

# Calling All Parents: Leveraging Behavioral Insights to Boost Early Childhood Outcomes in the Developing World

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- Early childhood is critical for cognitive and socio-emotional development Heckman (2006)
- Parenting programs improve child outcomes but are hard to scale in low-capacity settings Leer et al. (2016)
- This project evaluates a low-cost, remote support program for vulnerable families with children aged 0–3 in Uruguay

# The Intervention

- In coordination with the national early childhood agency we designed an 8-month program:
  - Weekly phone calls from trained operators
  - WhatsApp text and audio messages
  - Chatbot
  - Real-time feedback and adaptive content using AI tools
- Goals:
  - Promote language stimulation and positive parenting
  - Support access to social benefits

# Experimental Design

- RCT with 1,360 vulnerable families across Uruguay
- Randomized into:
  - Control group (restricted chatbot)
  - Treatment group (over-the-phone support)
- Baseline + 2 follow-up surveys (4 and 8 months after start)

# Baseline Balance

- Families: 99% women; 31% completed middle-school; 96% receive government assistance
- Children: average age 25 months; 84% live in households that experienced a negative shock; 69% live in households that experience overcrowding
- Treatment and control groups balanced on observables

# Take-up and Implementation

- 76% of the dispatched messages were successfully received or viewed on the intended mobile phones
- Average of 16 answered calls out of 24
- Families sent, on average, 2 audios throughout the intervention (8 requests in total)
- High satisfaction: 90% found it useful
- No differential attrition among groups

## 4 months after start

- ↑ Access to government transfers (+0.30 SD)
- ↑ Participation in job training programs (+0.23 SD)

## 8 months after start

- ↑ Access to transfers (+0.30 SD)
- ↑ Cognitive stimulation (+0.19 SD)
- ↑ Knowledge of language stimulation (+0.15 SD)
- ↑ Parental well-being (+0.16 SD)
- ↓ Parental stress (-0.20 SD)
- ↑ Quality of language interactions (+0.20 SD)

# Heterogeneity Analysis

- Stronger effects on stress and well-being for families not receiving Uruguay Social Card (cash transfer) at baseline: program helps buffer economic shocks in vulnerable households
- Positive impacts on frequency of parental involvement concentrated among families reporting baseline shocks (proxy for behavioral barriers): messages help counteract cognitive load

# Conclusions

- **Contribution:**

- Uses mobile technology to deliver parenting support at scale
- Combines calls, messages, and adaptive content to personalize the intervention at low cost in a developing country
- Builds on evidence from messaging programs (e.g., Ready4K, Crianza Positiva)
- Expands the use of tech to real-time content adaptation and multi-channel behavior support

- **Highly scalable:**

- Estimated cost: USD 350 per family
- Much lower than traditional home visiting (USD 10,500)

- **Institutional buy-in:** National Ministry has created a dedicated remote support team to scale the intervention

- **Medium-term impacts:** Third follow-up after 2 years is underway. Early signs of gains in language development (WPPSI-IV) and socioemotional development (ECOS)

- **Next steps:** Linking to administrative data for long-term tracking; increasing chatbot's complexity