



Inter-American Development Bank

## Call for Research Proposals

### **Improving Early Childhood Development in Latin America and the Caribbean**

#### **1. Justification and Background**

Poverty reduction in the region has been slow, despite the notable growth that its economies displayed during the last decade. In many countries, moreover, poverty reduction has been accompanied by broad redistributive programs, which raises questions regarding the sustainability of those gains and the sort of incentives they generate. Ensuring sustainable reductions in poverty requires increasing both the economic opportunities and productive capacity of poor populations, breaking both the human development and productivity traps that currently affect poor households and their children. Analytical work is continuously needed to identify how human development traps evolve through the life cycle of poor children, especially in early childhood and in key transitions through the schooling cycle, and which policies are needed to address them. This initiative will continue to support key research that has been recently undertaken by the Inter-American Development Bank (IDB) on early childhood development.

Early Childhood Development (ECD) interventions are especially appealing for two reasons. First, the existing evidence from the United States, as well as the limited number of studies on interventions in Latin America and the Caribbean (LAC), suggest that there may be large returns to investment in ECD. Second, as Heckman and others (Heckman, 2000; Carneiro and Heckman, 2003; Heckman, 2005; and Cunha and Heckman, 2007) have convincingly argued, investment in ECD is one of relatively few public interventions that can improve equality at the same time that it increases average productivity.

The existing research on early childhood investments/interventions (Heckman, 2000; Carneiro and Heckman, 2003; Heckman, 2005; and Cunha and Heckman, 2007) shows that the expression of a child's genetic traits is influenced by environmental inputs.<sup>1</sup> In addition, as inputs are cumulative in nature (Carneiro, Cunha, and Heckman, 2003), intergroup disparities due to differences in those inputs often increase over the course of children's schooling (Fryer and Levitt, 2004). As a result, deficiencies produced early in life are hard to remedy—especially those in cognitive skills—and the later remediation occurs, the less effective it is.<sup>2</sup>

Extensive research has been conducted in developed countries on ECD outcomes, its determinants and the impacts of ECD programs on child, adolescent and adult outcomes. However, evidence from developing countries, and in particular LAC, is scarce and based on work in only a handful of countries. Schady (2006), after reviewing the studies on ECD in LAC, concludes that there appear to be large developmental deficits among Latin American children and a steep gradient by socioeconomic status that increases with age. In terms of the

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<sup>1</sup> Among all early childhood investments, investments in health have been shown to be an important predictor of later success in schooling in developing countries (Glewwe and Jacoby, 1995; Glewwe, Jacoby, and King, 2001; Alderman, Hoddinott, and Kinsey, 2004; Maluccio et al., 2009). For instance, Grantham-McGregor et al. (2007) show that stunting (along with poverty) in the developing world are closely associated with poor cognitive and educational performance in children, particularly in Sub-Saharan African and South Asia. Victora et al. 2008 provide further evidence for a range of developing countries, including cohort studies in Brazil and Guatemala.

<sup>2</sup> It is known that cognitive ability is formed relatively early in life and becomes less malleable as children age. By age 14 (some would even say age 8), intelligence as measured by IQ tests seems to be fairly well set.

effectiveness of interventions, the evidence points to the limited effectiveness of conditional cash transfer programs, but large returns to center-based, primarily educational interventions. In regard to ECD programs coverage, the existing evidence concentrates largely on preschool coverage rates and is not available for all countries. Finally, recent studies in Guatemala show significant effects of improved early-life nutrition after the age of 35 on adult cognitive skills, adult male wage rates, and anthropometric indicators including birth weight of women's children (Hoddinott et al., 2008; Maluccio et al., 2009; and Behrman et al. 2009).

## 2. Objective

The objective of this research initiative is to sponsor key research on three main areas related to ECD promotion in LAC: i) supply of ECD services and determinants of take-up rates; ii) determinants of ECD outcomes: *socioeconomic status*, family and community characteristics, availability of basic social and ECD services (such as health and nutrition interventions, conditional cash transfer (CCT) programs, and nurseries and preschool facilities), and environmental factors; and iii) impacts of ECD interventions on short and long-term outcomes (e.g., child cognitive and non-cognitive skills, behavior, education progression and attainment, employment and wages, perceptions of well-being). Studies should use data for countries in the region and try to link the knowledge generated to sound policy recommendations.

## 3. Scope and Methodology

This section suggests specific issues that should be addressed by the research proposals in each of the areas described above. These suggestions, however, are not intended to be exhaustive or restrictive. Additionally, in order to be eligible for funding, proposals should use micro data such as national household surveys, DHS surveys, living standards measurement surveys, special cross-section or longitudinal ECD surveys, or ECD program surveys with detailed information on access to ECD programs and interventions, and ECD special modules, possibly in combination with cognitive assessments (such as the Raven's Progressive Matrices Aptitude Test or the Peabody Picture Vocabulary Test).

### *a. Supply, coverage and take-up rates of ECD interventions*

Interventions that support ECD can be found in at least six broad sectors: health, nutrition, education, social protection, justice, and sanitation. Potential beneficiaries include children from conception to at least age 8.

The area of health and nutrition interventions include prenatal, perinatal and infant and child health care, child and maternal health and nutrition education, and nutritional supplementation. Education interventions include pre-primary education (preschools) and the first years of primary education. The judicial sector interventions include protective services and juridical protection of children's rights. Social protection programs that contribute to ECD include CCTs and social investments funds that support access to basic infrastructure. ECD can also be promoted through mass communications campaigns to enhance parents' and caregivers' ECD knowledge and practices.

Direct ECD interventions, which often involve activities across sectors, can be grouped into two basic categories: i) interventions to enhance at-home nutrition and stimulation and cognitive development of infants and children, and ii) center-based interventions that provide meals and sponsor care and activities that enhance cognitive development of children.

At-home support programs usually include periodic visits from trained professionals, parenting education and support, and provision of nutritional supplements and education and stimulation materials. Center-based interventions usually combine child care in the mother's home (e.g., Bolivia's PIDI Program, Colombia's Hogares Comunitarios, Guatemala's Hogares Comunitarios) or in community or publicly sponsored kindergartens, crèches, or nursery schools (e.g., Brazil's creches comunitarias, Jamaica's Community Study program, Venezuela's hogares de cuidado diario), with nutritional support and cognitive and educational activities. Center-based provision is usually carried out by mothers or community members who have received some ECD training, or by professional caregivers or teachers. Some center-based and at-home programs provide more intensive services for vulnerable children with developmental delays, malnutrition, diseases, or disabilities.

Funding for ECD interventions is provided by the public sector, civil society, and the private sector. In many cases communities provide in-kind or financial contributions for ECD, and parents may be required to pay a fee to enroll children in ECD activities.

Research projects that include or focus on assessing coverage and determinants of take-up rates of ECD intervention should aim to cover most direct ECD interventions prevalent in a country or a group of countries (encompassing both at-home and center-based programs) and preschool education. For research projects that focus only on coverage and determinants of take-up rates of ECD intervention, multi-country studies will be preferred. Nonetheless, in cases of countries where household surveys do not report coverage or where low coverage makes the use of these surveys problematic, studies that undertake a careful inventory of a multiplicity of small programs will be seriously considered.

Research projects should aim to describe in detail program components (i.e., in child care, nutrition supplementation, health care, provision of cognitive and child stimulation, and parent training, among other areas). Fee schedules, detailed operational and administrative costs, financing and overall program costs and costs per beneficiary should also be calculated.

Micro data (from household surveys or specific program surveys combined with household surveys or administrative data) should be used to assess coverage of ECD programs and preschool education, coverage by income groups and other relevant socio-economic characteristics (such as ethnicity and racial origin, among others). Determinants of take-up rates should also be estimated, and research proposals should include a detailed description of the empirical strategy that will be used to properly identify take-up determinants.

As many household surveys may not have a sufficient sample size on beneficiaries of ECD interventions, proposals should carefully assess the beneficiary sample size in household surveys. Data from household surveys can be complemented with compatible beneficiary data from specific programs.

*b. Determinants of ECD outcomes: socioeconomic status, family characteristics, investments and environmental factors, focusing particularly on the mechanisms in action*

Identifying the determinants of a child's development of cognitive and non-cognitive skills in LAC is of crucial importance. However, there is still a remarkable lack of consensus on which particular inputs (whether nutritional factors, socioeconomic status, parental/family background, parental or government investments and/or environmental factors) increase children's skills, as well on the extent of such increases and mechanisms leading to them. Family background and socio-economic status have been extensively researched, especially in the education literature. However, we still do not know whether particular countries or samples display evidence of a gradient between outcomes in early childhood and

household socioeconomic status. To the extent that such a gradient does exist, what are the channels through which income or other measures of household welfare affect outcomes in early childhood? As findings on the persistence of differences in test performance as children age are based on results from only a few LAC countries (Schady, 2006), it would be interesting to assess this phenomenon in other LAC countries as well.<sup>3</sup>

Other determinants of a child's development in cognitive and non-cognitive outcomes, such as specific parental investments, have been less studied in LAC. It is plausible that the proportion of household expenditures devoted to a child's clothing, health, education or books is the most important determinant of cognitive development. Alternatively, childcare time, early exposure to peers, or any investment related to learning-specific skills may prove crucial. Then again, cognitive development may depend on some combination of the factors mentioned above, such as time spent by a child's parent(s) reading stories or helping him/her learn numbers, or the mother's number of prenatal care visits and health center visits for timely immunizations. Health-related investments are not linked directly to cognitive/non-cognitive skills, but it has been widely shown that improved health leads to better learning capacity and education outcomes (Glewwe and Jacoby, 1995; Glewwe, Jacoby, and King, 2001; Alderman, Hoddinott, and Kinsey, 2006; Behrman et al., 2008; and Maluccio et al., 2009).

The analysis of children's cognitive and non-cognitive achievement would ideally be based on data on all past and present family and school inputs as well as on information about children's heritable endowments.<sup>4</sup> Because existing data sets are deficient in one or more of these domains, an important issue in the literature is the problem of missing data. Data sets used in ECD studies often have rich longitudinal information on early childhood environments but lack data on schools. Likewise, data sets used in production functions of education have data on schooling inputs, at least at one point in time, but contain incomplete and mostly contemporaneous family background information and may lack data on past schooling inputs.

On the other hand, there is the methodological problem of how to estimate the determinants of cognitive and non-cognitive achievement in a way that is consistent with theoretical notions that child development is a cumulative process that depends on the history of family and school inputs as well as on inherited endowments (Todd and Wolpin, 2003).

Research proposals in this component should address the issues of how nutrition, socioeconomic status, school and parental investments affect a child's cognitive and non-cognitive development over time, while attempting to address the relevant methodological issues (either with panel data or careful and sound econometric methods applied to cross-sectional data). Papers similar in nature to those of Todd and Wolpin (2003, 2007) and Paxson and Schady (2007) will be of particular interest.

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<sup>3</sup> The intuition would be that the lack of early childhood investments in a developing country probably has more far-reaching implications than in a developed country. If a child does not receive proper nutrition, schooling and/or stimulation early on, then it will be more difficult for that child to catch up given the lack of access to credit and insurance, two problems endemic to the developing world. If credit or insurance markets were present, then parents of disadvantaged children could send their children to better schools or make them take extra hours of instruction to remediate early disadvantages. One should thus expect early deficiencies to be even harder to remedy as children age in a developing country.

<sup>4</sup> Children's heritable endowments (or abilities) are clearly never observed. However, ability (or intelligence) tests such as the Raven's Progressive Matrices Aptitude Test taken at very early ages are sometimes used in the literature as a proxy for this unobserved factor.

*c. Impacts of ECD interventions on medium and long term outcomes*

Substantial research is needed in LAC to build up the knowledge base regarding the effectiveness of ECD interventions. In particular, from the perspective of policymakers, given the various types of ECD interventions available, more research regarding the impact of specific ECD interventions would be valuable in order to channel limited resources to initiatives with the highest returns. Reliable estimates on the returns of health, nutrition and educational ECD interventions for clearly defined populations, for example, could be used to improve effectiveness in the use of resources devoted to ECD. More generally, these estimates could be used to compare the relative effectiveness, in terms of impacts on relevant outcomes, of ECD investment vis-à-vis other types of public interventions intended to attain similar developmental goals (e.g., increasing educational attainment and learning measures).

Given the timeline for this Research Network project and the fact that new experimental evaluations of ECD programs need several years to produce results, the initiative aims to sponsor studies that can provide evidence on the returns of specific ECD interventions in a relatively short time frame. Nevertheless, studies must use sound methodologies to answer the questions posed. In particular, two types of studies are sought. The first type consists of studies that exploit clearly defined interventions in the past in which reasonable counterfactual groups to the beneficiary individuals can be constructed (preferably experimental control groups), with follow-up data collections to estimate the long-term impacts of those programs. Examples of this type of studies include work on early childhood nutrition interventions in Guatemala (Hoddinott et al., 2008; Maluccio et al., 2009; and Behrman et al., 2009) as well as studies that follow up stimulation and nutrition interventions in Jamaica (Grantham-McGregor et al., 1997).

A second type of desirable studies combines data from secondary sources such as Population Censuses, household surveys and administrative data on beneficiaries to evaluate existing or past ECD programs using sound econometric methods to provide estimates on the impact of different ECD programs on short, medium and long-term outcomes. For instance, data for adults from a Population Census could be combined with data regarding the availability of preschool, health, and nutrition services during early childhood to exploit variation across time and space in the supply of these services. Examples of such studies include the following: Gertler and Fernald (2004); Behrman, Parker and Todd (2009); Behrman, Cheng and Todd (2004); Attanasio and Vera-Hernandez (2004); Berlinski and Galiani (2005); Berlinski, Galiani and Manacorda (2008); and Berlinski, Galiani and Gertler (2009).

Given that attending preschool or being visited by an in-home program are not random occurrences, studies should clearly state how they will address the inherent issues of selection. Also, research proposals on the impact of ECD interventions should carefully detail their anticipated sources of information and the empirical strategy to be used to analyze program impacts. When possible, proposals are encouraged to estimate the cost effectiveness or cost-benefit ratios of the ECD intervention(s) under analysis.

Special attention should be given to the question of how to best design ECD interventions to increase their effectiveness in particular contexts. Studies must therefore attempt to document as precisely as possible the characteristics of the program under study and try to provide some evidence to relate the results obtained with the specific inputs entailed by the program. When possible, research proposals are encouraged to incorporate analysis of available ECD interventions in the country, coverage rates and determinants of take-up rates (see item a above).

#### 4. Selection Criteria

Research institutions or teams of individual researchers may present a proposal for this project. Institutions or researchers can present a proposal for up to three of the following ECD-related subjects:

- Supply, coverage and determinants of take-up rates of ECD programs and interventions (including preschool).
- ECD outcomes and their association with family characteristics, investments and environmental factors, focusing particularly on the mechanisms in action.
- The medium and long-term effects of access to ECD programs and interventions (including preschool enrollment) on educational and other well-being outcomes of children and youth.

Research proposals will be considered in each of the areas highlighted above. The final number of proposals accepted in each area will depend on the quality of the proposals received. Research institutions or researchers may propose projects that include activities in more than one of the areas considered above.

Each approved research proposal will receive financial support from US\$30,000 to US\$60,000, depending on the scope of the work proposed. Research proposals are required not to "bundle" components (i.e., proposals must address each subject separately).

Each of the subjects in the proposals should include a detailed discussion of the issues to be studied, the data to be used, and the empirical strategy for addressing them. Strong preference will be given to proposals that develop more closely the topics suggested within each subject described in Section 3 above. Projects that undertake follow-up surveys of interventions that are i) underway, ii) need extra funding to complement financing by other institutions, or iii) have had only one wave of results are strongly encouraged.

For proposals that focus only on supply, coverage and determinants of take-up rates of ECD programs and interventions (including pre-school), a multi-country approach will be preferred.

Final papers will be considered for dissemination as IDB working papers and may be included in a book or a special journal issue on ECD in LAC. For studies with only IDB funding, other forms of dissemination or publication should be explicitly approved by the coordinators until the journal issue option has been fully defined. Proposals may include suggestions for further dissemination of the final version of the paper and its policy implications.

#### 5. Proposal Submission

- Research institutions or individual researchers interested in submitting a proposal should pre-register before **April 20, 2009** by [clicking here](#). If unable to pre-register before the due date for proposals (May 18), please send an email to [res@iadb.org](mailto:res@iadb.org)
- Proposals are due **Monday, May 18, 2009**.

- Proposals should be submitted using the [Web Submission Form](#). Please note that there are two options within the submission form: one for institutions and another for teams of individual researchers. Please make sure to choose appropriately.

The following information will be required for submitting your proposal:

- The proposal with all the technical aspects involved in the development of the study, based on the Terms of Reference outlined in this Call for Proposals.
- A budget indicating the time and resources that will be used within the context of the research work plan. **The budget is requested as a separate file and should not be included in the proposal.** The budget proposed should disaggregate items financed by the IDB contribution and those financed by the research institution or by the team of individual researchers. The budget should distinguish among amounts assigned to professional honoraria, “overhead” and other major categories of research expenditures.
- The name and Curricula vitae (four pages maximum) of the research leader and other researchers involved. The research team should demonstrate its ability to meet the objectives of the project, including relevant experience. Please note that for proposals submitted by institutions, subsequent substitutions for researchers originally specified in the proposal may be made with prior approval from the project coordinators, but the research leader (of each subject) should lead the entire project until its full completion. Conditions regarding the substitution of researchers apply only to contracts with institutions and not to contracts with individual researchers.
- If an institution submits the proposal, it must provide the name and contact information of the legal representative, with authority to sign contracts with the IDB, if selected to conduct the study.
- If a team of researchers submits the proposal, the IDB will enter into a separate agreement with each individual. For this reason, a detailed budget including honoraria and expenses for each researcher is required.

**Note: ALL proposals and research papers should be submitted in English**

## 6. Coordination and Schedule

The IDB project team consists of: César Bouillon, Julian Cristia, Florencia López Bóo and Hugo Ñopo. Jere Behrman, University of Pennsylvania, will act as external advisor for the research project.

The tentative schedule of activities is as follows:

- April 8, 2009:** Call for research proposals issued.
- April 20, 2009:** Due date for **pre-registration**

- **May 18, 2009:** Due date for receiving proposals. Institutions should ensure that complete documentation is submitted through the [Web Submission Form](#).
- **June 8, 2009:** Announcement of selected research proposals
- **June 10, 2009:** Initial **videoconferences** with selected research teams.
- **July 20, 2009:** Due date for receiving a **preliminary report** with an annotated outline of the research paper, data sources, and the methodology to be used in the study.
- **October 15-16 , 2009:** First Discussion **Seminar** in Washington, DC, where the preliminary report, outlines, methodologies and databases limitations will be discussed.
- **November 30, 2009:** Due date for receiving a **first draft** of research papers.
- **January 18, 2010:** Second Discussion **Seminar** (location to be determined) with project leaders and advisors for the purposes of discussing the first draft of research papers.
- **April 30, 2010:** Due date for receiving a **second draft** of research papers and delivery of the datasets utilized by the study to the IDB.
- **May 17, 2010:** **Videoconferences** with project leaders and advisors where the second draft of research papers will be discussed.
- **July 30, 2010:** Deadline for **final version** of the research papers, including a summary that discusses policy lessons.

## 7. Financial Aspects

The IDB will contribute up to **US\$60,000** for each study, depending on the scope of the work proposed.

The payment schedule is as follows:

- **30 percent** within 30 days of signing the formal agreement between the IDB and the respective research center.
- **35 percent** within 30 days of presenting and approving the first draft of the research paper
- **15 percent** within 30 days of presenting and approving the second draft of the research paper and upon delivery of the datasets utilized by the study to the IDB.
- **20 percent** upon approval by the Bank of the final research paper.



## 8. Bibliography

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