

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

Juanita Bloomfield¹ Ana Balsa¹ Alejandro Cid¹ Philip Oreopoulos² Alejandrina Cristiá³

¹Universidad de Montevideo

²University of Toronto

³CNRS & ENS, France

Abstract

Early childhood in developing countries faces a greater prevalence of risk factors and limited resources, underscoring the need for effective, scalable support models. We develop and experimentally evaluate a multi-component approach to enhance family environments over the phone. The program combines scalable outreach methods including calls by a teleoperator, messages, a chatbot, and an AI-based feedback tool. Targeted at highly vulnerable families with children aged 0 to 3 in Uruguay, the intervention promotes positive parenting practices at home, fosters language development, and provides personalized assistance to help families access government benefits. The intervention was implemented with 1,360 families eligible for support from the government agency Uruguay Crece Contigo over an eight-month period. We find that the program increases weekly frequency of parental engagement in stimulating activities and reduces parental stress. Treated families gain enhanced access to social benefits, including cash transfers and employment support programs.

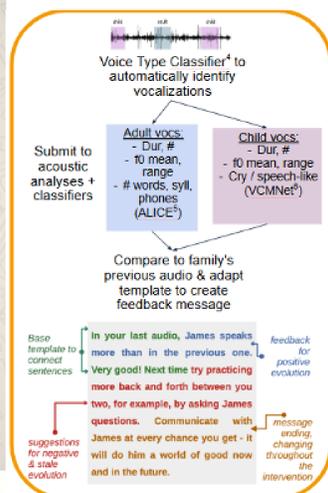
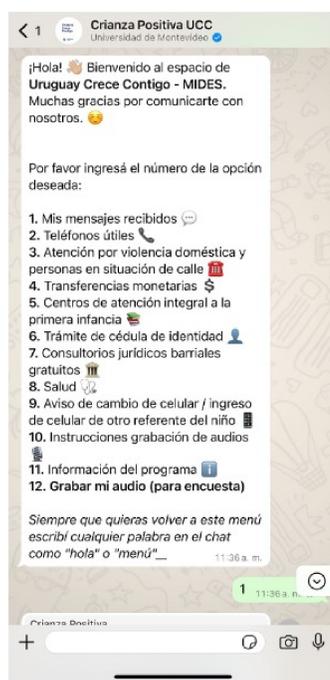
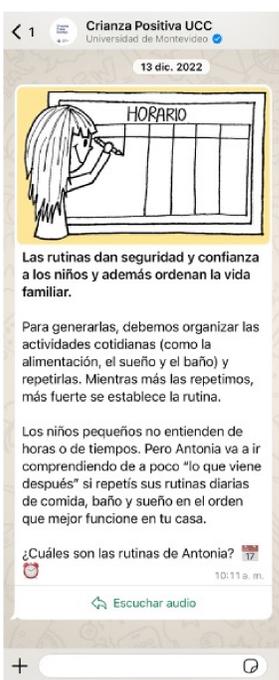
Intervention Design

Two 4-month modules:

- **Module 1 (Months 1-4):** Positive parenting (affective, formative, stimulating and reflective competencies) + access to government benefits and programs
- **Module 2 (Months 5-8):** Language stimulation (vocalizations, conversational turns, pitch range, singing and reading)

Components:

1. **Calls** by a trained teleoperator
2. Text and audio **WhatsApp messages**
3. **Chatbot** dropdown menu
4. **AI feedback tool** based on WhatsApp audio



Evaluation Design

- Randomized Controlled Trial (RCT)
- N=1,360 highly vulnerable families with children aged 0 to 3
- Two arms: Treatment (full intervention) and Control (placebo chatbot)

Sample Profile and Balance

- 31% completed basic secondary education
- 68% overcrowded homes
- 38% risk of depression
- The sample was balanced at baseline across arms
- No differential attrition (N, first follow-up = 942; second follow-up = 753); baseline covariates remain balanced post-attrition

Measurement

- Baseline and endline surveys (after 4 and 8 months) conducted by phone

Main Outcomes

- Parenting practices and knowledge
- Caregiver well-being and stress
- Language interactions
- Benefits uptake
- Anthropometry

Main Results

The program had significant **effects on parenting practices and knowledge, well-being, language interactions and benefits uptake**. All results are reported in standard deviations (s.d.):

- ↑ frequency of parental involvement in cognitive stimulation (+0.19 s.d.)
- ↑ knowledge about language stimulation (+0.15 s.d.)
- ↑ parental well-being (+0.16 s.d.)
- ↓ parental stress (-0.20 s.d.)
- ↑ quality of language interactions (+0.20 s.d.)
- ↑ access to state benefits (+0.30 s.d.)

Estimates are ITT; p-values corrected for multiple hypotheses

Conclusions and Next Steps

Takeaways:

- Scalable, low-cost parenting support is feasible via phone
- Well-received intervention: 90% of families consider it useful
- Promising model for LMICs with high phone penetration

Next Steps:

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

Program's future:

- MIDES has institutionalized a team of teleoperators to scale up the intervention