



COLOMBIA: Can a successful parenting program be implemented at scale?

Children everywhere need enough nutritious food and stimulation to grow and develop to their full potential. Yet many disadvantaged children in low-income countries do not receive the support they need in the first years of life, negatively affecting their future health, education, and earnings. The numbers reveal the scale of the problem: an estimated 250 million



children under age five in developing countries are failing to reach their developmental potential. Parenting programs seek to improve young children's devel-

opment by helping parents learn to stimulate their children's brain and body development through talk, play, and frequent high-quality interactions. When tested on a small scale, such programs have had remarkable benefits—not only in improving cognitive development and social-emotional skills during childhood, but also in positively affecting children's future education, wages, and well-being. The challenge is how to implement quality programs at scale, while keeping the cost affordable for governments facing numerous financial demands. One approach is to integrate a parenting program into an already existing government program – such as a cash transfer or health program – and use the existing structure for delivery.

To help build evidence on how to do this successfully, the World Bank's Strategic Impact Evaluation Fund supported a 2-year follow-up of an impact evaluation of an early

childhood program for poor children in semi-rural areas of Colombia. The 18-month program was modeled on a highly successful program evaluated in Jamaica (*see Evidence to Policy note, May 2014*). However, while the Jamaica program relied on specially-trained paraprofessionals, the Colombia program used an existing network of beneficiaries of a conditional cash transfer program for the country's poorest families. These women, who were paid for their involvement in the parenting program, were trained and tasked with visiting mothers with young children weekly, delivering messages about the importance of early stimulation and demonstrating play activities using low cost or homemade toys and picture books. At the end of the 18-month intervention, children whose mothers had received the home visits showed gains in cognitive development and in their ability to understand and process words. There were more play materials in the home and children's primary caregivers reported engaging in more play activities at home. However, when researchers returned about two years later to retest the children, who were now around five years old, the impacts of the program had faded out. Children whose mothers had received the training no longer showed any gains compared with children whose mothers hadn't been part of the program. Parenting practices also no longer were any different than what could be observed in the control group. Researchers believe that children's initial cognitive gains may have been too small to be sustained after the program ended and that the women delivering the stimulation program might not have had sufficient coaching or supervision to be as effective as they could have been. The findings point to the challenges of scaling up early childhood programs for long-term impact and the need to identify the right strategies for implementing stimulation programs.

Context

While Colombia has made large strides in terms of economic development and reducing poverty in recent years, extreme poverty remains a major challenge. World Bank data for 2016 shows that 2.2 million people – or 4.5 percent of the population – lived on \$1.90 or less a day.

Children living in the poorest households often experience substantial developmental delays. In Colombia, about 15 percent of children ages 12-24 months are chronically malnourished. Early childhood anemia is also prevalent in Colombia among the poorest children: a 2010 [national survey](#) estimated

that 31 percent of children from the lowest socioeconomic category were anemic.

To help tackle poverty, the Colombian government started a conditional cash transfer program in 2001 called *Familias en Acción*. Through the program, the poorest 20 percent of Colombian households are entitled to receive monthly transfers of between US\$8 and US\$16 per child, conditional on children under age 7 going for health checkups and children ages 6-17 attending school.

Evaluation

A clustered randomized evaluation of the early stimulation program described above took place from 2010-2013 in 96 towns in three regions of Colombia. In each of the three regions, 32 towns were randomly assigned to one of three treatment groups or the control group. The intervention in the three treatment groups used the infrastructure of *Familias en Acción* to identify eligible families and deliver the programs. The research team paid a small weekly stipend to employ locally elected representatives of the *Familias en Acción* program, known as *Madres Líderes*, or Mother Leaders, to deliver both micronutrient supplements and the parental stimulation program during visits to families' homes. Supervisors, who had experience with child development and/or an undergraduate degree in a related field, received six weeks of initial training, following which they trained the *Madres Líderes* over a two-week period. The *Madres Líderes* received an additional one-week follow-up training session from supervisors a month or two into the program. Once the program was up and running, supervisors were expected to meet with the *Madres Líderes* every six weeks.

The first treatment group received the parental stimulation program, which was modeled on the successful home-visiting model from Jamaica, where parents met weekly with trained workers who showed them how to talk and play with their children to stimulate development. Similar to the program in Jamaica, the *Madres Líderes* in Colombia made weekly home visits and provided low-cost and homemade toys, form boards, and other materials that were left in the home and changed weekly. The visits were designed to improve the quality of

maternal-child interactions and to help mothers participate in developmentally appropriate learning activities, many centered on daily routines. Home visits were planned to take place weekly over 18 months, so about 73 visits in total. The average number of visits per family turned out to be 63. The second treatment group received the parental stimulation program as well as daily micronutrient supplements containing iron, zinc, vitamin A, vitamin C, and folic acid for all children under age 6 in the household, as a means of reducing anemia.

The third treatment group received only the micronutrient supplements.

The baseline survey took place in 2010, prior to the randomization, among 1,419 children who were aged 12 to 24 months at the start of the study. Children were observed at baseline, then 18 months later when children were two-and-a-half years old to three-and-a-half years old, and then again two years later. By the time of the second follow-up in 2013, children were four-and-a-half to five-and-a-half years old. Tests focused on cognition, language, behavior, and school readiness. The surveyors also observed what was happening in the home and asked caregivers about their play practices with the child.



Findings

At the end of the 18-month program, children whose mothers received the weekly visits did better in terms of cognitive development and receptive language skills – the ability to understand and process what one hears—than children whose mothers didn't receive the visits.

When measured 18 months later, children in families assigned to the parental stimulation group experienced a significant improvement in cognitive scores and language scores of 0.26 and 0.22 standard deviations, respectively, as compared with children whose mothers didn't receive the home visits. This amounts to almost a third of the gap in cognition between children living in the 25% poorest and the 25% richest households in a sample of low and low-middle income families in Bogota.* However, the children didn't show any statistically significant gains in expressive language nor in their motor skills, relative to kids in the control group.

When parents received home visits, they played more with their children and had more play materials in the home at the time of the first follow-up.

Using UNICEF's family care indicators, the research team found that in homes visited by the *Madres Líderes*, children had a larger variety of play materials and they were more likely to have played with an adult in the three days prior to the first follow-up interview.

But the initial improvements in children's development and their home environment faded two years after the program ended.

At the time of the second follow up, there were no statistically significant differences in children's cognitive development or receptive language. There also weren't any new gains in terms of school readiness, executive function skills such as impulse control and working memory, or behavioral development such as getting along with other children. Compared to the control group, the amount of play materials in homes of children in the group that received the program was no longer higher. Children whose mothers received the home visits also

weren't any more likely to have engaged in play with their caregivers, according to parents' reports.

Micronutrient supplements didn't have a positive impact on children's growth and development, whether delivered on their own or in conjunction with home visits.

Even in the short run, children in families that received the micronutrient supplements didn't experience any reductions in anemia or other positive developmental impacts relative to children in the control group, despite mothers' reporting that they gave the supplements regularly. Researchers hypothesize that either mothers weren't giving the supplements as regularly as they said they were, children's anemia wasn't linked to a micronutrient deficiency but to something else, or the timing of delivery of the micronutrients was mis-targeted given the evolution of anemia in this population. Overall, the micronutrient supplements didn't provide any added positive impact on children's development.

The study demonstrates that an early childhood education program can be delivered effectively at scale as part of an existing welfare program, however the fade-out of impacts after two years points to the need to strengthen aspects of the home visit program.

Given the impacts did not last, the evaluation team suggests some potential areas for improvement. One challenge was supervision. The only requirement to be hired as *Madres Líderes* was basic literacy, time availability, and interest in the job. The supervisors had little support and they were responsible for training and supervising 24 *Madres Líderes* across eight different municipalities. Although they were required to meet with each *Madres Líderes* every 6 weeks --compared to weekly meetings in the successful but small-scale trial in Jamaica-- in practice meetings averaged once every 9 weeks. Improving supervision, along with recruitment and support for those carrying out the home visits, may help ensure programs like this are implemented properly and successfully.

* [Marta Rubio-Codina, Orazio Attanasio, Costas Meghir, Natalia Varela and Sally Grantham-McGregor, "The Socioeconomic Gradient of Child Development: Cross-Sectional Evidence from Children 6–42 Months in Bogota" The Journal of Human Resources, vol. 50 no. 2 \(2015\), 464-483](#)



Conclusion

This research shows that it is possible to deliver a model of early childhood education at scale and through existing government services. It also shows that this program can have an impact on child development within an 18-month period. Two years after the program ended, however, the improvements in child development and parenting practices observed in the short-term had faded out. Unraveling the reasons why the program didn't achieve a larger or longer-lasting impact will be important for improvement of this

program and for future scale-ups of other programs that have worked in small-scale efficacy trials. It is possible that effects on education, earnings, and social outcomes may appear at a later age, as had happened in studies in the United States and Jamaica. Challenges in implementation in Colombia also suggest that further understanding how to strengthen programs at scale will be key for turning promising early childhood development interventions into effective tools for policymakers.

The Strategic Impact Evaluation Fund, part of the World Bank Group, supports and disseminates research evaluating the impact of development projects to help alleviate poverty. **The goal is to collect and build empirical evidence that can help governments and development organizations design and implement the most appropriate and effective policies for better educational, health, and job opportunities for people in low and middle income countries.** For more information about who we are and what we do, go to: <http://www.worldbank.org/sief>.
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