Session III: Early Childhood Interventions

What Do We Know and Where Do We Go From Here?

Comments
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The Problem: Test Score Gaps Open up Early and Persist.

Figure 1: Children’s Mean Cognitive Score by Mother’s Level of Education

NOTE: Using all observations and assuming that data are missing at random.

Early intervention improves the life circumstances of disadvantaged children

Fig. 2. Academic, economic, and social outcomes for the Perry Preschool and Abecedarian Programs. (A) Data from the Perry Program collected when the individuals were 27 years old (High/Scope). >10th percentile achievement, children who scored above the lowest 10% on the California Achievement Test (1970) at age 14; HS Grad, number of children who graduated high school on time. (B) Data from the Abecedarian Program collected when the individuals were 21 years old (Carolina Abecedarian Project and the Carolina Approach to Responsive Education, 1972–1992). Red bars, intervention group; blue bars, control group.

Source: Knudsen, Heckman, Cameron, & Shonkoff, 2006
Contemporary policy debates are focused on schools...

How about more money for Head Start?

And let’s get some more of those universal Pre-K programs.
But the evidence shows that inequality starts well before kids get to school.

**Coleman Report, 1966**: Family characteristics explain most of the variability in student test scores across schools

Children spend vastly more time in their home environments than they do in the early (or later) educational environments

School based policy does not attack skill gaps at their source – the lack of family resources for effective early childhood development.
Low-Income Students Fall 2.5 to 3 Years Behind by Fifth Grade

Income-related gaps in cognitive and social skills for 4-year olds, ECLS-B

Source: Waldfogel & Washbrook, 2011
Parenting matters.

The single most important factor explaining the poorer cognitive performance of low-income children relative to middle-income children: **Parenting Style**

Accounts for...

- **19%** of the gap in **MATHEMATICS**
- **21%** of the gap in **LITERACY**
- **33%** of the gap in **LANGUAGE**

Key factor in the parenting style domain is maternal sensitivity and responsiveness.

(Waldfogel & Washbrook, 2011)
Parenting matters.

The second most important factor explaining income-related gaps in school readiness: **Home Learning Environment**

Accounts for between...

16% & 21% of the gap in **Cognitive School Readiness**

Measures parents teaching behaviors in the home and their provision of learning materials and literacy activities (books, CDs, computer access, TV watching, library visits, and classes.)

(Waldfogel & Washbrook, 2011)
Inequality begins at home

Parents with more income and education vs. poorer and less-educated peers

Talk more to their children

Are more emotionally engaged

Ask children more questions

Use less harsh and punitive discipline strategies

Use more varied vocabulary
Number of words children hear in an hour varies across socioeconomic status

- Professional: 2,153 WPH
- Working Class: 1,251 WPH
- Welfare Recipients: 616 WPH

WPH = words per hour

Source: Hart & Risley, 1995
Extrapolated out over a year...

11M WPY
Professional

6M WPY
Working Class

3M WPY
Welfare Recipients

WPY = words per year

Source: Hart & Risley, 1995
Average Child Time by Activity and Education

Source: Kalil, Ryan, & Corey, 2012
Predicted probability of teaching

Minutes in Teaching

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College or Beyond
Some College
Source: Kalil, Ryan, & Corey, 2012
Class Gaps in Maternal Time Investments Larger for Young Children

Figure 4: Class difference in developmental childcare by age of child, 2003-2010

Source: Altintas (2012) Note: Sample is limited to non-Hispanic white mothers only in AHTUS (2003-2010). The class gap shown on the Y-axis is calculated by subtracting the predicted daily developmental childcare time of a low-educated mother from the predicted developmental childcare time of a high-educated mother. Predicted
Growing Class Gaps in Maternal Time Investments in Children

Figure 3: Average Daily Minutes of Developmental Time with Mothers by Mother’s Education

Source: Altintas (2012) Note: Weights are applied to represent the population distribution accurately and to correct for distribution of the days of the week.
Home Environment also Implicated in Gender Gaps in Achievement and Behavior

• Boys’ lower achievement may reflect lower levels of non-cognitive skills
  – Boys’ greater sensitivity to stressful environmental conditions such as exposure to single parenthood (Bertrand & Pan, 2013).
• Baker and Milligan (2013) show that boys receive far fewer investments of time from their mothers.
  – They suggest this pattern may be due to the fact that boys are less rewarding to teach.
  – Kalil, Ugaz & Guryan (2013) show that time in education/teaching activities is largely from mothers
• Gender differences in maternal investments in achievement and teaching may contribute to boy-girl differences in children’s cognitive test scores and achievement
Fostering parenting and children’s skills: Major challenges

1. Some of the gaps are not obviously or readily altered by policy

2. High quality programs are not inexpensive

3. Most promising model programs may not work as well on a large scale

4. Attrition and low take-up in parent training interventions big problem

1. What motivates parents to change their behavior?
Promising new evidence

ECE programs that provided parents with opportunities to **practice** parenting skills demonstrate larger effect sizes for measures of pre-academic and cognitive skills.

Source: Grindal, Bowne, Yoshikawa, Duncan, Magnuson, & Schindler, 2013
Promising new evidence

• Observation: these programs managed to improve child cognitive outcomes even though the parent training (typically delivered through Home Visiting programs), didn’t differentially improve parent warmth and responsiveness.

• Many low-income mothers suffer from depression that impede their ability to be warm and responsive to their children. But this may not be a rate limiting factor to improving children’s skills.

• Also suggests that parent coaching can make a big difference in basic pre-academic skills such as reading, math, letter recognition, numeracy skills.
Policy Implications

• Impacts of ECE boosted with efforts to improve parental behavior/increase parental involvement
  – Head Start designed to encourage parental inputs and achieves that goal (Gelber & Isen, 2012)
  – Across HS programs, those that raised children’s cognitive test scores more also tended to raise parents’ involvement with their children more (Gelber & Isen, 2012)

• Not obvious that Universal Pre-K will achieve these goals

• But, Home Visiting Strategies also important part of contemporary policy strategies
  – Need coordination across these two policy approaches

• *The true measure of child poverty is parenting, and an effective skills policy bolsters the parenting resources of the disadvantaged.*