

BUILDING ENTREPRENEURIAL MIND-SETS: EVIDENCE FROM A LARGE-SCALE EDUCATIONAL INTERVENTION IN INDIA

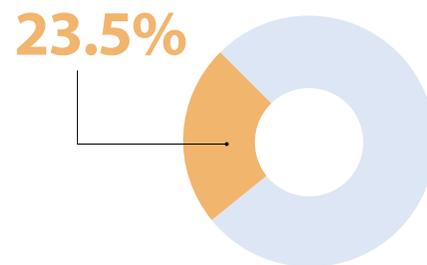
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CONTEXT

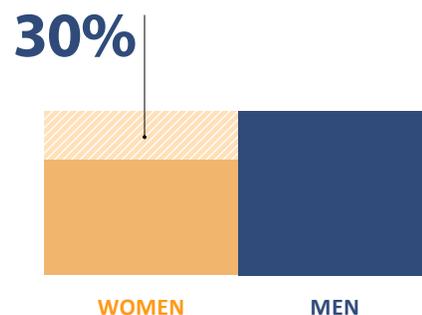
The Entrepreneurial Mindset Development Program (EMDP) led to increased agency among students over their education, careers, own goals, basic financial literacy, and risk preferences. Students who participated in the EMDP had higher English and Mathematics test scores and wanted to pursue salaried government jobs after their studies. A majority of the program effects were more highly concentrated among female students. There was also substantial heterogeneity among students according to local labor markets. Thus, in mandals with a higher concentration of manufacturing jobs, students demonstrated a greater inclination to aspire to start a business.¹

The share of youth not in education, employment, or training in India is alarmingly high, at 23.5 percent, highlighting a critical need for effective labor allocation and skill development across both the public and the private sectors.² This challenge is compounded by low levels of entrepreneurship, particularly among women. The gender gap in entrepreneurial participation stands at approximately 30 percent, and this contributes to gender gap in employment (Chiplunkar and Goldberg 2024). Government jobs are often seen as more attractive because they offer higher pay, job security, and good benefits (Mangal 2024). There is an urgent need to address the skills gap and employment opportunities, especially among female adolescents. Research indicates that, if female labor force participation were equal to male labor force participation, India's real gross domestic product (GDP) could increase by 23.42 percent (World Bank 2024). Thus, fostering an entrepreneurial mindset among youth is essential not only for individual empowerment, but also to drive broader economic growth and gender equality in India.

YOUTH NOT IN EDUCATION, EMPLOYMENT, OR TRAINING IN INDIA



GENDER GAP IN ENTREPRENEURIAL PARTICIPATION



¹ A mandal is a local administrative unit in the Indian states of Andhra Pradesh and Telangana. Mandals are local sub-district level administrative units.

² 2022 data of Statistics on Youth (dashboard), International Labour Organization, Geneva, <https://ilostat.ilo.org/topics/youth/>.

THE INTERVENTION

To address some of these issues, the EMDP consortium, along with the State Council of Educational Research and Training—Andhra Pradesh, rolled out the EMDP curriculum for grade 9 students attending public schools in the 2022/23 academic year.³ The program involved weekly instructional classes totaling up to 50 hours, complemented by project-based learning focused on essential entrepreneurial skills and mindsets. The intention of the Government was to improve the employability of the youth and educate students to learn to “get along and get ahead in life” – as described by implementing partners. As a practical application of their skills, students engaged in three small projects and one major project aimed at addressing community challenges. This new pedagogy was developed with the intent to better engage students with school activities and their community. A cascade training model was used among teachers, whereby master trainers provided initial training to nominated teachers within their mandals to ensure effective delivery of the curriculum.

EMDP was cost-effective. **The cost was approximately Rs 45.33 (US\$0.52) per student** excluding teacher salaries. The curriculum goals focused on skills development to foster essential entrepreneurial competencies among students. These include promoting curiosity through exploration, encouraging hands-on learning, teaching resilience through acceptance of failures, and emphasizing risk assessment and community building for collaborative learning experiences. The significance of these entrepreneurial skills has been highlighted in previous research, especially its contribution to human capital accumulation among adolescents and the enhancement of personal initiative. These skills can also lead to greater success in the labor market and entrepreneurial outcomes in later life.

COST PER STUDENT



Note: The cost per student does not include teacher salaries.

³The EMDP consortium includes (a) Udhyan Learning Foundation, (b) Aflatoun International, and (c) Reap Benefit.

EVALUATION AND RESULTS

Design



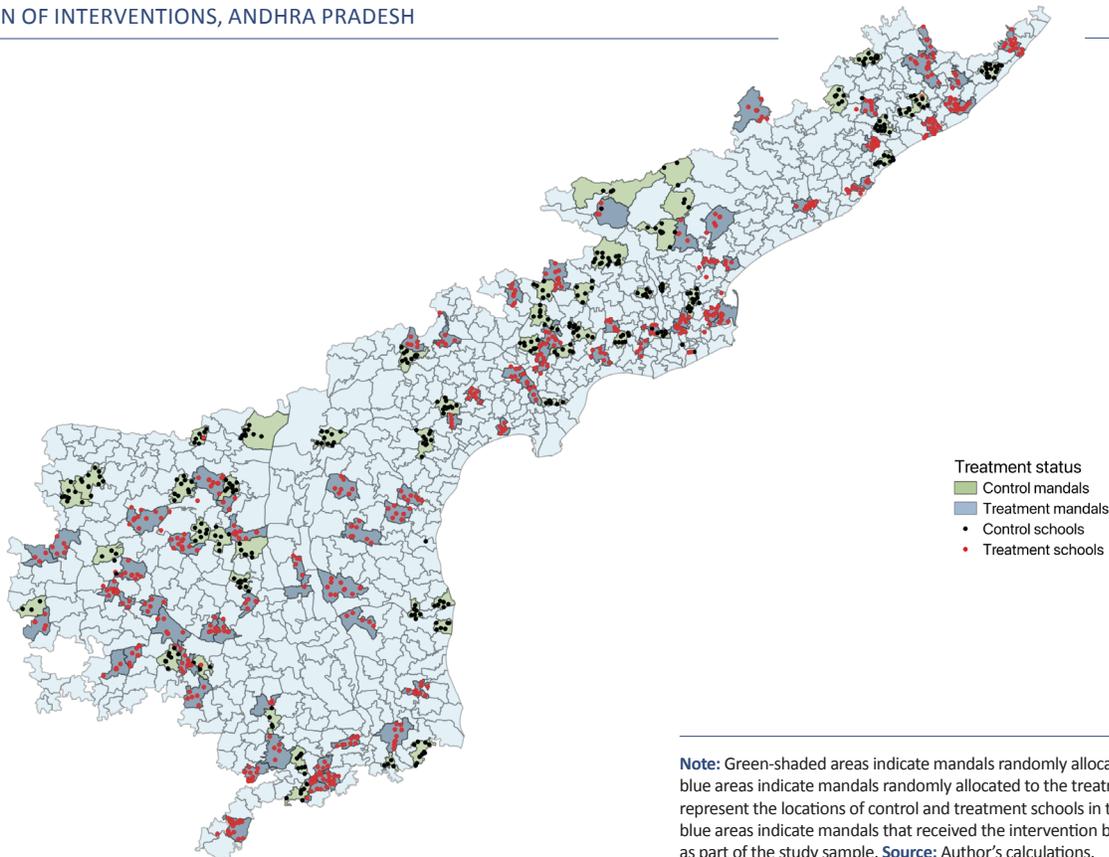
To assess the impact of the EMDP on students, a randomized controlled trial was undertaken. The approach involved two main samples: the intervention consists of schools from 50 subdistricts that were randomly assigned to serve as a control group, and schools from 75 subdistricts were randomly selected to be part of the treatment group. A representative sample of 10 government schools in each subdistrict and 30 students per school was randomly selected for data collection. The focus was on general behavioral traits, entrepreneurship skills, aspirations, and academic performance as recorded by the Unified District Information System for Education Plus. The estimation strategy utilized an intent-to-treat approach, facilitating an evaluation of the program's effectiveness, while controlling for various demographic factors, parental background, prior entrepreneurship experience, location, and school characteristics.

Evidence from Student Surveys



Treated students demonstrated higher agency over education, career goals, personal aspirations, and risk preferences. Furthermore, the program significantly enhanced the agency of female students over their education, careers, and personal goals and a substantial increase in their sense of control and empowerment. The girls also showed improvement in financial literacy and English and mathematics test scores. This empowerment was particularly critical in a context in which 34 percent of young women are married by age 18, and most are not actively participating in the workforce (Singh and Mukherjee 2022). **The results suggest that, while both male and female students experienced positive outcomes from the program, the impact on female students was more substantial, highlighting the program's effectiveness in addressing gender disparities.** The analysis also showed improved gender roles among both girls and boys, which highlights the program's effect on the behavior of students within classrooms and in public spaces.

MAP 1
LOCATION OF INTERVENTIONS, ANDHRA PRADESH



Note: Green-shaded areas indicate mandals randomly allocated to the control group; dark blue areas indicate mandals randomly allocated to the treatment group. Black and red dots represent the locations of control and treatment schools in the sample, respectively. Light blue areas indicate mandals that received the intervention but were not randomly selected as part of the study sample. **Source:** Author's calculations.

Evidence from an Incentivized Task



Additionally, a goal of the program was to measure noncognitive skills and behaviors among students. Recognizing the difficulties associated with reporting bias and subjective evaluations, the program implemented an incentivized task to assess entrepreneurial skills objectively. Students participated in a business pitch task modeled after Shark Tank. Students were presented a business scenario and asked to construct a business plan based on various criteria, that included stating a problem statement, a solution. They were then asked to pitch the business plan to potential investor. Each student recorded a pitch lasting no less than two minutes. To evaluate these pitches, a training dataset was established that consisted of approximately 500 pitches assessed by MBA candidates from various colleges in India. Pitches were randomly selected from both treated and control schools, allocation to evaluators was random to mitigate bias. Each pitch was scored across 15 dimensions, and evaluators indicated how much they would invest of a total of Rs 100 in each pitch. To enhance the analysis, audio features were extracted from the recorded pitches, capturing both acoustic and phonetic characteristics, while text features were generated from transcribed pitches. A neural network was used to predict the total score and the amounts invested to complete the rest of the data from the pitches.

The results showed that girls performed better in crafting and delivering business pitches, reflecting their increased confidence, and secured greater investment compared with their counterparts in the control group. In contrast,

there was no significant differential effect observed among male students overall. The analysis indicated that, while power limitations hindered the ability to disentangle specific components of pitch scores, such as tonality and confidence, the overall findings underline the effectiveness of the EMDP in enhancing entrepreneurial skills among female students.

Local Labor Market Heterogenous Impacts



Economic census data were used to test for heterogeneity according to local labor market conditions. In mandals with a higher concentration of manufacturing jobs, students demonstrated a greater inclination to aspire to business and nongovernment employment, while expressing reduced interest in public sector positions. In areas where government jobs were more prevalent, the EMDP showed stronger effects, particularly among female students.

The EMDP has shown significant potential to enhance the entrepreneurial skills and aspirations of students in Andhra Pradesh, particularly in fostering agency and resilience among female participants. Its low cost of implementation, scalability, and findings underscore the potential of school-run programs aiming to help youth, particularly girls, meet the demands of the modern labor market.

The short-term results of this impact evaluation indicate that EMDP successfully shifted students' mindsets, leading to improvements in their grades. Follow-up surveys and analyses will assess the long-term effects of the new curriculum.

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STAY CONNECTED

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We thank the Entrepreneurial Mindset Development Program consortium for the collaboration.
We thank Satish Dulla for excellent coordination.