Investing in Young Children Globally

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Childhood is not Las Vegas
What happens in childhood does not stay in childhood

- Why investing in young children is a key to sustainable development/economic growth
- How the household is a key piece of the investment formula
- Why we need to combine our age/sector related research to identify pathways out of adversity—from strong beginnings to youth resilience longitudinal research
New Science for Old Problems

• Major scientific advances underscore how a strong foundation for healthy development in the early years of life is a prerequisite for individual well-being, economic productivity, and harmonious societies around the world.

• Growing scientific evidence also demonstrates that social and physical environments that threaten human development (because of scarcity, stress, or instability) can lead to short-term physiologic and psychological adjustments that are necessary for immediate survival and adaptation, but which may come at a significant cost to long-term outcomes in learning, behavior, health, and longevity.

• A promising future belongs to those nations that invest wisely in their youngest citizens.
Neural Circuits are Wired in a Bottom-Up Sequence

- Sensory Pathways (Vision, Hearing)
- Language
- Higher Cognitive Function

Early Experiences Leave Lasting Chemical “Signatures” on Genes

External Experience

Gene Regulatory Proteins

Epigenetic “Signature” Turns Gene On or Off
The Ability to Change Brains Decreases Over Time

Source: Levitt (2009)
The economics: breaking the poverty cycle

Rates of return on investments made during the early childhood years average between 7 and 10 percent, greater than investments made at any other time in the life cycle.
The Global Burden
Survive and Thrive

• 6.9 million children under the age of 5 worldwide die each year.

• More than 25 times that number -- over 200 million children -- survive, but do not reach their developmental potential.

• As a result, their countries have an estimated 20% loss in adult productivity.


WHO and UNICEF. *Care for Development.*
Jamaica Study

Development Quotient (DQ) of Stunted Children Receiving Nutrition Supplement Only, Early Stimulation Only, or Both

Note: DQ at baseline age (between 9 months and 24 months) and at 6-month intervals to 24 months
The effects of caregiving

• Institutionalization can lead to serious developmental, cognitive, emotional delays and challenges.
  ▪ Children placed in appropriate family care by age 2 recover normative growth and development by age 8.
  ▪ Children removed from institutions after age 2 do not reach normative ranges.

• Placing children in protective family care results in better child outcomes and is significantly less expensive than institutional care.
The Global Burden: Protection

• Between 133 million and 275 million children are estimated to witness domestic violence annually.
• 25-30% of children experience severe forms of punishment.
• 150 million girls and 73 million boys under 18 experienced forced sexual intercourse or other forms of sexual violence in one year.
• 36 percent of girls and 29 percent of boys globally have been sexually abused.
• 115 million children are engaged in hazardous work; 5.5 million are in forced labor.
• 1.8 million children are victims of sex trafficking or pornography.
• An estimated 300,000 children are associated with armed forces or groups.
The lasting effects of adversity

CDC. Adverse Childhood Experiences.
Convergence of Findings


Key Common Findings

• Early child development can be improved through parenting support and preschool enrollment with effects greater for programs of higher quality and for the most vulnerable children

• A simulation model of the potential long-term economic effects of increasing preschool enrolment to 25% or 50% in every low-income and middle-income country showed a benefit-to-cost ratio ranging from 6·4 to 17·6, depending on preschool enrolment rate and discount rate

• A Promising Future Belongs to those Nations that invest wisely in their children
Household: Key but Neglected Investment

– Responsive Social Care, Nutrition and Brain Health
– 70% of day to day care and protection takes place at household level
– Source of Resilience and Risk
  – Between 133 million and 275 million children are estimated to witness domestic violence annually (CDC)
  – Resilient House Initiative (Uganda)
  – Childhood-Parenting-Economics
Pathways out of Adversity
Longitudinal Research

Population-based data
• Two-stage cluster sampling

Cross-sequential design
• Differently aged cohorts

Multilevel model
• Individual, household, community and country-level influences

Efficiency trials
• Evaluation of real world interventions
Risk in First 1000 Days
1. Inadequate food intake
2. Infection
3. Pregnancy and birth complications
4. Inadequate stimulation

1. Outcome in First 1000 Days
   a. Physical (health, nutritional status)
   b. B. Cognitive
   c. C. Socio-emotional
   d. D. Executive function

2. Outcomes in pre-school ages
   (a – d) again

3. Outcomes in late childhood
   (a – d, school attainment, etc.)

4. Outcomes in adolescence
   (a – d, labour market, partnering, parenting, household production)

5. Outcomes in adulthood
   (a – d), labour market, partnering, parenting, household production)

6. Outcomes in old age
   (a – d, labour market exists, grand parenting, household production, chronic diseases, mortality)

Familiar and public investments within given context with related costs

This approach improves the generalizability and external validity of findings.
Cross-Sequential Design

- Differently aged cohorts

This approach reduces the time it takes to study developmental change and also captures multiple period effects that may affect cohorts differently depending on their age at the time of the event (e.g., war, disaster, economic recession).
Multilevel Model

- Individual, household, community and country-level influences
Efficiency Trials
Evaluation of real world interventions

• Longitudinal studies are well-positioned to evaluate the impact of programs and policies that may be implemented over the course of follow-up.
  • In some cases, these programs and policies may be deliberately targeted within the study area.
  • In other cases, the programs and policies may evolve independently from the study but affect some part of the study population.

• It is important that the study is flexible enough to add survey questions that can capture new programs and policies as they arise.

• Because the programs and policies will not be allocated randomly, statistical methods are necessary to ensure robust comparisons between people who received the intervention and people who did not.
Why do this together?
CPC Network

Country-to-country learning acceleration

- Opportunities for country-level learning to cross-pollinate other contexts
- Contribution to diverse global evidence base
  - 80% of research on children living in adversity comes from North America and Europe
  - Relevance to African, Asian and Latin American contexts?
- Core and Diverse Indicators options
  - Countries could both contextualize indicators to the level that they need and also retain a set of core indicators that could allow for cross-country and global-level learning