Talent is Everywhere, Opportunity is Not:
Online Role Model Mentoring and Students' Aspirations*

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September, 2024

*We thank Guido Busti, Carla Nasti, and Francesca Sangiuliano Intra for their research support without which ORME would have not been possible. We thank Davide Dragone, Melissa Kerney, James Heckman, Katya Ivanova, John List, and seminar participants at various conferences and seminars for helpful comments. The intervention was pre-registered in the AEA RCT Registry (RCT ID #AEARCTR-0007567). This research was generously supported by the Swiss National Science Foundation (SNSF, grant no. 197588) and by A Sustainable Future initiative (ASF), financed by the faculty of Economics and Business at the University of Amsterdam.

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1 Introduction

Sometimes, a brief meeting can alter the course of an entire life. Meeting new people can be a source of inspiration, offering fresh perspectives, valuable information, or simply sparking a process of self-awareness that can shape one's preferences and choices. These opportunities for inspiring meetings are particularly significant in the early stages of life, when individuals face crucial decisions, such as those related to education, which have lasting repercussions on their future. Such decisions are heavily influenced by the social environment in which they are made.

For children growing up in less-advantaged environments, meeting the "right" person can be even more critical. These children often have lower expectations and aspirations for the future, which can create a cycle of underinvestment in their own human capital, ultimately leading to a self-fulfilling prophecy (Guyon and Huillery, 2021; Fubini, 2018). Born into socioeconomically challenging circumstances, these children start their life journey at a disadvantage. Without targeted interventions to provide equitable opportunities, this gap is seldom closed (Heckman, 2013).

This paper investigates whether a cost-effective, scalable, and standardized online role model mentoring program for 12-year-old school children can influence their beliefs about potential life paths, enhance their aspirations, and affect educational outcomes, such as school tracking choices and test scores. Within the project framework, role models are defined as self-made individuals who grew up in the same region, sharing a similar economic and family background with the students they mentor, and who are now successful and influential in their professions. As a result, these role models can serve as a source of inspiration for children, demonstrating how success can be achieved through hard work and perseverance, regardless of one's initial socio-economic background.

The Online Role model MEntoring Program (ORME) consists of a series of online, interactive meetings between 12-year-old students and role models. Each student participates in a session with a role model, along with their class and up to three other classes of children of the same age. These meetings are partially standardized and divided into two parts. The first part, lasting about 15 minutes, is dedicated to the role model's presentation, typically accompanied by slides and pictures to enhance engagement. In their presentation, role models are asked to cover (at least) four key areas: their territorial origin and socio-economic background, educational journey, current professional profile, and

the obstacles and barriers they encountered along the way. The second part, which is the core of the meeting, lasts approximately 45 minutes and focuses on interaction between the students and the role model. During this time, students ask questions live, with a moderator facilitating the discussion. This interactive component is crucial for fostering a connection between the students and the role model.

ORME has been implemented in Italy and, precisely, on a sample of 12-years old students in the region of Campania during the academic year 2021-2022. The intervention targeted 12-years-old as this is the year before upper-secondary school tracking.[1] In many countries, including Italy, tracking choice is an important predictor of future educational, labor market, and life outcomes. The choice of Campania to test the effectiveness of the program is consequential to multiple evidence. Despite being the third most populated Italian region, Campania is the third to last Italian region in terms of GDP per capita (ISTAT, 2020). Therefore, a sizeable fraction of local talent and potential remains unexpressed. Moreover, the Campania region is characterized by remarkably high school dropout rates with about 17.3 percent of students that abandon school before the legal age compared to the national average of 13.1 percent (ISTAT, 2021). Finally, students in Campania report, on average, lower ambitions and expectations for the future than in other regions (Fubini, 2018).

The effectiveness of ORME is assessed through a randomized controlled trial (RCT) intervention involving five middle schools, 35 classes, and more than 600 students in Campania.[2] The sampling procedure attempts to reflect the typical schools of the area and to be representative of the local education system. In each school, half of the classes were randomly assigned to the ORME treatment group and half to the control group continuing with the standard school curriculum.

Data were collected in different waves and from various sources. The first data collection, *baseline*, took place before the intervention. Each student in the sample completed a detailed in-class survey gathering information on family background, aspirations, and educational preferences, among other things. The second survey, *endline*, was administered six months after the intervention and closely mirrored the baseline survey. Its purpose was

[1]Tracking in Italy is entirely determined by the choices of students and their parents. There are no formal requirements that must be met to enroll in a particular track. Tracking choices can be broadly categorized into two types: academic-oriented tracks and non-academic-oriented tracks. Section 2 in the paper describes the institutional framework that is the focus of this study.

[2]The number of students refers to the initial pre-attrition sample. Issues of selective attrition will be extensively discussed below.

to collect updated information on students' beliefs, aspirations, educational preferences, and their planned choices regarding future educational paths and tracking.[3] To address potential self-report bias in surveys, the data were merged with two different sources of administrative data. First, we collected the official tracking choices made by each student at the end of middle school. These data enable validation of the student-reported tracking choices. Additionally, this data extends the time horizon of our study, as students officially choose their track one year after the intervention. Second, we obtained data on the students' performance in a standardized national test taken also one year after the intervention. This test score allows us to assess whether the intervention impacted school performance, for example, through increased effort.

In addition to receiving high appreciation from students, parents, and teachers, ORME has significant quantitative effects on student outcomes. ORME influences students' beliefs about the returns to effort. Treated students perceive an increase in the returns to effort for individuals from non-wealthy families. Students in the control group believe that about 34 out of 100 students from these families will succeed in the labor market as adults if they put in sufficient effort at school. In contrast, students in the treatment group believe that an additional six students will achieve success, representing an increase of approximately 18 percent over the control group mean. On the other hand, the perceived returns to effort are negligible for wealthy students, suggesting that their career paths are often already determined, regardless of their school effort.

The change in students' beliefs likely extends to other dimensions of aspirations and school choices. Students in the treatment group report a significant increase in the alignment between the jobs they *would* like to do in the future and the jobs they think they *will* do. This increase amounts to about 11 percentage points (pp) which corresponds to approximately 25 percent of the control group mean. Additionally, school effort, measured by whether the student studied for at least one hour the day before the survey, is positively impacted by ORME (+12 pp). However, grit remains unaffected by ORME.[4]

We validate the evidence on the effectiveness of ORME on self-reported outcomes such as beliefs, aspirations, and effort by analyzing possible treatment effects on outcomes

[3]It is important to note that a full summer elapsed between the intervention and the second data collection. This extended time frame helps minimize the risk of social desirability bias or other distortions in how students responded to the survey.

[4]This result is unsurprising, as grit is measured using the short grit scale in Duckworth and Quinn (2009). This scale is unlikely to show individual-level changes in the short term.

obtained from administrative records, such as changes in school choices and performance. ORME impacts school tracking choices, though the estimates, while large in magnitude, are too imprecise to be statistically significant. However, we find suggestive evidence that students who participated in ORME aspire to a more demanding, or more academically-oriented, school track. This preference is recorded about six months after the treatment and is confirmed, with even larger point estimates, by administrative enrollment records collected one year after the intervention. Finally, we examine students' performance on the standardized test they take in their last year of middle school, roughly one year after the intervention.[5] Treated students perform significantly better than those in the control group on the language test, with their likelihood of achieving a sufficient score increasing by about 9 pp (+13 percent). Conversely, there is no observed impact on mathematics and English language scores.

Taken together, our analysis of ORME paints a consistent picture. The program appears to influence students' beliefs about the returns to effort, enhance the alignment between their aspirations and their confidence in realizing them, and increase school effort. These changes likely contribute to improved school performance and encourage students to aspire to and enroll in more demanding academic tracks. These effects do not exhibit clear heterogeneity.

Our study has some limitations. First, some of the results are only weakly significant. The small sample size and reliance on survey data likely contribute to effects that are quantitatively (and economically) large but not always precise. Second, our findings are short-term, and for certain outcomes, such as tracking, it remains uncertain how changes in tracking choices will translate into future academic and non-academic success. Nonetheless, we believe it is important to emphasize ORME's effectiveness in improving beliefs about the returns to effort, school effort, and self-confidence in achieving individual goals. Third, while the program is theoretically easy to replicate and scale up, we do not provide direct, data-driven evidence on this aspect in our study. However, in Section 6, we offer a careful discussion, inspired by List (2022), on the potential and challenges of scaling our intervention. We believe that these challenges can be overcome, and the program successfully scaled up.

Contribution and Novelty. This study examines a new program designed to comple-

[5]Unfortunately, we only have standardized test data for four out of five schools, as one school has experienced repeated changes in leadership and has thus far declined to provide this data.

ment standard school curricula. Generally, school curricula around the world tend to be narrow, focusing primarily on traditional subjects like math and language, despite growing evidence of the importance and malleability of soft skills, such as students' aspirations and beliefs. With this perspective, we have designed a school-based program aimed at nurturing children's beliefs, aspirations, and school-related preferences. Our project contributes to the child development literature by providing new tools to help ensure that all children, particularly those from less advantaged and stimulating social environments, can fully realize their potential. Drawing inspiration from iconic child interventions such as the Carolina Abecedarian Project (Campbell et al., 2002) and the Perry Preschool Program (Heckman et al., 2010), recent research has underscored the potential of school programs focused on developing soft skills (Alan et al., 2019; Almlund et al., 2011; Sorrenti et al., 2024).

ORME combines insights from two influential strands of literature, namely, the one on role models and the one on growth mindset interventions. We draw on concepts from identity-based motivation theory to explore whether role model interventions can serve as signals for belief updating (Bénabou and Tirole, 2011) within a malleable self-concept (Oyserman and Destin, 2010). The central idea is that role models have the potential to influence individual characteristics such as identity, self-efficacy, and self-esteem, thereby motivating children to adjust their beliefs, dreams, and aspiration for future achievements. Literature from various fields provides evidence on a few, but very specific, characteristics that drive the effectiveness of role models, such as gender (Beaman et al., 2012; Porter and Serra, 2020; Kipchumba et al., 2024) or socio-economic background (Gershenson et al., 2022). This project goes beyond identifying a single characteristic of role models and instead designs a "general population" role model mentoring program, with a primary focus on cost-effectiveness, ease of implementation, and scalability. To this end, the aim is to broadly define individuals who can serve as sources of inspiration or information for students, based on a small set of characteristics such as geographical and socio-economic background.[6]

Growth mindset interventions, which promote the belief that intelligence and abilities can improve through effort and learning from mistakes. These programs have been shown to enhance academic outcomes (Alan et al., 2019), though their effectiveness varies by con-

[6]The literature has shown that, in some circumstances, characters from movies or TV shows can also inspire individuals. For instance, La Ferrara et al. (2012) find a negative impact of television on fertility in Brazil in response to exposure to soap operas portraying small families.

text and demographic factors (Paunesku et al., 2015; Broda et al., 2018; Sisk et al., 2018; Kim et al., 2022). This paper extends the literature by evaluating an online role model intervention that uses digital platforms to provide motivational success stories. Unlike growth mindset interventions, which focus on shifting internal beliefs about ability and effort, role model interventions inspire through external examples of success and perseverance from individuals with similar backgrounds. This research complements existing growth mindset strategies by exploring how role model interventions can enhance or offer an alternative approach in challenging social environments.

ORME embodies the key characteristics of innovative and cost-effective child development programs. By leveraging a series of online meetings, ORME is considerably less expensive than programs like the Abecedarian or Perry projects, which cost at least $10,000 per child. Additionally, ORME is also less expensive than more recent and highly successful mentoring and tutoring programs, such as the Baloo and You Program analyzed in Kosse et al. (2020) or the Pathways program studied in Oreopoulos et al. (2017).

ORME is designed to be easily implemented and scaled up. While role model interventions are typically conducted in person, e.g., Kipchumba et al. (2024), or as non-interactive video programs (Bhan, 2020; Dimastrochicco and Ghisolfi, 2022; Riley, 2022), ORME's online format offers several advantages. Compared to in-person programs, the online nature of ORME simplifies scheduling and allow role models to interact simultaneously with students from different classes or even schools, thereby enhancing scalability (List, 2022). Compared to video interventions, an online program preserves the important aspect of direct interaction, such as questions and debates, found in in-person meetings. The potential of online mentoring programs is further supported by recent research by Carlana and La Ferrara (2024), which examines the Tutoring Online Program (TOP), an online one-to-one mentoring program for students during the pandemic. This study finds that TOP effectively boosts academic performance. TOP features several differences compared to ORME. Although the effects on soft skills are also investigated, TOP is more focused on school performance. It is a mentoring program in which volunteer university students act as tutors for underprivileged middle school students. Moreover, TOP consists of individual or small-group tutoring sessions, whereas one of the main features of ORME is the interaction between multiple classes and a single role model. This latter element is key to facilitating scalability and boosting interactions between peers.

ORME requires a limited amount of school time to run, as it essentially consists of one or

a few one-hour online meetings with a role model. For comparison, the socio-emotional skills training program studied in Sorrenti et al. (2024) involved students for about 45 school hours over an academic year, i.e., with two 45-minute meetings per week.

In light of these considerations, this study offers schools and policymakers with insights into potential tools for deepening students' reflections on their potential and life paths.

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