Maternal Literacy and Participation Programs for Child Learning in India

Researchers:

James Berry

Sector(s): Education, Gender

J-PAL office: J-PAL South Asia

Location: Bihar and Rajasthan, India

Sample: Around 9,000 households in 480 villages

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Research Papers: The Impact of Maternal Literacy and Participation Programs: Evidence from a Ran...

Partner organization(s): International Initiative for Impact Evaluation (3ie), Pratham

Evidence suggests that parents' education, particularly mothers' education, significantly impacts children's academic performance; yet around one billion adults worldwide are currently illiterate. Working with Pratham in India, researchers studied whether mothers' literacy classes, as well as home-learning participation trainings, could improve children's learning outcomes through their effects on mothers and on the home learning environment. The interventions had small positive impacts on mother and child learning levels, conceivably through their positive impacts on mothers' participation in their children's education.

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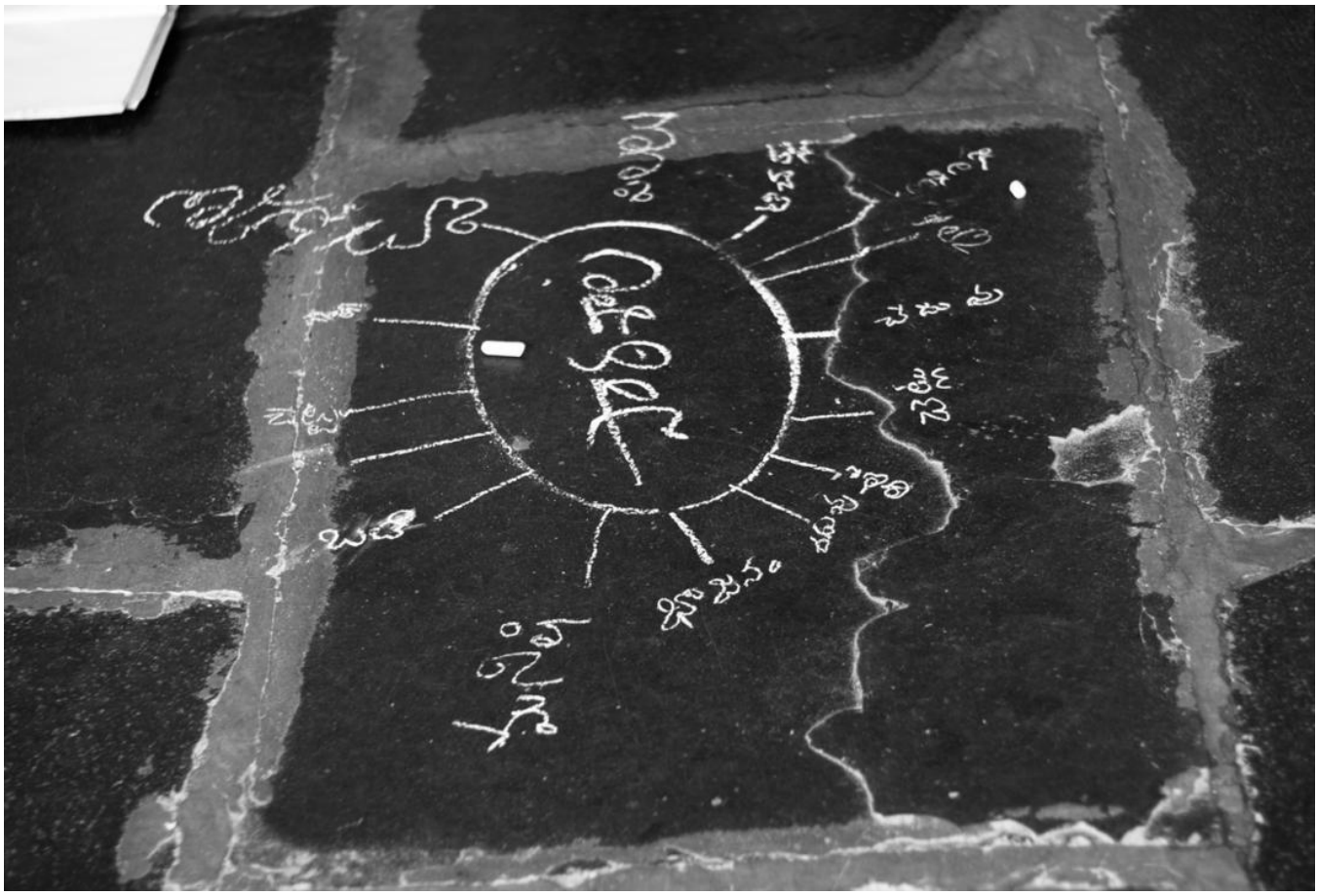
A growing body of evidence suggests that parents' education, particularly mothers' education, significantly impacts children's academic performance.[1], [2], [3] Observationally, more educated parents tend to be more involved in their child's education, have higher expectations, allocate more resources to education, and have more educational materials at home, all of which could potentially support a child's learning. Yet around one billion adults worldwide are currently illiterate. Consequently, literacy and education programs for these adults may lead to better learning prospects for many children at home. Can teaching mothers who have no formal schooling how to read or how to participate in their children's education improve their children's learning outcomes?

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Following the passage of the Right to Education (RTE) Act, which guarantees free and compulsory education for all children up to age fourteen, India has achieved almost universal enrollment. According to the 2016 Annual Status of Education Report (ASER), only 3.1 percent of children between 6-14 years are not currently enrolled in school.[4] However, most children who attend school are learning very little. In 2016, 57.5 percent of children in Standard III could not read a Standard I level text.

One possible remedy could be to promote parental involvement in children's learning at home. Yet more parental participation may not lead to improvements in child learning when parents are illiterate or have little formal education. According to ASER 2016, 46.7 percent of mothers surveyed at random in rural India have not been to school themselves. Amongst the mothers of children aged eight to five in this study, the average mother only had approximately 0.76 years of education and had a literacy

test score of almost 30 percent, compared to a 35 percent score for the average child in the sample.



Practicing literacy skills in India. Photo: Arvind Eyunni | Pratham

Arvind Eyunni | Pratham

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Together with Pratham, one of the largest NGOs in India, researchers evaluated the impact of improving mothers' literacy skills and training mothers to participate in their children's education on children's learning outcomes. Researchers randomly assigned 240 villages in the states of Bihar and Rajastan to one of three interventions or a comparison group, with an equal number of villages in each group:

- **Mothers' Literacy Classes (ML)**were held for two hours per day, six days per week, focusing both on basic math skills and language skills. The classes used a modified version of Pratham's accelerated learning techniques, rigorously shown to improve children's learning levels in the short term (See related evaluation). The direct objective of the ML classes was to increase mothers' language and math skills, which may have resulted in improved children's learning outcomes by increasing mothers' interest and ability to participate in their children's education. In addition, however, Pratham volunteers also prompted weekly discussions around decisions mothers could make for themselves, such as family health, women's employment, government programs, and options related to girls' education, with the aim to promote women's empowerment within the household.
- **Child's Home Activities and Materials Packet (CHAMP)** aimed to improve children's learning by providing mothers with direct instruction on how they could be active participants in their children's learning at home. Once a week, Pratham staff

visited target households for 10 to 20 minutes and gave mothers a workbook with specific weekly language and math activities to be completed by their children. Mothers were encouraged to make their child use the workbooks as well as to monitor their children's progress and school work.

- **ML-CHAMP**combined the first two interventions. This combined intervention tested whether both programs were necessary for mothers to engage with, and contribute to, their children's learning.
- **Comparison Group**, which received no additional services.

Both mothers and their children were tested at the start of the intervention in 2011, and again one year later. Researchers conducted a household survey to capture information on mothers' and children's literacy and math scores, aspects of the household's learning environment, mothers' empowerment (defined as the mothers' involvement in household decisions compared to her husband), and mother-child interactions.

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All three interventions had small positive impacts on mothers' math and literacy skills, the home learning environment, some forms of school attendance, and ultimately children's learning levels. The ML-CHAMP intervention had the largest math and language test score improvements.

School participation: The ML and ML-CHAMP interventions increased children's attendance in formal schooling by about 2 percentage points (from 72.8 percent), while the ML-CHAMP intervention increased attendance in any school or community-based kindergarten also by about 2 percentage points (from 88.2 percent). Additionally, the ML-CHAMP intervention led to increases in current or planned enrollment for the upcoming school year (from 94.1 percent to 95.4 percent), but had no impact on private-school attendance.

Learning outcomes: The three interventions increased mothers' math and language scores by 0.096 (ML), 0.043 (CHAMP), and 0.12 (ML-CHAMP) standard deviations. Children's math scores increased by 0.035 (ML), 0.032 (CHAMP), and 0.056 (ML-CHAMP) standard deviations. Only the ML-CHAMP intervention raised children's language scores, increasing them by 0.042 standard deviations. Additional analysis suggested that an increase of one standard deviation in a mother's math or language score was respectively associated with a 0.073 standard deviation increase in her child's math score and 0.053 standard deviations in language test scores.

Because children occasionally attended ML and CHAMP sessions with their mothers, these interventions might have increased children's learning outcomes directly rather than through their effect on their mothers' knowledge and behavior. However, researchers find suggestive evidence that most of the impact of these interventions on children's learning can be explained by mothers' participation in the interventions, particularly for the ML intervention. For example, children who attended the ML sessions do not appear to do better in math, but children's math scores are associated with their own mother's attendance in ML classes.

Home learning environment: There is suggestive evidence that the interventions led to improvements in children's test scores through their positive effects on mothers' participation in their children's education. Mothers participating in any of the intervention groups were between 3.0 and 4.1 percentage points more likely to report being responsible for their children's education, and scored between 0.07 and 0.12 standard deviations higher in a participation index comprised of questions such as talking to children about their education, school visits, and overseeing homework tasks. The three interventions also increased the presence of educational materials at home (such as books, pencils, newspapers, and magazines). However, none of the interventions increased mothers' time spent directly helping children with their homework, suggesting that the interventions improved the quality – rather than the length – of mother-child home learning interactions.

Women's empowerment: Under the assumption that mothers give more priority to their children's education than fathers, the three interventions might also influence children's educational outcomes by empowering mothers and enhancing their decision-making in the household. However, only the ML-CHAMP intervention led to increases in a measure of women's empowerment, which measured a mother's involvement in household decisions relative to her husband's.

Cost-effectiveness: For every US$100 spent, ML, CHAMP, and ML-CHAMP increased children's math scores by 0.22, 0.40, and 0.24 standard deviations, respectively. For mothers, every $100 spent led to improvements in overall test scores of between 0.24 and 0.28 standard deviations.

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