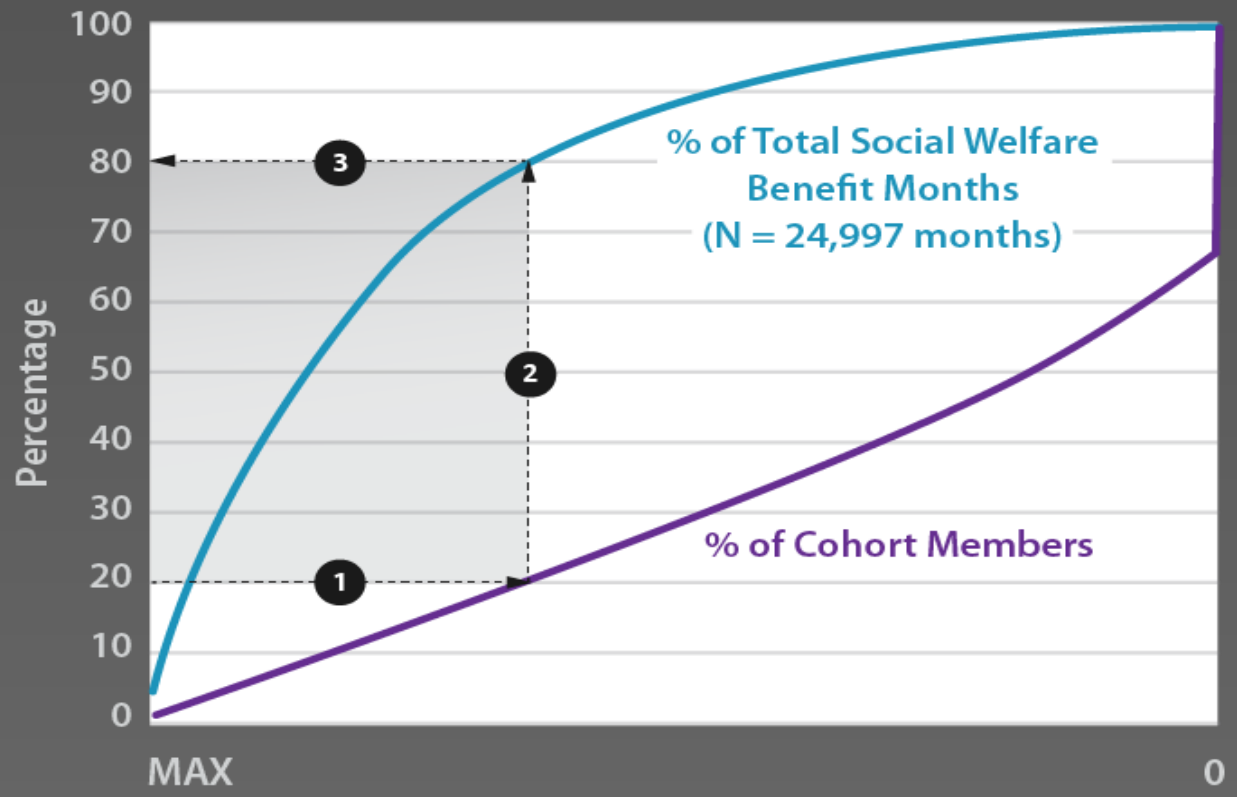
Seen in this way, targeting early-life risks seem important enough to warrant investment in early-years preventions.

The High-need/High-cost Group in 3 or more sectors: How many health/social services do they use?

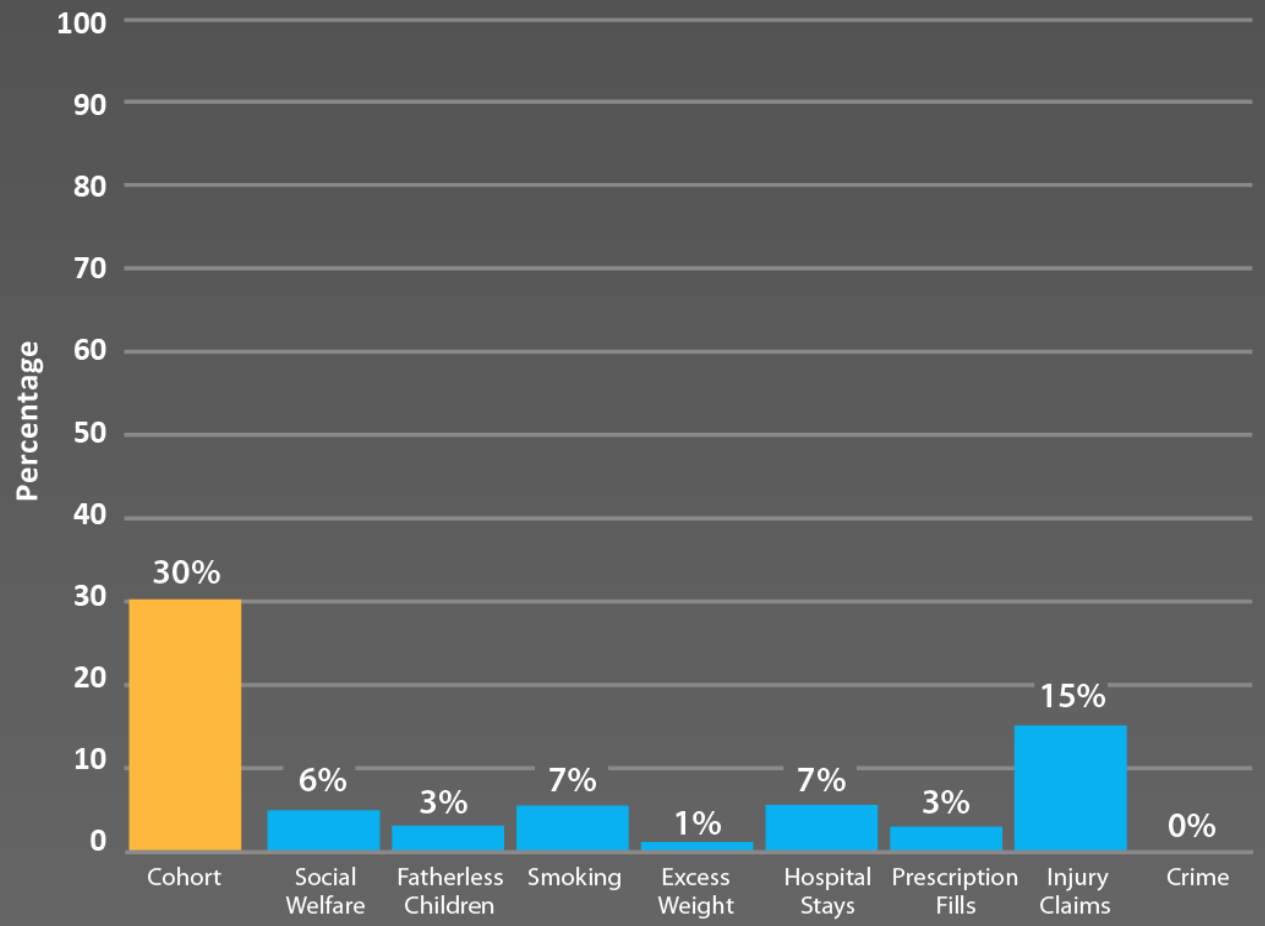


Social Welfare Benefit Months

20% of Cohort Members = 80% of Total Social Welfare Benefit Months



Small footprint of more advantaged cohort members never in any high-cost group:



Childhood Risk Factors Describe High-cost Actor Groups: Composites across ages 3, 5, 7, 9, 11

- IQ
- Self-control
- SES (socio-economic status)
- Maltreatment

Current discussions of achievement gaps focus almost exclusively on schools as the sources and solutions of these gaps

They miss the fundamental role of the early years of a child’s life, and especially the role of the family in creating gaps

Schools play a role, but not the dominant role, nor can schools alone close the gaps

Need to understand
skills that are life-relevant

Recent research shows the benefits of cognitive, social and emotional skills in enhancing the capacities of persons to function in many aspects of economic and social life and to foster or retard schooling.

Hard evidence on the importance of “soft” skills.

a) Major advances have occurred in understanding which human capacities matter for success in life.

b) Cognitive ability as measured by IQ and achievement tests is important for success in school.

c) So are **socio-emotional skills** – sometimes called character traits or personality traits:

- Motivation
- Ability to show up on time
- Sociability; ability to work with others
- Attention
- Self Regulation
- Self Esteem
- Ability to defer gratification
- Health and mental health

IQ alone explains at most 4-5% of the variability in lifetime earnings among people.

Higher Levels of Cognitive and Socioemotional Skills are Associated With:

a) Reduced Crime

b) Higher Earnings

c) Better Health and Healthy Behaviors

d) Higher Civic Participation

e) Higher Educational Attainment

f) Less Teenage Pregnancy

g) Greater Trust

h) More Human Agency and Self-Esteem

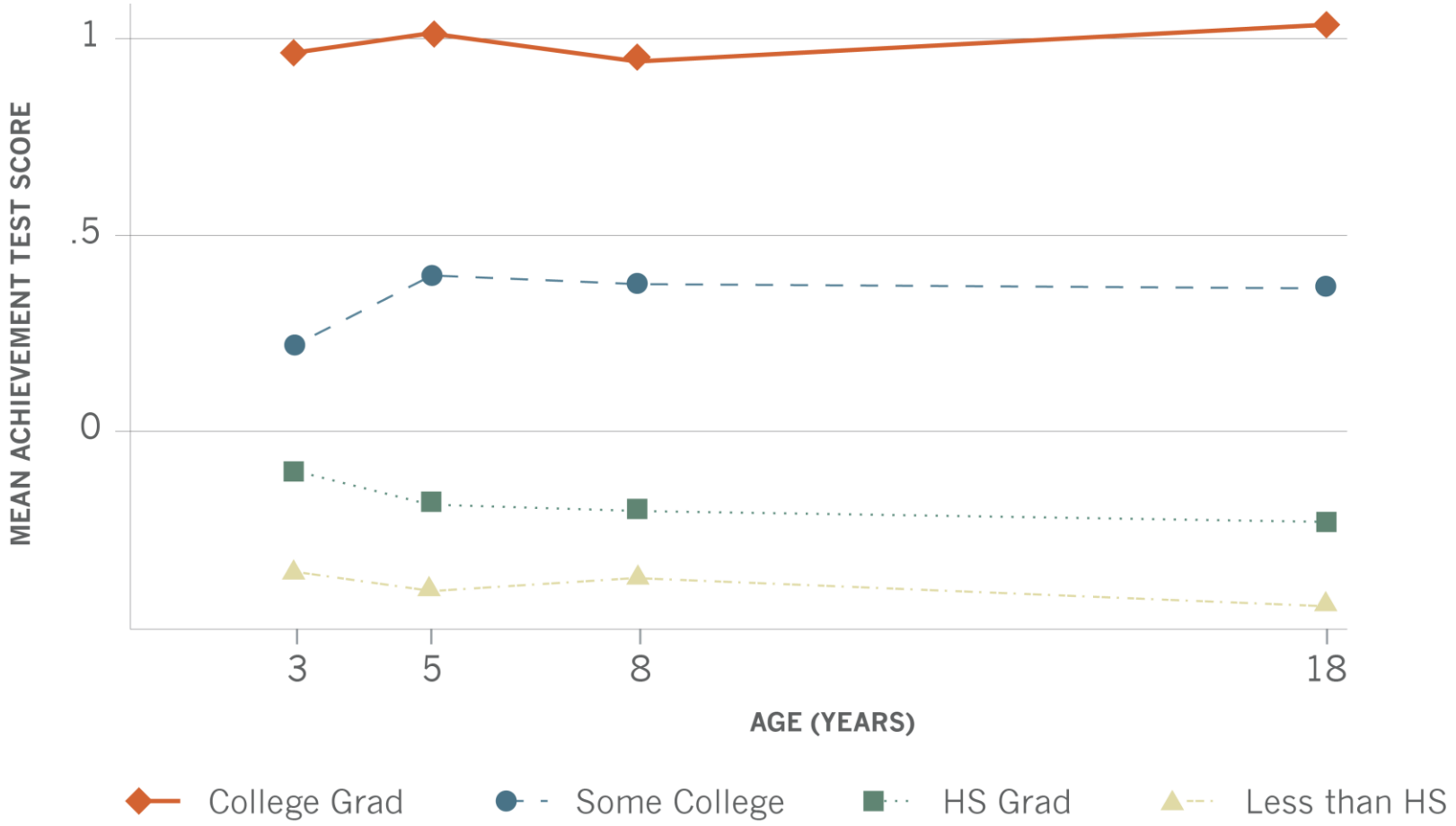
They are the principal outputs of successful schools and families.

How are skills produced?

Schools are important, but so are other institutions in society.

Skill formation starts in the womb, long before children enter formal schooling.

Mean Achievement Test Scores by Age by Maternal Education



Each score standardized within observed sample. Using all observations and assuming data missing at random. Source: Brook-Gunn et al. (2006).

- Recent research suggests the wisdom of investing more in prevention and less in remediation in creating skills
- Creating a secure foundation to benefit from the opportunities life offers

Families and social environments, not just schools, are the major producers of the skills of children.

The family is the cornerstone of effective skill development.

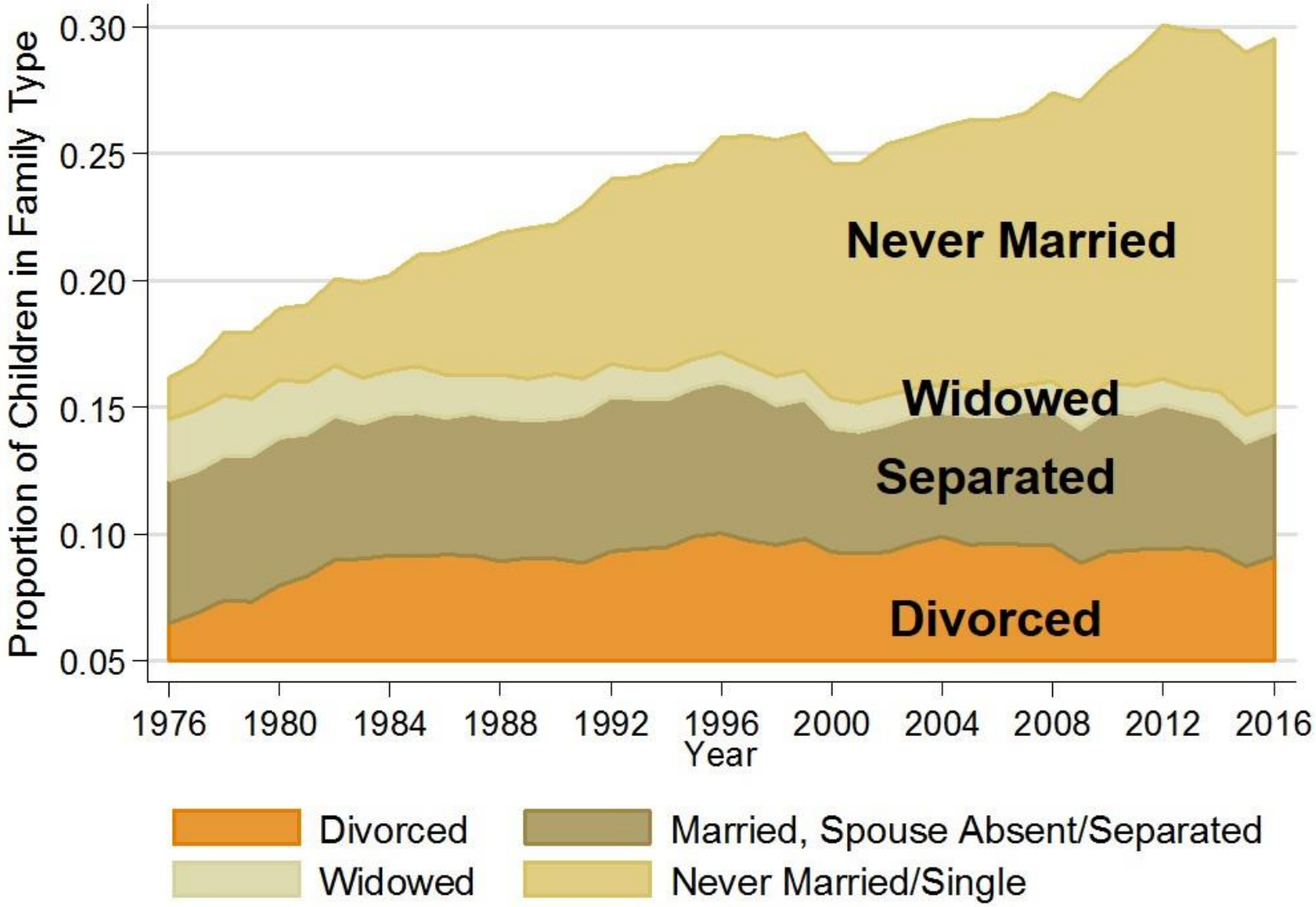
We Have Learned the Importance of the Early Years: Skills Beget Skills

Supporting families in engaging and nurturing their children is key to success in education and learning at all stages of a child's life

- Cost-effective and fair

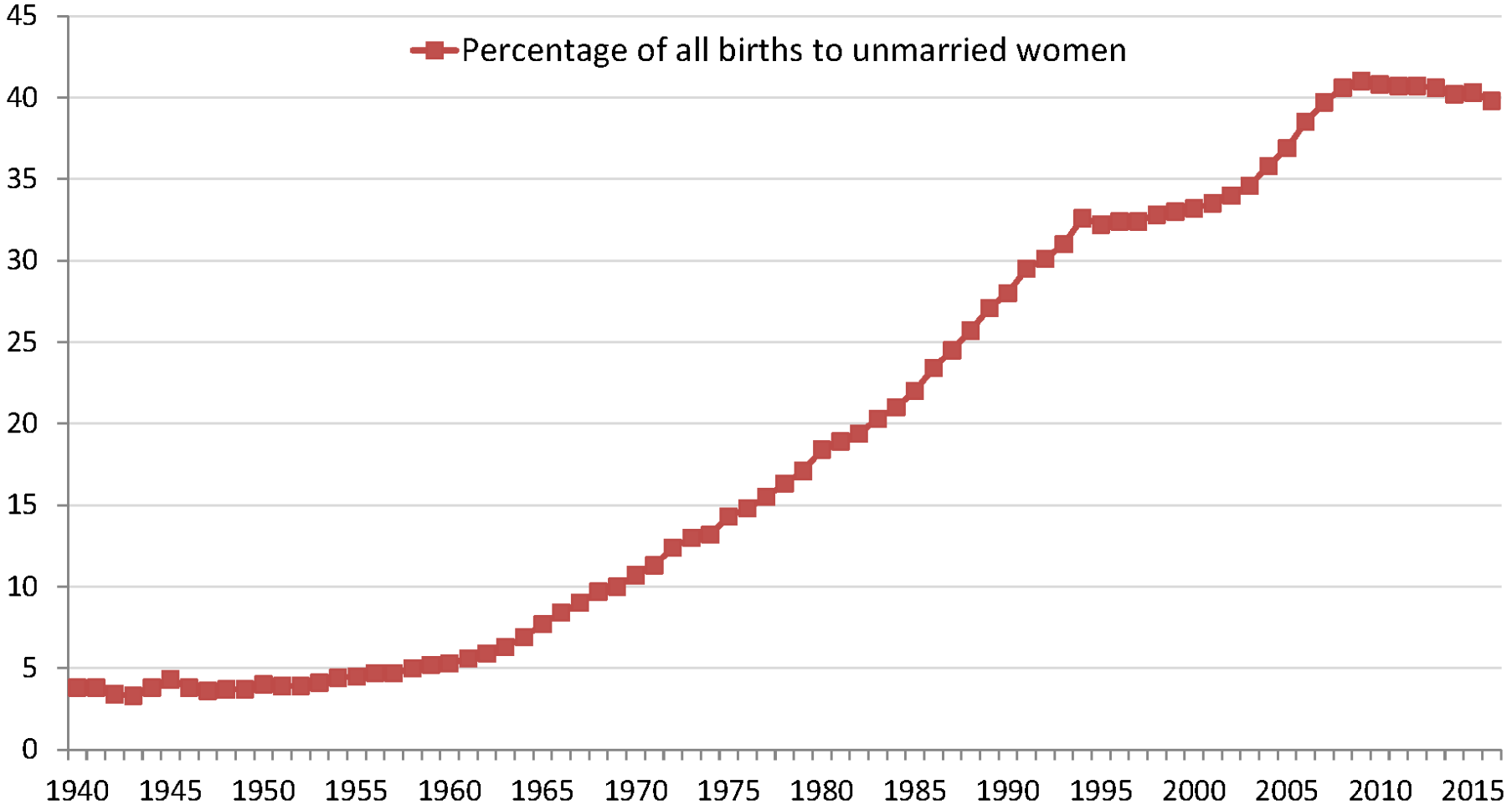
American family life is under stress.

Children Under 18 Living in Single Parent Households by Marital Status of Parent: U.S.



Source: IPUMS CPS 1976-2016

Births to Unmarried Women: United States



Source: Center for Disease Control and Prevention;
Note: Age of mother 15-44

Home Environments Matter

Hart & Risley, 1995

Children enter school with “meaningful differences“ in vocabulary knowledge.

1. Emergence of the Problem

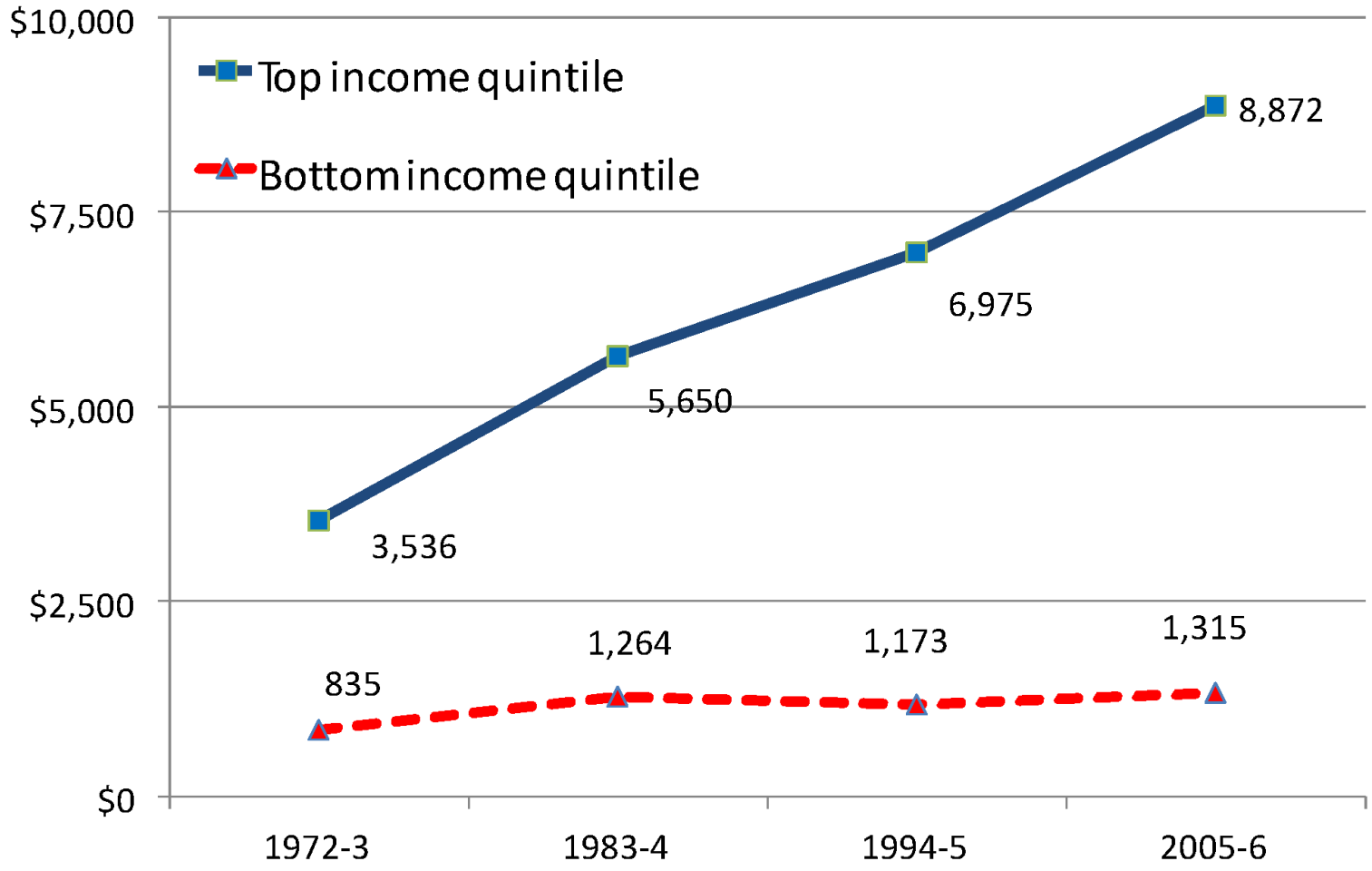
In a typical hour, the average child hears:

Family Status	Actual Differences in Quantity of Words Heard	Actual Differences in Quality of Words Heard
Welfare	616 Words	5 affirmatives, 11 prohibitions
Working Class	1,251 Words	12 affirmatives, 7 prohibitions
Professional	2,153 Words	32 affirmatives, 5 prohibitions

2. Cumulative Vocabulary at Age 3

Cumulative Vocabulary at Age 3	
Children from welfare families:	500 words
Children from working class families:	700 words
Children from professional families:	1,100 words

Per Capita Enrichment Expenditures on Children ($2008) Top Versus Bottom Quartile of Households



Source: Duncan and Murnane (2011)

Home environments are associated with child outcomes

- Genetics?
- Case for eugenics?

Targeted early childhood programs substantially reduce achievement gaps and produce better child outcomes.

Successful interventions work with and encourage parents. They promote interactions between parents and children, which are fundamental to child development.

The nature of and level of parent-child interactions vary greatly by social and economic status of the family.

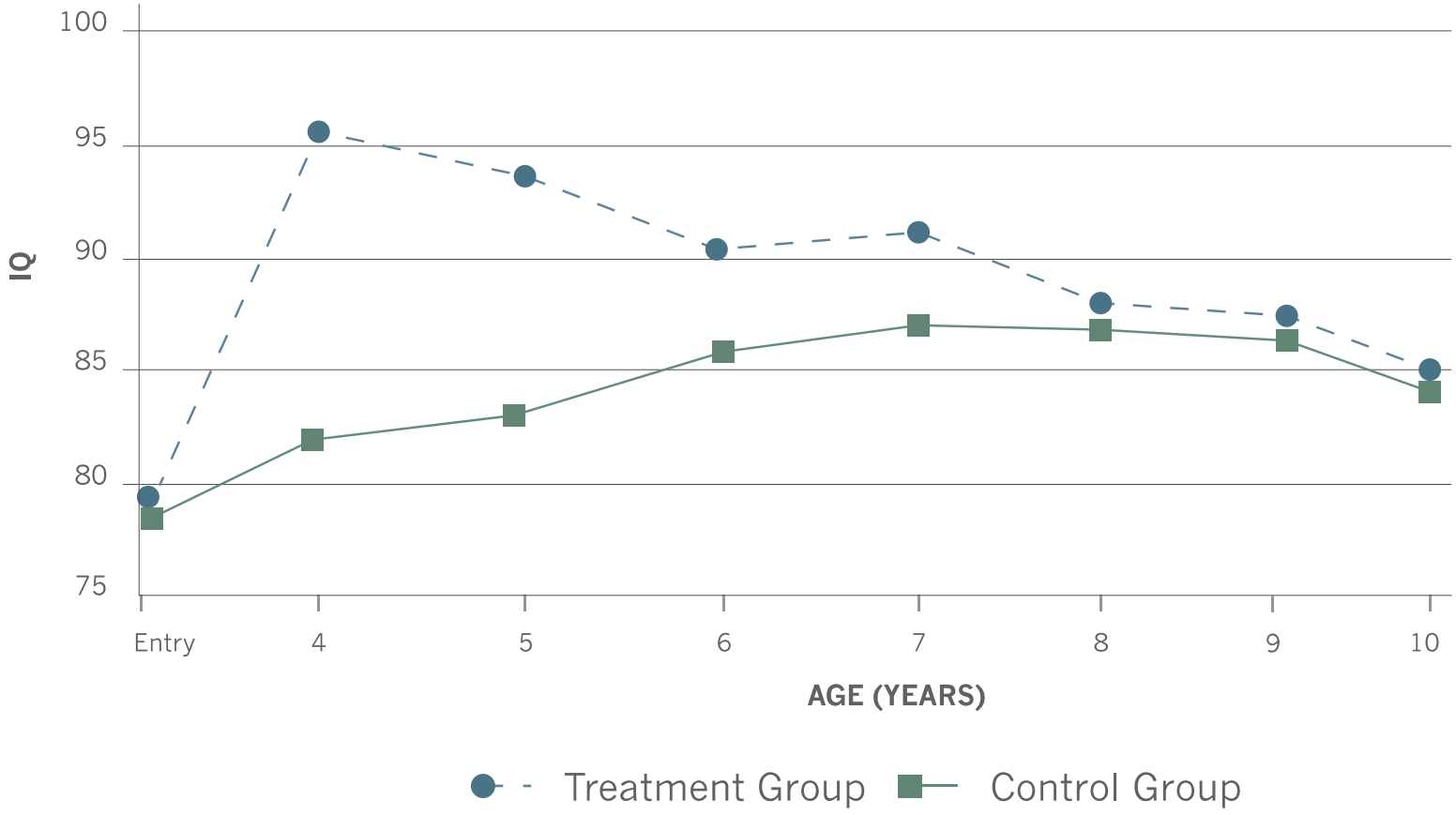
There are Proven Effective Programs

Examples:

- Perry Preschool (ages 3-4), 2 hours per day
- Abecedarian Program (ages 0-5), 8 hours per day

To evaluate them, we need full inventories of the life-relevant skills

Perry Preschool Program: IQ, by age and treatment group



Source: Perry Preschool Program. IQ measured on the Stanford. Binet Intelligence Scale (Terman & Merrill, 1960). Test was administered at program entry and each of the ages indicated.

Figures like this stimulated the critique of Arthur Jensen (1969)

Led to Herrnstein and Murray’s Bell Curve and their emphasis on genetics

Like many still do today, they assumed that IQ was an important determinant of life outcomes and that it was genetically determined

- Yet, Perry was not a failure by any means. Children in the treatment group had far better life outcomes than those in the control group.
- They did better in school, had higher levels of employment and wages, and lived healthier and more socially productive lives.

Despite “fadeout,”7-10% per annum rate of return.

Worked primarily through boosting social and emotional skills.

- Even led to higher achievement test scores

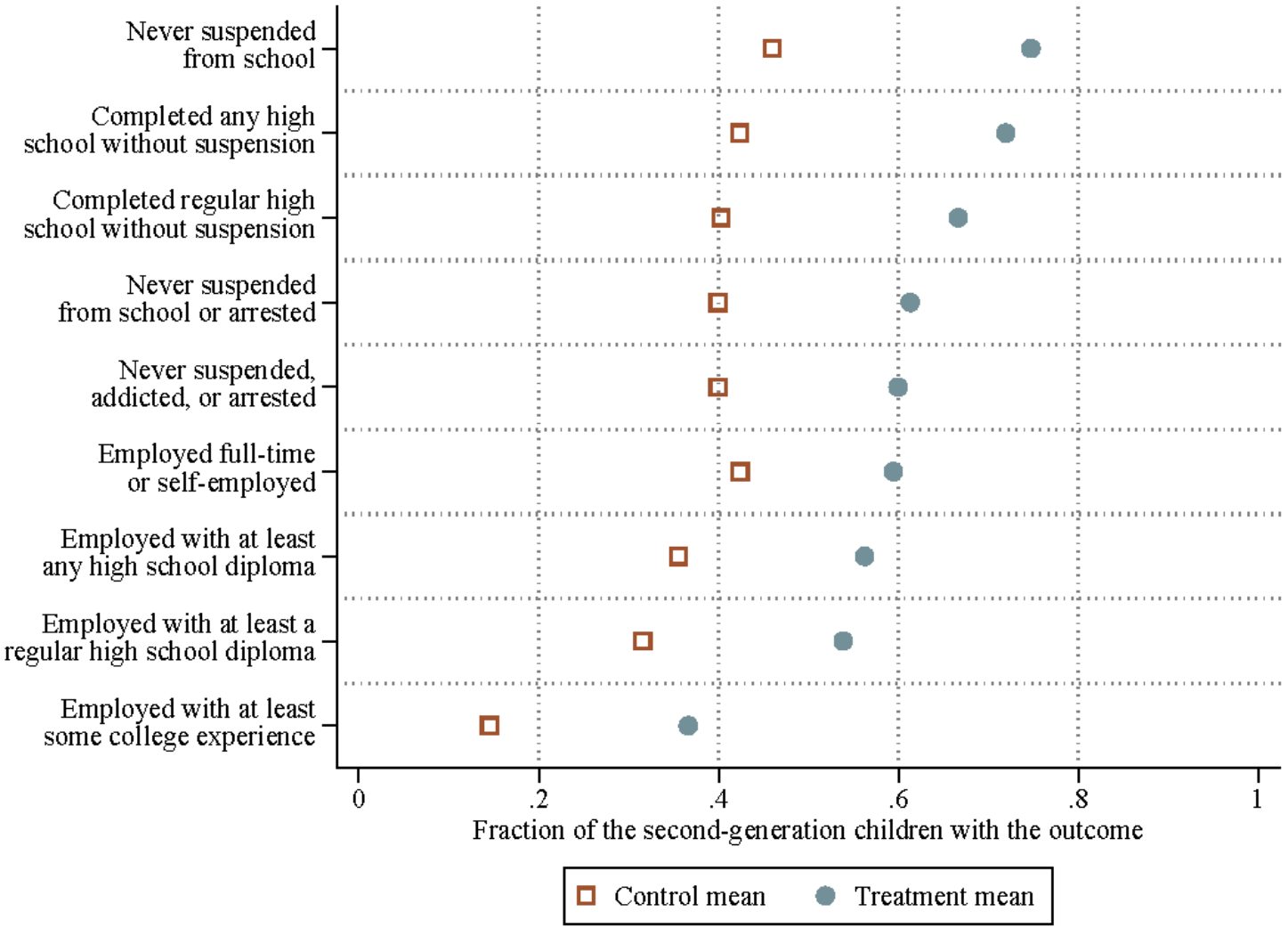
- Achievement tests (as opposed to IQ tests) measure effort and desire to learn as much as raw smarts

Effects of These Programs Last Over Generations

Recent Evidence

The Children of the Original Perry Participants

Statistically Significant Intergenerational Effects at the 10% Worst-Case Level

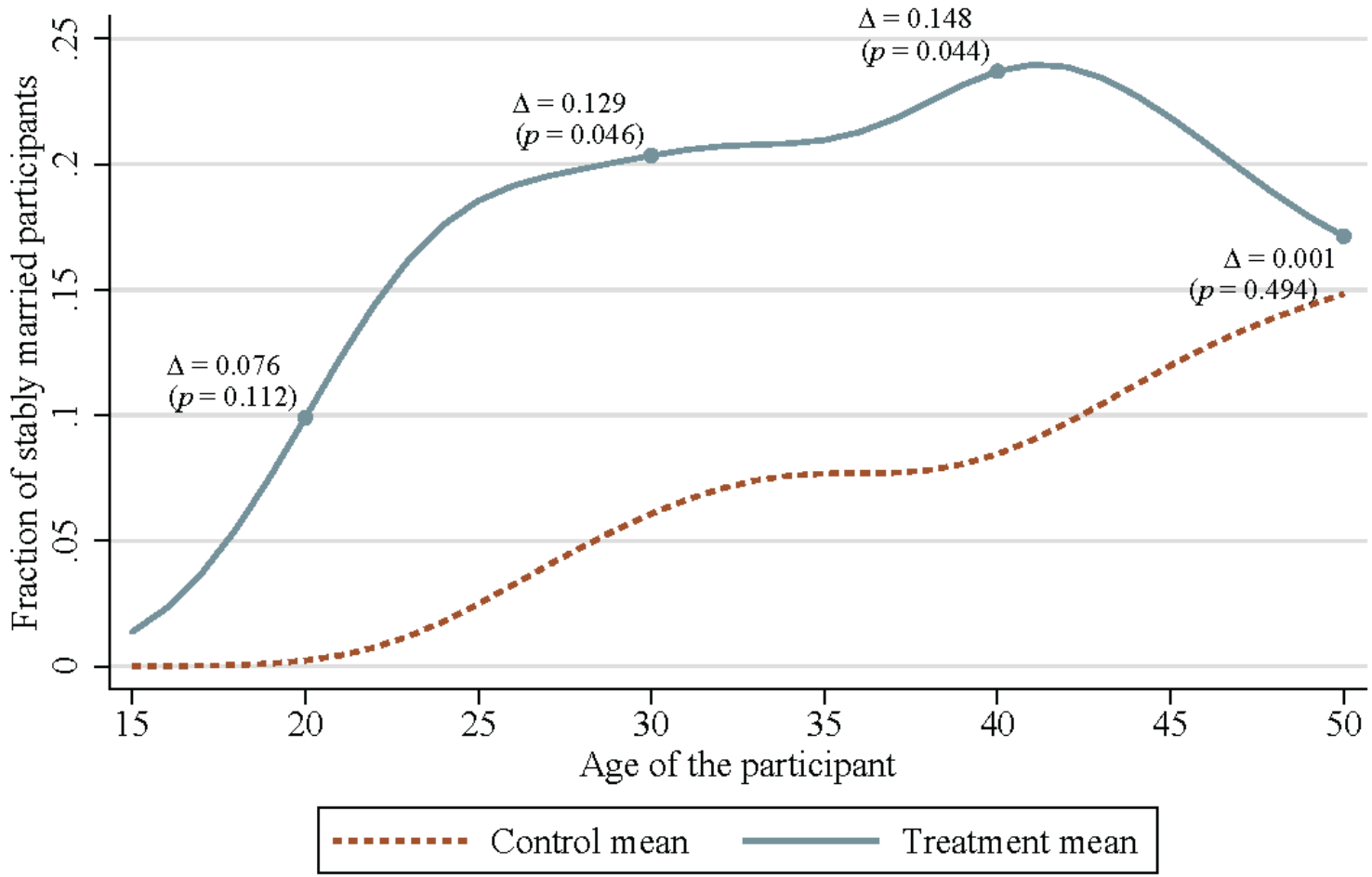


Note: These estimates of the intergenerational treatment effects are statistically significant at the 10% level using the conservative worst-case test procedures developed in Heckman and Karapakula (2019).

Mechanisms Producing These Effects

Childhood Family Environments of the Second-Generation Children

Stable Marriage Rate over the Life Course for Male Participants



Note: Δ = augmented inverse probability weighting estimate (AIPW) of the treatment effect;
p = worst-case maximum *p*-value based on approximate randomization test using studentized AIPW;
the control and treatment means are smoothed estimates using the Gaussian kernel with bandwidth of 3.

Abecedarian shows from a comprehensive approach.

Starting earlier (at birth) boosts IQ.

- Improved parenting practices and child attachment
- Positive effect on behavior and mental health
- Higher educational attainment
- Higher employment rate
- Reduced criminal activity
- Better child and adult health

Abecedarian Project, Health Effects at Age 35 (Males)

	Treatment Mean	Control Mean	Treatment p-value
Systolic Blood Pressure	125.79	143.33	0.018
Diastolic Blood Pressure	78.53	92.00	0.024
Pre-Hypertension	0.68	0.78	0.235
Hypertension	0.10	0.44	0.011
HDL Cholesterol	53.21	42.00	0.067
Cholesterol/HDL-C	3.89	4.69	0.057
Abdominal Obesity	065	0.87	0.136
Metabolic Syndrome	0.00	0.25	0.009

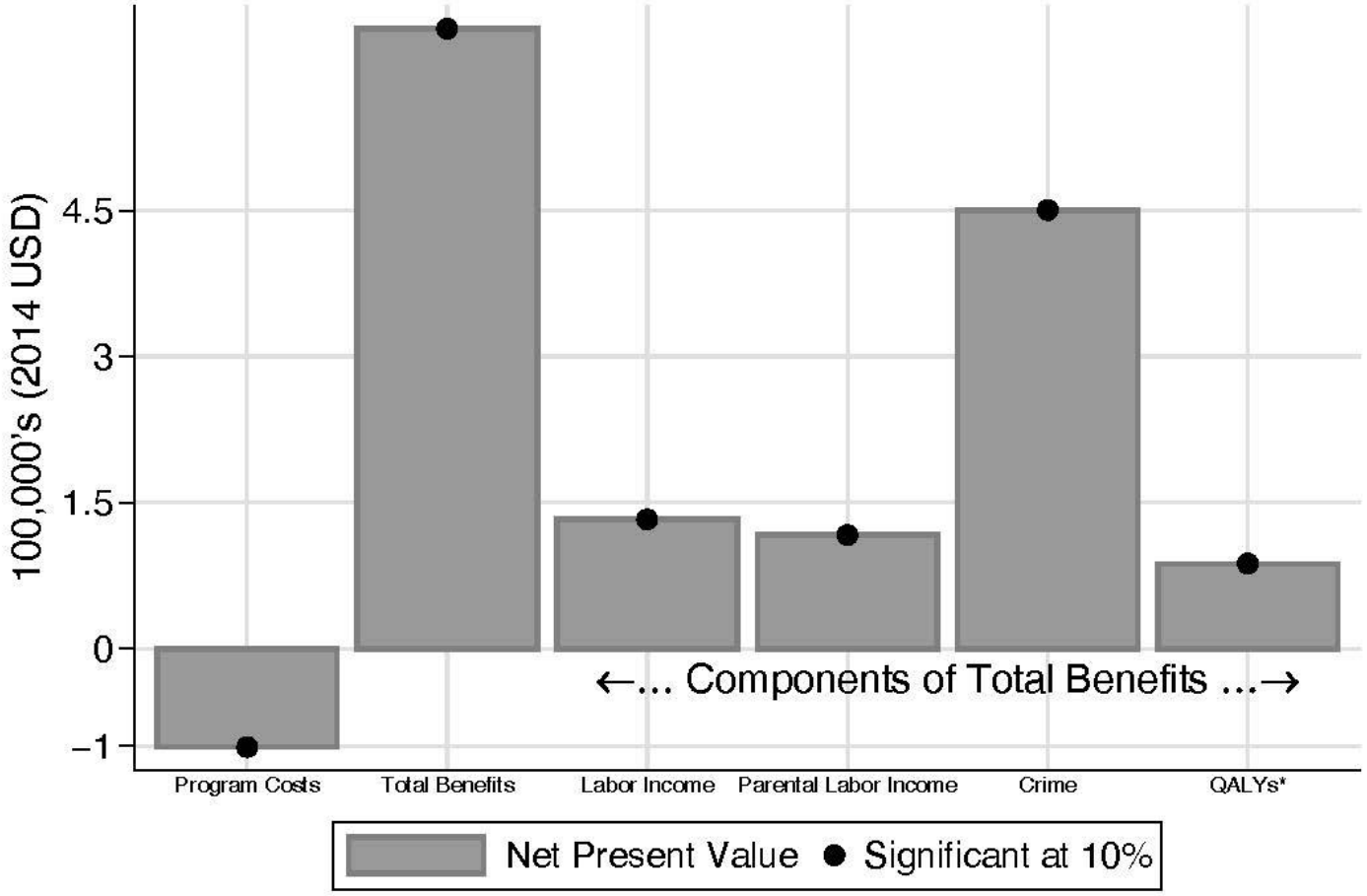
Source: Campbell, Conti, Heckman, Moon, Pinto, Pungello and Pan (2014).

Rate of return:

- Overall: 13.7% per annum
- Males: 14% per annum
- Females: 10% per annum

The enhanced income of mothers from the provision of childcare by itself pays for program costs.

Life-cycle Net Present Value of Main Components of the CBA



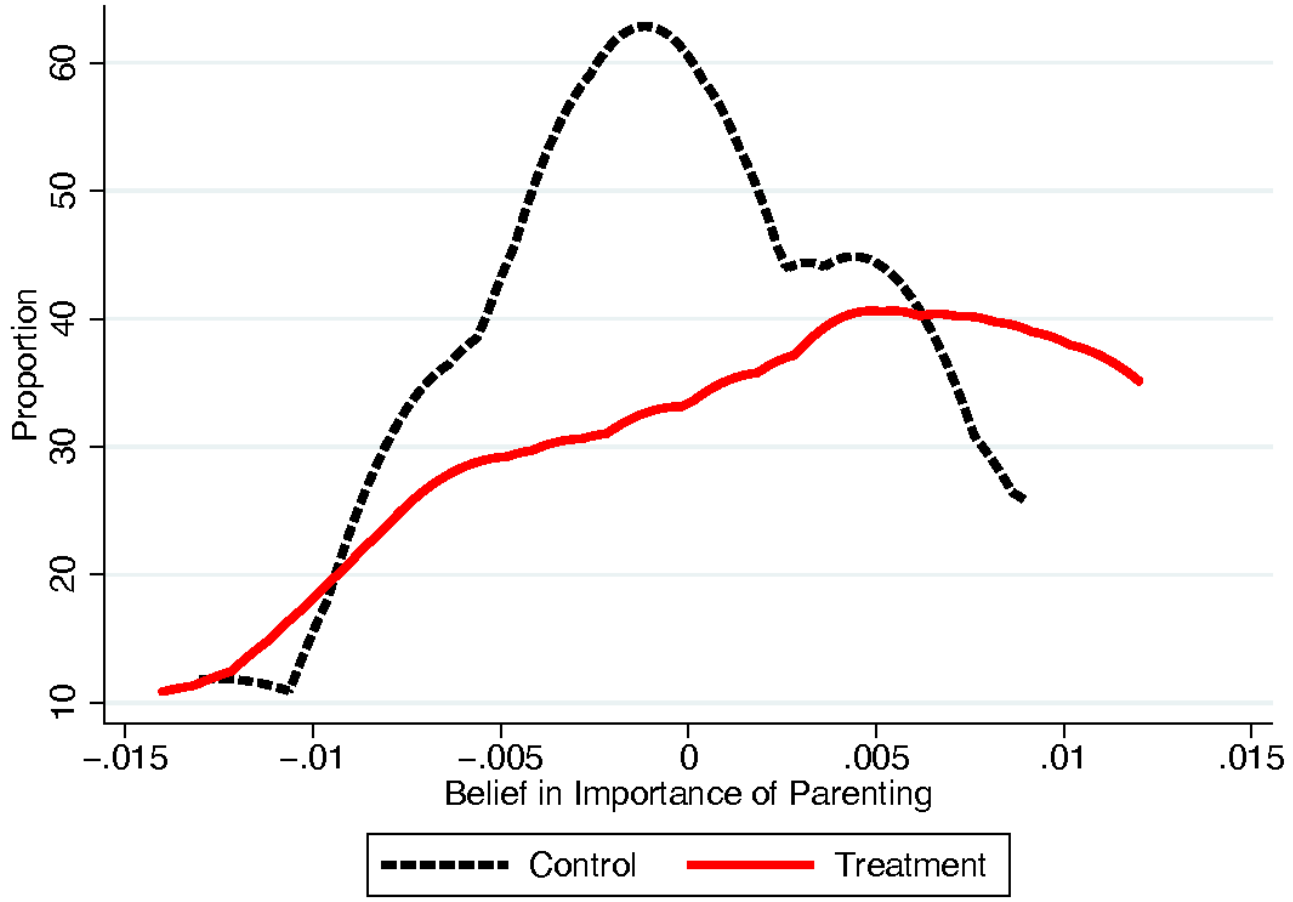
Per–annum Rate of Return: Males and Females 13.7% (s.e. 3%).
Benefit–cost Ratio: Males and Females 7.3 (s.e. 1.8).

Mechanisms Underlying Effective Early Childhood Interventions

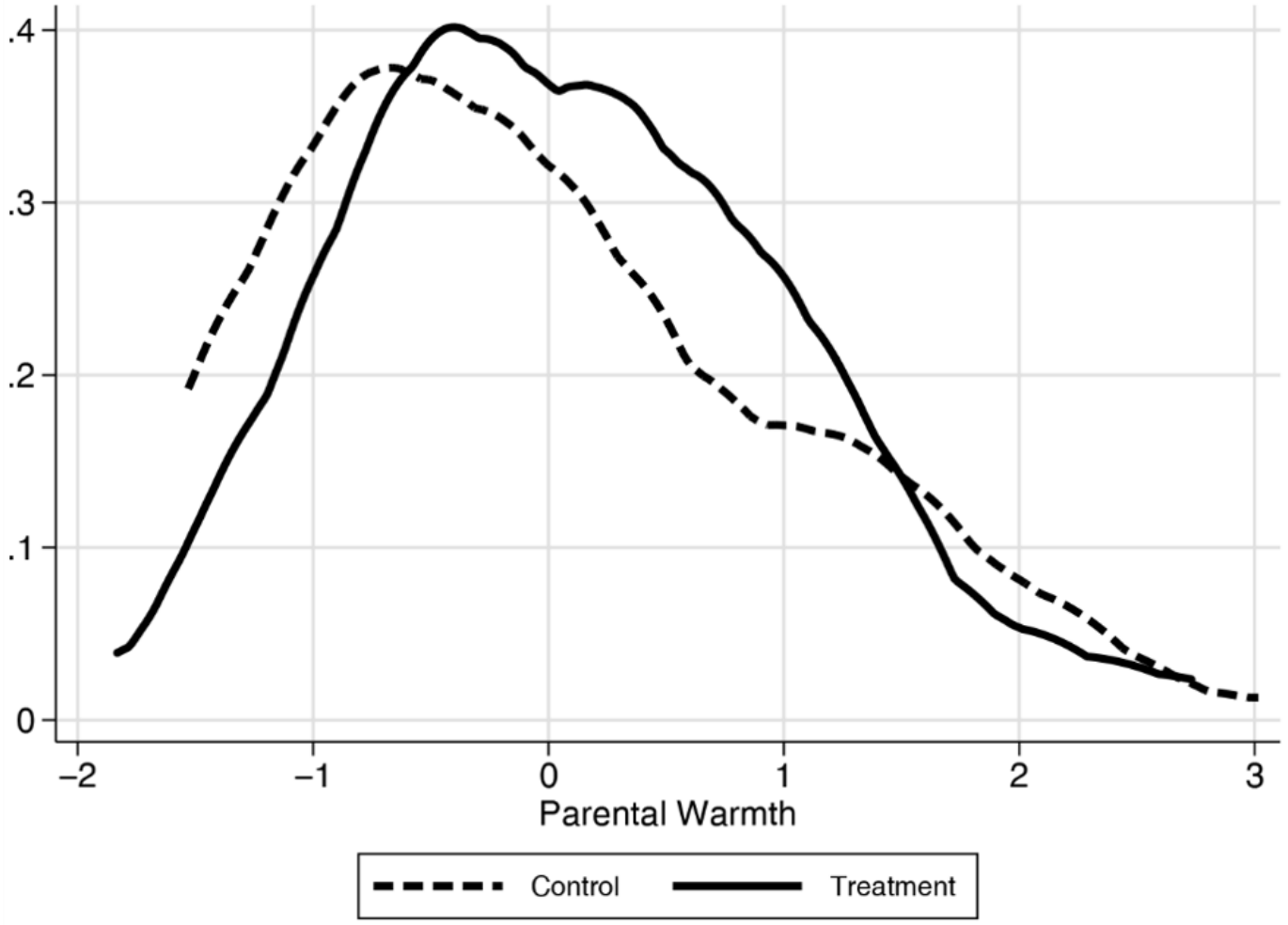
Enriches Home Lives of Children Outside of Childcare Center

Keeps Parental Engagement Active Long After the Children Leave Early Childhood Programs

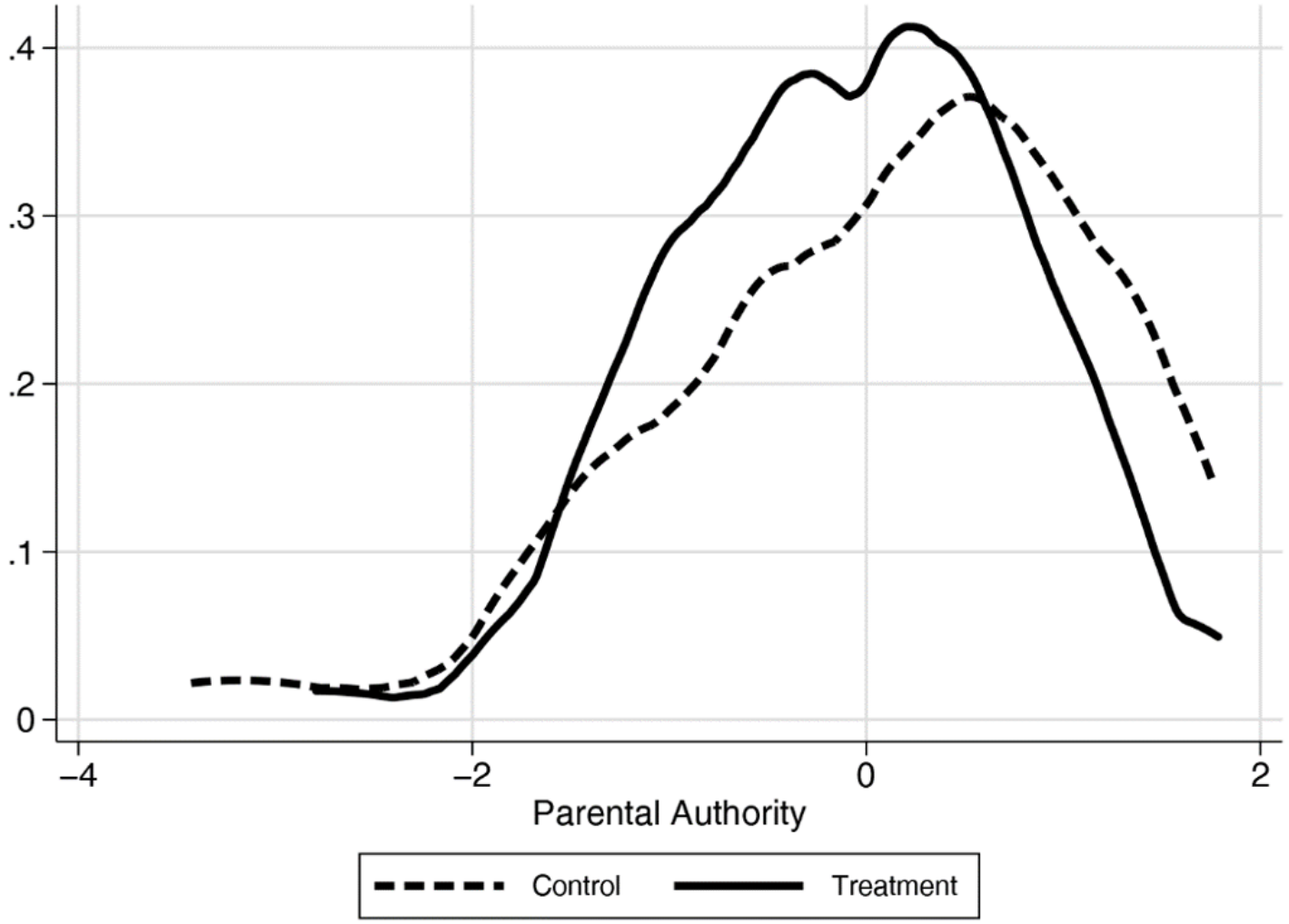
Parental response to Perry Preschool Program after 1 year experience of treatment:



Parental Warmth, Perry Preschool



Parental Authoritarianism, Perry Preschool



- Parent-child interaction patterns were improved in both Perry and ABC

- They are the essential ingredient in the success of early childhood programs
- Do we need costly childcare centers to shape successful lives?
- Is there a more cost effective way to promote child development?

- Useful to examine programs that focus attention on this one aspect of child development

Home Visiting Programs

Jamaica Study

The Jamaican Intervention

- Randomized intervention, sample of 129 children
- Stunted children between 9 and 24 months
- Designed to individualize the different effects of nutritional and cognitive stimulation
- Follow up to age 22; current study follows through age 30
- Four groups:
    1. No intervention
    2. Nutritional intervention only
    3. Cognitive stimulation intervention only
    4. Both cognitive and non-cognitive interventions

- Plus, a matched non-stunted group as a reference
- **The long-lasting effects were found for the cognitive/ socio-emotional components of interventions**

Impact of Stimulation Treatment on Log Earnings, Observed Sample

	Outcomes Analyzed	Stepdown p-value*
A. First Job	0.27	0.11
All Full Time Non-Temporary	0.35	0.01
	0.53	0.03
B. Last Job	0.27	0.06
All Full Time Non-Temporary	0.40	0.01
	.050	0.00
C. Current Job	0.27	0.09
All Full Time Non-Temporary	0.43	0.02
	0.44	0.02
D. Average Earnings	0.40	0.01
All Full Time Non-Temporary	0.34	0.01
	0.47	0.01

*Adjusts for multiple hypothesis testing

Impact of Treatment on Education and Skills

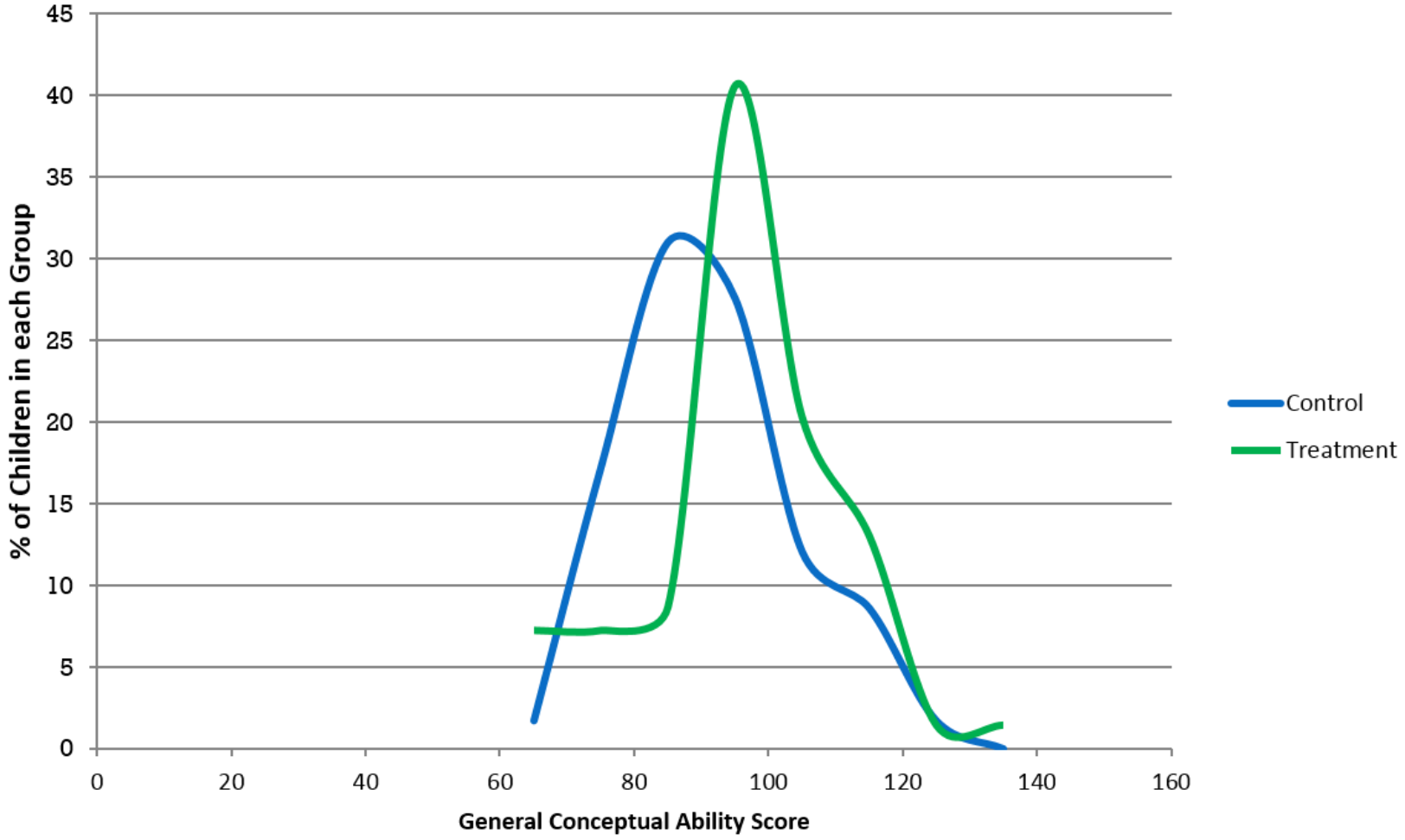
	Sample Size	Control Mean	Treatment Effect	Stepdown *p*-value*
A. Schooling				
In school	97	0.15	0.17	0.04
In school full-time	97	0.07	0.18	0.01
B. Skills				
Cognitive factor	102	-0.46	0.59	0.01
Externalizing behavior factor	102	-0.23	0.22	0.30
Internalizing behavior factor	102	-0.32	0.39	0.05
Ever expelled from school	105	0.17	-0.12	0.02

*Adjusts for multiple hypothesis testing

Preparing For Life (PFL, 2016)
Home Visiting in Ireland - Orla Doyle

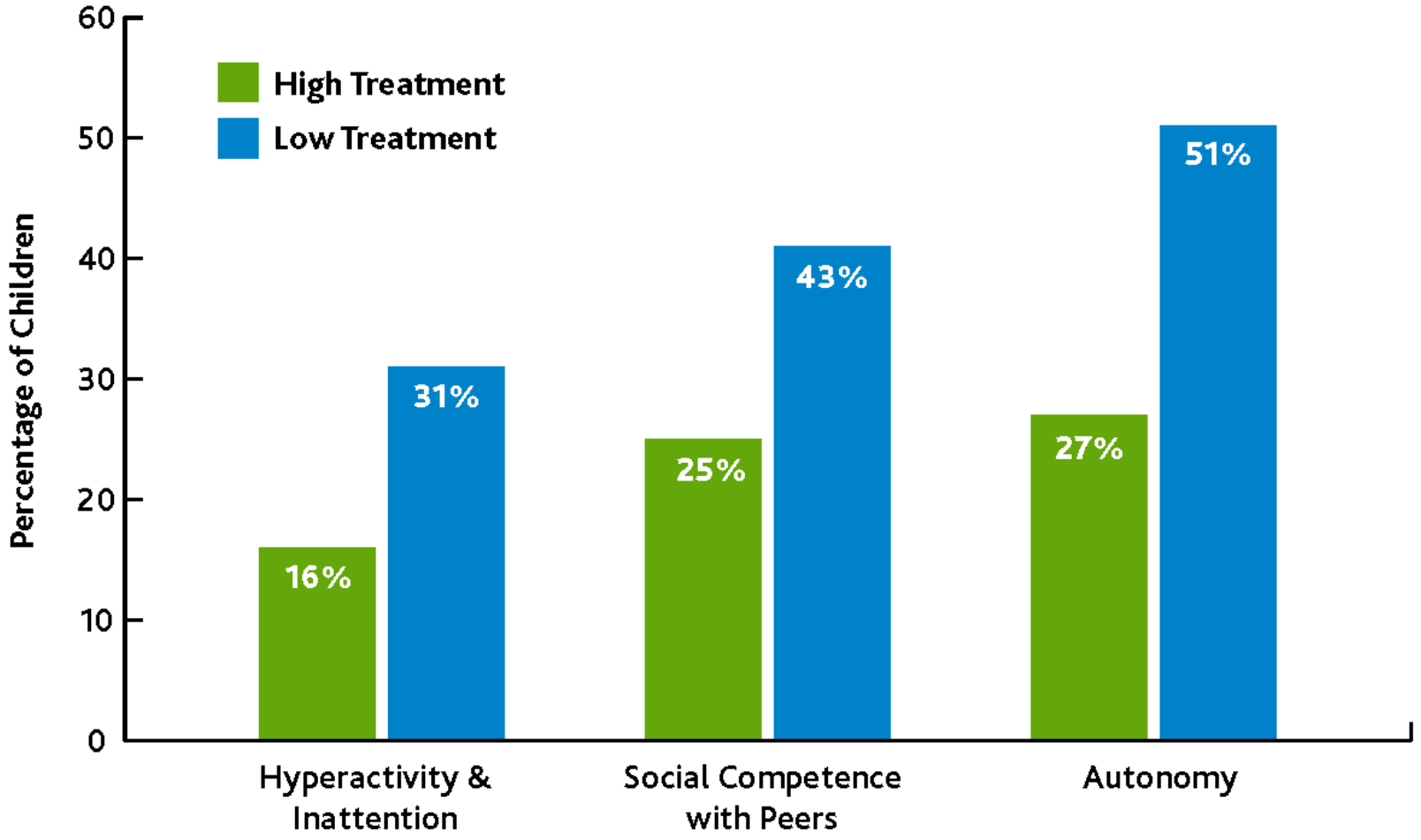
1. PFL: support and education to parents from pregnancy/ birth onwards
2. Based on theories of attachment, social learning, & ecological development
3. PFL: **Fortnightly home-visits** from trained mentor – pregnancy to school entry
4. Mentors came from **different professional backgrounds**
5. **Mentor's role:** support parents about child development & parenting using role play, modelling, demonstration, discussion, encouragement, and feedback
6. Low intensity – on average one hour per month; ~51 hours over 5 years for program

Distribution of BAS GCA Cognitive Scores at School Entry



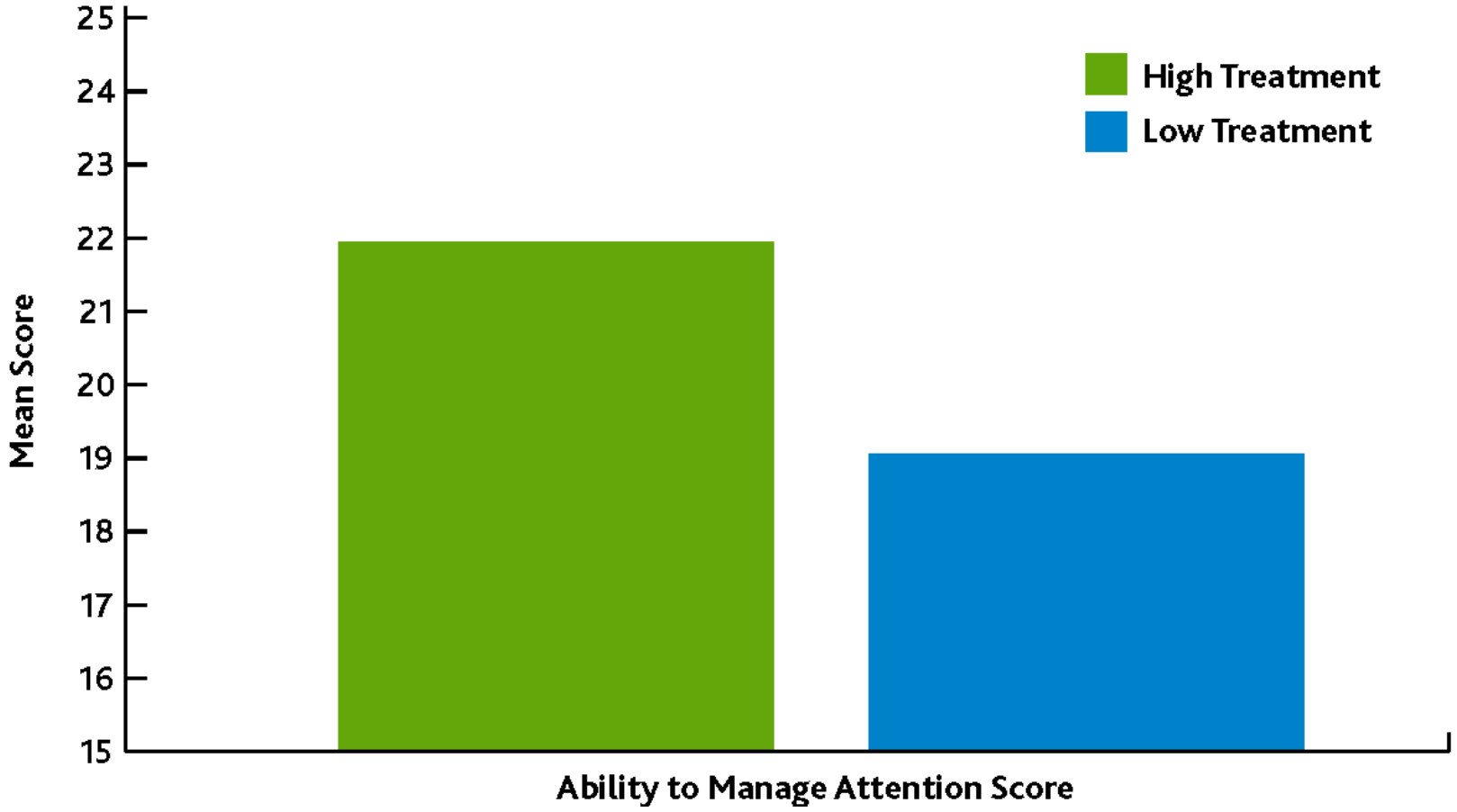
Source: Doyle (2017).

Percentage of Children `Not on Track' on Measures of Social and Emotional Development At School Entry



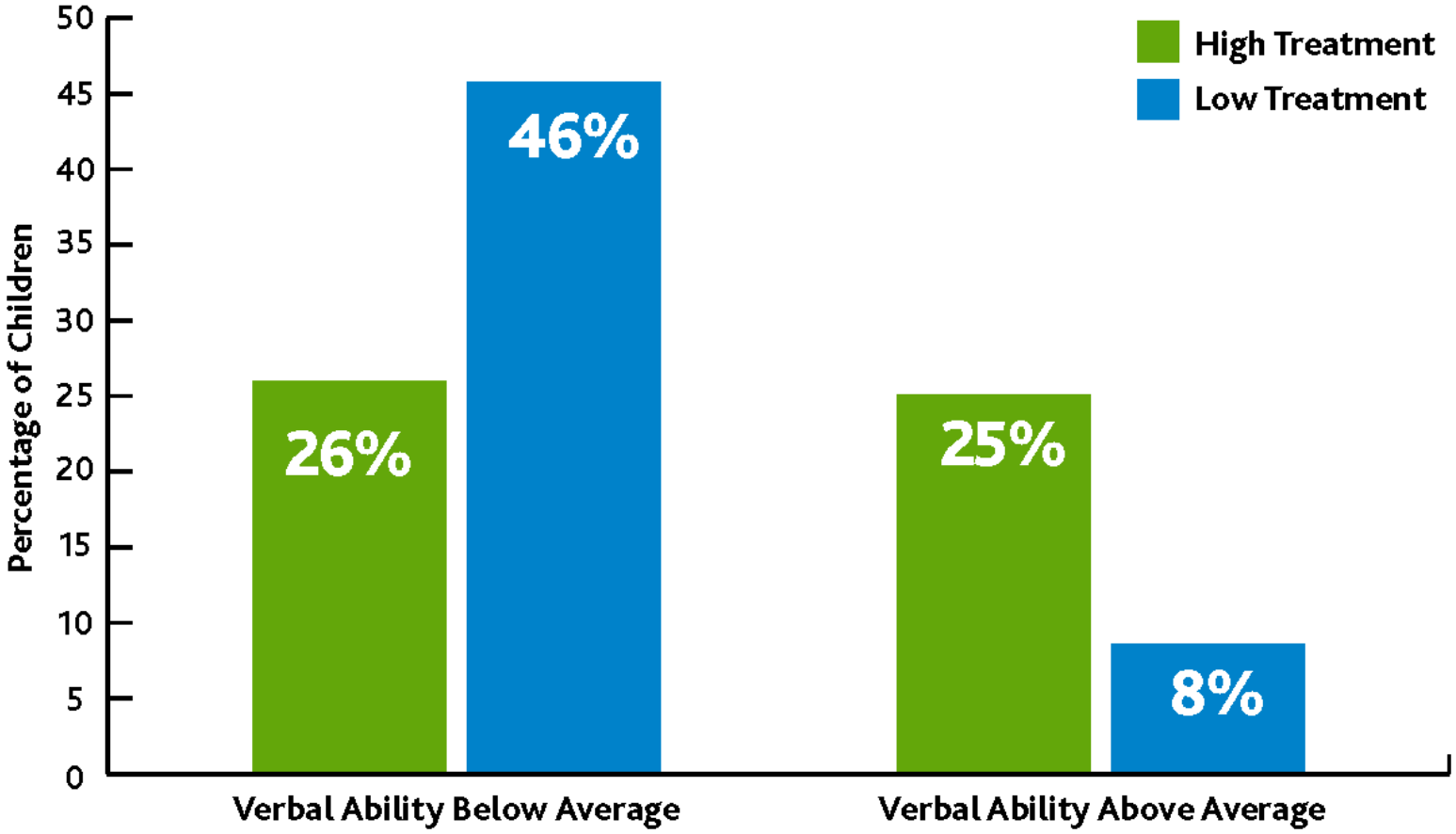
Source: PFL Evaluation Team at the UCD Geary Institute for Public Policy (2016).

Mean Scores of Children on Ability to Manage Attention Task At School Entry



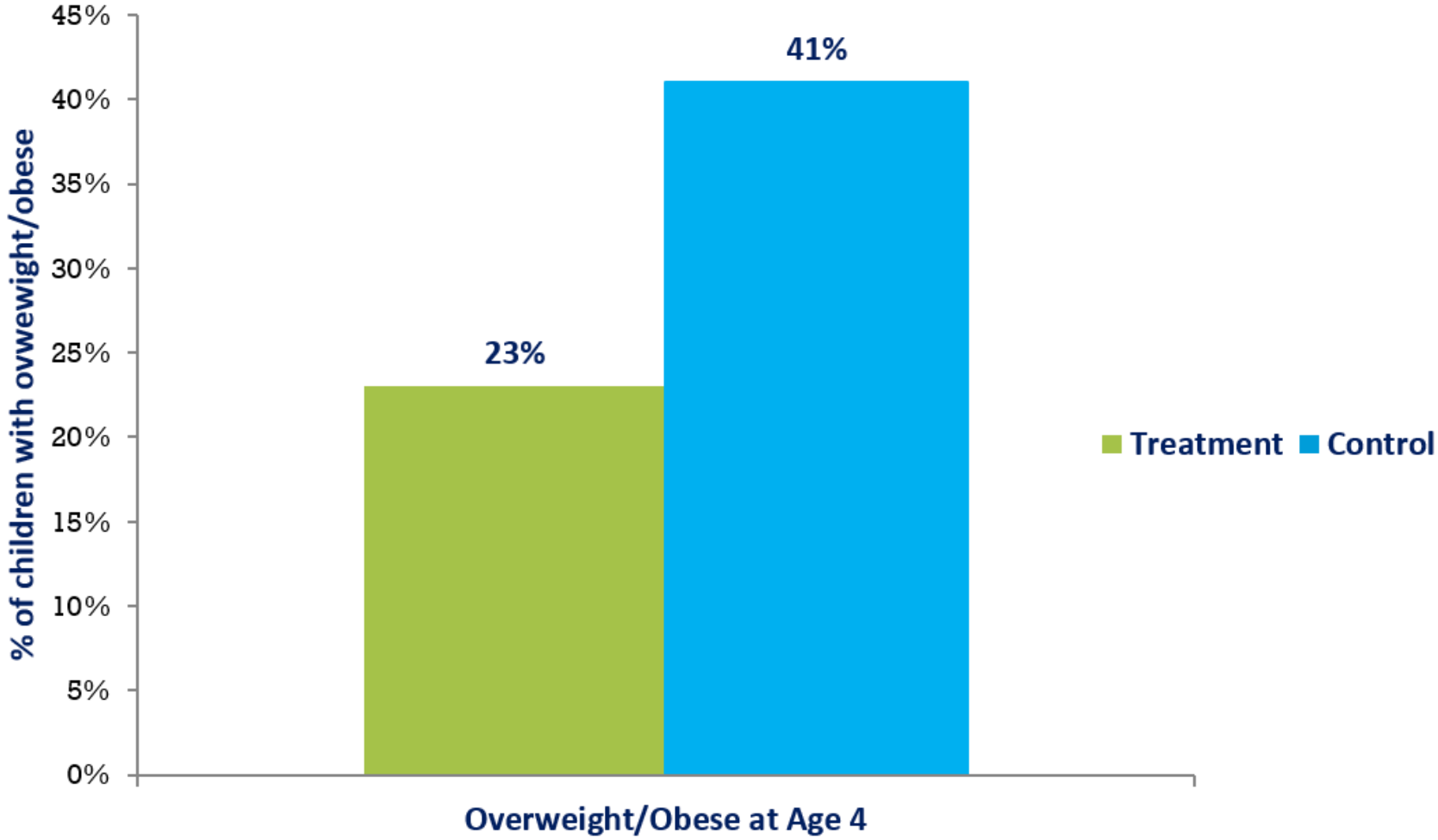
Source: PFL Evaluation Team at the UCD Geary Institute for Public Policy (2016).

Percentage of Children Scoring Above and Below Average in Verbal Ability At School Entry



Source: PFL Evaluation Team at the UCD Geary Institute for Public Policy (2016).

Body Mass Index at Age 4*



Source: Preparing for Life (Doyle et al., 2016).
*IPW-adjusted permutation tests with 100,000 replications controlling for gender. One tailed (right-sided) test.

Universal ingredient of effective programs:

They promote parenting, mentoring, and parent-child interactions.

The early years are sensitive periods, but skill development occurs over the life cycle

Later skill development more effective the stronger the skill base at earlier ages

Human development continues through later childhood, early adolescence, and young adulthood.

In fact, it is a life cycle process.

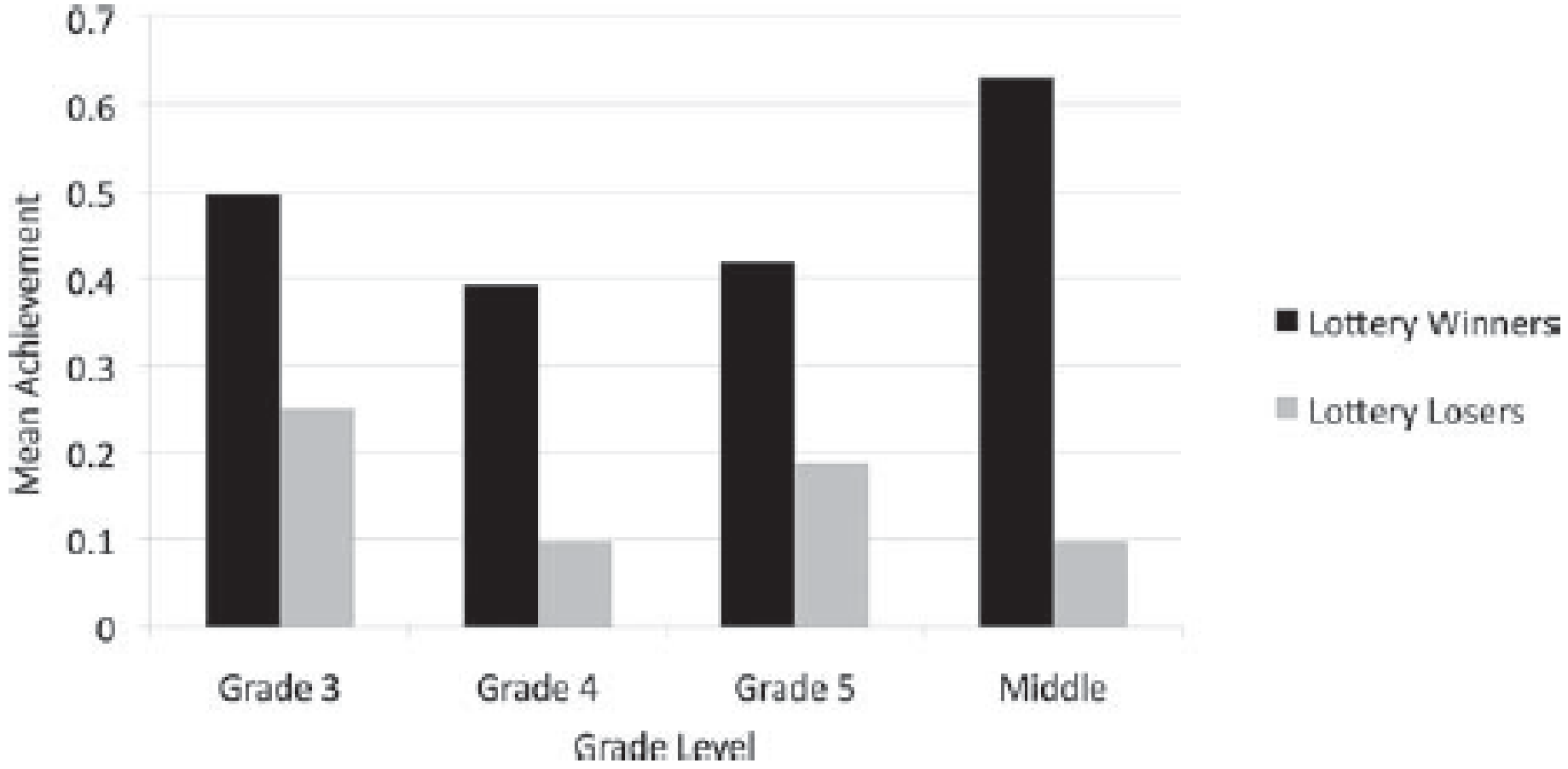
Enriched charter schools starting at age 4 feature mentoring through elementary school.

Achievement Outcomes for lottery winners and lottery losers: University of Chicago Enriched Charter Schools (UCCS)

	Grade 3	Grade 4	Grade 5	Middle Grades 6, 7, 8
Lottery winners[a]	.496	.393	.419	.631
Lottery losers[b,c]	.250	.098	.187	.098
Mean difference	**.246(.095)**	**.285(.114)**	**.232(.114)**	**.533(.159)**

Source: Hassrick, E. M., Raudenbush, S. W., & Rosen, L. S. (2017).
Notes: a n = 138 lottery winners produced 276 test scores.
b n = 319 lottery losers produced 778 test scores.
c Lottery losers produced slightly more test scores on average than did lottery winners because (a) the probability of winning the lottery declined sharply for lotteries for grades after kindergarten, as fewer seats are open in UCCS after kindergarten; and (b) these later lotteries produced more test scores because testing begins at grade 3 (see table 8.2).

Achievement Test Results by Grade (UCCS)



Source: Hassrick, E. M., Raudenbush, S. W., \& Rosen, L. S. (2017).

Adolescence is a major target of opportunity.

Consider the Life Cycle Evolution of Criminal Activity

One major source of the benefits of early intervention is *reduced adult crime*.

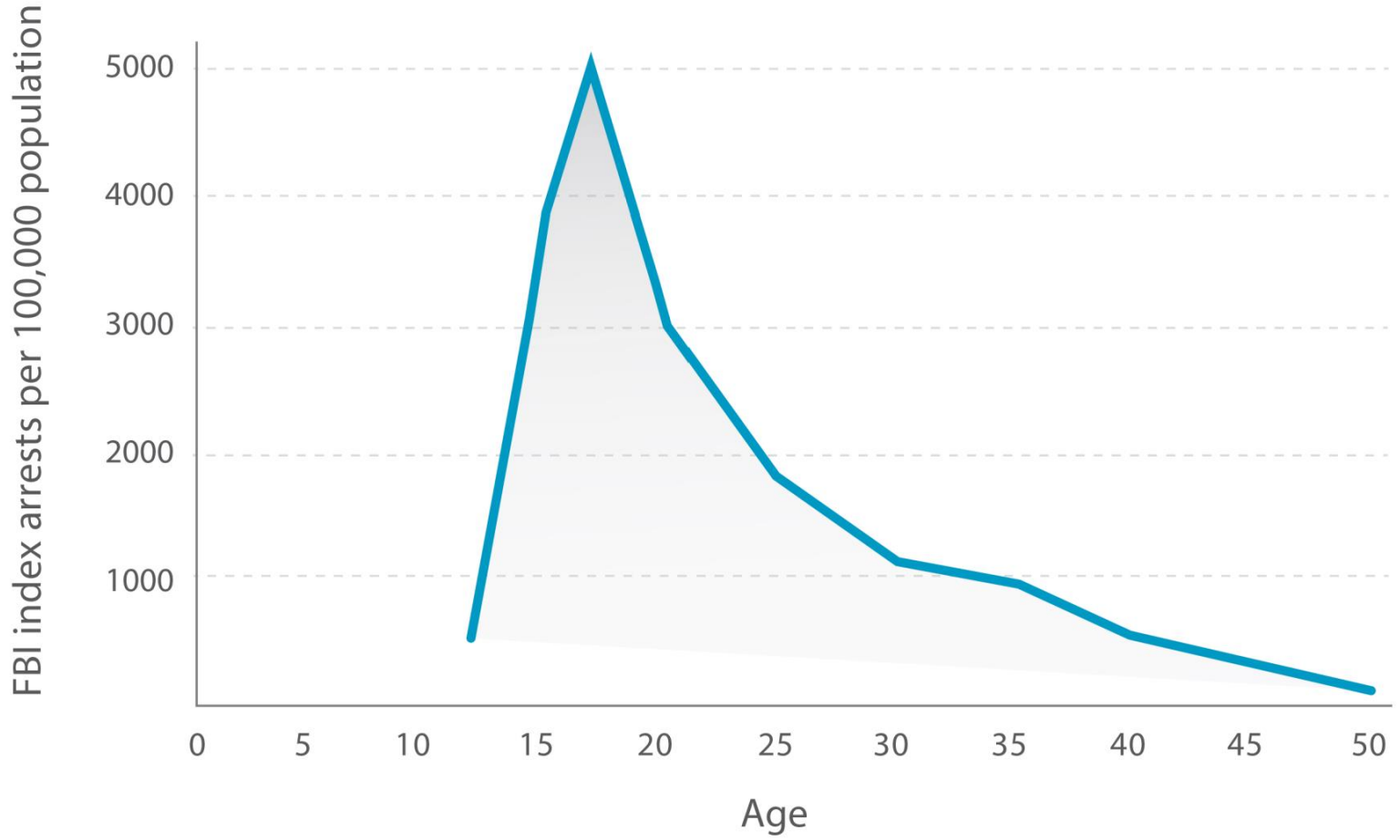
Terrie Moffitt:
Two types of criminal trajectories:

- Life persistent (starting at age 3-4 by aggressive behavior).
- Adolescence limited.

Perry focused on at-risk children ages 3-4 and substantially reduced adult crime.

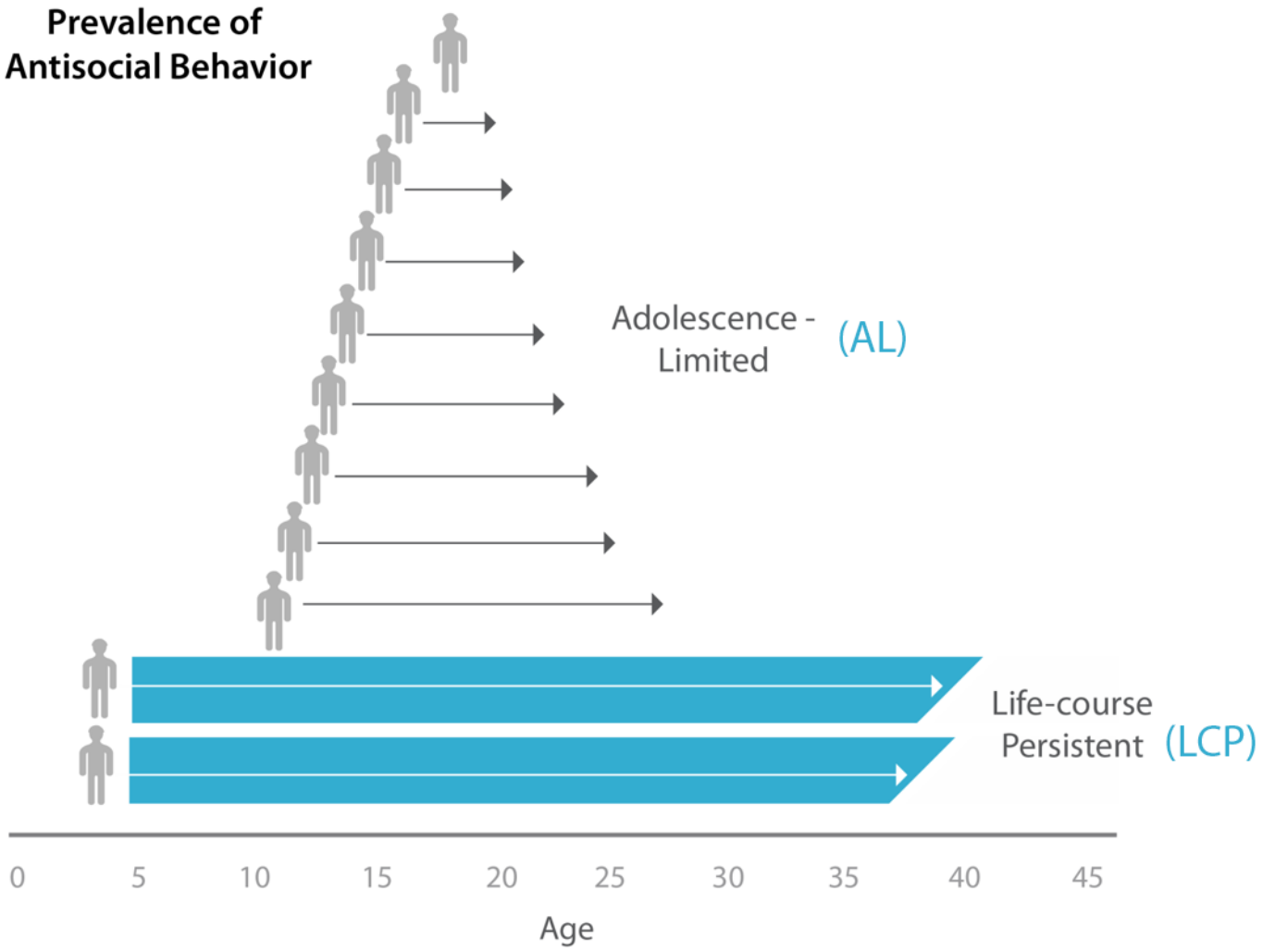
Major contributor to its effectiveness.

Age-Crime Curve



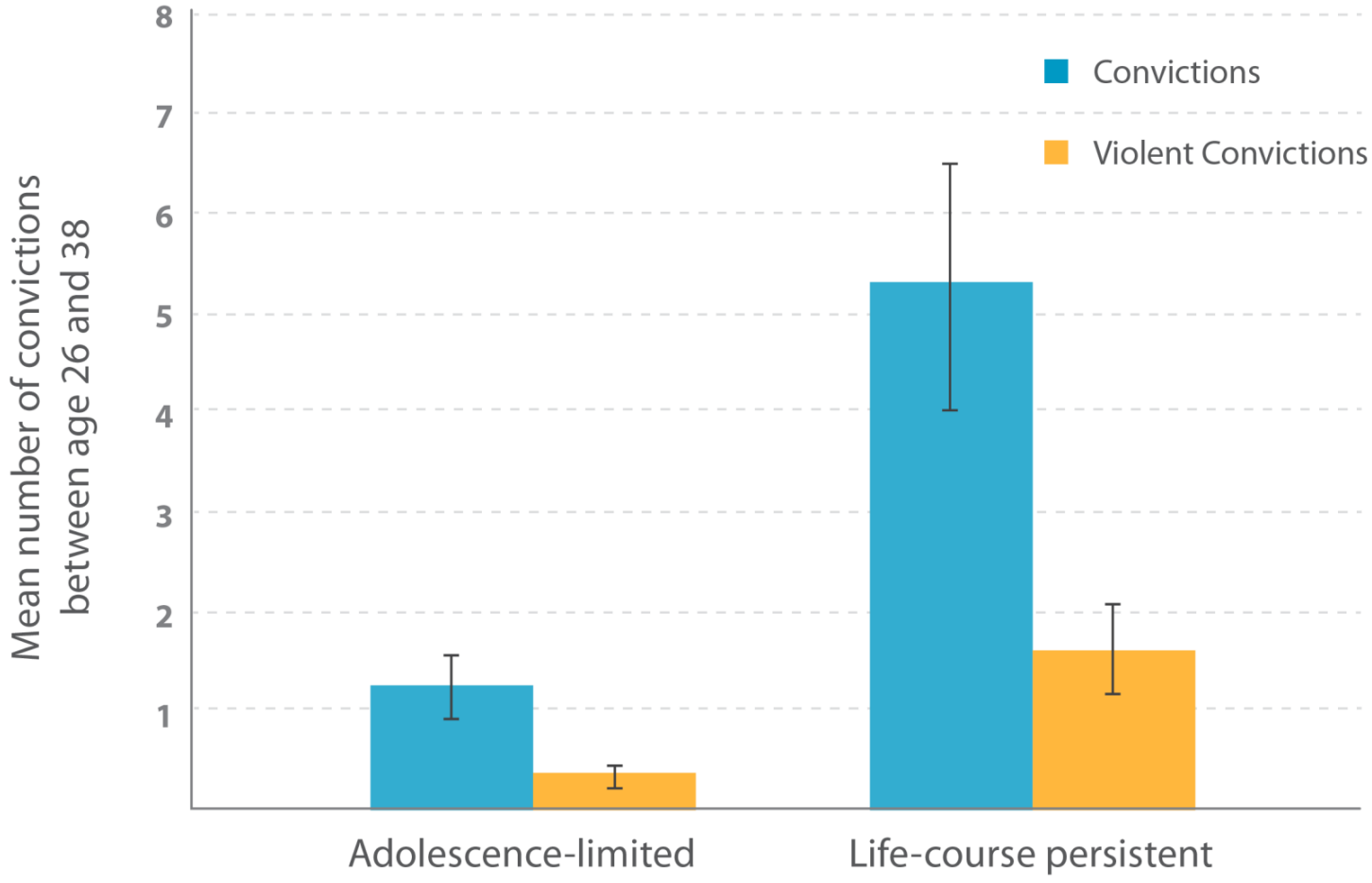
Note: The age-crime curve, circa 1980s. The onset of illegal behavior was typically between ages 8-14 years, the peak age of offending was between 15-19 years, and desistance was typically between 20-29 years.
Source: Moffitt (2017).

Life-Course Persistent (LCP) and Adolescence-Limited (AL) Antisocial Behavior



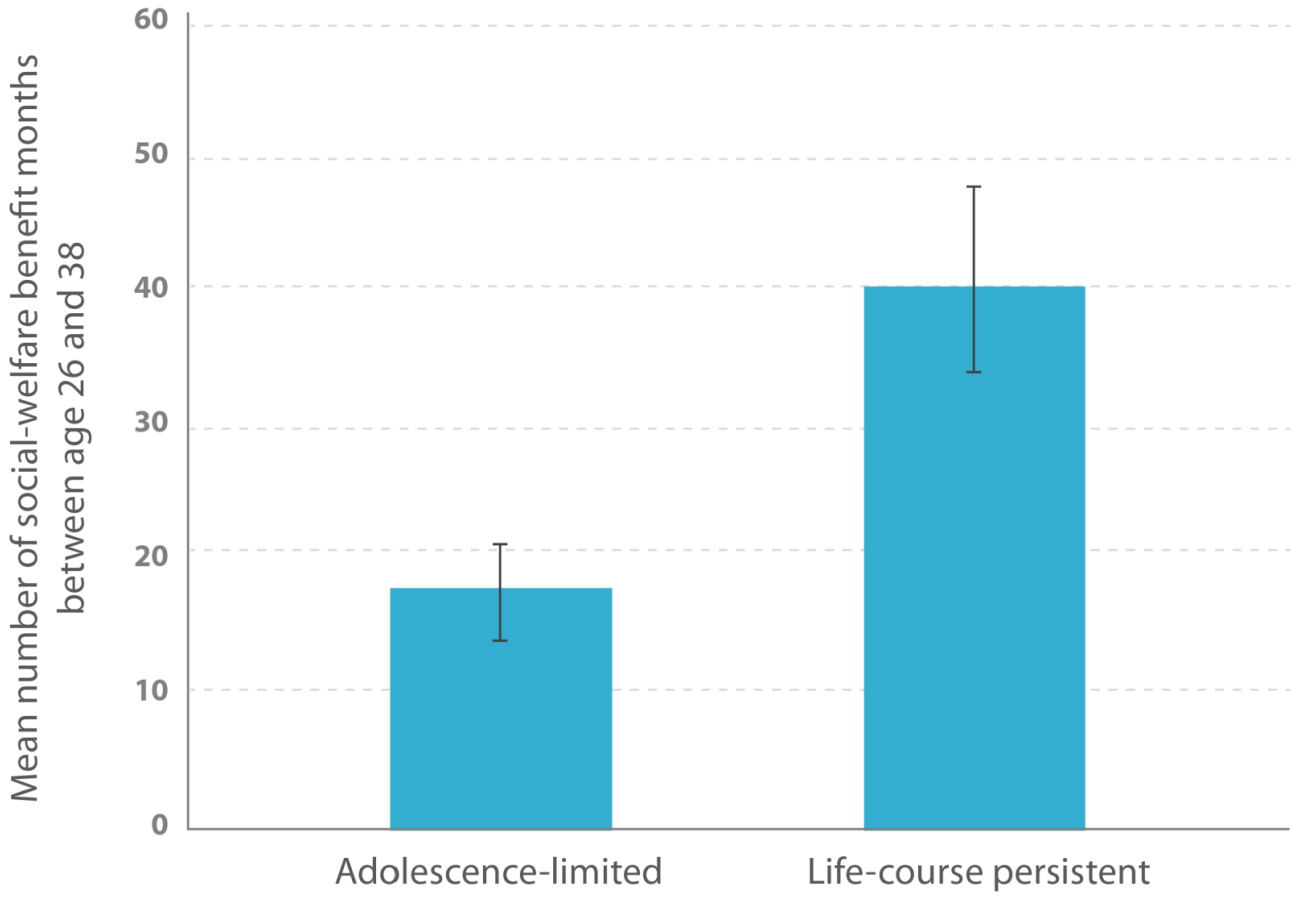
Note: The developmental taxonomy proposed that the age-crime curve conceals two groups, and proffered two distinct theories.
Source: Moffitt (2017).

Figure 2: The Dunedin Study



Note: Approaching midlife, most LCP men had not desisted from crime; 55% were convicted between ages 26-38 years, versus 30% of AL men. By comparison, 18% of all men in the cohort were convicted between age 26-38.
Source: Moffitt (2017).

Figure 2: The Dunedin Study



Note: Searches of national administrative databases revealed that LCP men had received social-welfare benefits for on average 3.3 years per group member between ages 26-38 years, significantly more than AL men. Cohort men averaged 12 months of benefits. Of note, LCP men had high levels of conviction and benefit receipt despite the fact that many had been in prison, where they were ineligible for further conviction or social-welfare benefits. One in four LCP men had been incarcerated (18 months per group member on average), in comparison to only one in twenty of AL men (2 months on average).
Source: Moffitt (2017).

- Policies that are effective for disadvantaged adolescents provide mentoring and integrate schooling and work.
- At the core of effective mentoring is what is at the core of effective parenting: attachment, interaction, and trust.
- Effective policies focus on developing social and emotional skills, teaching conscientiousness.

Mentoring:

Age-Adjusted Parenting

Nurture the slowly-developing prefrontal cortex, which regulates decision making and judgement.

Skills Beget Skills
Understanding the Dynamics of Skill Formation
The Importance of the Early Years

Social-emotional Skills	→	**Cognitive Skills, Health**
(sit still; pay attention; engage in learning; open to experience)		
Health	→	**Cognitive Skills, Social-Emotional Skills**
(fewer lost school days; ability to concentrate)		
Cognitive Skills	→	**Produce better health practices; produce more motivation; greater perception of rewards, social-emotional skills**
(child better understands and controls its environment)		

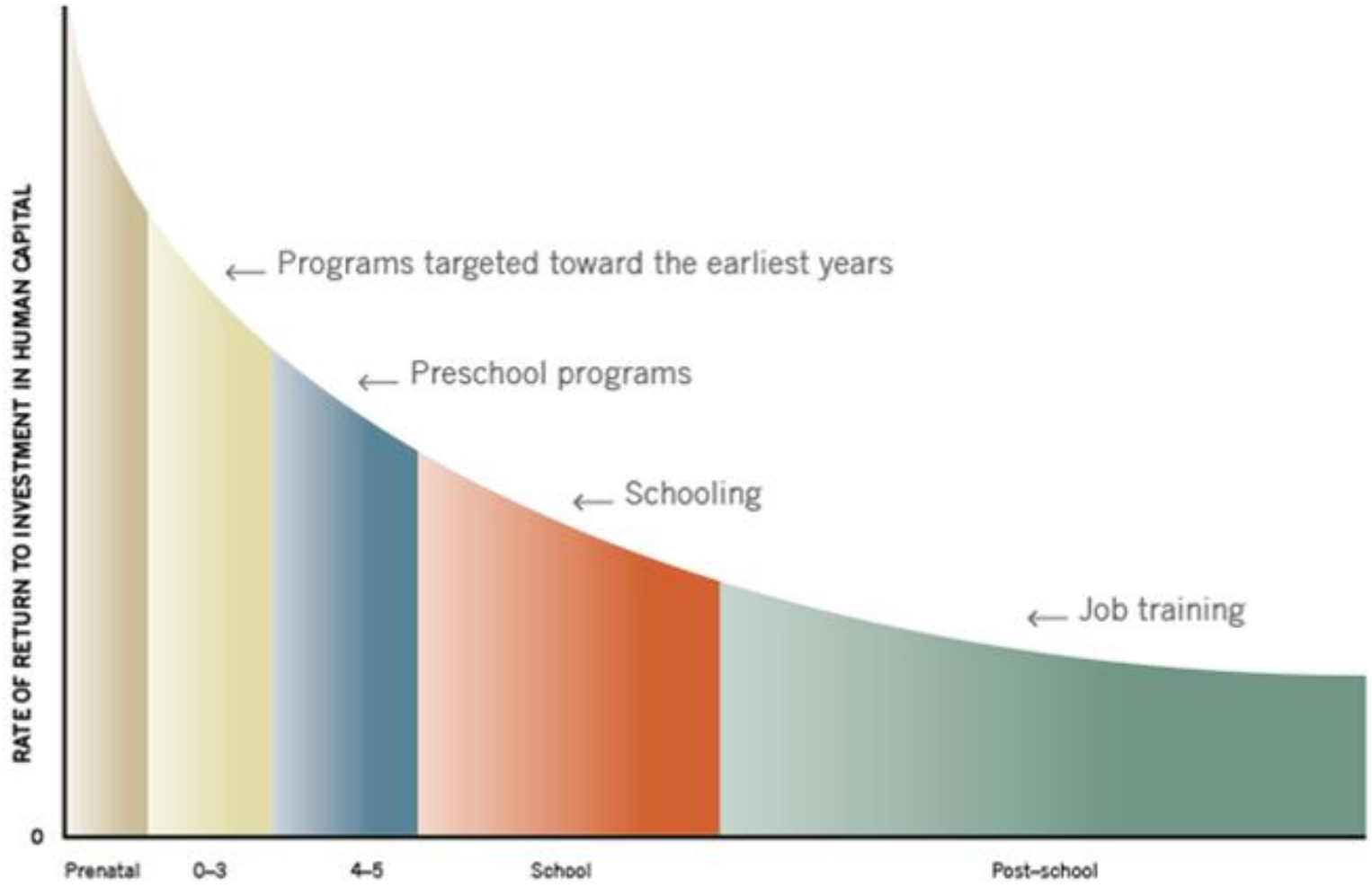
Outcomes: increased productivity, higher income, better health, more family investment, enhanced social mobility, reduced social costs.

Dynamic Complementarity:

- Investing early creates greater receptivity to investment in the future

- Accounts for higher future returns for children who are invested in early

Returns to a Dollar Invested



Source: Heckman (2008)

- This diagram and its policy message have to be carefully digested.

- It presents the rate of return (measured the perspective of the date of birth) to a first unit of investment in children at different stages of the life cycle.

- Returns to college education are very high for the most able and motivated students (22% for college education for the most capable).

- Substantial returns on high quality programs for *disadvantaged* children.
- Advantaged children have other resources often much better than those from public programs.

How Effective are Redistributional Policies?

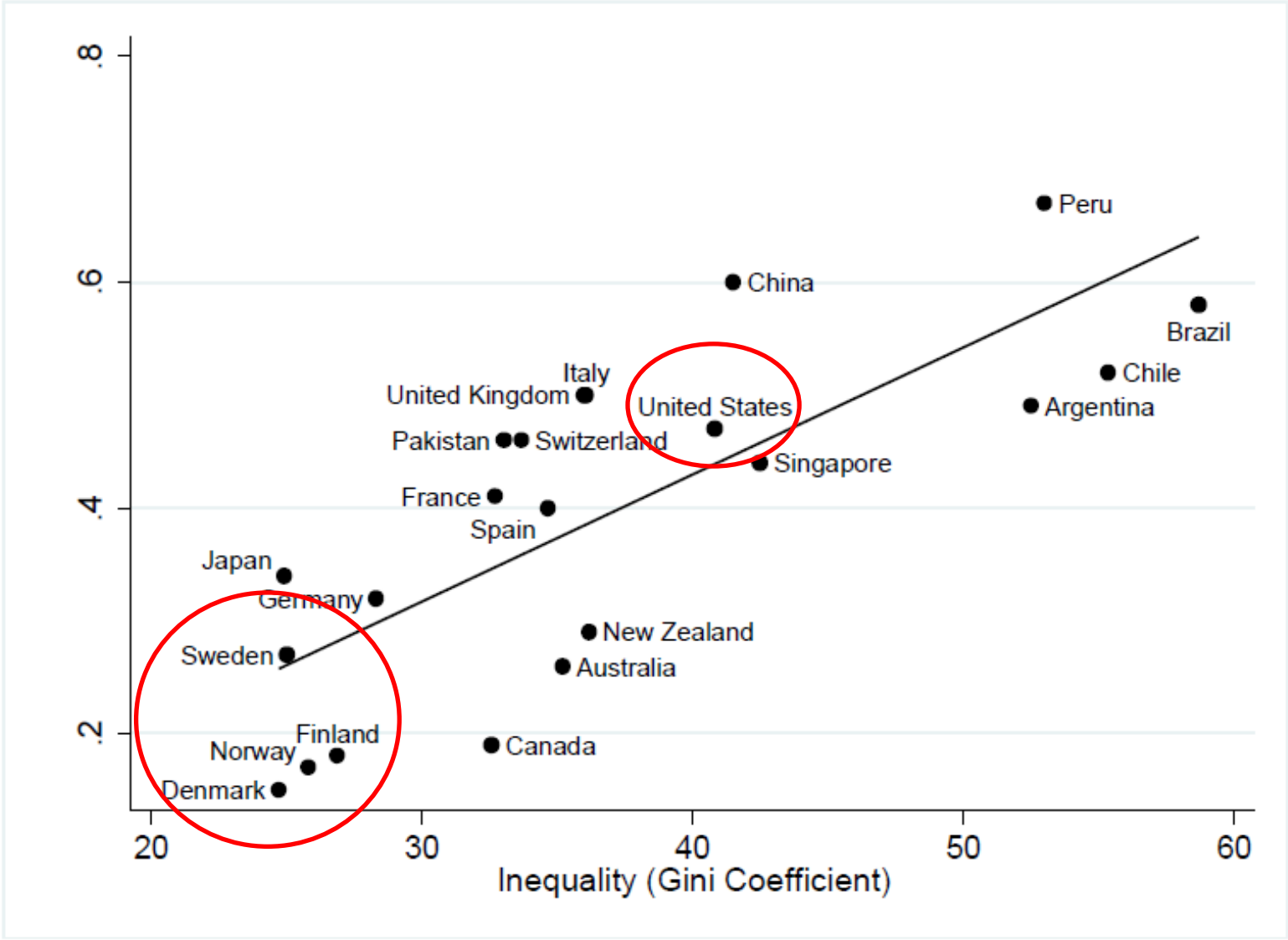
The Scandinavian Welfare State is Much Praised

Consider Denmark

- Income mobility after tax and transfer higher across generations.
- But educational mobility the same.

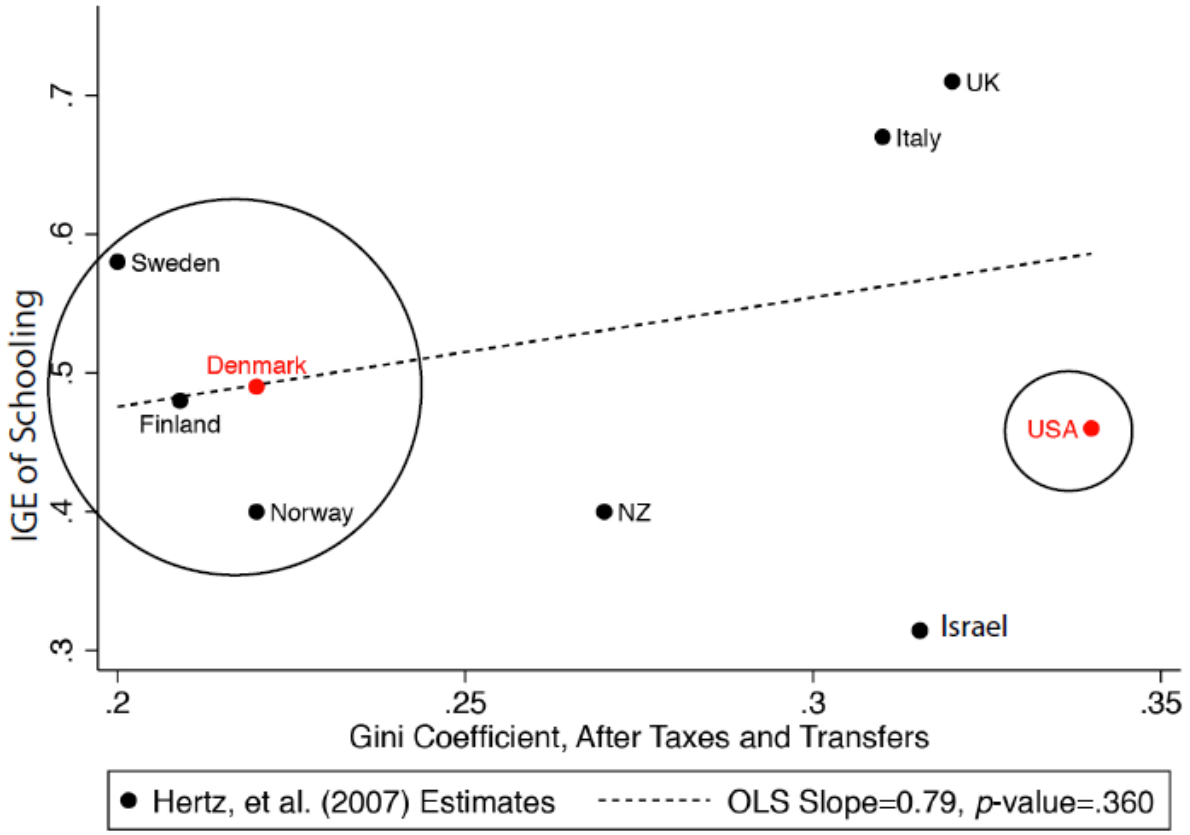
Intergenerational Mobility and Inequality

(Child Income) = $\alpha + \beta$ (Family Income) + Other Factors



In Terms of IGE in Education, Denmark Not Better Than U.S. Despite its Generous Welfare State

Figure 7: Intergenerational Educational Mobility and Inequality



Source: Setzler (2015).

Denmark:

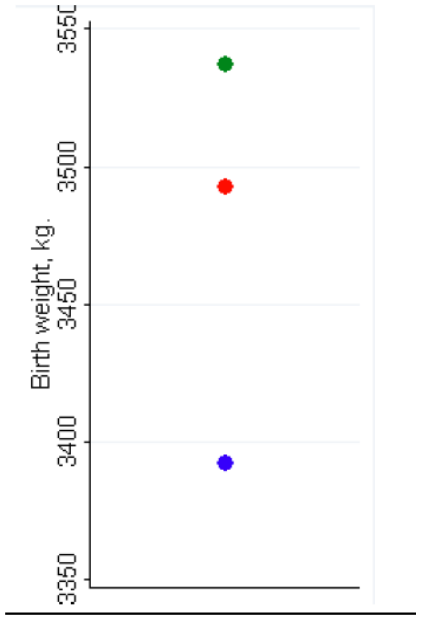
(a) Universal pre-K of high standards.
(b) No apparent disparity in quality of schooling across regions or neighborhoods within regions.
(c) Free tuition.
(d) Universal access to high-quality healthcare.

Comparing the U.S. with Denmark takes off the table many of the policy proposals for reducing inequality and promoting social mobility.

Substantial inequality in Danish society.

Lifetime Inequality by Maternal Education

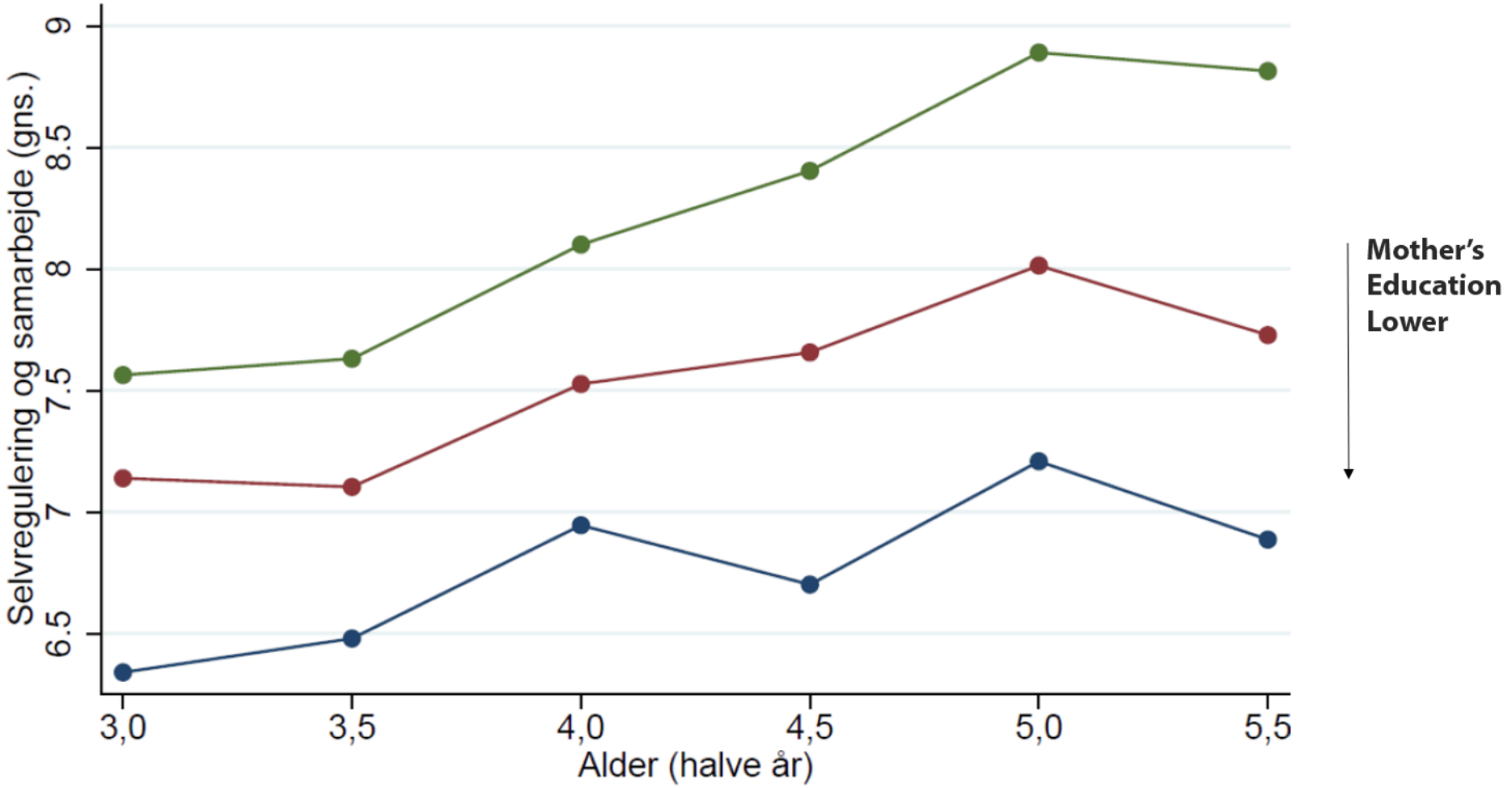
0 ys
Birth weight



Grams

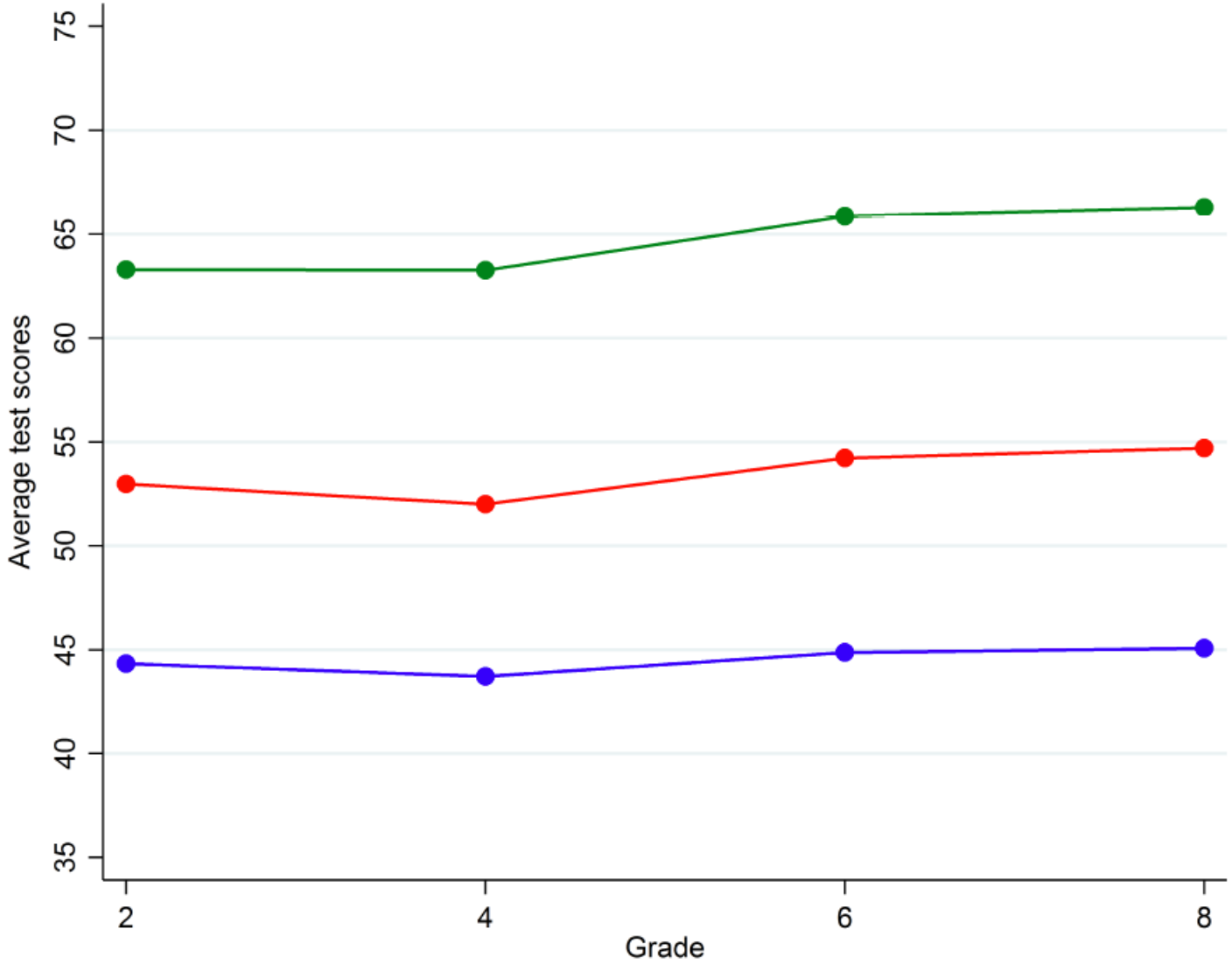
Source: R. Landersø (2018).

Self-regulation Score Age 3-5, by Mother's Education



Source: Bleses et al. (2018).

Test Scores Grade 2-8, by Mother's Education



Source: Bleses et al. (2018).

3-5 yo.
Assessed skills

8-14 yo.
Test scores, reading

25 yo.
No crime conviction

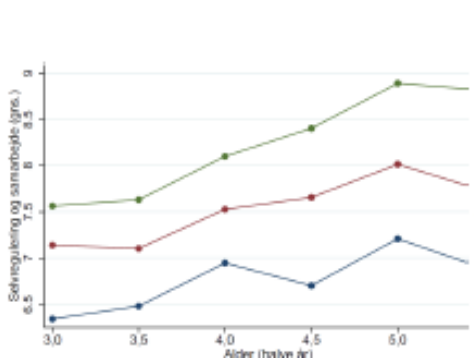
30 yo.
Years of education

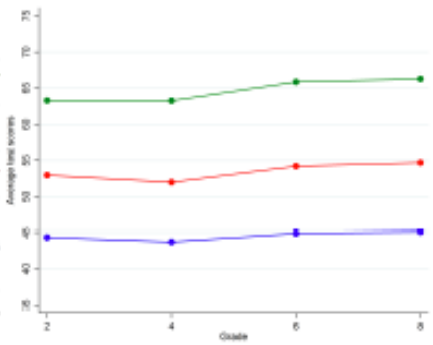
40 yo.
Income

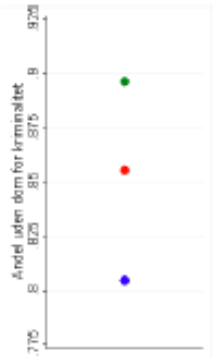
40-50 yo.
Not contacted hospital

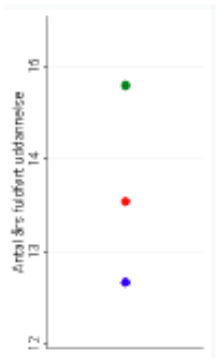
54 yo.
In the labor force

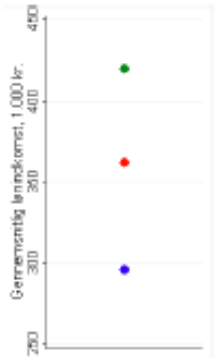
60 yo.
Alive

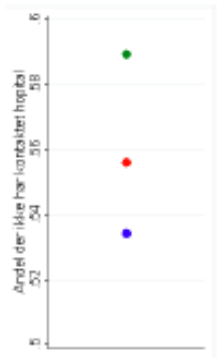


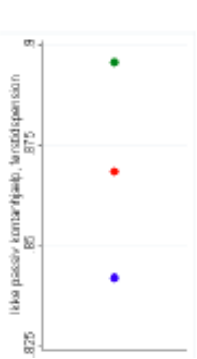


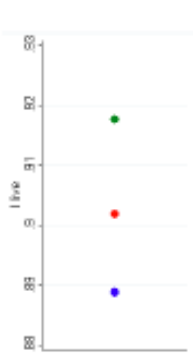












Denmark is a Laboratory for Understanding Inequality

- How can this be?
- Despite equality in expenditure, Danish educational outcomes are remarkably unequal.
- Advantages from universal access to services are reaped by affluent rather than by disadvantaged.
- **Due to sorting of families by income and advantage with resulting *Matthew effects* through family investment and peer effects**

Denmark is a Laboratory for Understanding Inequality

- Many of the “traditional” explanations of inequality and social mobility do not hold in Denmark.
- We need a fresh look at the origins of inequality.
- Eliminating inequality and promoting social mobility is a central focus of the Danish welfare state.
- Post-tax and transfers, income inequality is low and income mobility is high.
- What is the mechanism?

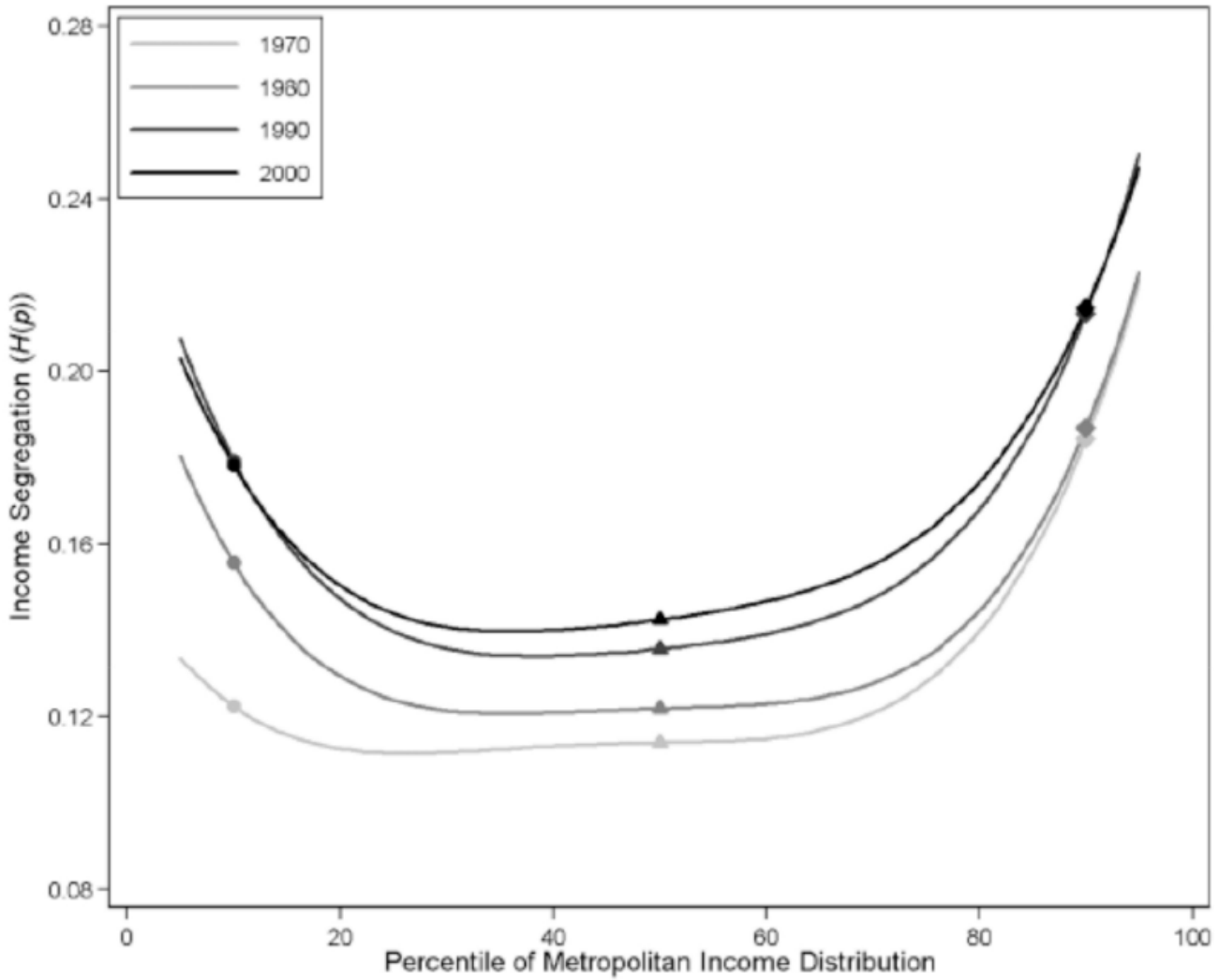
Denmark is a Laboratory for Understanding Inequality

- Equality in wages and the lower IGE in terms of wages is a consequence of tax and transfer policy, not skill formation policy.
- Equalizes income and at the same time reduces the incentives of children to acquire skills.
- The Scandinavian welfare state model of redistribution should be examined very carefully before it is uncritically adopted.
- A fundamental determinant of inequality is sorting.
- Not at all clear that such processes should be prevented.

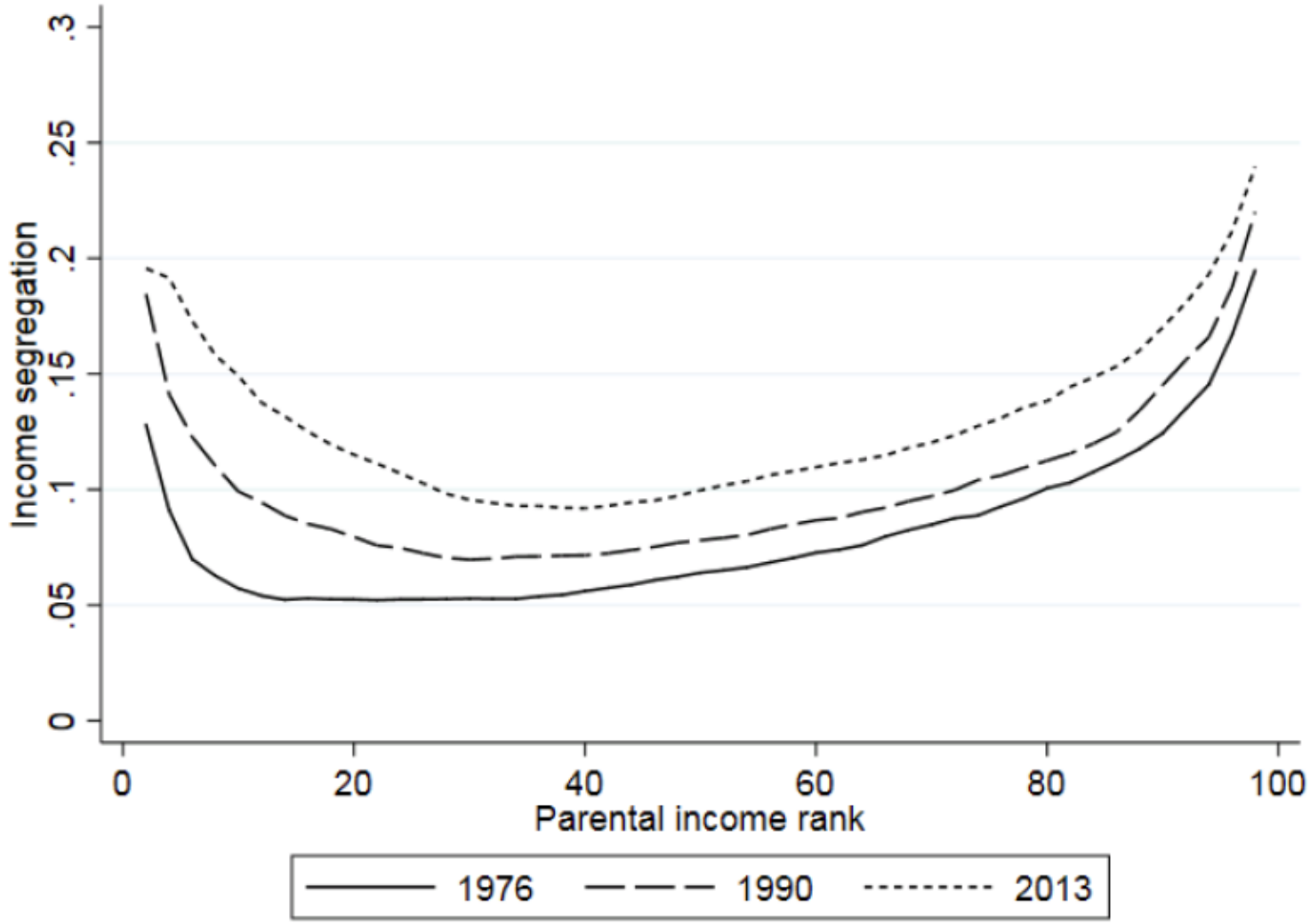
Sorting and Neighborhood Effects

In the U.S., Sorting is High at Both Ends of the Income Distribution

Income Segregation Patterns in the U.S.



Income segregation by gross income excl. transfers across primary school Catchment Areas by year, Denmark



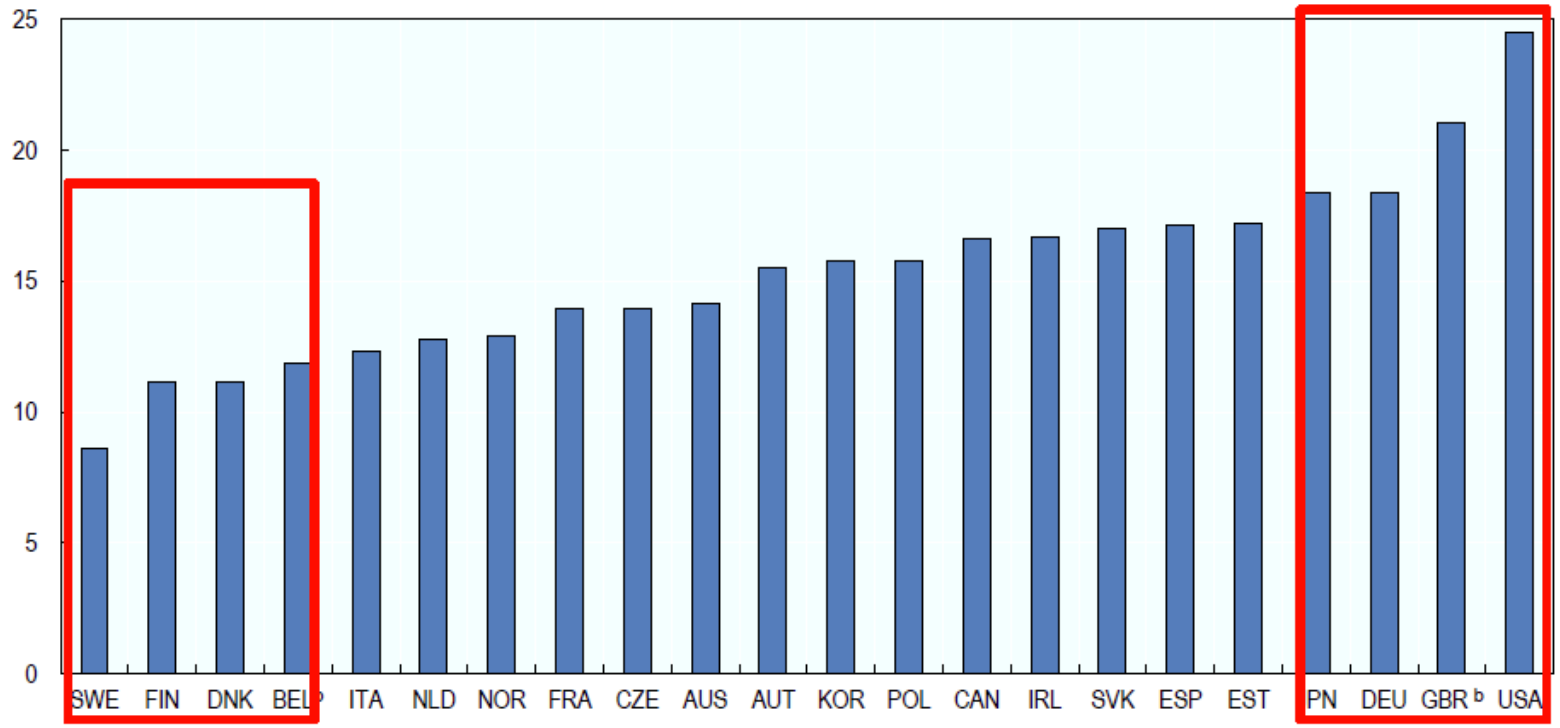
- “Power of place" is really “power of family sorting."

- Sorting by teachers into more advantaged districts

- Since wages are equal, payment is in quality of students taught.
- Equality in wages and IGE in wages is a consequence of tax and transfer policy.
- This equalizes income and at the same time reduces the incentives of children to acquire skills.
- Understanding the *entire* social and economic system in Denmark is the first step for addressing the origins of inequality and social immobility.

Returns to skills : low in Denmark

Percent increase in hourly wages for a standard deviation increase in numeracy



Coefficients on numeracy scores from country-specific OLS regressions of log hourly wages on proficiency scores standardised at the country level

Gaps by Race and Ethnicity

Can They Be Reduced or Eliminated?

A Long-Standing American Problem

- *“You do not wipe away the scars of centuries by saying: ‘now, you are free to go where you want, do as you desire, and choose the leaders you please.’ You do not take a man who for years has been hobbled by chains, liberate him, bring him to the starting line of a race, saying, ‘you are free to compete with all the others,’ and still justly believe you have been completely fair... This is the next and more profound stage of the battle for civil rights. We seek not just freedom but opportunity — **not just legal equity but human ability — not just equality as a right and a theory, but equality as a fact and as a result**.”*

— Lyndon Johnson, 1965, Howard University

Many Gaps in American Society

- Not Just Gaps Between Blacks and Whites.
- Gaps Between Hispanics and Whites
- Between Disadvantaged and Advantaged Whites
- Gaps by Gender

Gaps Measured in Many Ways

- Achievement test scores
- Gaps in earnings, employment, and income
- Gaps in incarceration and treatment by the criminal justice system

Overt Discrimination in the Labor Market and in College Admissions Is No Longer a First-Order Problem in American Society

Shortfalls in Hourly Wages for Blacks and Hispanics in the Last Twenty Years: Actual Disparity and Disparity Adjusted for Ability

	Male		Female	
	Actual	Adjusted	Actual	Adjusted
Black	-29%	-7%	-20%	5%
Hispanic	-14%	2%*	-9%	10%

* Denotes not statistically significant from zero
Source: Heckman 2010
Note: The racial gaps were adjusted for observed AFQT and AFQT squared scores.

*No strong evidence of any difference.

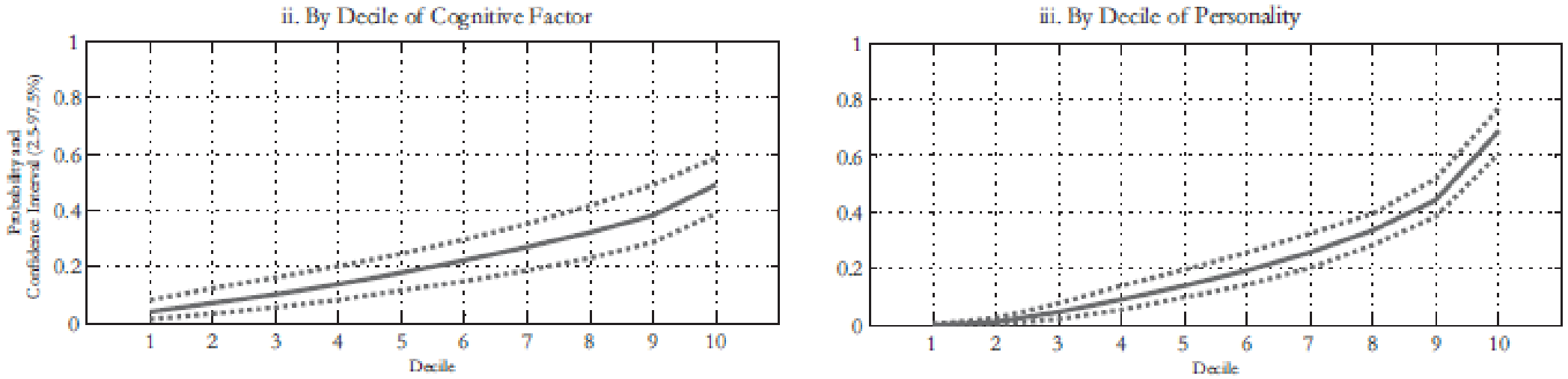
Table 1: Differences in College Entry Proportions Between Minorities and Whites, Mid-1990s

	Black-White	Hispanic-White
Actual	-0.12	-0.14
Adjusted	0.16	0.15

Source: Stephen V. Cameron and James J. Heckman, "The Dynamics of Educational Attainment for Black, Hispanic, and White Males," *Journal of Political Economy* 109 (3) (2001).

Power of Human Abilities

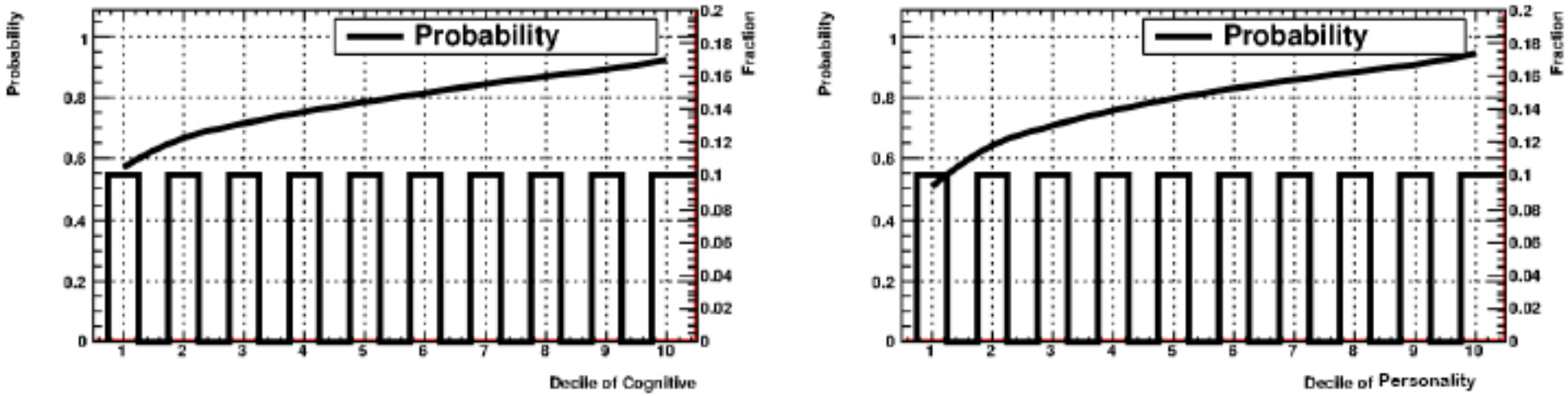
Figure 6: Probability of being a 4-year college graduate by age 30



Notes: The data are simulated from the estimates of the model and our NLSY79 sample. We use the standard convension that higher deciles are associated with higher values of the variable. The confidence intervals are computed using bootstrapping (200 draws).

Power of Human Abilities

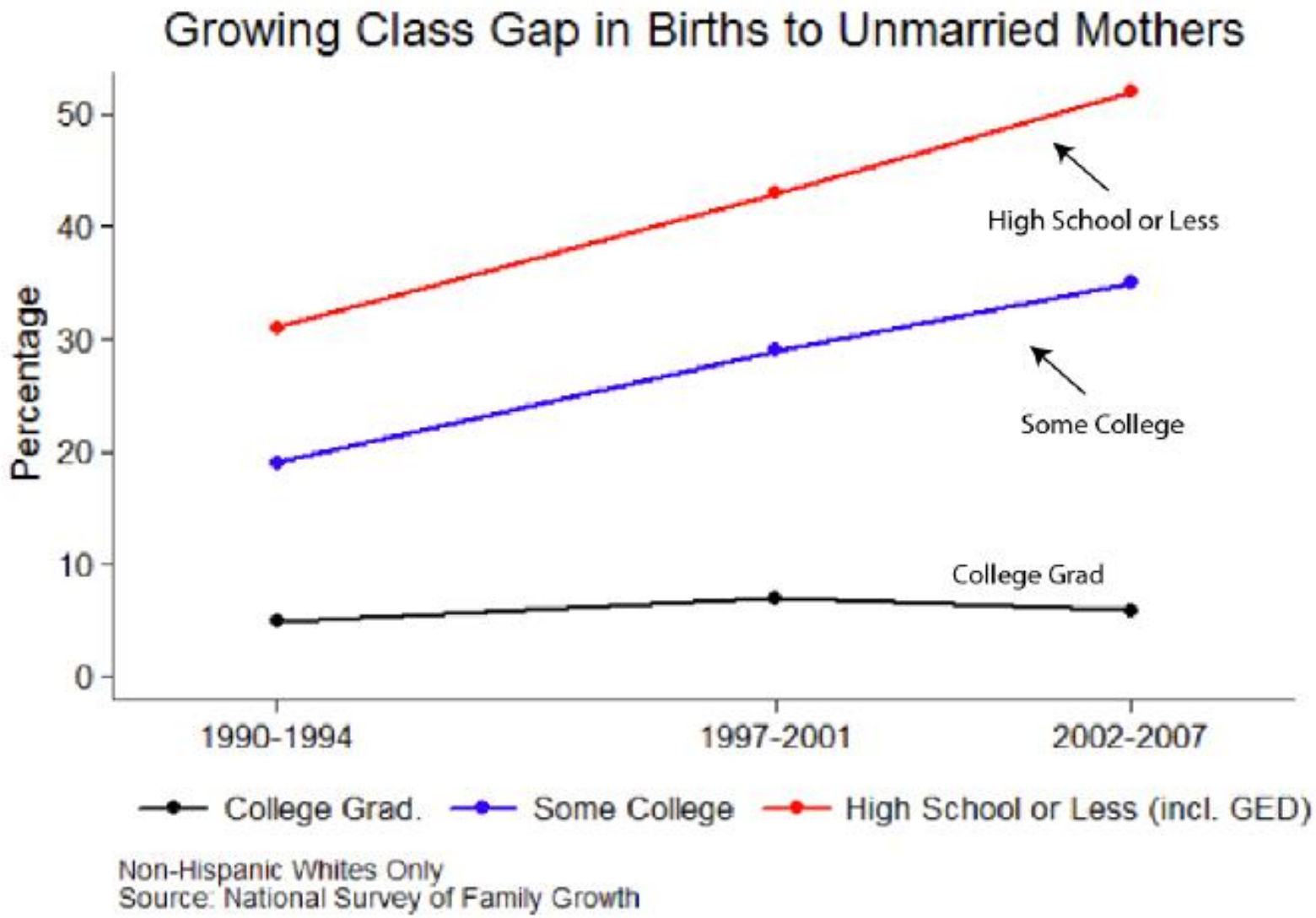
Figure 7: Probability of Graduating from High School – By Cognitive and Noncognitive Skill Decile



Source: Heckman, Humphries, and Veramendi (2018)

Family Environments for Many American Children of All Races Have Worsened

Figure 1: Percentage of Births to Unmarried Mothers by Class



Any effective policy to foster skills must recognize

1. The importance of the family.
2. Families are the main drivers of children's success in school and in life and in the production of child skills.
3. The mechanisms through which families create child skills.
4. The stress under which many modern families operate.

The wisdom of Coleman (1966) and Moynihan (1965)

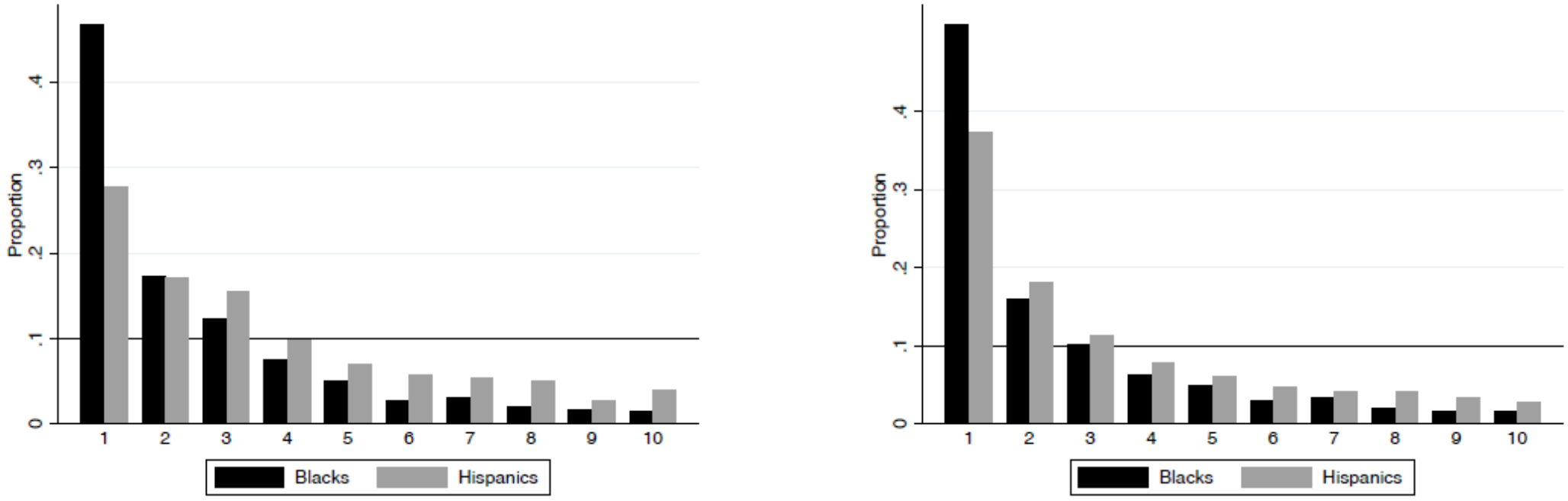
1. Family matters.
2. Gaps in child outcomes in school are more dependent on gaps in families than school resources.
3. Many American families are in trouble.

- Informed policy discussion has moved beyond the rhetoric of “blaming the victim" and understands that the family plays a central role in creating skills and the modern family is under challenge.

- **Family background—not race—growing more important as a determinant to test score gaps**

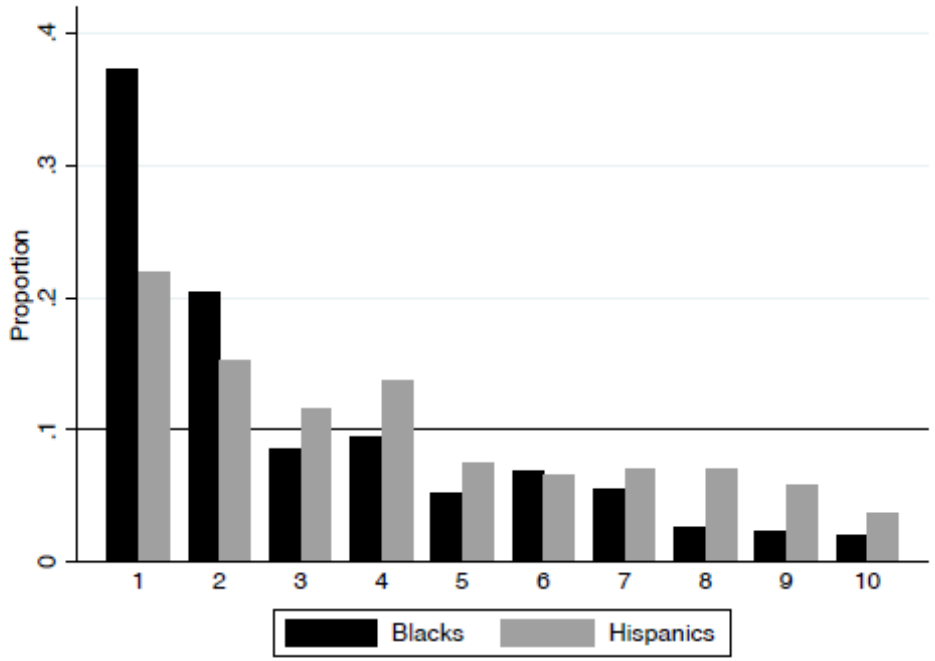
Ability Gaps Are Real

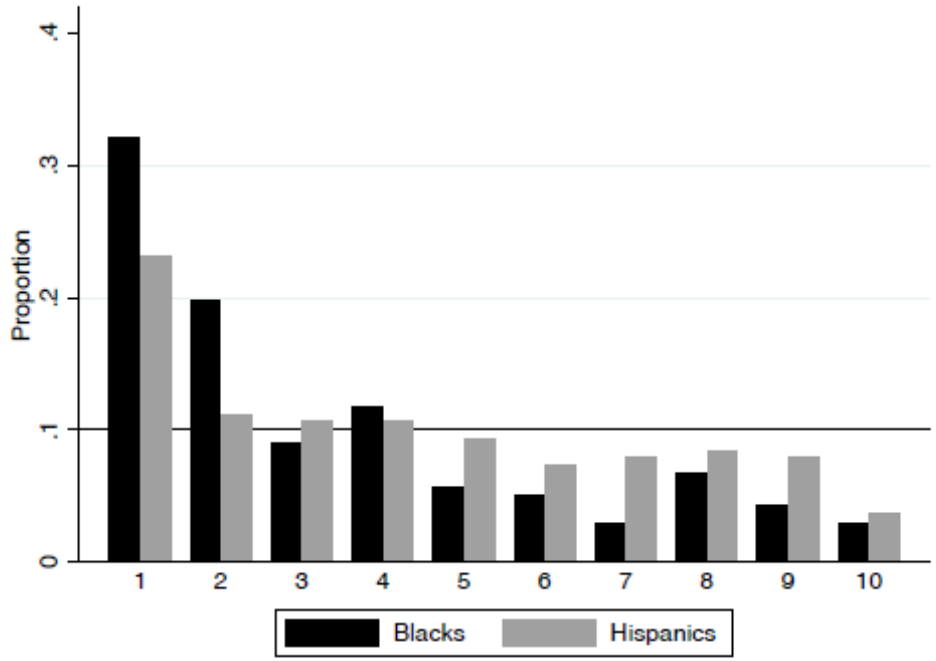
Figure 3: Minority AFQT Scores Placed in the White Distribution – Males (left) and Females (right)



Source: Heckman (2011).

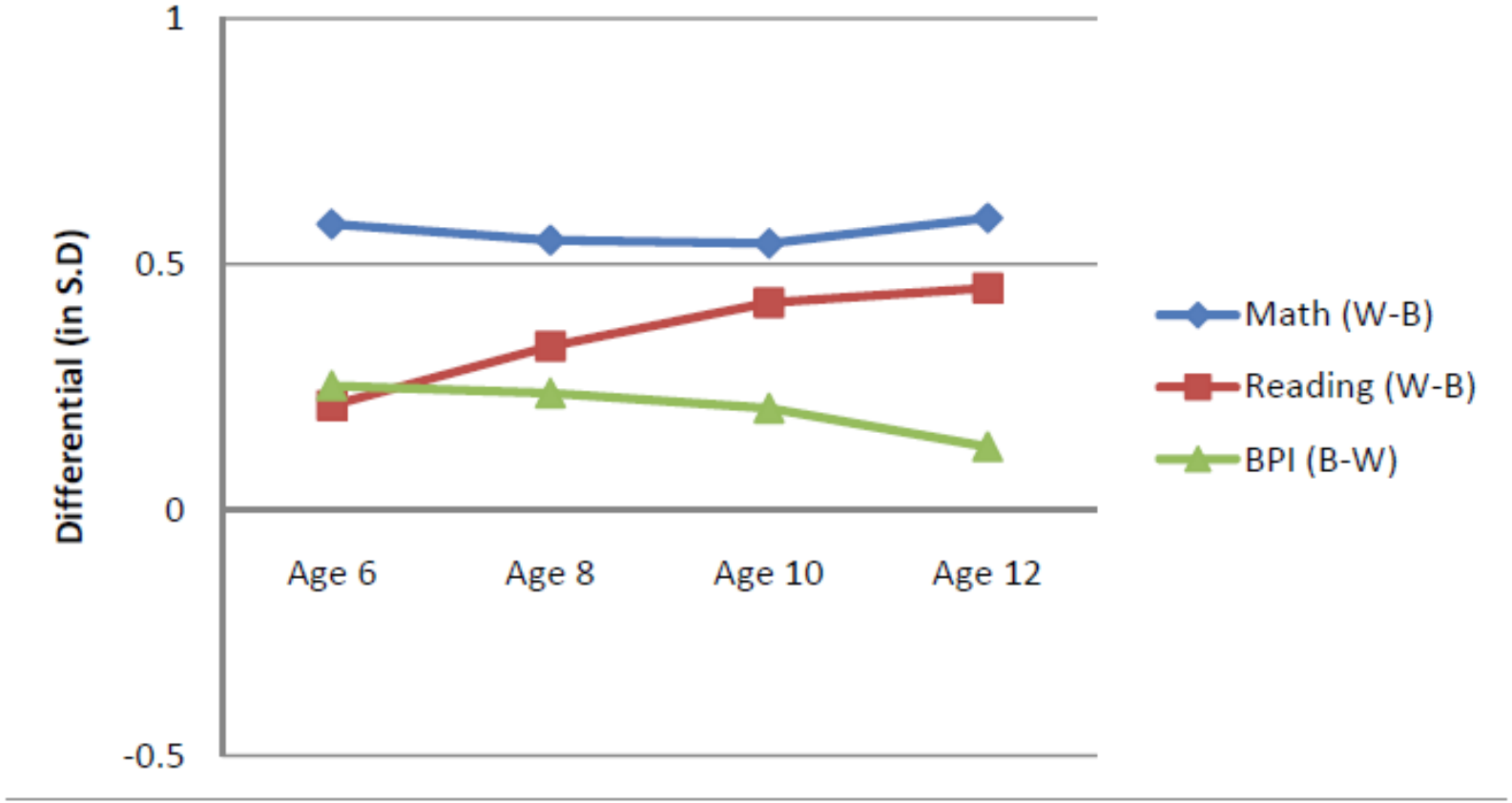
Figure 6: Minority PIAT Scores Placed in the White Distribution – Males (left) and Females (right)





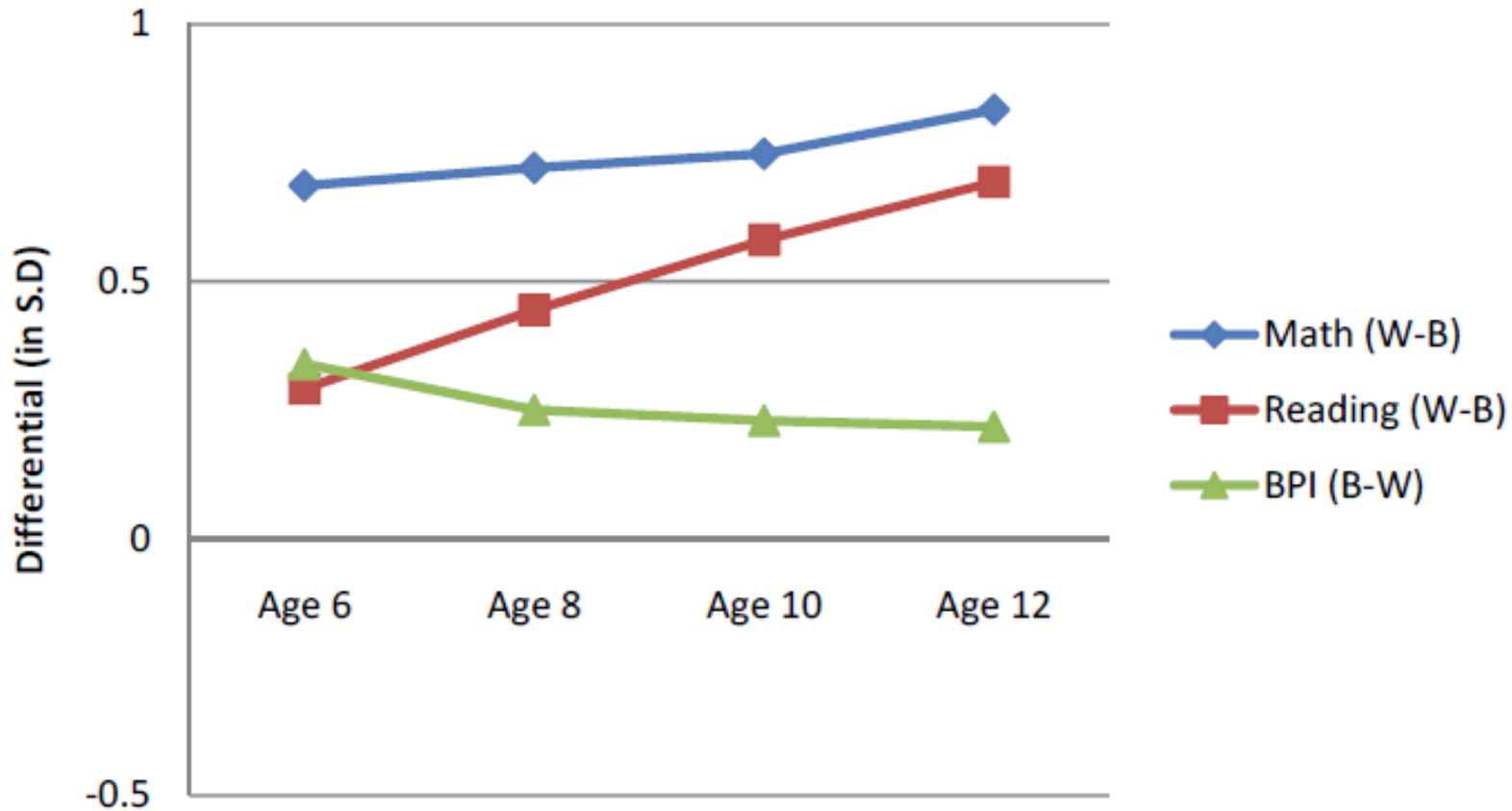
Source: Heckman (2011).

Figure 7: Black-White Gaps in Skill Measures over Ages



(a) Girls: Scores

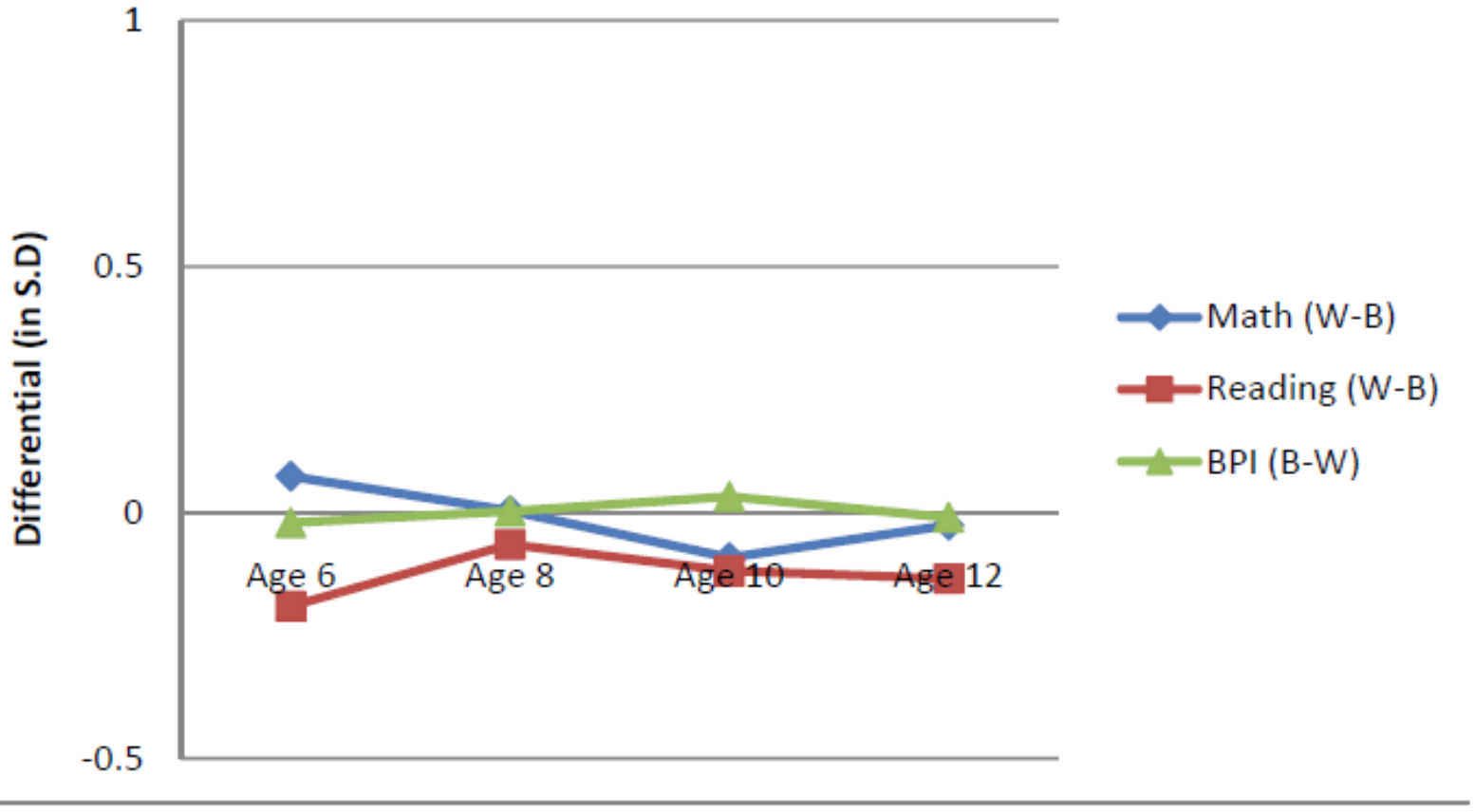
Figure 7: Black-White Gaps in Skill Measures over Ages



(b) Boys: Scores

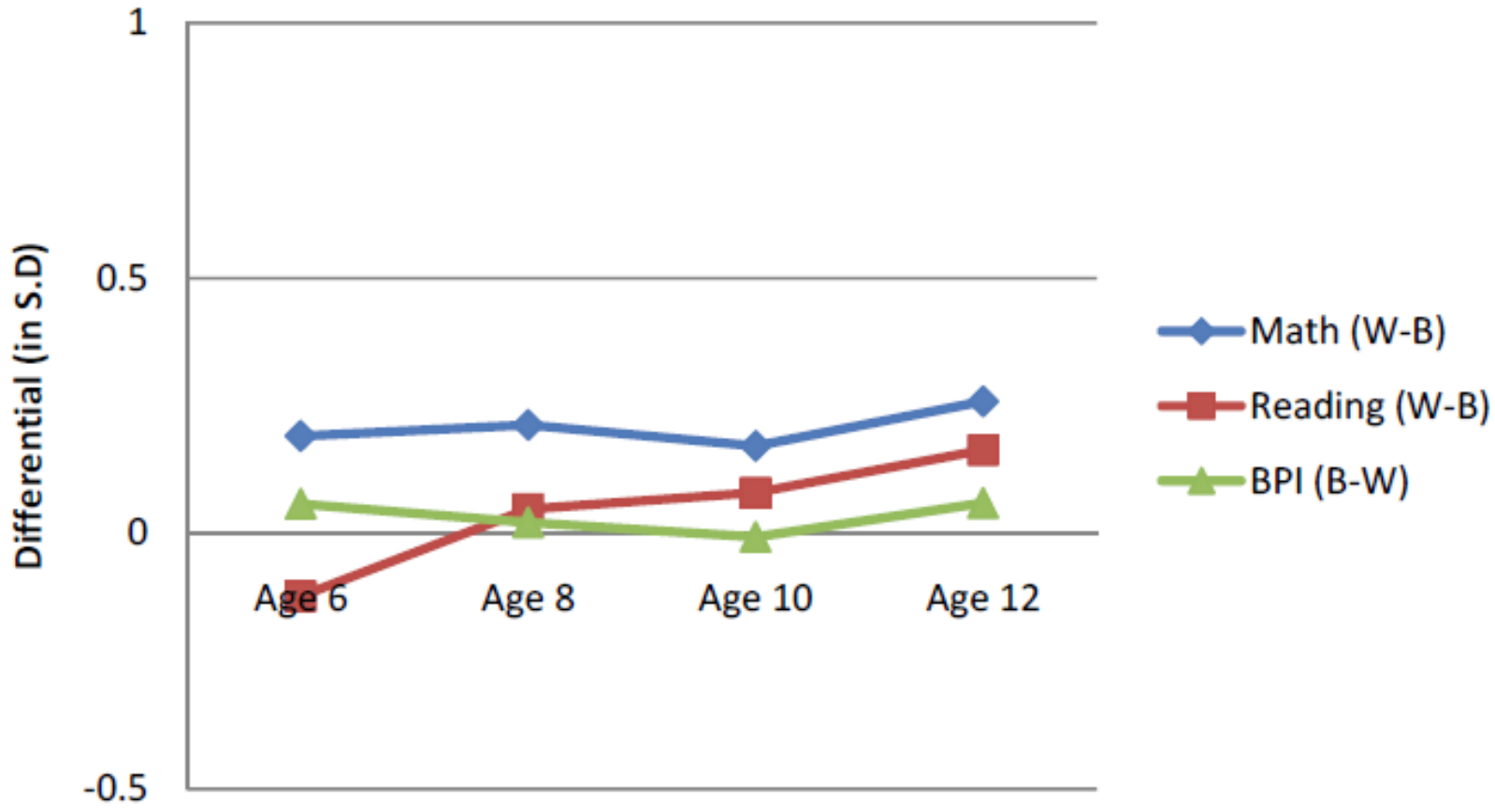
Family Backgrounds Matter

Black-White Gaps in Skill Measures over Ages Adjusted for Family Background



(a) Girls: Residuals (1)

Black-White Gaps in Skill Measures over Ages Adjusted for Family Background



(b) Boys: Residuals (1)

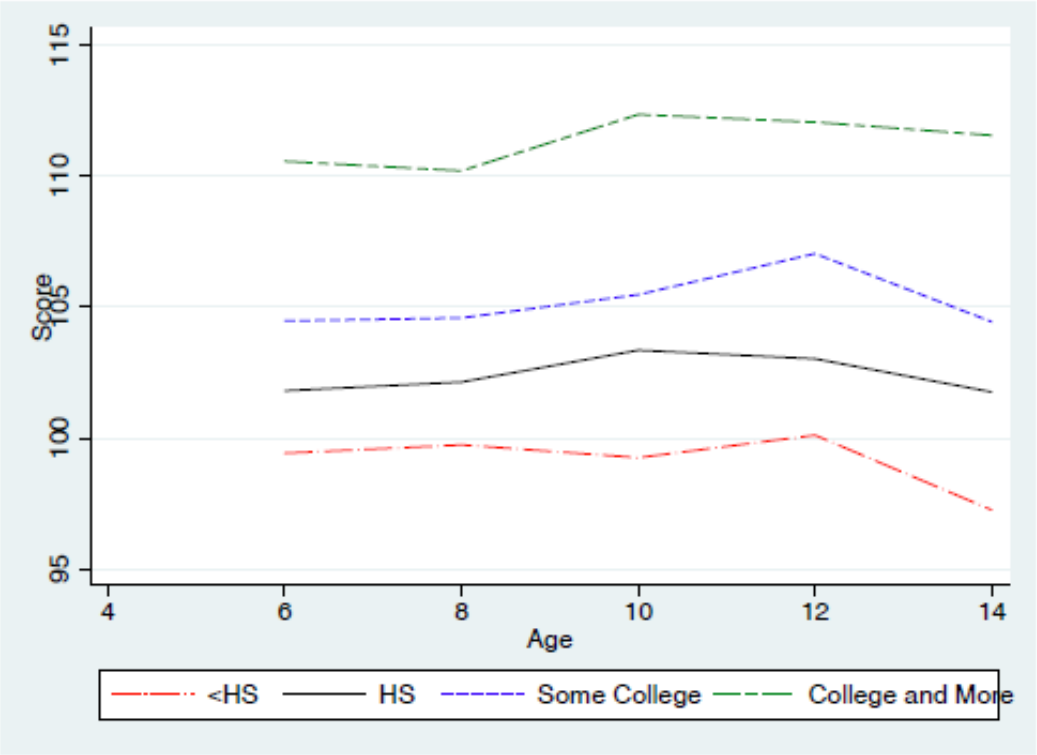
Stereotype Threat a Second Order Issue

Far Too Small in Magnitude to Explain These Gaps

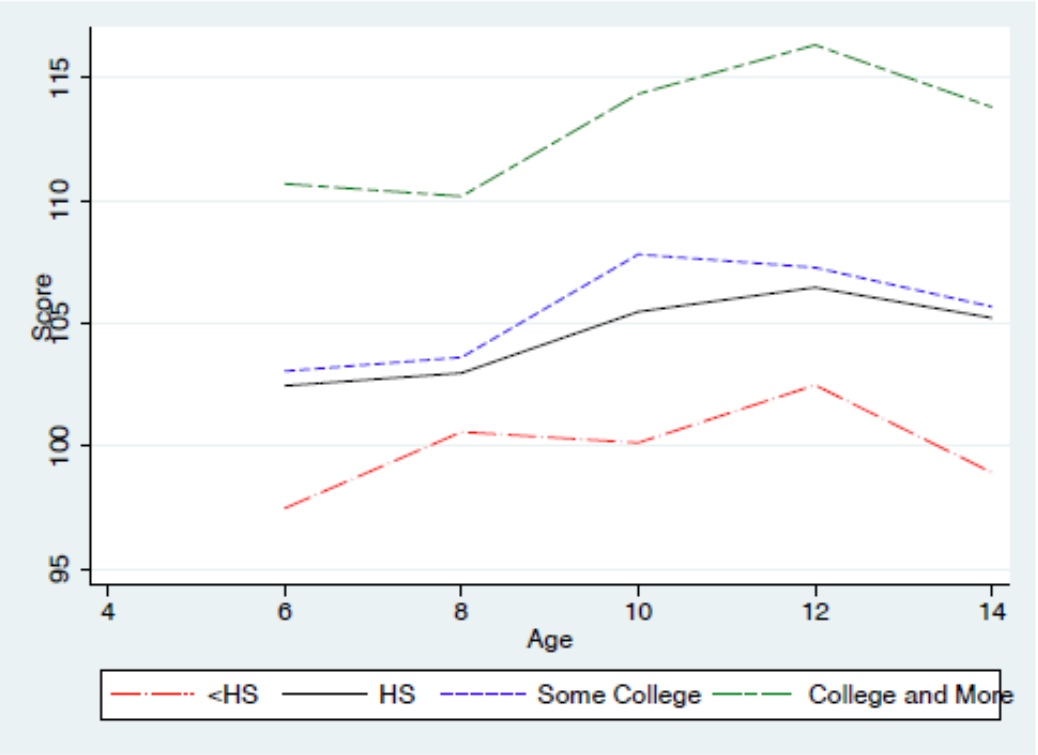
Diverts Attention Away from the Fundamental Problems of Real Skill Gaps

Gaps in Family Environments and Investments

Figure 13: Skill Measures over Childhood by Mother's Education: White

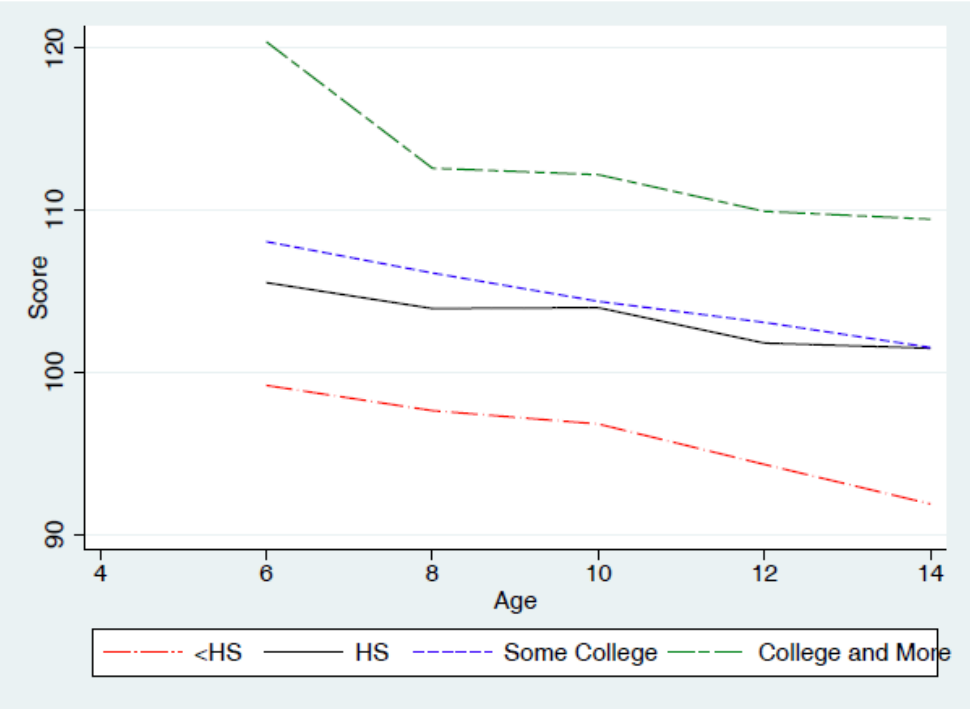


(a) Girls: Math Score (standardized)

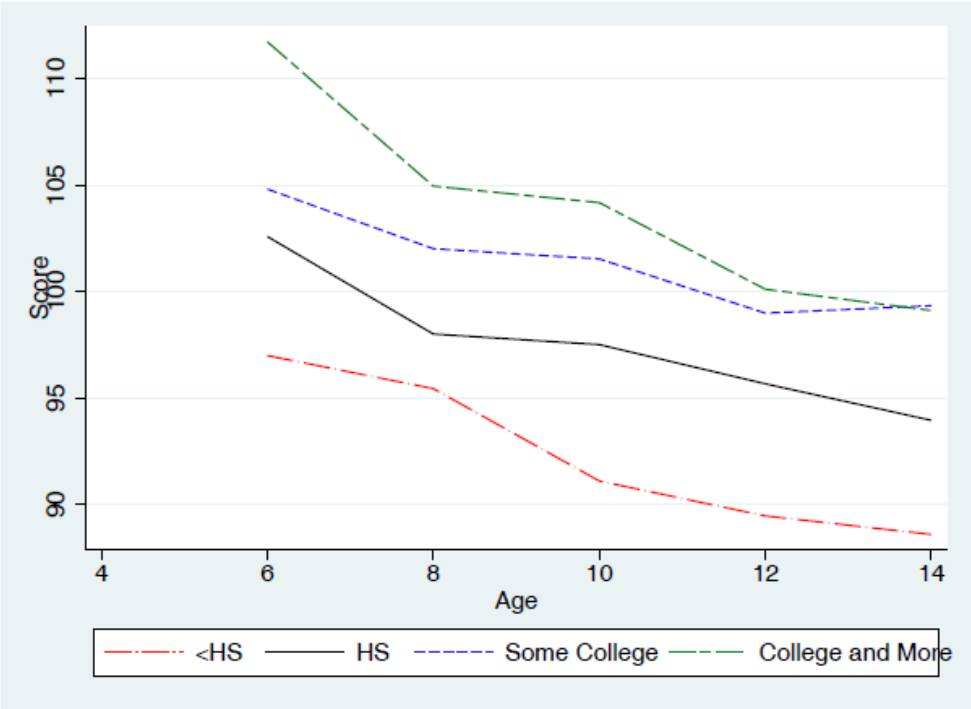


(b) Boys: Math Score (standardized)

Figure 14: Skill Measures over Childhood by Mother's Education : Black

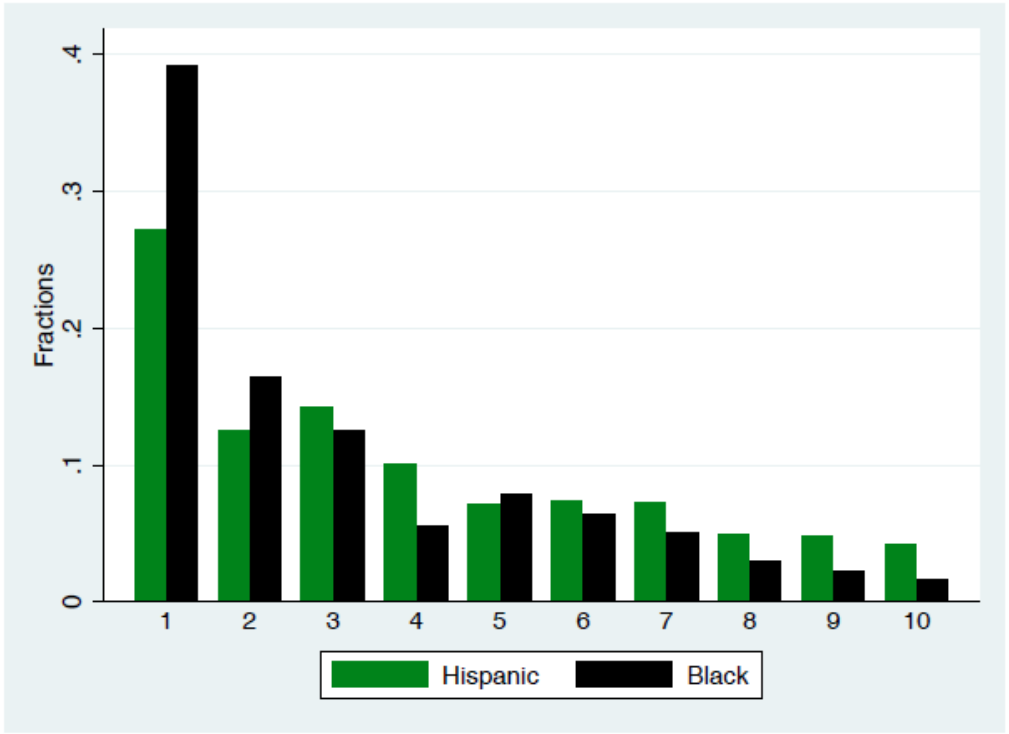


(a) Girls: Reading Score (standardized)

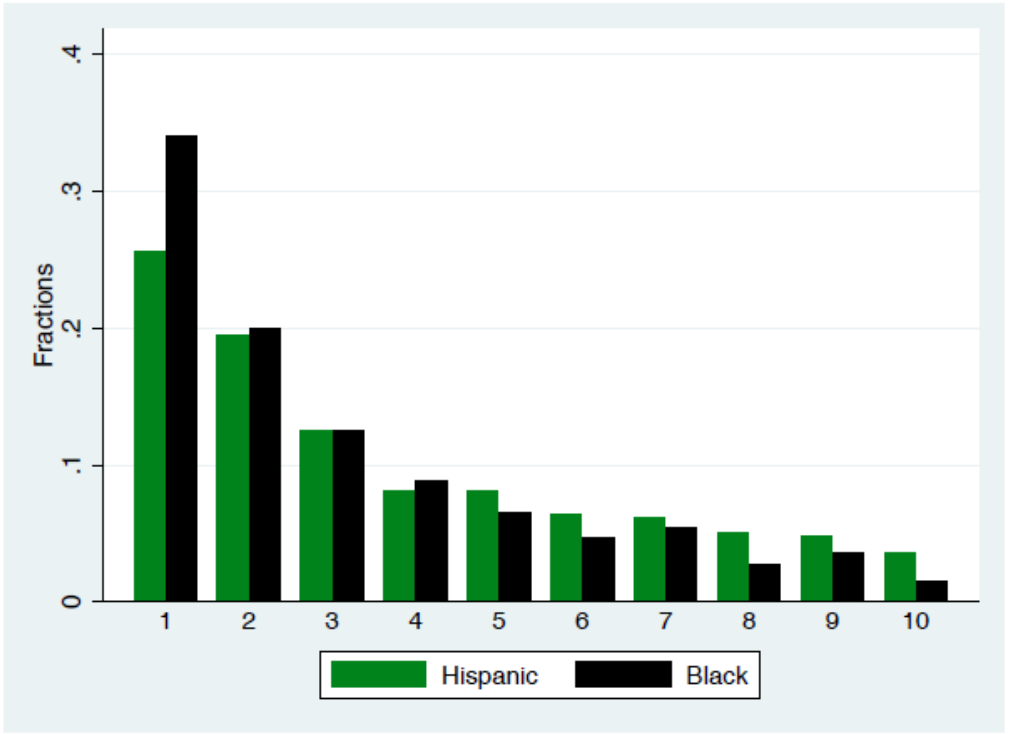


(b) Boys: Reading Score (standardized)

Figure 20: Hispanic and Black Parental Investment in White Distribution: Full Sample, Age 0-3

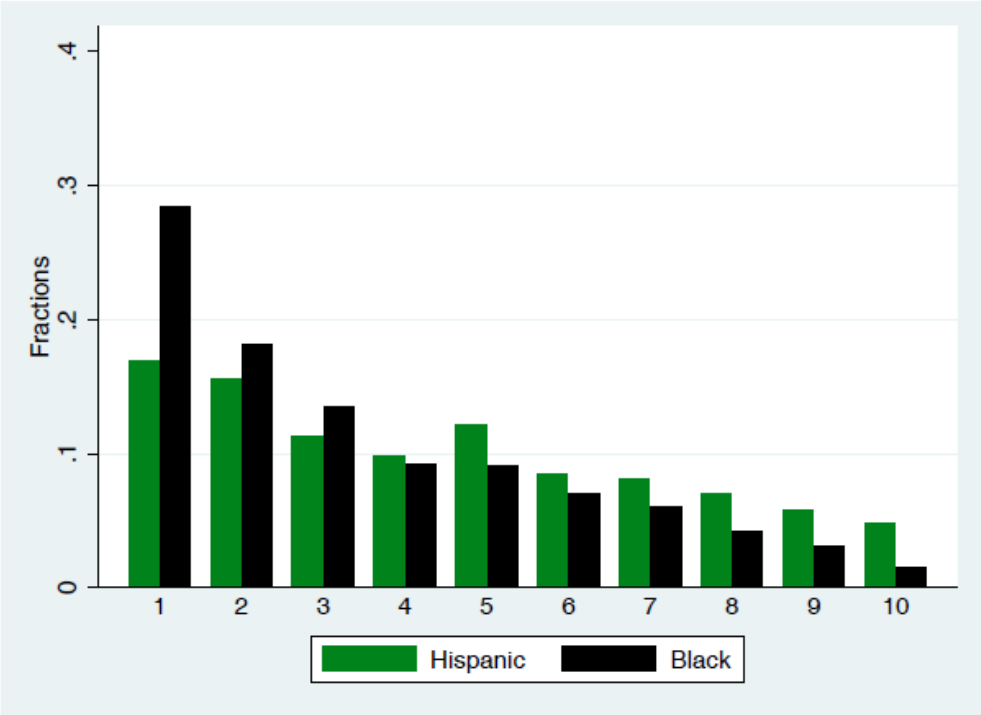


(a) Cognitive Stimulation (Females)

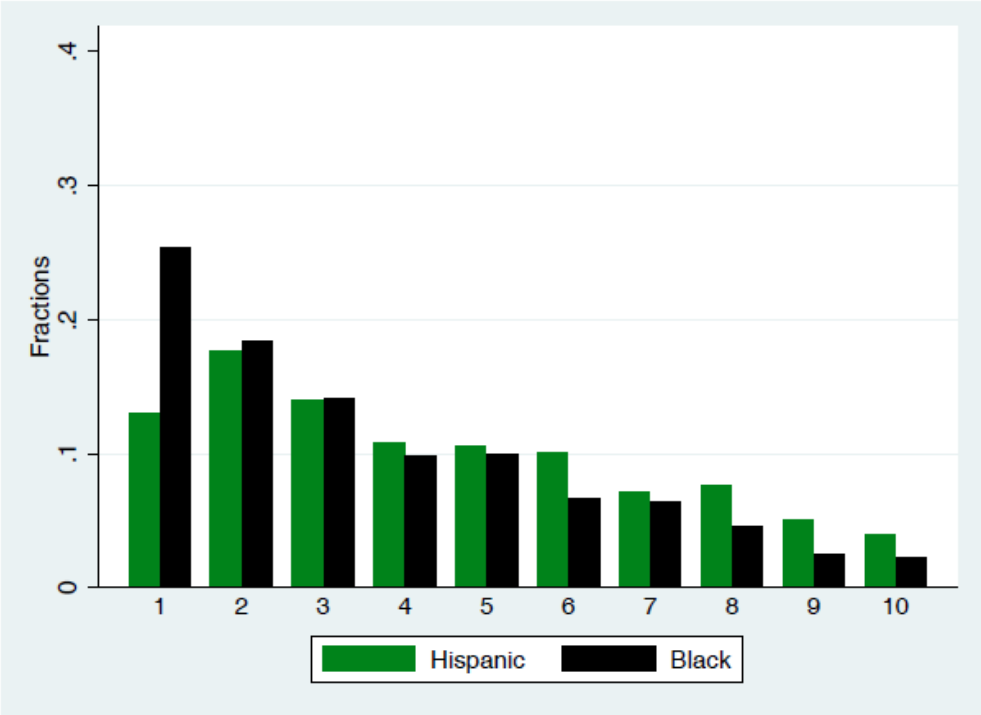


(b) Cognitive Stimulation (Males)

Figure 20: Hispanic and Black Parental Investment in White Distribution: Full Sample, Age 0-3

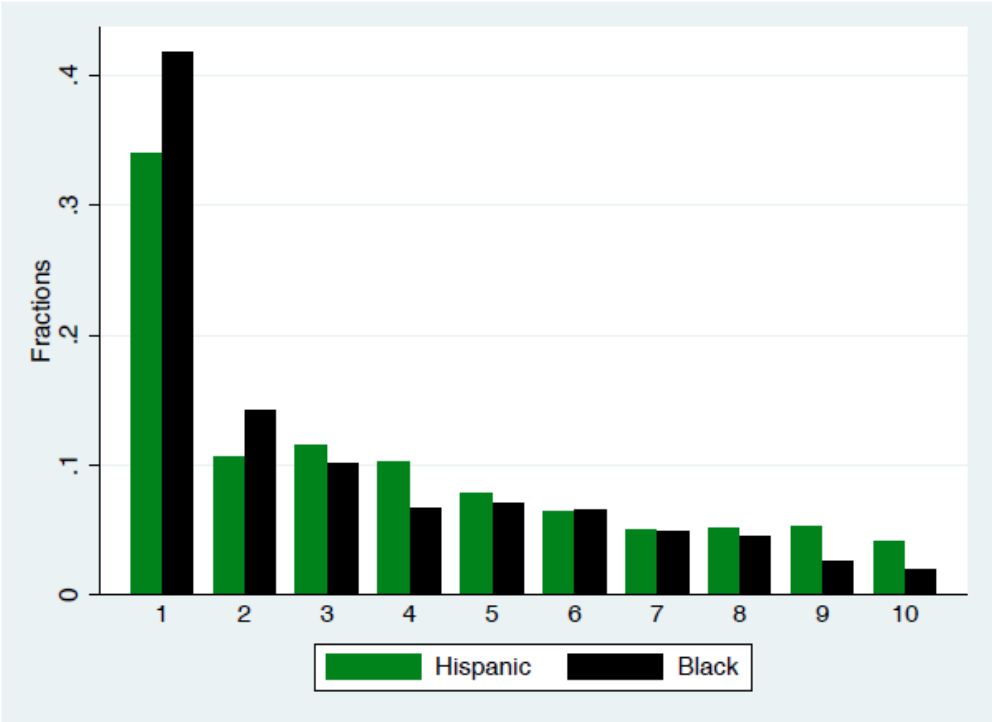


(a) Emotional Support (Females)

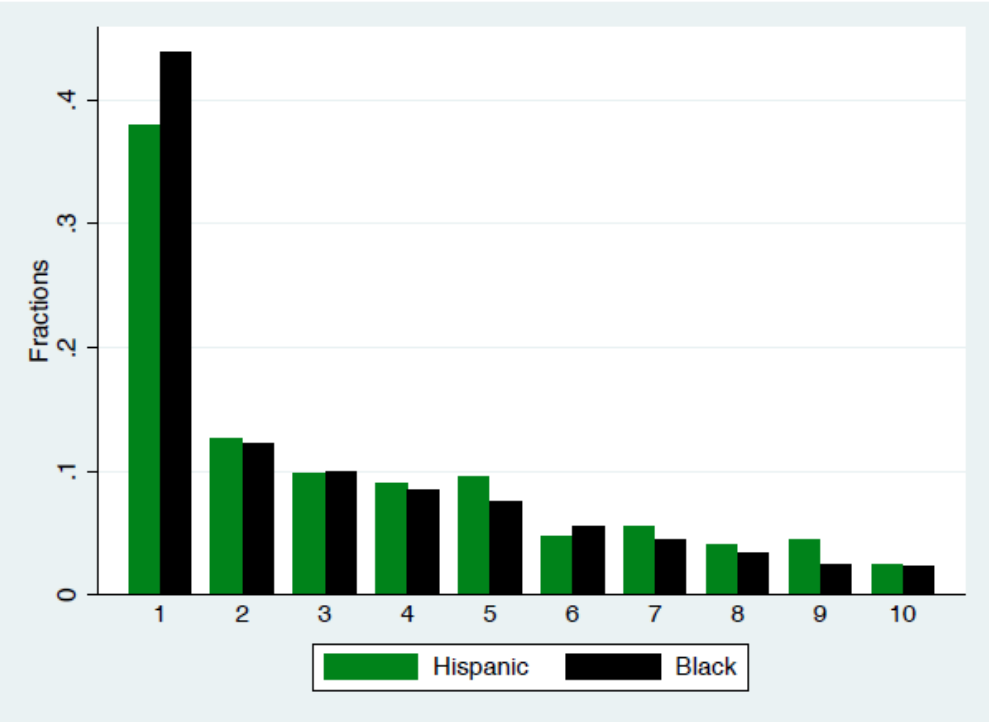


(b) Emotional Support (Males)

Figure 21: Hispanic and Black Parental Investment in White Distribution: Full Sample, Age 4-7

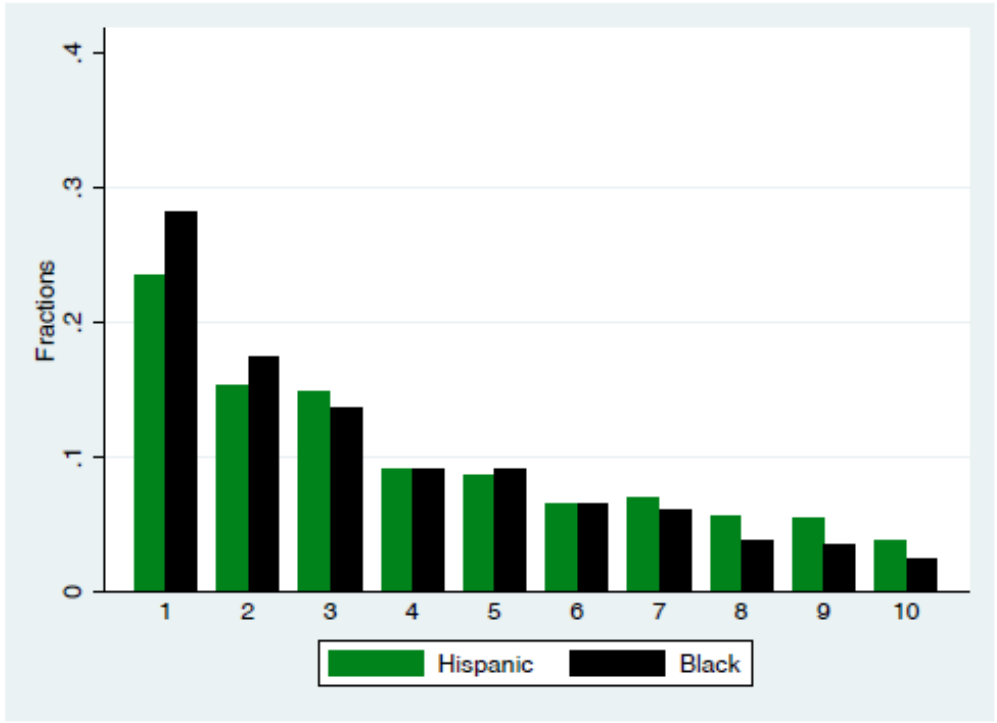


(a) Material Goods (Females)

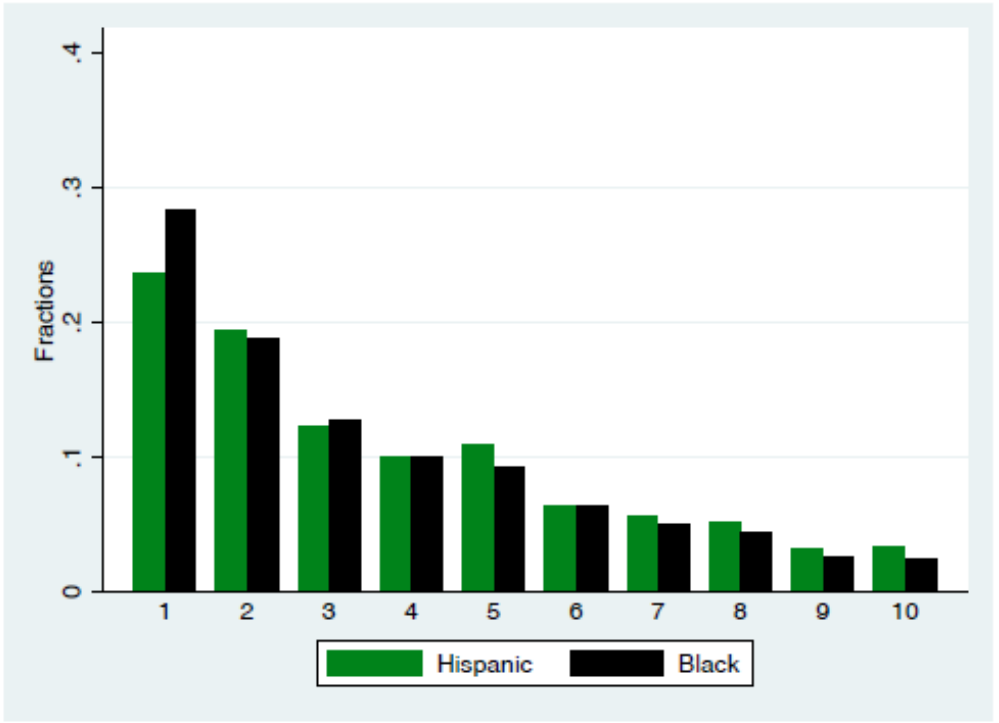


(b) Material Goods (Males)

Figure 21: Hispanic and Black Parental Investment in White Distribution: Full Sample, Age 4-7

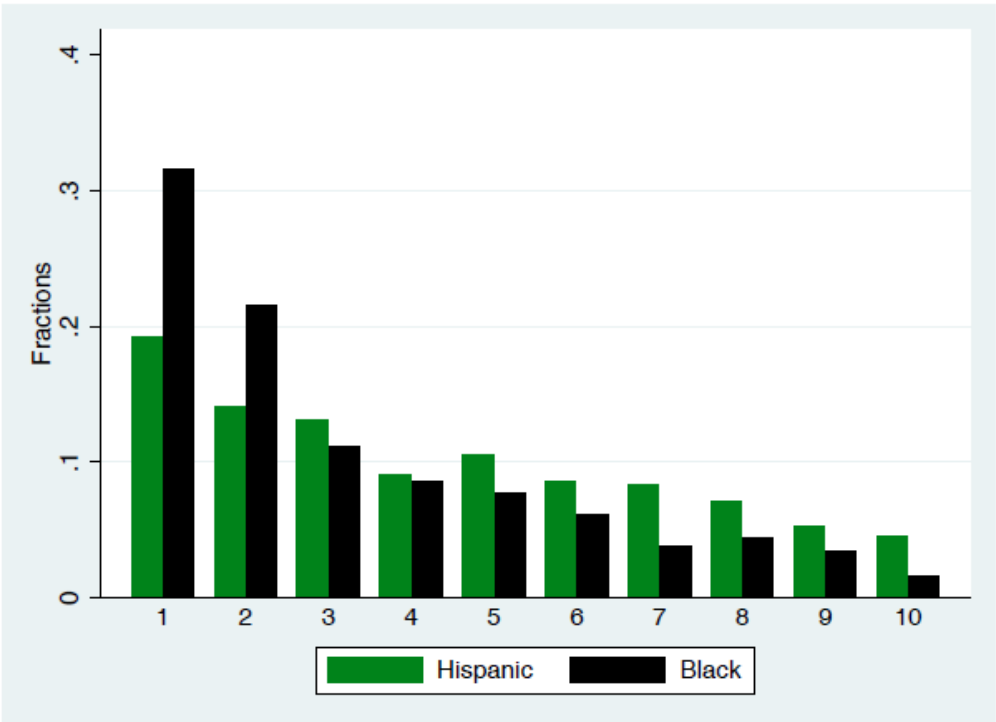


(a) Cognitive Stimulation (Females)

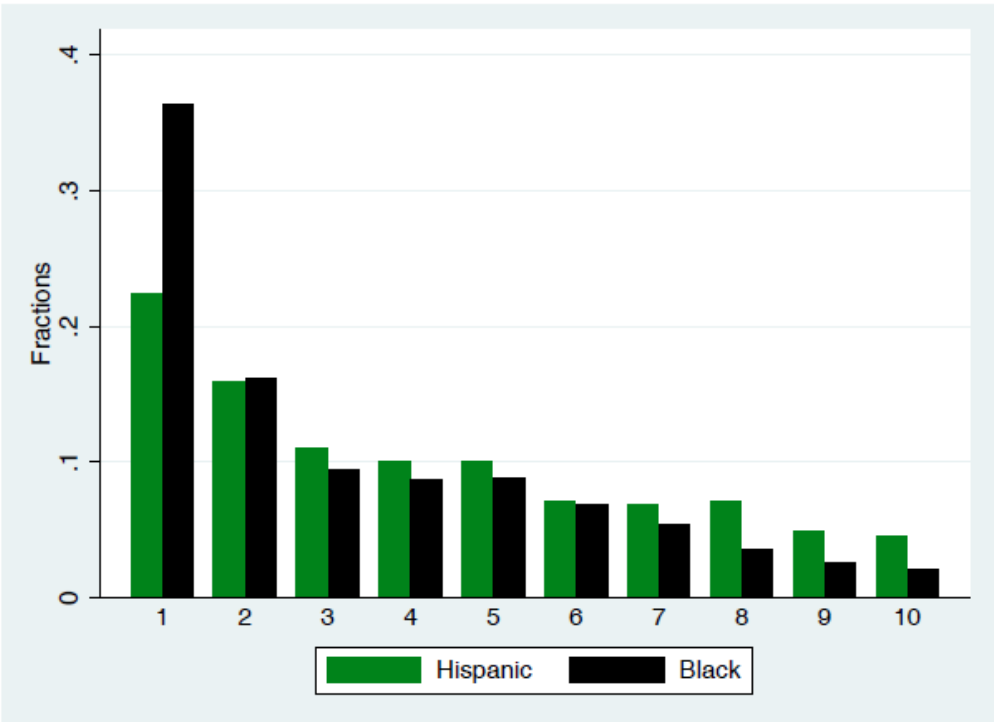


(b) Cognitive Stimulation (Males)

Figure 21: Hispanic and Black Parental Investment in White Distribution: Full Sample, Age 4-7



(a) Emotional Support (Females)



(b) Emotional Support (Males)

Pattern Continues Throughout Childhood

Trends in Children in Single/Never Married Households by Education

Figure 47: Children in Households with Single/Never Married Parents by Education – All Races

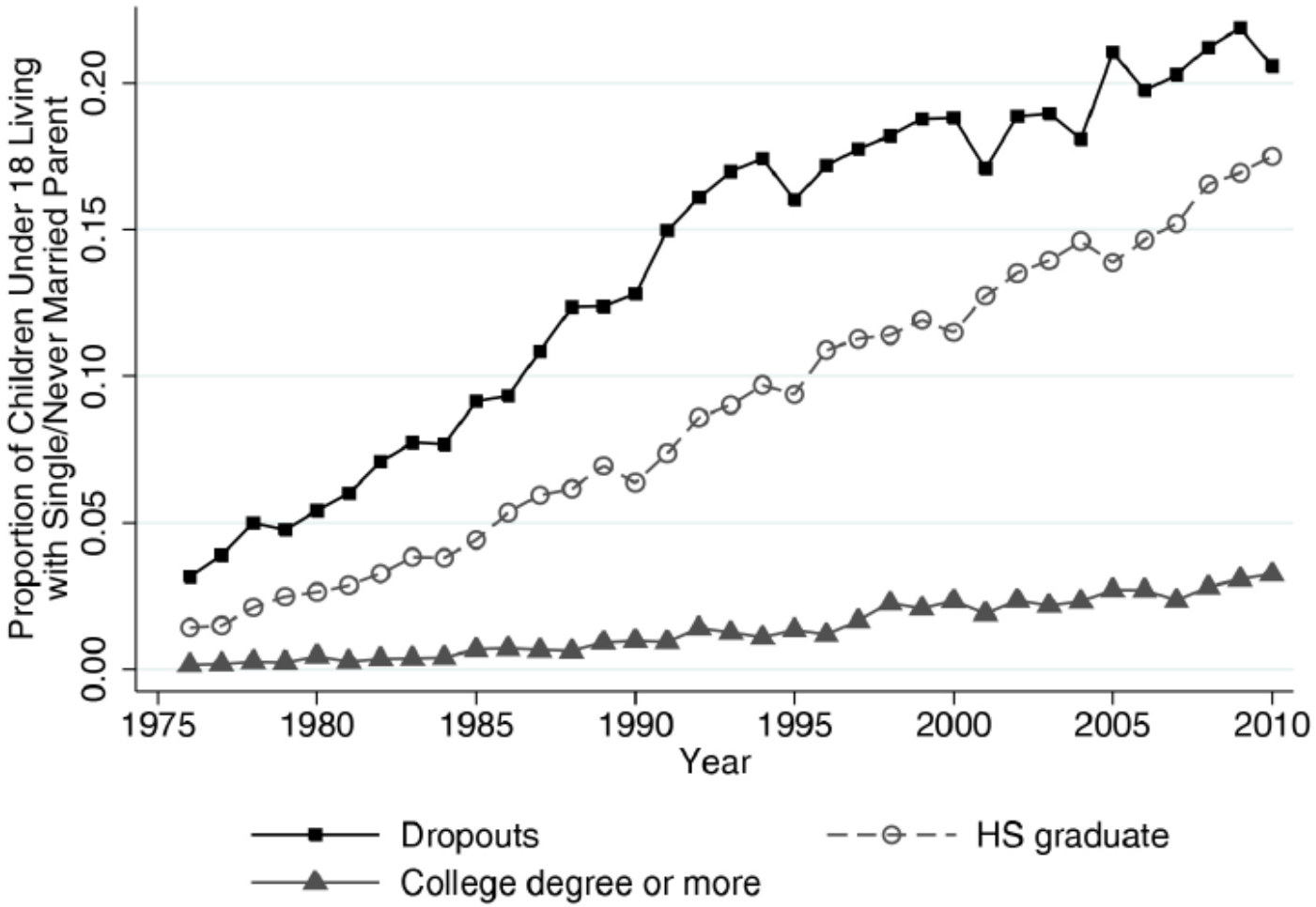


Figure 48: Children in Households with Single, Never Married Parents by Education – Non-Hispanic Whites

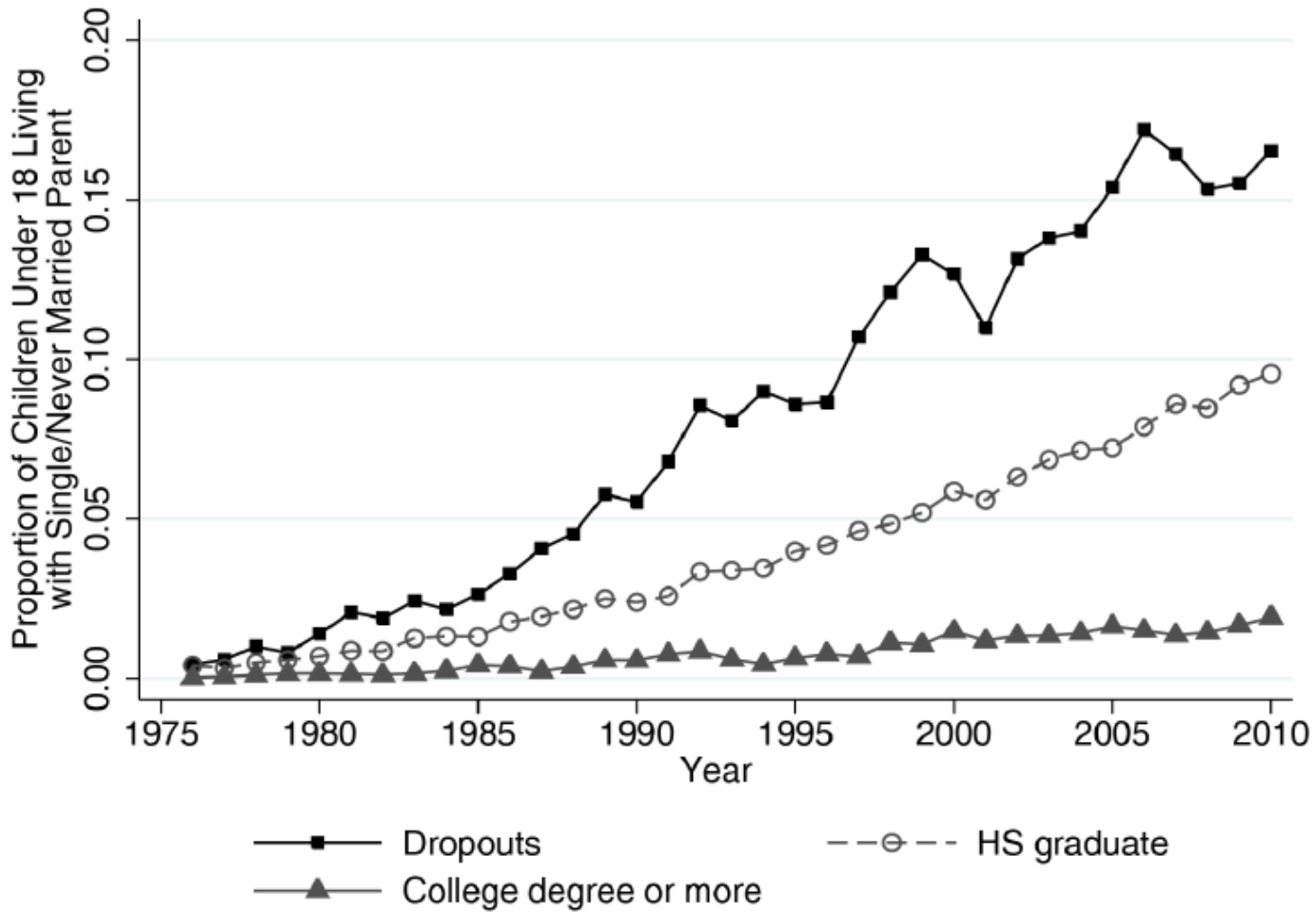


Figure 49: Children in Households with Single, Never Married Parents by Education – Non-Hispanic Blacks

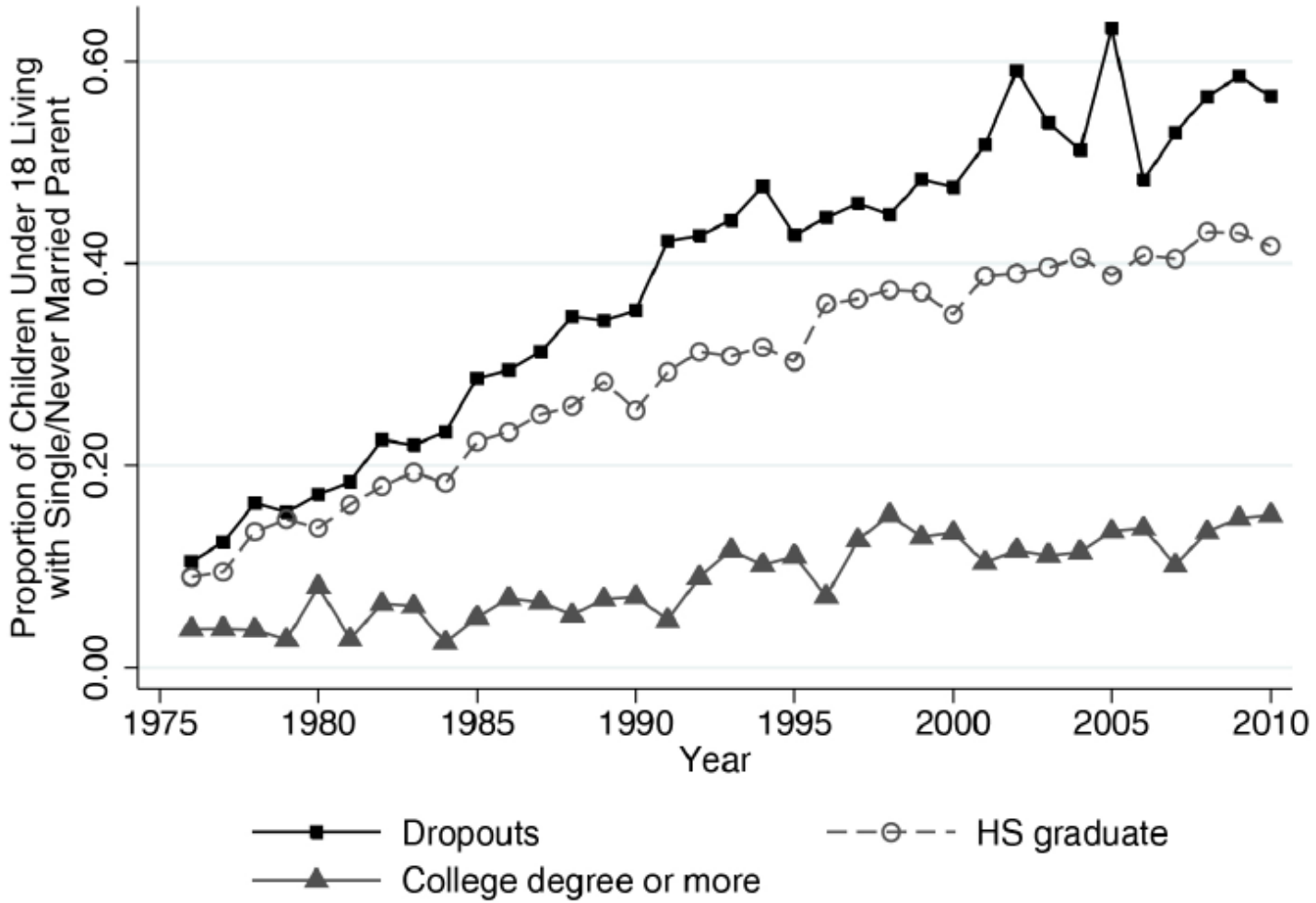
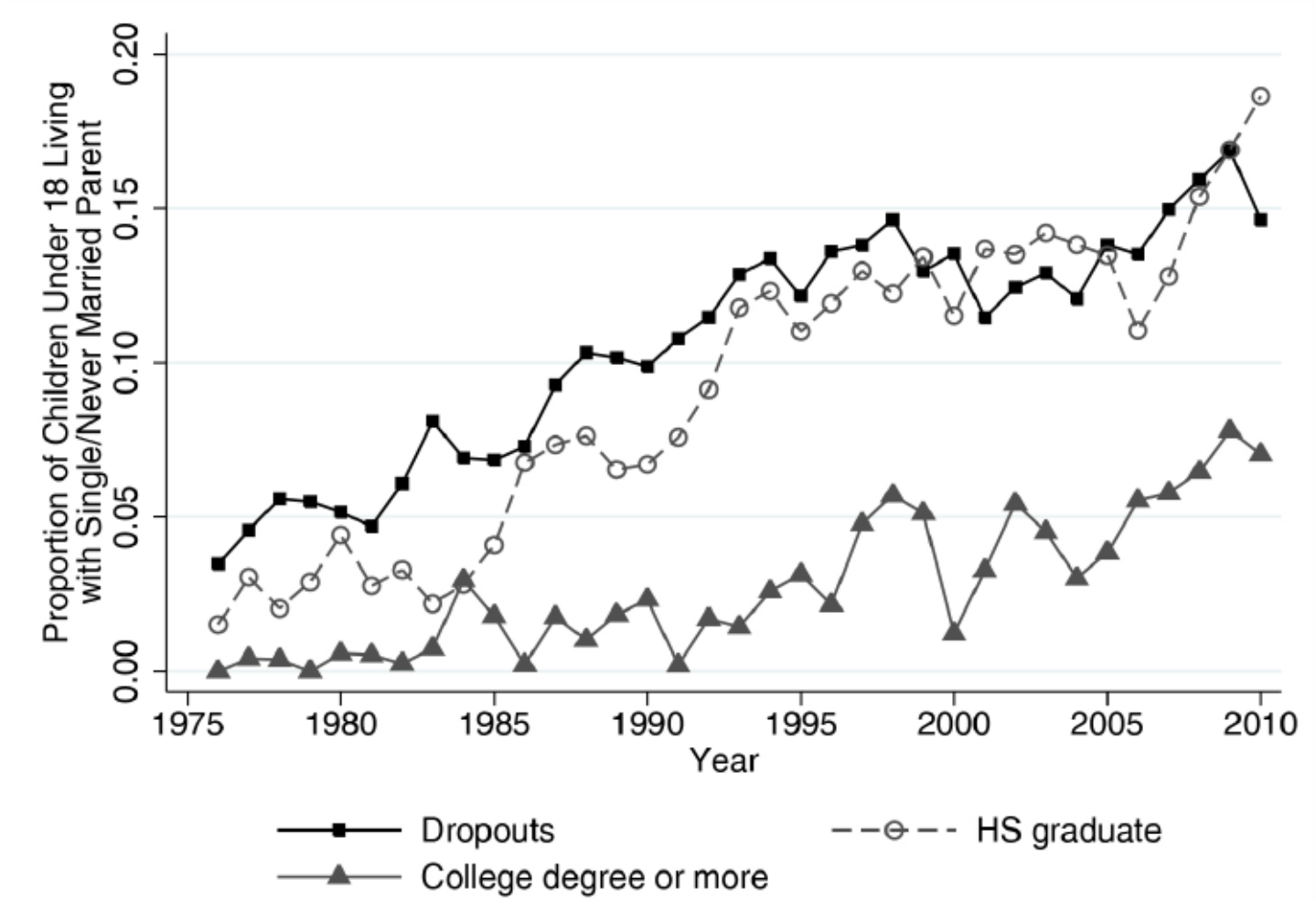


Figure 50: Children in Households with Single, Never Married Parents by Education – Hispanics



Summary

Skills Matter

Skill Gaps by Family Background *Are Real*

- They can be addressed by intervention

- Families are main producers of skills

Need a Comprehensive Approach to Skill Formation

- Recognize compromised nature of American families

- Have an empirically honest and open discussion about skill gaps and their sources