

Parental Beliefs, Investments, and Child Development: Experimental Evidence from Chile

EMANUELA GALASSO

DEVELOPMENT RESEARCH GROUP, WORLD BANK

Birdsall House Conference on Women
December 10, 2019

Motivation

- ▶ Broad consensus that parental investments are crucial determinants for child development [Heckman 2006, 2007][Cunha, Heckman 2007] , subset of nurturing care [LANCET 2016]
 - ▶ Material investments
 - ▶ quality parent-child interaction (opportunity for learning/responsive caregiving)
- ▶ **Question:** What are the determinants and drivers of parental investments?
 - ▶ How to define information, beliefs [Bonstein Handbook of Parenting]
 - ▶ Map beliefs to practices/investments and investments to outcomes
- ▶ Large scale program in Chile aimed at shifting information, parental perceptions and beliefs about parenting

Framework: dynamic process of human capital formation [Attanasio's keynote]

Stylized framework to model parental behavior: choose 'investments' I as a function of:

- ▶ **preferences** (how much parents value their children human development, how much they enjoy engaging/interacting with their children)
- ▶ **constraints** (income/resources, time, prices], environment
- ▶ a given level **child development level** at the beginning of the period (H_0)
- ▶ **Subjective beliefs** about the process of child development: how do investments map into next period child development?

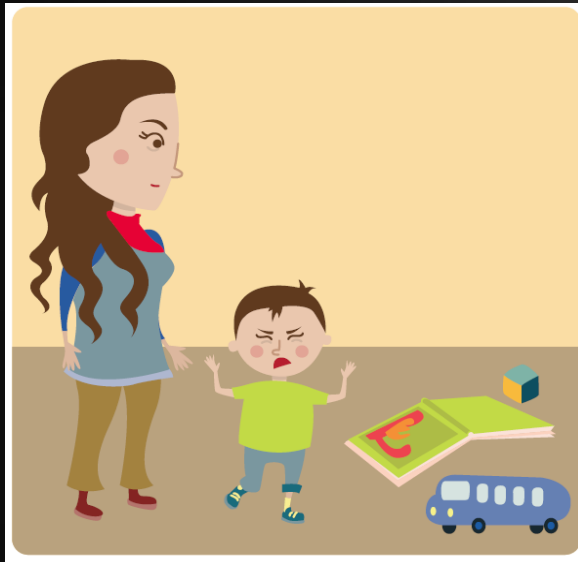
$$(I, H_0) \longrightarrow H_1$$

What we would like to measure? $I \rightarrow H_1$

- ▶ **Why it is important** [beliefs about the process of child development] ?
 - Subjective returns about the importance of investing [Cunha, Elo, and Culhane 2013] [Attanasio, Cunha, Jervis, 2019], or the perceived cost about not adopting a positive practices
 - Subjective perceptions that intelligence and child development is malleable

Cuhna: scenarios to elicit perceived beliefs on how investments map onto outcomes

Scenario 1: high investment



El cuidador principal

- no pierde la paciencia con el niño cuando hace pataletas.
- No se enoja ni lo golpea.
- lo apoya cuando está asustado o enojado



El cuidador principal:

- elogia al niño/niña cuando se porta bien
- no le presta atención cuando no coopera.
- Establece reglas claras

Scenario 2: low investment



El cuidador principal

- A veces pierde la paciencia con el niño cuando hace pataletas.
- Se enoja con el niño



El cuidador principal:

- No elogia al niño a menudo cuando se porta bien
- No establece reglas claras

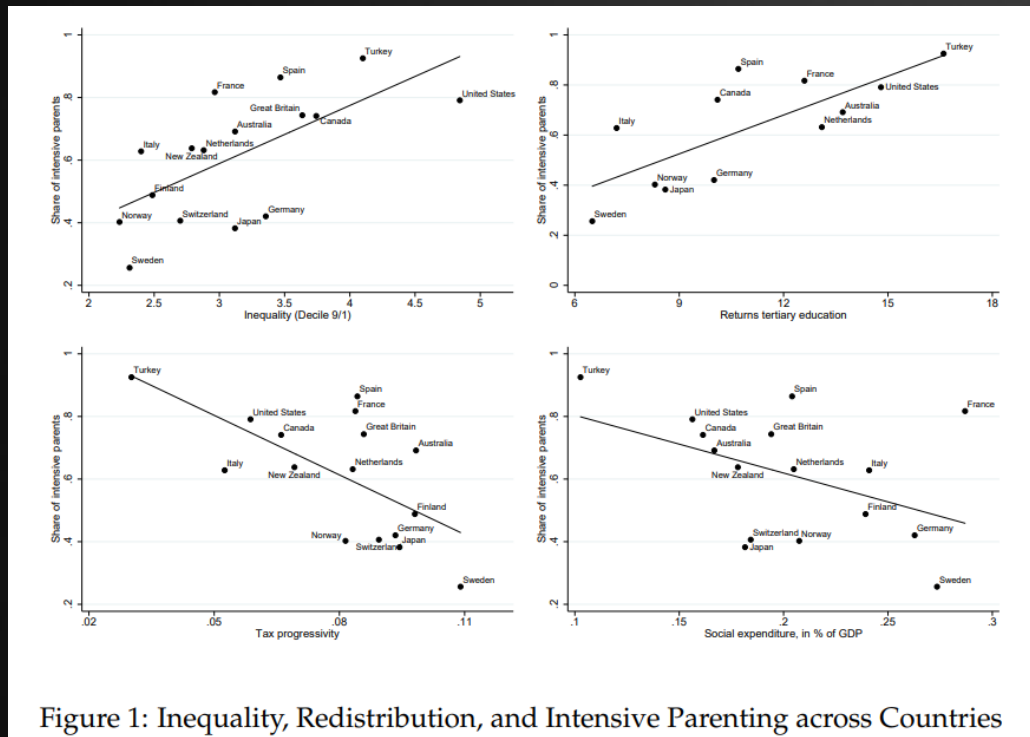
What we would like to measure? $U(H_1, I)$

- ▶ Elicit **what is perceived to be important**: unpacking preferences. What domains are valued [cognition, behavior, creativity] at different stages
 - intergenerational transmissions of parenting styles [Zilibotti, Doepke 2017]
 - Kağıtçıbaşı 2007 and Sharon Wolf's work Ghana]
- ▶ Elicit aspirations about educational attainment

Parenting equilibrium as a function of the economic environment

Across countries

Within countries and over time



- ▶ Democratic/authoritative (structure, communication, scaffolding) requires effort and non-cognitive skills
- ▶ educational aspirations for their children held by parents Q1 in Chile increased from 18 to 63% between 1999 and 2009 [Urzúa, 2012]

Doepke, Sorrenti, Zilibotti 2019 using World Value Surveys
Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?"

What we would like to measure?

- ▶ Know what a '**normal**' child development level is for a given age? H_0
 - Reference dependent preferences: height [Fink et al 2013], [Wang, Puentes, Berhman, Cuhna 2018] or child development [Chung et al 2019] relative to a 'reference' population
- ▶ Investments I
 - ▶ Know **what to do** (information, demonstration, social learning)
 - ▶ **Do what you know** mediated by:
 - Beliefs that caregivers can activate behaviors [parenting self-efficacy] [Bandura]
 - Behavioral constraints: attention/planning/mental space

Nadie es Perfecto a large-scale low intensity group-based parenting intervention in Chile

[CARNEIRO, GALASSO, LOPEZ, CORDERO, BEDREGAL 2019]

Nadie es Perfecto (NEP): background

- ▶ Adapted from the Health Canada “Nobody's Perfect” program
 - ▶ Community nurses systematized parenting needs about children 0-6
 - ▶ Semi-structured curriculum: promote positive parenting in group dynamics.
- ▶ Implemented in Chile in 2009 within the Chile Crece Contigo system
 - ▶ Delivered through public health clinics (existing primary health care infrastructure)
 - ▶ Group session conducted by a trained facilitators (health worker)
 - ▶ Target: low income families of children ages 0-5, not in crisis [1/2 sample belong to Q1]

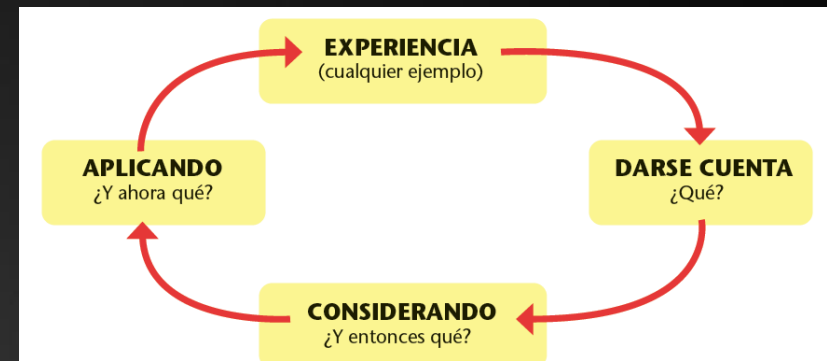
Tested two modalities:

- ▶ **NEP Basico** (Canadian standard Policy) group parenting sessions
 - 6-8 weekly sessions, 2 hours each
 - 6-12 parents per session
 - 1 certified facilitator from the health center
 - Sessions implemented through group dynamics organized by topic
 - Parents take home simple booklets by topic
- ▶ **NEP Intensivo:** Basico + two sessions of parent-child interactions
 - designed to boost language (dialogic reading) and the importance of play [only experimental]
 - Discussion of videos, age-specific activities

Demand side intervention within an ecosystem of services



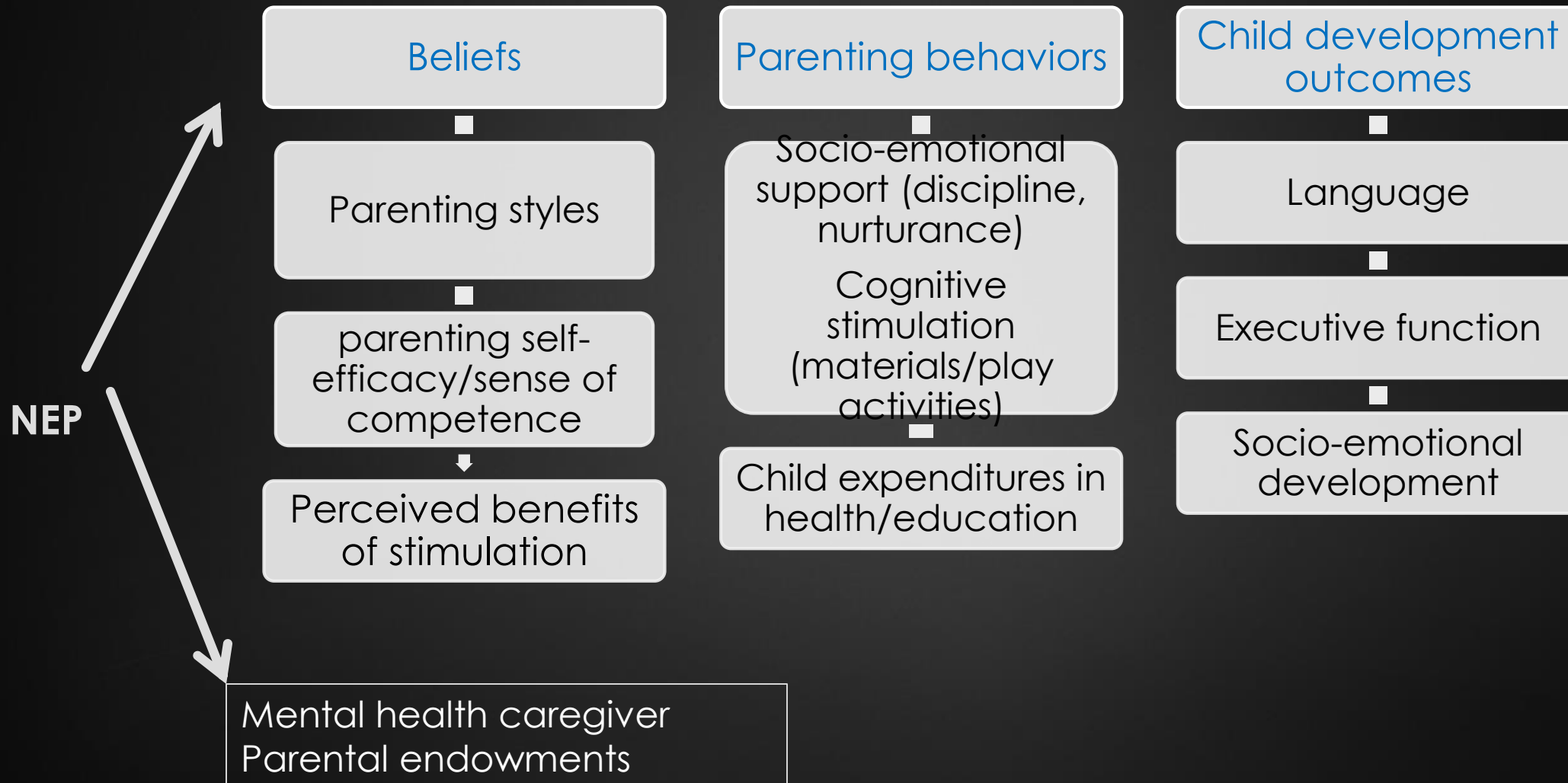
Innovation: curriculum experiential learning



Awareness; Internalizing the experience; adopt new strategies

- ▶ Emotional connection: Facilitator asks participants common questions and daily struggles
- ▶ Parents choose which topics will be discussed in each session
 - ▶ • Managing Behavior (24.1%)
 - ▶ • Parental self-image and self-care (21.8%)
 - ▶ • Child cognitive and socio-emotional development (18.6%)
- ▶ Facilitator prepare group activities to tackle these problems
- ▶ Parents discuss main challenges to adopt new strategies at home.

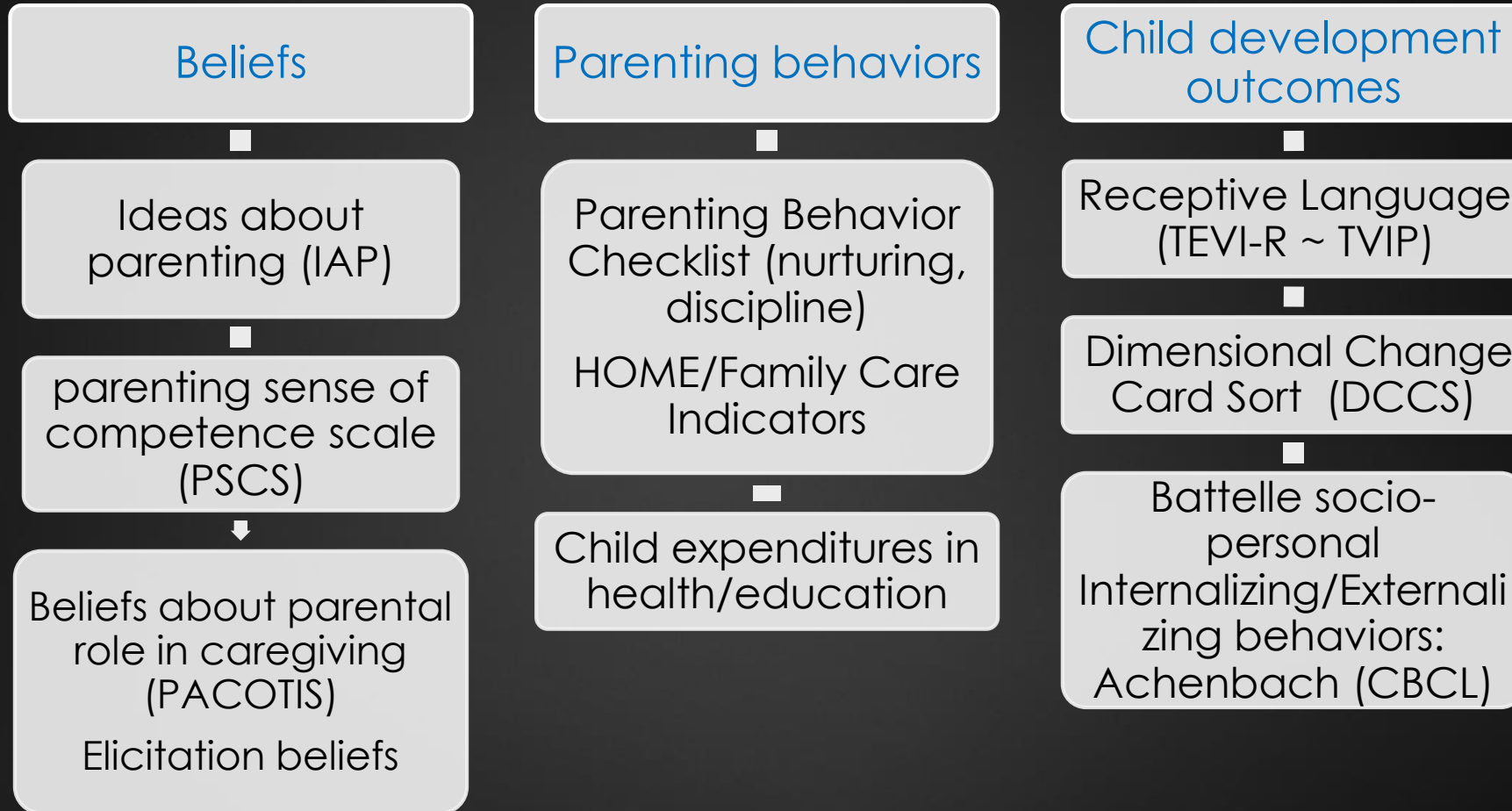
Pathways and theory of change



Evaluation Design

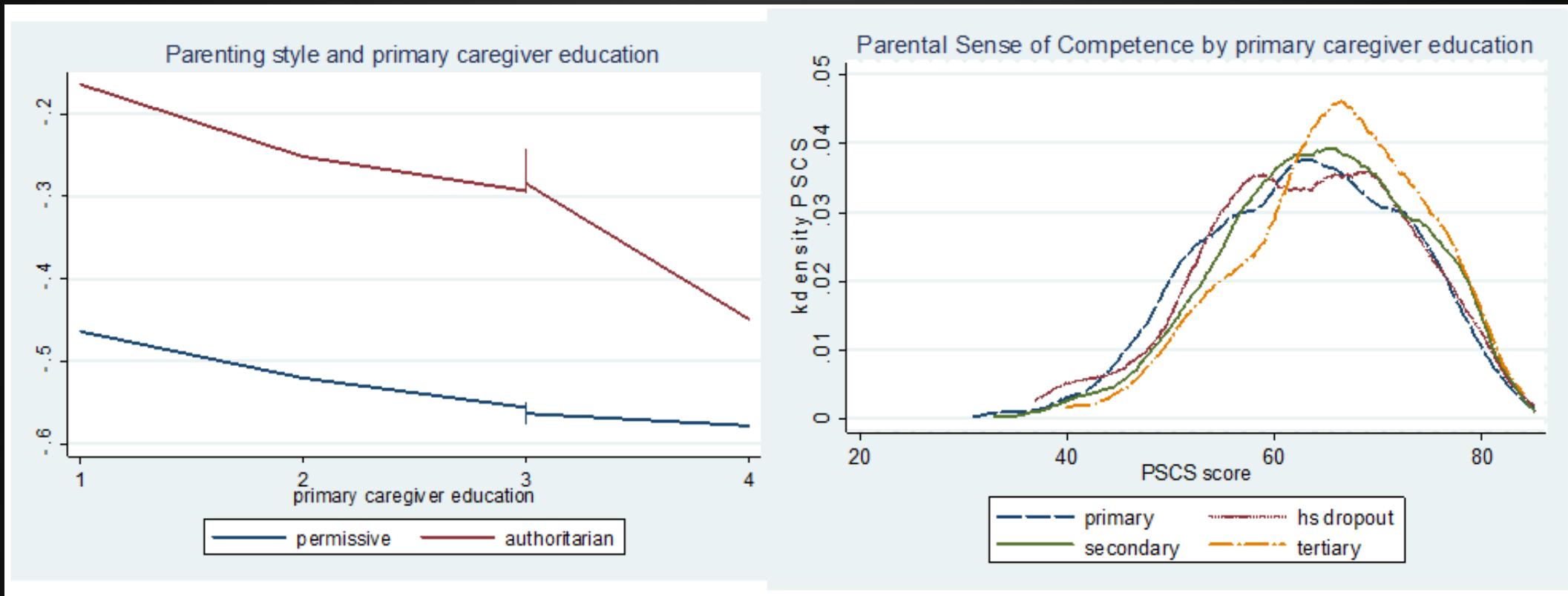
- ▶ Sampled 162 public health centers, stratified by type
- ▶ Drew random sample 18 families per center among potential participants (waitlist 45-60 per health center)
- ▶ Within centers random assignment: NEP basico, NEP intensivo, Control
- ▶ Total sample: 2.916 hh's, 3.600 children at baseline
- ▶ Compliance with treatment: 25% basico, 30% intensivo Attrition: 10% households, 19% children
- ▶ Timeline:
 - ▶ 2011 baseline >> 2011/12 intervention >>> 2014 endline

Measurement

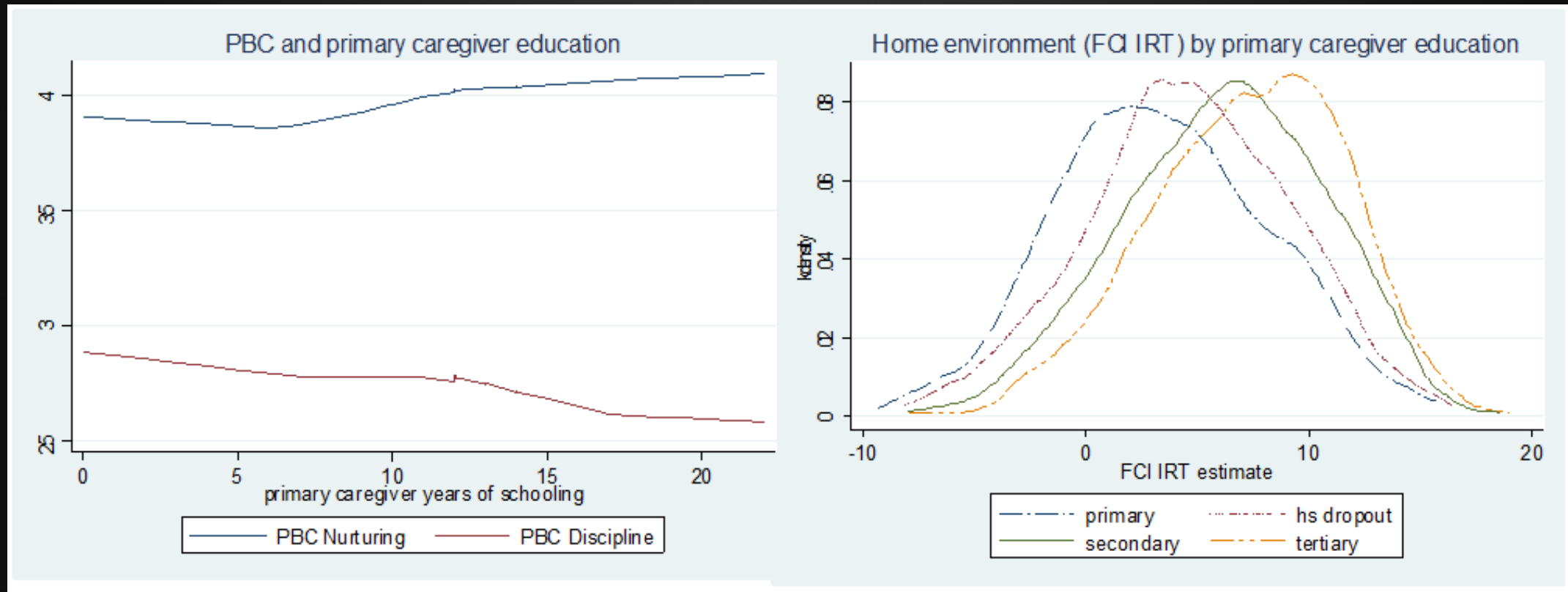


Parenting Stress Index, Depression
Perceived social support
Parental cognition, personality

Baseline SES gradients in beliefs



Baseline SES gradients in investments



Results: Beliefs

	Obs.	NEP-B	NEP-I	P-value test B=I
Parental Beliefs, Attitudes, Perceptions				
Perceived Self-efficacy	2543	0.037 (0.047)	0.100**† (0.047)	0.174
Perceived Parental Impact of own behavior on child development	2545	0.067 (0.046)	0.103**† (0.046)	0.429
Perceived Social Support - Family	2545	-0.078 (0.048)	0.005 (0.048)	0.076
Perceived Social Support - Friends	2545	0.071 (0.046)	0.082* (0.046)	0.797
Perceived Social Support – Others	2545	-0.014 (0.047)	0.013 (0.047)	0.554
Democratic style	2545	0.040 (0.048)	0.046 (0.048)	0.907
Authoritarian style	2545	0.026 (0.048)	-0.026 (0.048)	0.267
Permissive style	2545	-0.064 (0.048)	-0.018 (0.048)	0.323
Elicited Age High Investment Home Scenario	1487	-0.049 (0.050)	-0.064 (0.048)	0.763
Elicited Age Low Investment Home Scenario	1486	-0.057 (0.051)	-0.103* (0.054)	0.416

Results: investments

	Obs.	NEP-B	NEP-I	P-value test B=I
<hr/>				
Parental Practices				
Home Index	2545	0.084 (0.072)	0.155**† (0.072)	0.313
PBC Affection	2545	0.042 (0.046)	0.085* (0.046)	0.348
PBC Interaction	2545	0.015 (0.046)	0.013 (0.046)	0.959
PBC Negative discipline	2545	-0.047 (0.047)	-0.077* (0.047)	0.516
PBC Positive discipline	2545	0.054 (0.048)	0.054 (0.048)	0.988

Results: child development outcomes

	Obs.	NEP-B	NEP-I	P value Test B=I
Receptive Language	2895	0.076* (0.044)	0.100**† (0.045)	0.623
Personal-Social Development: Composite Index	1532	0.064 (0.061)	0.132**† (0.062)	0.258
Behavioral problems: Externalization	1971	-0.022 (0.050)	-0.014 (0.050)	0.874
Behavioral problems: Internalization	1887	-0.028 (0.049)	-0.019 (0.049)	0.856
Executive Function	2879	-0.008 (0.044)	0.035 (0.045)	0.329
Sustained attention	2893	-0.035 (0.044)	0.009 (0.044)	0.318

Mediation analysis:

- ▶ Simple estimation of Direct and Indirect Effects using Montecarlo Simulation methods:
- ▶ Effects in receptive language explained up to 20% by intervention-induced changes in HOME and (to a less extent) self-efficacy
- ▶ Effects in socio-emotional development explained up to 40% by intervention-induced changes in HOME, Nurturing and Discipline behaviors.

Conclusions

- ▶ Large and exciting measurement agenda on the determinants of parental investments
- ▶ NEP: We find sustained impacts three years after the end of the intervention in parental beliefs, stimulation practices, and child outcomes.
- ▶ NEP delivers the highest returns for children in the most disadvantaged households.
- ▶ This is remarkable/surprising:
 - Low intensity of the intervention: just 6/8+2 sessions over 3 months
 - Effects persist. In many ECD interventions the effects quickly fade out. Potential key role of beliefs and expectations in sustaining effects
- ▶ Mediation: changes in behaviors play a bigger role in observed changes in socio-emotional development than in language.
- ▶ Need more structure to fully map pathways of change from beliefs->behaviors->outcomes