

### **Abstract 3**

**Title: Experimental evidence from an early childhood parenting intervention in Nicaragua**

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## **Abstract 3 Body**

### **Background / Context:**

*Description of prior research and its intellectual context.*

Despite the strong argument for investing in young children and the many types of interventions and delivery mechanisms that have been developed, knowledge on Early Childhood Development programs' effectiveness in low-income settings remains thin. Many factors determine children's cognitive development: family characteristics, socioeconomic background, maternal health, child health and nutrition, stimulation, household income, parental education and employment, parenting practices and family environment. Interventions that aim to improve ECD outcomes each tackle a subset of these determinants. Most of existing evidence focuses on supply-side interventions related to nutrition or centered-based interventions. Yet a growing number of programs in developing countries contain interventions seeking to improve ECD outcomes by changing parenting practices. These programs have significant scale-up potentials. Recent studies have shown that behavioral changes among parents can lead to improvements in ECD outcomes among children. However, evidence remains particularly limited on the overall effectiveness and optimal design of programs that aim to improve ECD outcomes by modifying parental practice in order to increase early childhood development in low-income settings.

Large signs of cognitive delays have been document among children in rural Nicaragua. Earlier research from the region has shown that cash transfers have significant effects on some dimensions of child development after only 9 months, and that these effects did not fade out two years later. Behavioral changes were associated to these improvements in ECD outcomes, suggesting that interventions that facilitate investments made by parents to reduce risk factors can result in ECD gains.

### **Purpose / Objective / Research Question / Focus of Study:**

*Description of the focus of the research.*

To test the impact of a home-visiting parenting intervention on early childhood development outcomes in a low-income setting, as well as the relative effectiveness of targeting the intervention to mother or mothers and fathers.

### **Setting:**

*Description of the research location.*

The study was conducted in six rural municipalities with high levels of extreme poverty in Nicaragua.

### **Population / Participants / Subjects:**

*Description of the participants in the study: who, how many, key features, or characteristics.*

The sample includes 3100 children aged 9-72 months at the start of the program.

**Intervention / Program / Practice:**

*Description of the intervention, program, or practice, including details of administration and duration.*

The program was designed and implemented by a Nicaraguan NGO and consists of bi-weekly home visits (2-2.5 hours/ per visit) provided by trained educators over 18 months (in two phases). The intervention also included periodic information workshops for parents; as well as the provision of stimulation material to beneficiary families. In order to test the optimal design of the ECD pilot, two modalities are being undertaken. In the first modality, educators are mainly female and primarily target children's mother. In the second modality, educators are mainly male and target both the children's mother and father.

**Research Design:**

*Description of the research design.*

The allocation of the parenting pilot was randomized at the community level. Out of the 106 communities in the sample, 44 communities were randomly chosen to participate in the parenting intervention and 62 to serve as control. Treatment communities were randomly assigned one of two intervention modalities (22 communities receiving each modality): an intervention targeting mothers (or female caregivers), and a modality targeting mothers and fathers (or female and male caregivers).

**Data Collection and Analysis:**

*Description of the methods for collecting and analyzing data.*

The baseline was collected in 2008/9, and the follow-up data was collected in March-July 2011. The main outcomes include measure of cognitive development (language and memory), fine and gross motor skills, and socio-emotional development (positive behavior, control, negative behavior). Measures of parenting practices are also collected. Intent-to-treat estimates are obtained by comparing outcomes at follow-up across the various treatment and control groups.

**Findings / Results:**

*Description of the main findings with specific details.*

Preliminary analysis suggests small but significant improvements in ECD indicators from the home-visiting intervention in targeted communities. Significant impacts are documented on cognitive development, motor skills and socio-emotional development. Impacts were found to be larger for the treatment modality involving mothers and fathers, and relatively larger for boys.

**Conclusions:**

*Description of conclusions, recommendations, and limitations based on findings.*

Results underscore the potential for interventions to change parental practices and attitudes, and highlights that targeting fathers can have large pay-offs.