



**Development in early childhood is malleable and has long-term impacts on multiple dimensions of an individual's success throughout life.**

## Introduction

The Inter-American Development Bank (IDB) has launched a significant, multi-year program of analytical work on Early Childhood Development (ECD) in Latin America and the Caribbean. The objective of this program is to substantially increase the knowledge of ECD in the region, and to improve IDB's ability to give good advice to governments and others who work in this area. As part of this effort, IDB invited a group of international experts recognized for their contributions to the field to form part of IDB's Advisory Committee on ECD. The purpose of this meeting was to convene the Advisory Committee for the first time in order to discuss with its

members the main topics in IDB's analytic agenda and seek their guidance on what they saw as the most relevant areas of focus and priorities. The meeting was divided into four sessions, each focused on one of the themes of IDB's analytic agenda on ECD: (a) measurement of ECD indicators; (b) center-based care (day-care and preschool services); (c) other types of interventions (parenting, home visits, and CCTs); and (d) cross-cutting issues (non-cognitive development and mother-and-child interactions). A list of participants can be found as an appendix to this document.

## Measurement of early childhood development indicators

The main topics proposed by the IDB in this area are the following: (a) to validate and to norm measurement instruments, documenting the relationship between each other (with an emphasis on instruments for children under two years of age, non-cognitive development, quality measures, home environment, and parenting); (b) to produce comparable indicators on levels of various ECD outcomes across countries and for specific groups within countries; (c) to ensure the continuity of unique panel data sets rich in ECD information and support its analysis to identify critical ages, mechanisms of inter-generational transmission, relative importance of different kinds of inputs (nutrition, health, parenting, stimulation), and costs of not intervening in early childhood. A detailed description of the projects in this area is presented in Box 1.

A clear message coming from the Advisory Committee was that measurement is a key issue. Data are needed both for outcomes and for inputs and IDB is on the

## Box 1 Main projects in the area of measurement of early childhood development indicators

### Validation of ECD instruments in Colombia

This project will address the measurement of cognitive development in young children in Colombia. While some high quality tests exist, they are rarely used in large scale studies, mainly because of the high cost, the skill level of the tester and the time needed for their administration. Many researchers, instead, use a variety of measures that are much shorter to collect and may rely on parental report. However, even when tests are translated to various languages, they have rarely been validated, in particular in developing countries. This is true for Latin America, where several tests exist in Spanish, but virtually no validation exists. Furthermore their predictive power to later developmental outcomes has not been assessed. This project, a collaboration between the IDB, The Institute of Fiscal Studies and University College London, will compare the validity of short instruments with longer instruments including the well-renowned Bayley's instrument in Colombia.

### Ecuador Fourth Round of Panel Data

It is extremely rare to have long-term panels on children in developing countries. And yet, long-term panels are indispensable for establishing the age at which deficits in various dimensions of child development appear, how they evolve, and whether they predict school attainment (among other outcomes). Long-term panels can also be used to estimate the extent to which specific deprivations (for example, poor nutritional status, or inadequate stimulation) result in inadequate child development. This activity, carried out by the IDB, will finance the collection of the fourth round of a longitudinal panel of approximately 4,000 children in rural Ecuador. The first three rounds of data have been of very high quality, and have resulted in a number of influential papers. Attrition is very low—less than 6 percent over a three rounds of data and almost six years. The fourth round of data, to be collected in early 2011, will be used for a variety of research projects, including for an analysis of the extent to which cognitive development in early childhood predicts success in school.

### Extension of Jamaica evaluation

This study will follow-up on the Susan Walker and Sally Grantham McGregor 1987 longitudinal study of 127 children who were stunted in early childhood in Jamaica. Stunted children aged 9 to 24 months were randomly assigned to four groups for two years: a control group who received free medical care only and groups receiving nutritional supplementation, psychosocial stimulation or both treatments. A group of non-stunted children matched for age and from the same neighborhoods and of similar socio-economic backgrounds was also studied. This study is a prospective cohort study of the children of participants in a longitudinal study of the effects of stunting and the benefits of early childhood interventions on cognition, educational and employment outcomes, and mental health. The sample will comprise all children between 12 and 72 months born to mothers or fathers in the original study cohort. The effect of early childhood stimulation on growth and development of the second generation will be analyzed. We will also investigate the impact of the stimulation intervention on parenting (home stimulation) by the first generation of parents.

### Construction of regional indicators on ECD (PRIDI)

The objective of this project is to launch a regional program for the collection and use of comparable data and indicators on child development outcomes. The initiative supports a region-wide effort to: 1) provide benchmarks to assist policy-makers in identifying the comparative strengths and weaknesses of their respective ECD and readiness to learn networks; 2) provide high quality data that will increase policy-makers' understanding of key factors that influence child development; 3) provide high quality data which will serve as a resource for identifying areas of concern and action; 4) improve in-country capacities to develop, monitor and evaluate national strategies for ECD and readiness to learn; 5) and create an empirical foundation for regional debate on the state of children aged 0–6 and project this debate, and the accountability it implies, across ministries and civil society. Five countries are participating in the initiative: Costa Rica, Ecuador, Nicaragua, Paraguay, and Peru.

right track in this agenda.<sup>1</sup> Several complementary goals in the measurement agenda were noted: (a) to develop instruments that governments can use to monitor ECD outcomes (applied regularly, over large samples, and that are not too costly to implement); (b) to agree on measures that can be used to assess the impact of interventions (usually more extensive and focused on different dimensions of development); (c) to contribute to a more in-depth reflection on the particular dimensions or constructs of the current methods where there are questions/doubts and on what knowledge is needed to answer these questions.

The Advisory committee emphasized the lack of consensus around instruments for measurement. In addition to the activities led by IDB, there are several parallel efforts by others in the field of measurement for ECD. Many different tests are in use by different countries. Researchers often encounter skepticism from child development specialists and child psychologists when they propose new instruments (because of translation, meaningfulness for the local context, etc). It was agreed that validation is important as is translation and adaptation to specific contexts (e.g. especially in multi-cultural settings). The Advisory Committee had several suggestions for roles IDB could play to help solve some of these problems of coordination, information-exchange and consensus-building. One suggestion was for IDB to take a lead in the process of building that consensus across the different actors that are currently carrying out work in this area. Another possible space where IDB could position itself in this community is by providing a public space that synthesizes ongoing analytical efforts in the field in the region. It was even proposed to consider creating an instance that “clears” randomized control trials in the field in order to help with information exchange and standardization of methods.

There were several ideas on how to innovate the collection of data on ECD by using technology, among them: (i) the use of dynamic tests so that instruments can be adapted on the spot; (ii) the use of video (and video-coding strategies) to produce multi-purpose

data and multiple measures for example on school quality; (iii) biomarkers .

Another measurement-related area where there are some knowledge gaps suggested by the participants relates to the need to devise a system of thresholds (something like the nutrition z-scores) that informs on what are meaningful orders of magnitude for changes in ECD indicators. This is particularly important so that research can be useful for policy-making. An ongoing initiative carried out by Brookings (with US data) that uses micro-simulations to trace the movement of skills across the lifespan, from childhood to adulthood, was suggested as a possible input in this task.

Lastly, throughout the discussion that took place during the rest of the day, the topic of measurement came back a few times. First, in the context of establishing agreement on instruments to measure the quality of programs, centers, care givers and home-environments. Second, in the discussion around non-cognitive development. Third, in the need to develop better measures for prenatal practices. More detail on these discussions is provided later.

## Center-based care: daycare and preschool services

The main themes currently proposed in IDB’s analytical agenda in this area relate to better understanding the mechanisms through which center-based care can have positive effects on child development. Among them, intensity and frequency, quality of care, and the role of complementary household-level interventions were identified by IDB staff as the most important. Box 2 presents a more details on the specific projects in this theme that IDB is supporting. The main challenges

<sup>1</sup> The importance of IDB supporting ongoing efforts of countries interested in carrying out readiness assessments was highlighted. These assessments are particularly relevant in places where coverage of preschool is significant.



**IDB has launched a significant, multi-year program of analytical work on ECD and convened its Advisory Committee to discuss the main topics of the Bank's research agenda**

curriculum, human capital, culture, organization, etc.) and within the analysis of quality there are many aspects that have to be analyzed: quality of the program, quality of the center, quality of the care-giver, and the interaction with the home environment. The discussion focused on the following aspects related to quality:

**Measurement:** On the measurement of center-quality, one of the first challenges is to distinguish which are the dimensions of quality that matter. There are many so it is difficult to assess on all. How to establish priorities? How to assess them by their cost-effectiveness? Here too the importance of building a consensus around measures and instruments was highlighted. Determining minimum standards of quality is a key piece in defining cost-effective interventions (e.g. is there a minimum level of teacher training that makes a difference to children?). There is an important distinction between a “general” notion of quality (useful in defining standards, competencies, informing consumers, or carrying out impact evaluation) and more “specific” dimensions of quality, e.g. quality of implementation, quality of instruction, etc.

**Quality of center and home environments:** When thinking about center-quality, what matters most is the relative quality of the center vis-à-vis that of the home environment (which also raises the issue of defining valid counter-factuals for studies on the effects of center-care). It is important to distinguish between a counterfactual that is a “no program” situation versus one where there is a “system” in place (what are the kids receiving from the existing system, from the community or at home?).

**The interaction between the quality of center and home environments:** Focus on what happens just at the centers tends to be misleading. The lack of effectiveness of certain programs may be a result of things

in this area of research relate to issues of power and of external validity.

The distinction between center-based care and home-based care seemed artificial to some of the participants, given that different types of interventions can be delivered in centers or homes (e.g. parenting classes can be delivered—individually or in groups—in centers or in homes). Moreover, there is substantial heterogeneity across different modalities of center-based care, so grouping different kinds of center-based programs (e.g. daycares and preschools) is not advisable. Among the issues that differ across modalities are: their justification (a need of support child care for working mothers vs. educational arguments), the appropriateness of institutional care at different ages, optimal intensity and frequency, and others. Future discussion about center-based interventions should, at the minimum, explicitly separate children by age (e.g. 0 to 2 and 3 to 5).

What is known from the research available is that some programs have worked better than others, and the presumption is that quality has played a role. Therefore, the quality issue and how to measure it has to be central on the research agenda. The analysis of the quality of inputs is scattered (facilities,

## Box 2 Main projects in the area of center-based care

### Measuring Education Quality In Brazil

In late 2008, a quantitative and qualitative study on the quality of infant education in Brazil was begun as a collaborative endeavor between the IDB, the Ministry of Education and the Carlos Chagas Foundation. This study was grounded in the following hypotheses: (i) expansion in enrollment in infant education has been at the cost of quality; (ii) there is considerable variation in the quality of infant education; and (iii) quality of service impacts performance in primary education. Primary data were collected in six large cities representing the general trends in and heterogeneity of infant education in the country. The research team chose to adapt a revised version of the ITERS (infant and toddler environmental rating scale) for application in the crèches and the ECERS (early childhood environment rating scale) for use in the preschools. The ITER and ECER scales are observational scales and amass a significant amount of data along seven main dimensions: physical space and equipment; care routines; speaking and communication; activities; interaction; programming; and parents and childcare team. These dimensions are consistent with much of the existing literature of quality in early education. On average, the centers surveyed in the six cities had a score of 3.3 out of 10 points, with Florianópolis and Rio de Janeiro scoring higher than the rest. This raises a number of concerns, foremost of which is the reality that underlies these scores remains far from complying with the country's National Parameters for Quality.

### Evaluation of Jardines Sociales in Colombia

The Jardines Sociales are a new modality of daycare and preschool services for children of poor families in Colombian cities. With the opening of a large number of Jardines Sociales that will be absorbing the traditional modality of Hogares Comunitarios, there is a unique opportunity to compare the impact of each of these two models of care on a range of child development outcomes (health and nutrition, but also cognitive and socio-emotional outcomes). This information is very relevant for the government to assess the cost-effectiveness of the Jardines model in order to justify scaling-up this higher-quality (but also more expensive) modality of service. This project will be carried out in collaboration between IDB, Universidad de los Andes, the Institute of Fiscal Studies and the Instituto Colombiano de Bienestar Familiar.

### Evaluation of Hogares Comunitarios in urban Guatemala

The Hogares Comunitarios Program provides childcare, nutrition and stimulation services to children ages 6 months to 6 years in Guatemala. The research project aims to evaluate the impacts of the program in the nutritional status, cognitive and non-cognitive development of the children beneficiaries. Additionally, it will analyze its impacts on labor decisions of their mothers and on income and consumption outcomes at the household level. The methodology involves individual-level randomization of entrance into the program in approximately 100 hogares comunitarios located in 8 different provinces. The randomization and entrance of beneficiary children has already been executed as well as the collection of a baseline.

### Evaluation of crèche program in Rio de Janeiro

Like many countries in the region, Brazil as a whole and Rio de Janeiro specifically have massively expanded the coverage of publicly-provided daycare services (called crèches). It is unclear from the literature on developed countries whether children who go to daycare centers, especially at young ages, will do better or worse than if they were to stay at home. A critical dimension appears to be the quality of the care that is provided at centers. Despite the expansion of crèches, there is substantial excess demand for crèche spots in Rio. As a result, starting in 2008, and every year since then, the municipality has allocated day care vacancies to applicants on the basis of a lottery. It was thought that such a system was both fair and transparent. It also provides a unique opportunity to evaluate the impact of crèches on maternal and child outcomes, by comparing lottery winners and losers. Baseline data for the first cohort of children, in 2008, shows that the random assignment by lottery was successful. This evaluation (to be carried out in collaboration with University College London, the World Bank, and IPEA) will use the random assignment to estimate the impact of having an offer to attend a crèche on maternal labor supply, maternal mental health, and child development in a comprehensive set of domains. Using data on the quality of the crèches, we will be able to assess whether the impact of attending a crèche on child outcomes varies with its quality.

that happen out of the programs and out of the centers themselves.

**The role of care-givers/educators:** What matters most in thinking about quality is establishing environments that are functional for children. This is less about formal requirements on the staff (e.g. to have a university degree, etc.) and more about the training they have had on working with young children. The focus should be on competencies that are required for early educators, with a concentration on relationships (between the caregiver, the children, the families, and the community) and on transitions. What are the dimensions of these interactions that matter the most? Are there easily-measurable aspects to consider? Do they differ a lot across different contexts/settings?

**Incentives:** Economists are not specialists in ECD and trying to get into the details of the workings of an ECD production function is probably not efficient. In turn, a good design of appropriate incentives to produce quality ECD outcomes could take care of the problem. When implementing those incentive schemes, however, one should bear in mind that those incentives should preclude certain behaviors that tend to exacerbate inequalities (as, for instance, picking only the best kids in order to achieve the best results).

There was a section of the discussion that focused on aspects to keep in mind when evaluating center-based programs. (1) Effects of interventions on kids change over time so it is important to follow children over a long period of time. ECD policies are, by nature, long-time investments and policy-makers need to have an assessment of what to expect from their investments, especially if they are going to be convinced about experimenting in certain setups. For that reason, digging deeper into medium vs. long-term effects becomes necessary within the research agenda. (2) In relation to long-run findings, it is important to recognize that after exiting the programs many things happen over the individuals' lifetime. Program effects fade away and many

of the outcomes depend on the paths and processes that individuals follow (among them, school quality is an important element). In order to analyze those changes over time it is necessary to have a better understanding of households' preferences and constraints. On the fading up, it would be interesting to better characterize the profile of kids who suffer from it the most, and to design alleviation strategies. (3) Issues of take-up can be tricky, in particular when scaling up. Reasons not to take children to centers vary with age and can relate to: demographics of the household, attitudes towards women at work, parents' perceptions on center quality, and others. In thinking about the evaluation design, the focus on the "treatment on the treated" will not be adequate in a setting of low take-up (similar issues to the ones faced by CCT programs that have tried to expand to urban areas). (4) The extent to which there is assortative matching or single-parenthood shapes the demand for ECD services. On that regard, looking at families' labor force participation (especially that of females) as an additional program outcome would be desirable. In general, the interaction between the use of daycare facilities and the functioning of labor market institutions has to be studied further.

Overall, the center-based agenda should also keep in mind that households (parents) have preferences. The extent to which a high-quality center (according to the set of standards designed by the policy-maker) is also a center that is desirable to parents should be better understood. Otherwise, policy-makers may design high-quality centers for which the demand does not necessarily mobilize. Parents' rationality plays an important role in the decision to choose center-based care. As has been shown recently, in some circumstances late entry could be a parent's decision expecting positive outcomes in the future. This, for instance, raises questions about the appropriateness of conditioning CCT programs on pre-school attendance.

Other areas that are important and not all covered by the current agenda: (a) From an education perspective, there is knowledge on how to articulate pre-

school to first grade, but it is necessary to learn more on how to articulate pre-school to other ECD interventions. (b) The role of private sector. (c) The effects of regulation. (d) The role of information and monitoring systems, like the ones that are in place for nutrition could be of great use. Along similar lines, it would be good to count on systematic data on regulations and accreditation systems. (e) When local interventions are rolled out at a national level, programs face challenges maintaining standards in terms of quality and costs. A central issue is how to measure and ensure fidelity of implementation. A related question is the extent to which investing to upgrade the quality and standards of existing interventions is enough to fix their problems.

## Other types of interventions: parenting, home visits, and CCTs

The main lines of analytical work proposed by IDB in this topic (and described in Box 3) aim to understand what types of interventions can support families of young children in a cost-effective, scalable model that encourages participation and that can be adapted to rural and urban settings. In this regard, one of the questions is whether some of these interventions could be built into existing CCTs that already have a sophisticated infrastructure to reach disadvantaged families, but that have not been very effective in sustainably improving ECD outcomes.

### Box 3 Main projects in the area of parenting and home visits

#### Evaluation of Expansion of AINM-C in rural Guatemala

Guatemala presents the highest deficits in terms of chronic malnutrition in the Americas and one of the highest in the world. Substantial research has documented both short and long-term deleterious consequences of poor nutrition during the first two years of life. The IDB and the Government of Guatemala are designing an operation aimed at improving nutritional and health outcomes on young children and pregnant and lactating women. This research project will evaluate two main activities. First, it will evaluate the effects of strengthening the AIMN-C program which aims to improve nutritional outcomes through growth monitoring of children and the promotion of adequate nutrition, hygiene and care practices of mothers. Currently the program is executed by medical mobile teams that visit communities periodically (mainly in rural, indigenous areas). It is believed that the basic activities involved in the program (in particular, one-to-one counseling with mothers) are poorly executed. Hence, the program will fund hiring groups of “educadoras” who will be responsible of promoting adequate practices through a close interaction with participating mothers. Second, the program will expand the provision of child and maternal health services and the provision of micronutrients via medical mobile teams.

#### Evaluation of delivery of cognitive stimulation and parenting in rural Nicaragua

The Atención a Crisis Parenting pilot aims to achieve sustainable changes in parental practices that can lead to improved investments in ECD. The pilot, jointly designed by a team from Paris School of Economics, the IDB, and the World Bank, started in September 2009. It trains community educators to deliver community workshops targeted to parents of children age 0 to 6 on issues ranging from facilitating the adoption of practices that benefit ECD, improving awareness about the importance of language and communication skills, increasing awareness of the importance of playing and games for children’s development, augmenting the active role of mothers and fathers and increasing knowledge about adequate nutrition practices. Workshops are complemented by bi-weekly household visits of parents by community educators, a core component of the intervention. Stimulation material is also distributed to the parents. 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, while in the second, educators are mainly male and target both the children’s mother and father. A rigorous experimental evaluation design was integrated in the parenting pilots. The allocation of the parenting pilot was randomized at the community level.

Different modalities of service delivery were mentioned in the discussion, with the note that little is known on the differences in cost-effectiveness across them. Among the interventions discussed were the following: parenting through home visits, parenting through health/nutrition centers, parenting through daycare/preschools, parenting interventions targeted only to families with higher perceived needs (high-risk mothers, low birth-weight children, etc.), interventions through educational media, interventions that start before birth, interventions that encourage fathers' involvement, programs that support breast-feeding mothers, parenting in groups vs. one-on-one settings, and work with parents through video.

Some of the extra benefits of the home visit model were highlighted: spillovers of knowledge to other household members, and reductions in women depression. A past Jamaica study found that intensity mattered a lot: monthly visits were less effective than more frequent ones. A study underway in Colombia will explore more in depth some of the quality aspects of visits (frequency of visits, careful curriculum, and supervision).

On the issue of costs, one of the arguments against this type of programs is often the feasibility of their scalability. However, to some it is not known whether center-based or parenting interventions rolled out at scale are more costly. US experience cannot be extrapolated, for example, in the case of Jamaica (or Brazil and Bangladesh) staffing with paraprofessionals for parenting programs has been very successful.

Available evidence suggests that the delivery mechanism of these types of programs needs to be assessed very carefully to adapt to urban and rural contexts. In urban areas, the opportunity cost of attending to meetings or receiving visits at home may be too high and discourage participation. For that reason, it is important to understand how households are rationed prior to designing interventions. In addition to understanding households' constraints, the Chilean experience found it valuable to invest in understanding households' beliefs about early childhood. Significant efforts were invested to study

these and the main findings were very informative in the design of interventions and contents used in work with parents (e.g. across socio-economic status, there were perceptions that children who did not walk or talk did not need to be talked to; although fathers wanted to play a more active role in child rearing, the view was that until age 2–3 only mothers were well-equipped to do it).

On the potential for some of these interventions to be articulated to CCTs, the views were favorable. CCTs have the advantage of encouraging take-up and having developed the infrastructure to target to the poor. To some, a model where local leaders play the role of facilitators/trainers on parenting seemed like a very good use of the social capital that is generated by CCTs. It was noted that the operational and coordination demands that are required when components are added to CCTs may be challenging. From a research point of view, it is critical to test whether conditionality matters for these ECD interventions that would be added to the traditional CCT package.

The Advisory Committee noted that a topic that has not been included on IDB's analytical agenda relates to understanding the situation of institutionalized children. These children are particularly vulnerable in many dimensions and the majority has disabilities and special needs. Very little is known about them and a first line of analytical work should focus on documenting: how many children live in this situation, where they are, what services are there for them, and what is their quality. The IDB committed to engage in this analysis by at least documenting the scale of the problem in the region and discussing possible analytical work in the field during the next Advisory Committee meeting.

## Cross-cutting issues: Non-cognitive development, mother-and-child interactions

The opening presentation by IDB staff began by stressing the compelling evidence on the importance

of non-cognitive development. Box 4 has a detailed description of a project that IDB is supporting in this theme. Yet measuring behavior is much more challenging than measuring other dimensions of development. Measurement instruments are long, more complicated, and require a multidisciplinary approach. When collecting data on non-cognitive aspects, it is important to inquire about positive behaviors (such as Effective Behavior Management) and not only on negative deviant behaviors (as in the Behavioral Problem Index BPI). The three standard approaches to measurement of non-cognitive development have focused on parents' or teachers' reports, observed task-based measures, and observed parent-child interactions. The last two require extensive training and are very expensive. On the other hand, the first approach is easier and the literature shows that has good predictability in terms of future outcomes related to vocabulary and behavior. The main problems are to avoid systematic bias and the fact that teachers' reports are not available for children out of school. Focus should be on behaviors that can change over time. Lastly, it is important to consider that there might be important trade-offs between cognitive and non-

cognitive development in center-based care in terms of peer effects and mother-child interactions.

One of the themes discussed by the Advisory Committee focused on analyzing what—in addition to executive function—are good predictors of risky behaviors later in life. Two interventions that were cited as effective were the Incredible Years curriculum in Chicago and a preschool curriculum developed at Penn State that focused on the awareness of emotions. One consideration to keep in mind is that measures that are sensitive to executive function have been shown to experience important changes at preschool age (as shown in neuroscience tests).

There was also a discussion on particular measurement instruments: (1) An instrument extensively used by the World Bank is the Early Development Inventory, where teacher apply a rating after 2 or 3 months of school. There was concern about it being biased, in particular in settings of low-quality teachers. (2) On the ASQ, the agreement was that more information is needed on how it works in a variety of contexts. (3) There were some voices that expressed skepticism

#### **Box 4** Main projects in the area of non-cognitive development

##### **Evaluation of aeioTU preschool on delayed gratification**

This study will test whether pre-schooling affects a child's patience, memory, and attention. Through the random assignment of children to treatment groups, we will identify the causal impact of early childhood on executive control with a sample of children (aged 3–5) who are currently not attending school. To our knowledge, this is the first study that systematically measures this specific causal pathway. The project is based in Colombia, ran by the Fundación Carulla who runs the aeioTu development centers (<http://www.aeiotu.com/>). The study will be performed in partnership with the National Institute of Early Education Research, the Universidad de Los Andes and Harvard University. About 1–2 months after the centers open, we will administer baseline tests of the children's executive control, focusing primarily on patience. This will allow us to measure short-run changes to patience that may arise from schooling. At the end of the school year, our team will revisit all households. During this visit, they will first conduct a follow-up survey of the parents to reassess the parents' perceptions of their children's skill levels. Next, the team will administer a set of tests to assess children's executive control. When the final surveys and tests are complete, we will compare the outcomes of children who attended school with those that are not. As children that attend school will have been randomly selected, we are thus confident that any effect we might find will be due to schooling, rather than differences in family background.

around measures that are reported by teachers and/or mothers. Although they both seem to have a predictive value, the correlation between them is not high. Given that children act differently in distinct settings, this can itself explain some of the discrepancies across mothers' and teachers' reports and explain the skepticism towards relying exclusively on these reports.

The next line of discussion focused on what the determinants of non-cognitive skills development are and whether they can be affected by public policies. The challenge is that there is not one production function for all non-cognitive skills. In this sense, the production function needs to include the influences on the child of his/her peers, school, and community, although these are overlapping to some extent. Along these lines, the role of environmental factors (e.g. exposure to lead) was identified as an area that needs to be better understood.

Possible lines of intervention that can have positive impacts on non-cognitive outcomes and that can enhance mother-child interactions that were suggested in the discussion were: (1) Interventions that encourage mothers' behaviors such as praise, positive feedback, giving children a chance to succeed. (2) Interventions that take into account aspects of mother's wellbeing: depression, self-esteem, domestic violence. (3) Interventions that address the needs of single-parent households. (4) Interventions that help kids succeed by teaching them how to cope with their non-cognitive disabilities. (5) Use of media to promote certain messages (e.g. against violent punishment on children). (6) Work has traditionally focused on changing values through the prevention side and by working on behavior management with teachers and parents. These are models that can be incorporated into teacher training programs.

Possible lines of research that were suggested in the discussion were: (1) In studies of programs that encourage female labor force participation (in particular among low-income women), it would be important to include components that focus on child development. (2) To explore whether there are socio-economic gradients in child development in the non-cognitive domain.

## Next steps

There was a brief discussion on the future spaces for the Advisory Committee to convene. The group envisioned future interactions both electronically and in person. It was suggested to organize a next meeting once there is progress along the research program and some preliminary results can be presented to all. A possibility to advance in specific lines of work would also be to organize sub-groups that focus on particular topics.

Some of the members of the Advisory Committee who are also involved in research activities supported by IDB suggested to work together coordinating the selection of measurement instruments (for outcomes and service quality) across projects. This would start by sharing information on what each is using at the moment.

It was suggested to use this group to have influence beyond what IDB is doing, for instance, by agreeing on recommendations for very specific methodological or substantive issues related to research in the field. Other possible use of the group is to influence the broader research community by collaborating with other organizations to produce a volume of ECD.



## List of participants

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