

Private notes for

Investing in Early Childhood: Developing Skills for a Better Future

James J. Heckman
University of Chicago
Co-Director, Human Capital and Economic
Opportunity Working Group, INET

EWA 66th National Seminar
Creativity Counts: Innovation in Education and the Media
Justine Room, Sheraton Palo Alto

May 3rd, 2013

Heckman Lecture



Projected Slide:

Investing in Early Childhood: Developing skills for a better future

James J. Heckman
University of Chicago
Co-Director, Human Capital and Economic
Opportunity Working Group, INET

EWA 66th National Seminar
Creativity Counts: Innovation in Education and the Media
Justine Room, Sheraton Palo Alto
May 3rd, 2013

Notes:

Thank you for inviting me to speak at EWA.

My arguments tend to be complex, but at its heart my message is simple and intuitive.

Virtually all of the ideas are captured by the notion that mothers and mothering matter a lot.

And success in life depends on a lot more than smarts.

You do not need a Nobel economist to tell you this.

But as staggering as it may seem, public policy ignores these basic points.

America faces many challenges. The recent election settled very little, as neither candidate seriously addressed the pressing issues that face us. The economy is growing too slowly, unemployment is still high and prospects for substantial growth in the near future are not great.

In addition, many American families are not functioning well.

Much evidence suggests that investing in early childhood development—in the early formation of skills that produce valuable and productive individuals and in strengthening the parenting resources of American families—is one of the smartest ways to create a better economy and stronger society for all.

Heckman Lecture

Projected Slide:

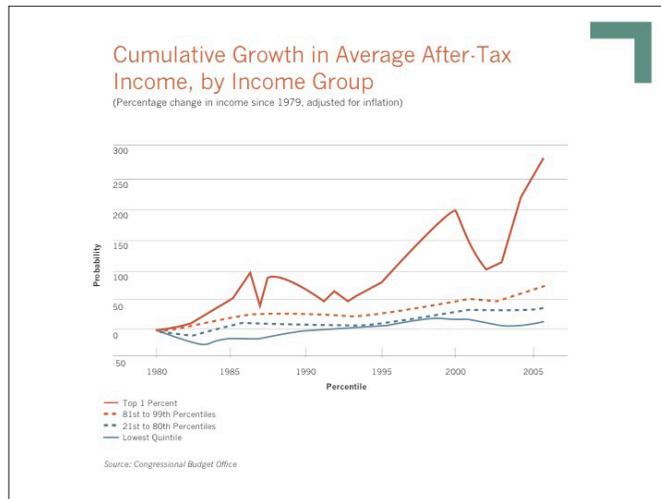
The challenges:
economic inequality, a
divided society and
polarized leadership.

Notes:

Social and economic inequality are increasing, as is uncertainty, creating a divided society and a polarized, bewildered, and politically unstable electorate.

Heckman Lecture

Projected Slide:



Notes:

- Slow growth in wages for most workers, except the highly skilled.
- Over long stretches of the past 30 years, a decline in the real wages of the least skilled.
- The disadvantaged are under stress and so is the middle class.
- In addition, there are persistent problems of crime, rising health care costs, and the like.
- Efforts to reduce inequality, increase productivity and lower deficits have been mired in politics and polarization instead of practicality.

Heckman Lecture

Projected Slide:

We can reduce inequality and promote social mobility by solving the skills problem.

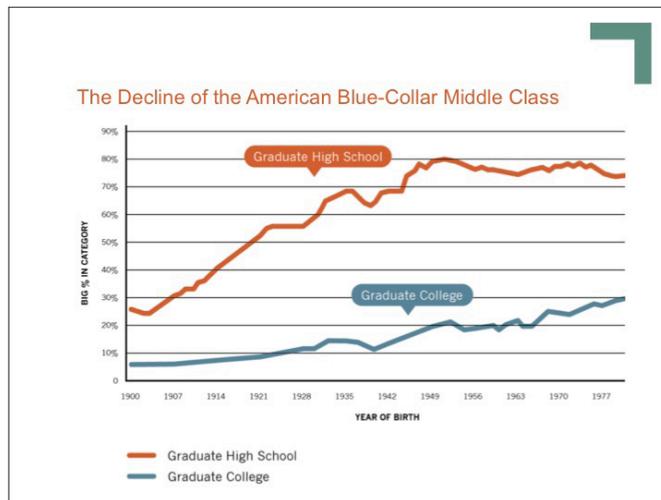
Notes:

Rising inequality in skills is a major contributor to rising economic and social inequality.

- It is a truism that the skills of a nation are a major source of productivity for its economy. The livelihoods of most people depend on the compensation they receive for their skills.
- Skills are the major determinants of social advantage and disadvantage.
- The importance of skills has become more pronounced in our age of globalization and skill-biased technical change, which has shifted demand towards the more skilled. The wages of high-skilled labor have increased much faster than those of less skilled labor.
- At the same time the demand for skilled workers has accelerated, America's overall rate of growth in producing skilled workers has slowed.

Heckman Lecture

Projected Slide:



Notes:

This is puzzling. Why is the market response to rising returns to education so weak? Why not greater responsiveness?

- This overall slowdown in the rate of growth of skills masks different trends for different groups.
- Among men, the college graduation rate has been flat for 40 years; the high school dropout rate, properly counted, has increased for cohorts born after 1950.
- Among women, the college graduation rate has steadily increased. The high school dropout rate has been stagnant.
- Two Americas have emerged, and society is increasingly polarized. Decline of the blue-collar working class. Income inequality and social class inequality have increased.
- Inequality also appears to have serious inter-generational consequences.
- Recently, many have questioned the validity of the Horatio Alger story of “rags to riches,” which is an important part of the American dream.
- Inter-generational persistence of income: father to son. 0.15 for Denmark; 0.47 for the United States.

Heckman Lecture

Projected Slide:

A comprehensive approach to skills development makes dollars and sense.

Notes:

- To address the skills problem, we should take a more comprehensive approach to understanding the economics of skill development.
- Need to formulate policies that clearly recognize what skills matter, how they are produced and how we should prioritize public policy toward producing skills.
- Doing so avoids a fragmented and often ineffective approach to public policy that misses the pervasive importance of skills.
- The skills problem is at the core of many social and economic problems that plague American society.

Projected Slide:

Fragmented solutions
don't work—the
problems and their
causes are interrelated.

Notes:

Fragmented Solutions

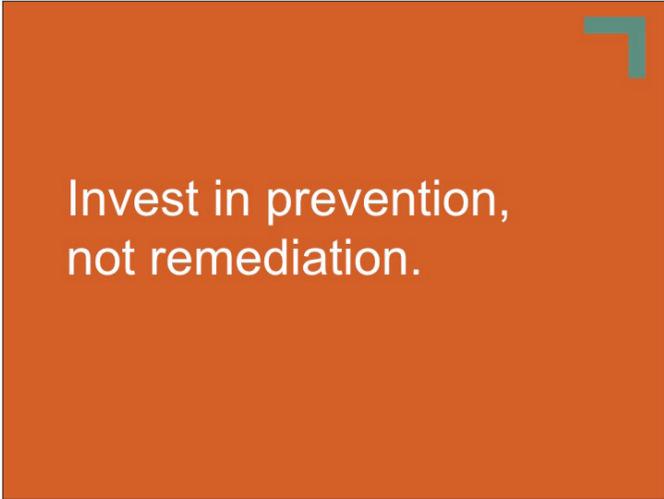
- Current policy discussions around the world have a fragmented quality.
- They focus on one problem at a time with policies that are designed to address that one problem, often (but not always) by some remediation strategy.

Examples of Fragmented Solutions

- For crime, have more police.
- To promote skills, build more schools, hire better teachers and raise test scores.
- 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.

Heckman Lecture

Projected Slide:



Invest in prevention,
not remediation.

Notes:

- Today I sketch a unified policy approach that addresses these problems and others using a strategy of human development to promote social mobility, productivity and reduce inequality.
- It is a policy that promotes skills at the stages of the life cycle where they are most effectively produced.
- It's a policy of prevention, not remediation.

Projected Slide:

Success depends on
having the right skills
and abilities.

Notes:

The Argument

1. Low levels of skills cause major social problems (dropping out of school, crime, teenage pregnancy, obesity, and poor health).
2. Skills are multiple in nature.
 - Current public policy discussions focus on measuring, enhancing, and rewarding cognitive ability using achievement tests. For example, NCLB scores are used to judge the performance of schools and students in those schools. OECD countries compete on PISA test scores.
 - An important lesson from the recent economics of skills is that cognitive skills are only part of what is required for success in life.
 - Personality skills, “soft skills,” physical and mental health, perseverance, attention, motivation, and self confidence are also important and are often neglected.
3. Gaps in all types of skills between the advantaged and disadvantaged open up early in the lives of children. Schools contribute little to widening or narrowing these gaps.
4. **The family lives of young children are the major producers of cognitive and socio-emotional skills.** These, in turn, predict crime, health and obesity.
 - Family influence extends well beyond the transmission of genes.
 - Cognitive and social skills are not fixed at birth, they are not solely genetically determined, and they can be enhanced.

Projected Slide:

We must help troubled American families develop skills required for their children's success.

Notes:

5. The powerful role of early family influence is a concern because family environments in many countries around the world have deteriorated over the past 40 years.
6. **Supplementing** the family and its resources, engaging it in enriching the early life of the child, in supporting the child in school, and in giving sound advice to children are effective policies.
 - If society intervenes early enough and in a consistent fashion over the life cycle of a child, it can promote cognitive and socio-emotional abilities, as well as the health and well-being, of children born into disadvantage.
 - Through multiple channels, these effects percolate across the life cycle and across generations.
 - For example, early interventions reduce inequality by promoting schooling, reducing crime, and reducing teenage pregnancy.
 - They also foster workforce productivity.
 - These interventions have high benefit-cost ratios and rates of return. They pass efficiency criteria that any social program should be asked to pass.
 - Early interventions that build the skill base of children have much higher economic returns than later remediation and prevention programs, such as public job training, convict rehabilitation programs, adult literacy programs, tuition subsidies or expenditure on police to reduce crime.

Projected Slide:

The importance of the early years: skills beget skills.

Notes:

The Importance of the Early Years: Skills Beget Skills

A. This greater return arises because of the dynamics of skill formation.

- **Life cycle skill formation is dynamic in nature.**

Skill begets skill; motivation begets motivation. If a child is not motivated and stimulated to learn and engage early enough in life, the more likely it is that when the child becomes an adult, it will fail in social and economic life.

- The longer society waits to intervene in the life cycle of a disadvantaged child, the more costly it is to remediate disadvantage. Similar dynamics are at work in creating child health and mental health.
- We need to implement a more nuanced skill formation policy that recognizes recent knowledge about what interventions at which stages of the life cycle are the most effective for producing skills.

B. A major refocus of public policy is required to incorporate modern understanding of the life cycle dynamics of skill and health formation.

- Although schools and schooling are important, effective social policy targets and strengthens the family.
- **Since the Coleman Report, we have known that inequality in families — far more than inequality in the resources applied to schools — produces inequality in schooling outcomes among social and economics classes.**

Projected Slide:

Develop cognition *and* character from conception to birth to school, college and career training.

Notes:

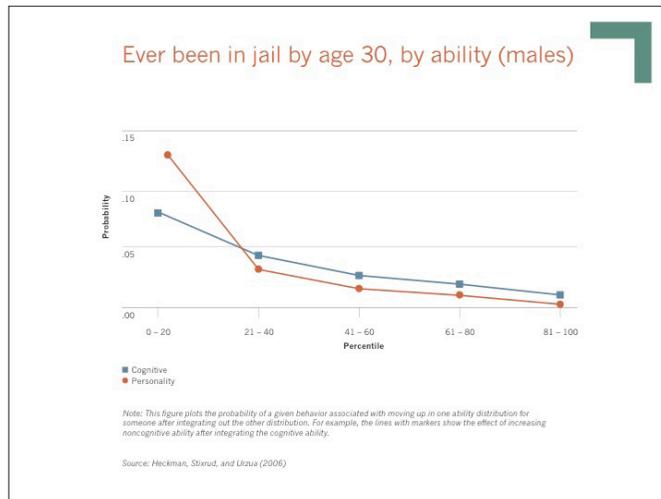
The Importance of Cognitive and Character Skills

- A. Major advances have occurred in understanding which skills and abilities matter for success in life.
- B. **Cognitive skills measured by achievement tests are important, but so are character skills:**
- Motivation
 - Sociability, the ability to work with others
 - Attention
 - Self-regulation
 - Self esteem
 - Ability to defer gratification
 - Health and mental health
- C. **Hard evidence on “soft” skills.** They matter and they can be shaped.
- D. Along with cognitive skills, they determine success in school, in the labor force, and in life.

Heckman Lecture

Projected Slide:

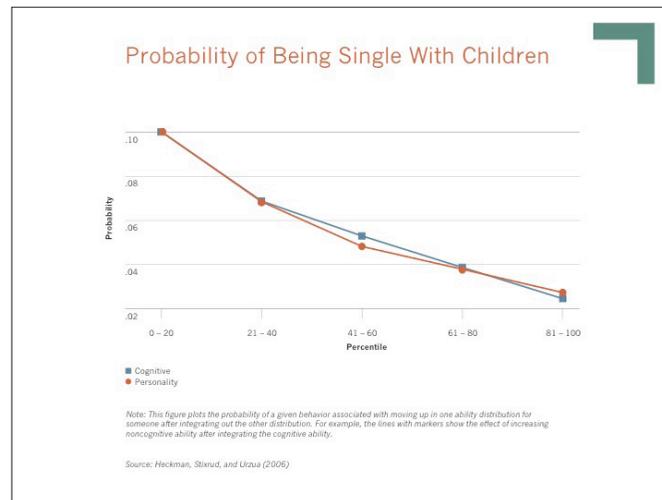
Notes:



Heckman Lecture

Projected Slide:

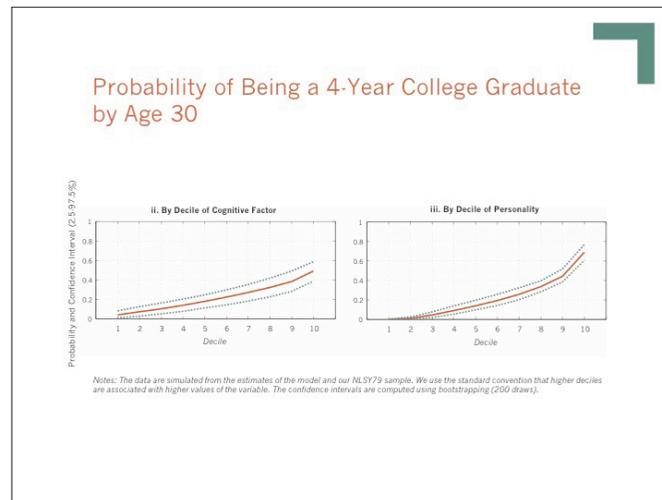
Notes:



Heckman Lecture

Projected Slide:

Notes:



Projected Slide:

Developing skills and abilities is the best way to solve the problems of economic and social inequality.

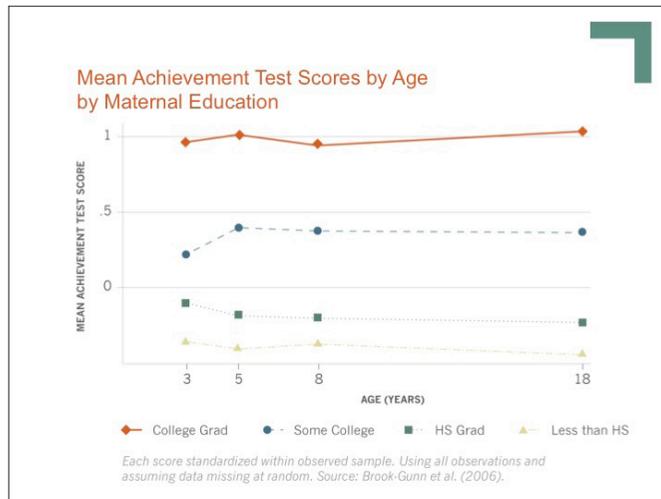
Notes:

Income Inequality and Intergenerational Mobility

- In the last few years, there has been great emphasis on income inequality as a major determinant of child disadvantage.
- It has been suggested that policies that redistribute income might be highly effective in producing greater opportunity for disadvantaged children.
- **But income transfers do not solve the problem of intergenerational mobility.**
- We tried that approach 50 years ago, and it failed.
- Fostering abilities and motivations in childhood is the most effective strategy.
- **Predistribution, not redistribution.**
- Much of the black-white achievement gap in who enters college is due to gaps in ability at the time children apply to school, not family income.

Heckman Lecture

Projected Slide:



Notes:

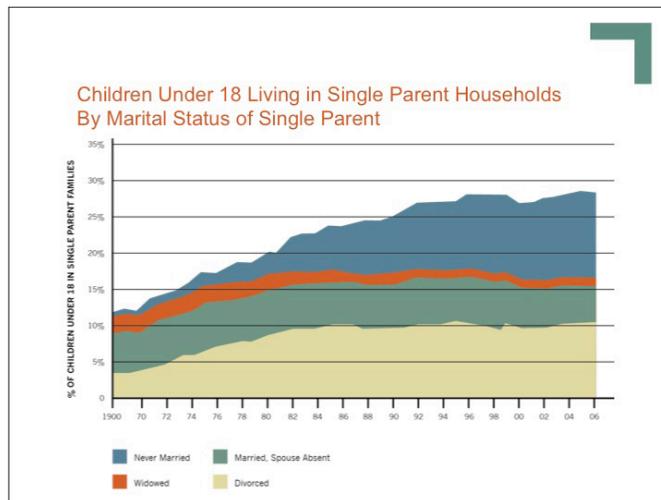
Gaps Open Up Early

- Gaps in the abilities that play such an important role in determining diverse adult labor market and health outcomes open up early across socioeconomic groups.
- American schools, as unequal as they are, neither exacerbate or attenuate these gaps.
- Evidence on the early emergence of gaps leaves open the question of which aspects of families are responsible for producing these gaps.
- **Is it due to genes?**
- **Family environments?**
- **Parenting and family investment decisions?**
- The evidence from a large body of research demonstrates an important role for investments and family environments in determining adult capacities above and beyond the role of the family in transmitting genes.
- The quality of home environments by family type.
- Such environments are highly predictive of child success.

Heckman Lecture

Projected Slide:

Notes:



Early life conditions and family environments shape child development.

Heckman Lecture

Projected Slide:

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

Notes:

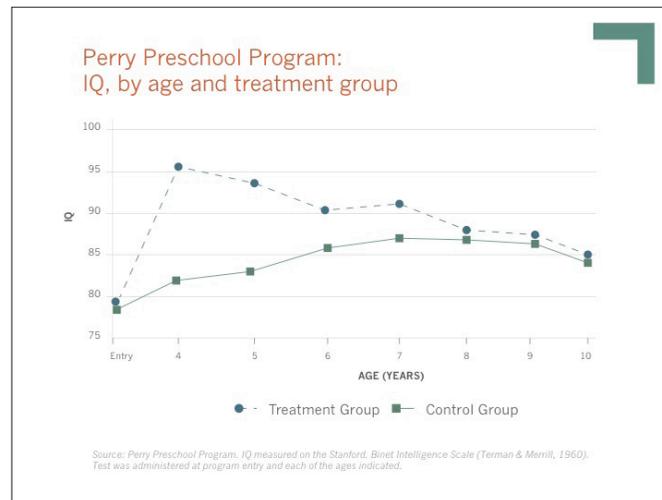
Early childhood interventions targeted at disadvantaged children are effective in overcoming the gap.

- A primary avenue through which they operate is personality and noncognitive skills.

Heckman Lecture

Projected Slide:

Notes:



But there are other channels.

Heckman Lecture

Projected Slide:

Notes:



Effects on Health

Heckman Lecture

Projected Slide:

Notes:

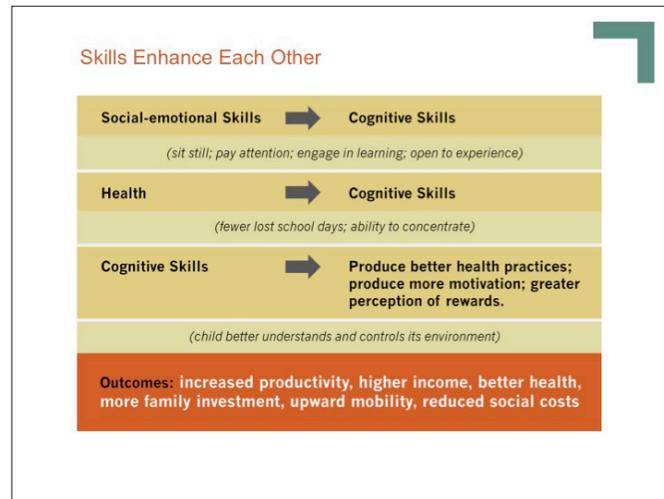
Abecedarian Intervention, Health Effects at Age 35

	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	0.65	0.87	0.136
Metabolic Syndrome	0.00	0.25	0.009

Source: Campbell, Conti, Heckman, Moon, Pinto, Pungello (2012)

Heckman Lecture

Projected Slide:



Notes:

Understanding the Dynamics of Skill Formation: Skills Beget Skills

- A. Based on a modern understanding of the life cycle of skill formation.
- B. Skill formation is dynamic in nature—skill begets skill. Create stocks of capabilities that cross-fertilize other capabilities—what economists call dynamic complementarities.
- C. Health is an important ingredient beyond personality.
- D. More motivated and healthier children are better learners.
- E. The process is synergistic—academic success promotes greater self-confidence and a willingness to explore.
- F. Early advantages and disadvantages lead to substantial differences in adult advantages and disadvantages.

Projected Slide:

Later remediation is costly and as currently configured is usually ineffective.

Notes:

Later Remediation Targeted at the Less Able Is Costly and Often Ineffective

- As currently implemented, most adolescent remediation efforts to boost skills, especially those targeted toward promoting the adolescent cognitive abilities of the disadvantaged, have low returns.

For example:

1. Public job training programs
2. Adult literacy programs
3. Tuition reduction programs

- General pattern: strong returns on later-life programs are higher for the more able; lower returns for less able adolescents (those with lower cognitive, personality, or health skills).

Heckman Lecture

Projected Slide:

Early development is as important as education in promoting wages, employment and health.

Notes:

What about promoting education?

- Boosting the capabilities of children entering school will boost the benefits of education to them.
- These capabilities account for a substantial portion of the measured benefits from schooling.

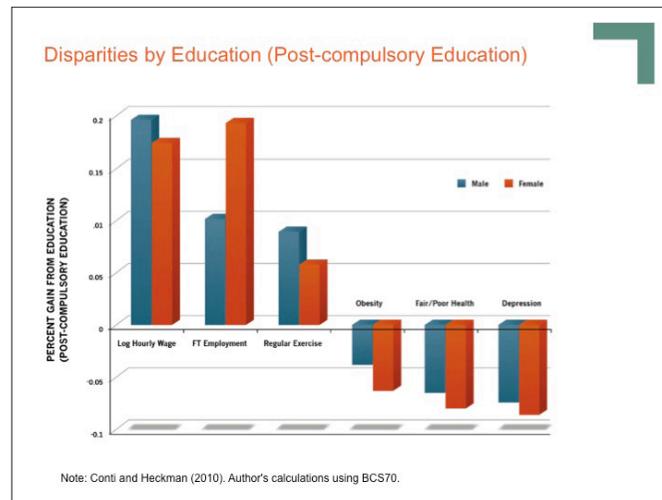
Make no mistake about it, education is important.

But so, too, is effective early development, which acts as both a foundation and catalyst for success in school, health and life.

Heckman Lecture

Projected Slide:

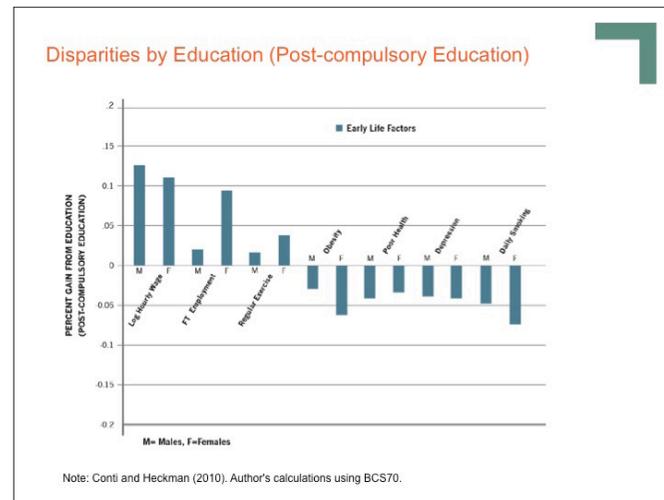
Notes:



Heckman Lecture

Projected Slide:

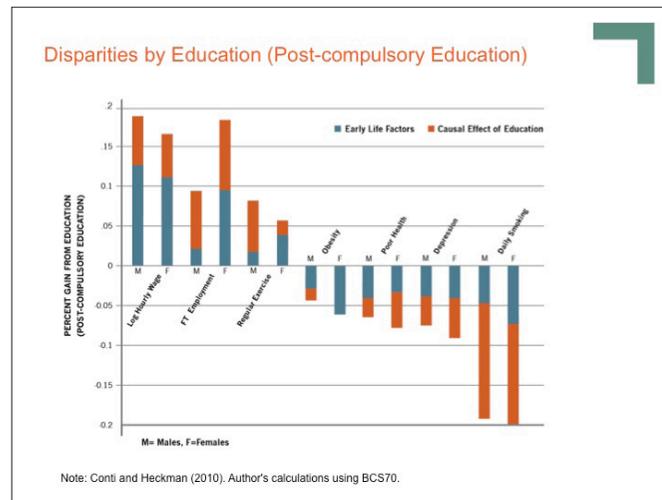
Notes:



Heckman Lecture

Projected Slide:

Notes:



Heckman Lecture

Projected Slide:

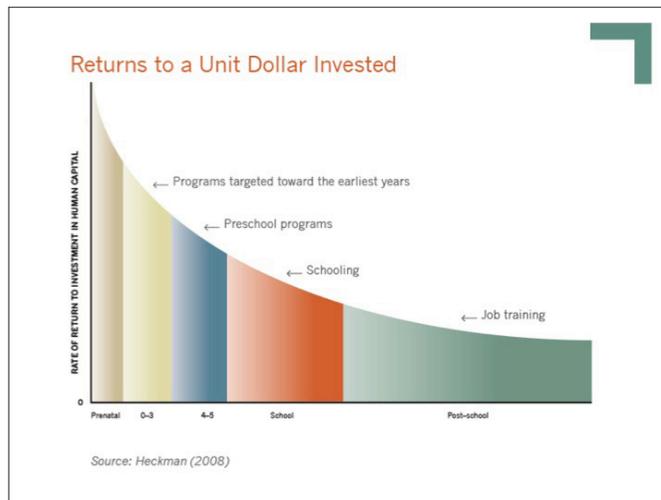
The solution:
Predistribution, *not*
redistribution.
Prevention, *not*
remediation.

Notes:

- Early investment produces returns that percolate over the life cycle.
- A major refocus of public policy is required to capitalize on our recently acquired knowledge of the importance of the early years in building capabilities and in producing the skills needed to create an effective workforce.

Heckman Lecture

Projected Slide:



Notes:

- This diagram and its policy message have to be carefully digested.
- It presents the rate of return to a unit of investment in parenting at the beginning of the life of the child at conception.
- It gives a measure of how much more productive it is to invest early rather than delay and remediate later in life.
- Returns to education are very high for the most able and motivated students (22% for college education for the most capable).
- These capabilities are not fixed at birth and by no means are all genetically determined. They can be created by wise investments.
- Delay in investment in children to later ages is costly.
- Yet for disadvantaged children, American public policy (and health policy) focuses on later-life remediation.
- We do not spend our resources wisely.
- We do not make the most productive investments for disadvantaged children.
- Too much spent on remediation of deficits in skills compared to creating skills early on.

Heckman Lecture

Projected Slide:

Smart investments start
by addressing a major
root cause of inequality
—*disadvantaged early
childhoods.*

Notes:

There are two dangers in our current debate over income inequality, social mobility and the protests of pitting the 99% vs. the 1%.

One is going back to the failed policies of Lyndon Johnson's Great Society, where people were given money or better housing or job training—and most of those efforts failed to alleviate the problems of intergenerational income and social mobility.

The other is going back to the failed notion that people are better off when they are left to completely fend for themselves.

All of the evidence points to early investment in developing human capital as the most effective anti-poverty policy that promotes social mobility in the long run.

Think **Predistribution**—improving early life conditions for all children. Not transfers to adults, but investments in children.

Thank you.

Heckman Lecture

Projected Slide:

Notes:

Appendix

Heckman Lecture

Projected Slide:

The GED shows why
character matters more
than smarts alone.

Notes:

The GED program shows the critical role of character in the job market and the danger of neglecting it.

A. The GED is an achievement test that certifies that dropouts are the cognitive

equivalents of high school graduates.

B. Each year, 12–13% of all high school credentials issued are achieved through this route.

C. The figure has been as high as 18%.

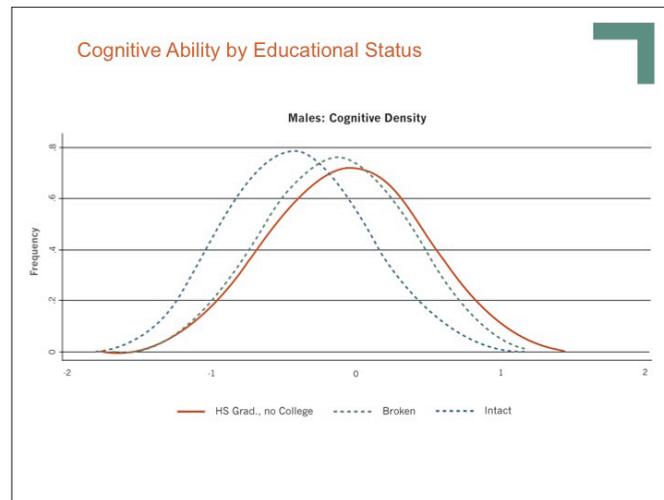
D. GEDs are as smart as high school graduates and much smarter than uncertified dropouts.

- Yet, GEDs earn at the rate of dropouts.
- As a group, they drop out of everything they start (college, marriage, jobs).

Heckman Lecture

Projected Slide:

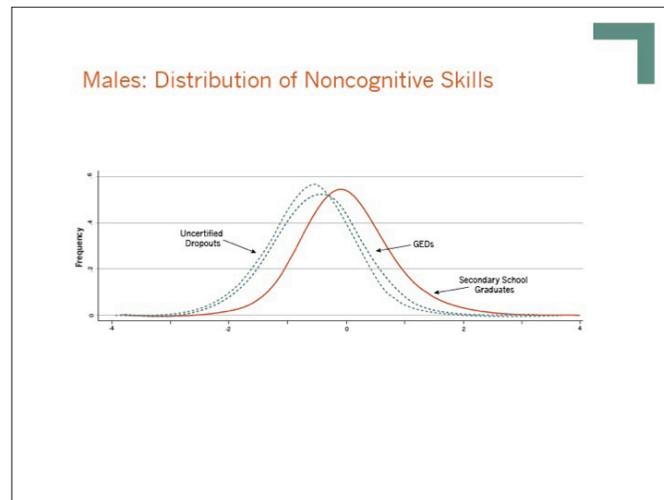
Notes:



Heckman Lecture

Projected Slide:

Notes:



Heckman Lecture

Projected Slide:

Notes:

Can ability differences explain racial-ethnic schooling gaps?

	White-Black Gap	White-Latino Gap
COLLEGE ENTRY PROBABILITIES GIVEN HIGH SCHOOL COMPLETION		
Actual White-Minority Gap	.11 (.02)	.07 (.02)
Ability Adjusted Gap	-.14 (.02)	-.14 (.04)

Source: Source: Cameron and Heckman (2001)

Heckman Lecture

Projected Slide:

Notes:

