



# Return on Investment: Cost vs. Benefits

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## Context

Research on early childhood integrates theory and public policy to the mutual benefit of both.

Expands the scientific knowledge base to inform policy.

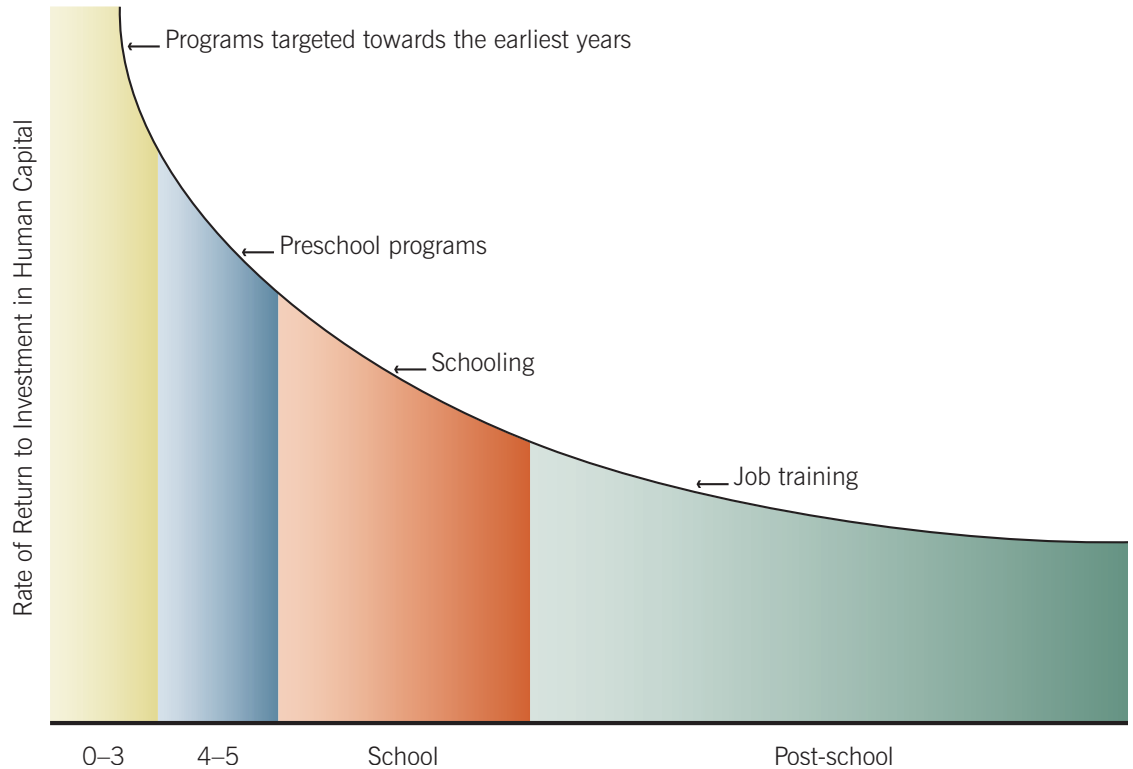
At the same time, contributes to practical knowledge about early childhood programs that promote productivity and reduce inequality.

Early childhood programs are rare among the portfolio of available social programs.

There is no equity-efficiency tradeoff.

What is socially fair is also economically efficient.

## Returns to a Unit Dollar Invested



Source: Heckman (2008)



## The Argument in a Nutshell

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Many major economic and social problems in American society such as crime, teenage pregnancy, dropping out of high school and adverse health conditions can be traced to low levels of skill and ability in society. There is growing inequality in society. The lower tail is worse off, while the upper tail is better off.

In designing policies to alleviate inequality, it is important to recognize the multiplicity of abilities. So called “soft” skills are neither soft nor squishy. There is a lot of hard evidence on the importance of soft skills in economic and social life, but more evidence would be desirable.

Current public policy discussions focus on promoting and measuring cognitive ability through IQ and achievement tests. For example, the accountability standards in the *No Child Left Behind Act* concentrate attention on achievement test scores, not evaluating a range of other factors that promote success in school and later in life.

Cognitive abilities are important determinants of socio-economic success. But even cognitive ability is not well understood. For example, IQ and achievement tests are often confused.

Socio-emotional skills, physical and mental health, perseverance, attention, motivation, and self-confidence are also important. A group of economists and psychologists have come together to study the economics and psychology of personality. Their research instructs us to distinguish between achievement tests and IQ tests. Problems with diabetes control and its onset are due in part to personality and motivation and lack of willpower. These capabilities contribute to performance in society at large.

Ability gaps between the advantaged and disadvantaged open up early in the lives of children. Minority-white schooling gaps are not mainly due to income but to ability. In fact, effects of family income on college enrollment decisions are weak controlling for ability in the adolescent years. Tuition costs do not explain the majority/minority gap in schooling.

Family environments of young children are major predictors of cognitive and socio-emotional abilities, as well as crime, health and obesity.

This observation is a major source of concern because family environments in the U.S. and many other countries around the world have deteriorated over the past 40 years.

The real measure of child poverty is the quality of parenting. Not necessarily financial distress. Take an example — is family income a proxy or a cause for adversity in childhood? It surely is a measure of the resources available to children. Family income is a crude proxy. In a study of a Connecticut Indian reservation where a tribe got wealthy through opening a casino, child welfare increased but mainly through improved parenting.



## The Argument in a Nutshell, *continued*

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Experimental evidence on the effectiveness of early interventions in disadvantaged families is supported by a positive example of a large body of non-experimental evidence that adverse family environments harm children.

If society intervenes early enough, it can raise cognitive and socio-emotional abilities and the health of disadvantaged children.

Early interventions promote schooling, reduce crime, foster workforce productivity, promote adult health through several channels and reduce teenage pregnancy. It can redistribute resources with a fixed budget and improve child and social welfare. These interventions are estimated to have high benefit-cost ratios and rates of return, in the range of 6–10% per annum compared to the post-war return to equity of 5.8%.

As programs are currently configured, early interventions have much higher economic returns than later interventions for disadvantaged children such as reduced pupil-teacher ratios, public job training, convict rehabilitation programs, adult literacy programs, tuition subsidies or expenditures on police.

This evidence does not say that all later interventions are ineffective or that they cannot be improved. Resilience is well-documented. We need much more research on the mechanisms of resilience. But at current levels of practice, remediation is costly compared to prevention.

Technology of capability formation shows us that returns to investments at the older ages for the disadvantaged are low; for the advantaged they are very high. 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 on 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 appear to be at work in creating child health and mental health. Society needs to adopt a life cycle focus in designing and implementing policy.

Need to examine integrated policies, break down barriers across cabinet agencies; not just school vs. preschool, but also job training; higher education; criminal justice system, etc.

For early interventions for disadvantaged children there is no equity-efficiency tradeoff. For later interventions there is an equity-efficiency tradeoff. We can save resources later on by early intervention. A major refocus of policy is required to create a cost-effective human investment strategy based on modern understanding of the way skills and health are formed over the life cycle and the importance of the early years in creating inequality in America, and in producing skills for the workforce.



## Practical Issues

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### Whom to Target?

Returns to early investment are higher to the disadvantaged where parenting resources are often poor.

What is the proper measure of disadvantage? Is it poverty? Measures of childhood home life?

Evidence suggests quality of parenting is key.

Parenting is the scarce resource.

Disadvantage is not always closely linked to family income or even parental education.

Explains in part why certain cultural groups produce successful children and others do not.

### With What Programs?

Programs that target the early years seem to have the greatest promise.

Nurse Family Partnership Program / Abecedarian / Perry.

Home visits affect the lives of the parents, create a permanent change in the home environment.

Programs that build character and motivation — not just cognition — are essential.

### Who Should Provide the Programs?

Respect the sanctity of early family life.

Respect cultural diversity by having a broad diverse base of community support.

Create a base of common skills and traits but do so within culturally diverse settings.

Engage private industry and other social groups so that we draw in private resources and create community support.



## Practical Issues, *continued*

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Who Should Pay for Them?

We can make it universal to avoid stigmatization.

Offer a sliding fee schedule to avoid deadweight losses.

Mobilize private resources to support the subsidy.

Issues of Compliance

Many successful programs change the values and motivation of the child.

This may run counter to the values of parents (e.g., James Dobson, Focus on the Family).

There may be serious tension between the need of the child and the acceptance of intervention by the parent.

Then there is a basic conflict between values of society (as it seeks to develop the potential of the child) and the values of the family.



## A Research Agenda to Guide Policy

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The broad argument is clear. But many essential details required to implement successful programs are unclear.

Need to tighten the case. Need to deepen the understanding of the power of socio-emotional skills and the mechanisms by which they are produced.

Need to investigate more deeply the role of the family. What features missing in disadvantaged families hurt children; what mechanisms of resilience are effective?

What features of healthy families and/or resilient environments can be used to supplement the lives of children in disadvantaged families.

Need to support the work of collecting new data on family and its influences.

Evaluation: undertake and evaluate new projects; take a long-term point of view; long-term evaluations and experimentation.



## In Summary

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The economic returns to early investments are high. They promote efficiency and reduce inequality.

The returns to later interventions for the disadvantaged, especially cognitive interventions, are much lower.

The reason is the technology of skill formation.

Skill begets skill and early skill makes later skill acquisition easier.

Remedial programs in the adolescent and young adult years are much more costly in producing the same level of skill attainment in adulthood. Most are economically inefficient.

Children from advantaged environments by and large receive substantial early investment.

Children from disadvantaged environments more often do not.

There is a strong case for public support for funding interventions in early childhood for disadvantaged children.

The measurement of disadvantage is the quality of parenting.

The knowledge base needs to be expanded. A fruitful symbiosis of science and policy. Science guides policy and policy problems motivate scientific policy.