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

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Abstract

Educational disparities often limit students' access to relatable role models, constraining their aspirations and educational outcomes. We design and implement the Online Role Model Mentoring Program (ORME), a scalable, low-cost intervention connecting middle school students with successful role models from similar backgrounds. Using a randomized controlled trial with over 450 students in Campania, Italy, we find that ORME improves students' beliefs about the returns to effort, increases alignment between aspirations and expectations, and boosts school effort. Treated students also become more academically ambitious: they are more likely to enroll in academically oriented tracks and perform better on standardized language tests. These findings show that brief online mentoring sessions can have a meaningful impact on students' attitudes and choices at a critical stage of schooling, highlighting a promising tool to support students in low-opportunity contexts.

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1 Introduction

A brief meeting at the right time can alter the course of an entire life, offering fresh perspectives, valuable information, and sparking a process of self-awareness that shapes one's beliefs, aspirations, and choices. Such turning points often come through encounters with individuals who inspire by example—people whose experiences expand our sense of what is possible and achievable. These individuals are often referred to as *role models*. In economics, a role model can be considered as an individual whose behavior, choices, or success influences others' decisions, aspirations, or preferences. By embodying attainable success, role models can motivate individuals to invest in their human capital and update their understanding of the returns to effort (Morgenroth et al., 2015; Ross, 2019).

Yet the chance to meet inspiring role models does not arise equally for all children. While some grow up surrounded by diverse careers and sources of inspiration (and information), others—especially those in more isolated or constrained social environments—may have fewer opportunities to encounter such figures (Guyon and Huillery, 2021; Fubini, 2018). To address these disparities, this paper proposes and evaluates an intervention that brings encounters with role models directly into the classroom, aiming to broaden students' horizons at a critical age in their development.

This paper assesses the impact of a cost-effective, scalable, and standardized online role model mentoring program for 12-year-old school children. We evaluate whether the intervention can influence children's beliefs about the returns to effort, enhance their aspirations, and affect educational outcomes, such as school tracking choices and test scores. Within the project framework, role models are defined as individuals who are successful in their profession and who grew up in the same geographic region, sharing familiar life experiences with the students they meet. The hypothesis is that these role models can inspire children by demonstrating how success—in the sense of being able to pursue and attain one's own goals—can be achieved through a combination of effort, perseverance, and access to new information and perspectives, regardless of background or place of origin.

Our evaluation shows that the Online Role model MEntoring Program (ORME) had meaningful and robust effects across multiple dimensions. The program improved students' beliefs about the returns to effort (+18%), strengthened the alignment between their aspirations and expectations (+28%), and increased their school effort (+8 min-

utes of study per day on average). Treated students were also more likely to prefer and later enroll in academically oriented school tracks (+10%), and they performed better on standardized language tests. These findings indicate that even brief, low-cost online role model sessions can positively shape students' attitudes, behaviors, and educational choices at a pivotal stage of their schooling career.

ORME consists of an online, interactive meeting between 12-year-old students and selected role models. Each role model participates in online meetings with students of up to four classes of about 15 children of the same age. The meeting follows a partially standardized format with two parts. The first part, which lasts about 15 minutes, is a structured presentation by the role model, usually supported by slides and images. In this presentation, role models are asked to cover (at least) four key areas: their regional origin and socio-economic background, their educational path, their current professional profile, and the obstacles or barriers they encountered along the way. The second part lasts approximately 45 minutes and focuses on interaction between the students and the role model. During this time, students ask live questions, and a moderator guides the discussion. This interactive component is designed to build a sense of connection between students and the role model.

ORME was implemented in Italy during the 2021–2022 school year, targeting a sample of 12-year-old students in the Campania region. The intervention focused on this age group because it precedes the transition to upper-secondary school, a key moment in the Italian education system when students choose their educational track.[1] In Italy, as in many other countries, tracking decisions at this stage are strong predictors of future educational, labor market, and life outcomes (Brunello and Checchi, 2007; Hanushek and Wößmann, 2006). While the program could have been implemented in several regions, Campania offered a combination of demographic, socioeconomic, and institutional characteristics that made it a particularly relevant starting point for the program. Despite being the third most populous region in Italy, Campania ranks among the lowest in terms of GDP per capita (ISTAT, 2020), suggesting that a considerable share of local talent may remain unexpressed. The region also has one of the highest school dropout rates in the country—17.3% compared to the national average of 13.1% (ISTAT, 2021)—and students report, on average, lower aspirations and expectations for the future than their

[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.

peers in other parts of Italy (Fubini, 2018). These conditions make Campania a valuable context in which to test the potential of early, school-based, and low-cost interventions like ORME. Nevertheless, the program is not specific to this region and could be meaningfully adapted to other settings facing similar educational and developmental challenges.

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] While the number of participating schools is limited, their background is diverse and reflects the typical characteristics of schools in the region, providing a meaningful representation of the local education system. Within each school, half of the classes were randomly assigned to the ORME treatment group, while the other half formed the control group and continued with the standard school curriculum.

Data were collected in multiple waves and from various sources (survey and administrative records). The first data collection, the *baseline*, took place before the intervention. Each student in the sample completed a detailed in-class survey collecting information on family background, aspirations, and educational preferences, among other factors. The second survey, the *endline*, was administered in the following school year, six months after the intervention, and closely mirrored the baseline.[3] Its purpose was to gather updated information on students' beliefs, aspirations, educational preferences, and their intended choices regarding future educational paths and tracking. To address potential self-report bias, we merged the survey data with two sources of administrative data. First, we collected the official tracking choices made by each student at the end of middle school, which allows us to validate student-reported choices and extend the time horizon of our analysis, as these decisions occur one year after the intervention. Second, we obtained data on students' academic performance in a standardized national test, also administered one year post-intervention. These test scores allow us to assess whether the program affected academic performance, for example, through increased effort.

In terms of *quantitative outcomes*, ORME significantly influences students' beliefs about the returns to effort, that is how much they expect increased study time to improve long-run outcomes such as obtaining a good job. Treated students report higher perceived returns to effort for individuals from non-wealthy families. On average, students in the

[2]The student count reflects the pre-attrition baseline sample. We address potential concerns regarding selective attrition in the sections that follow.

[3]It is important to note that a full summer elapsed between the intervention and the second data collection.

control group believe that about 34 out of 100 students from such backgrounds 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—an increase of approximately 18% over the control group mean. On the other hand, the perceived returns to effort for students from wealthy families remain largely unchanged, suggesting that their career paths are believed to depend less on school effort.

Besides the shift in students' beliefs about the returns to effort, the intervention improves other dimensions of their aspirations and school-related behaviors. Students in the treatment group report a 12 percentage points (pp) (28% of the control group mean) increase in the alignment between the jobs they *would like* to do in the future and the jobs they think they *will actually* do. In addition, the ORME intervention fosters greater school effort: treated students are 12 pp more likely to report studying for at least one hour the day before the endline survey, and the total study time increases by about 8 minutes on average. By contrast, ORME has no detectable effect on grit, which is measured using the short grit scale developed by Duckworth and Quinn (2009).

To assess whether the attitudinal and behavioral changes documented so far also translate into more concrete educational choices, we examine students' preferences for the academically-oriented school track available in the Italian education system. These data were collected as part of the endline survey administered about six months after the intervention, just before the students had to choose their high school track. We find suggestive evidence that students who participated in ORME are 4 pp more likely to report an intention to enroll in this more demanding track, but this point estimate is not statistically distinguishable from zero and relies on self-reported data.

To validate these findings, we turn to *administrative data* that provide a more objective measure of actual choices and outcomes. One year after the intervention, enrollment records confirm the self-reported preferences, with even larger point estimates: the likelihood of enrolling in a more academically-oriented track increases by about 7 pp (+10%).

As a final step in understanding why treated students are more likely to enroll in the academically-oriented track, we turn again to administrative records to explore two potential mechanisms: (i) improved school performance; and (ii) changes in teacher recommendations.[4]

[4]Although both factors may informally influence students' decisions, we reiterate that neither academic grades nor teacher recommendations constitute formal criteria for school admission. In the Italian system,

Improved school performance might be one of the mechanisms leading to more ambitious track choices. We examine students' academic performance using standardized test scores from the end of middle school, collected around the same time as the enrollment data. Treated students perform significantly better than their control-group peers on the language component, with the likelihood of achieving a sufficient score increasing by about 9 pp (+13%). By contrast, no treatment effects are observed in mathematics or English language scores. On the other hand, teachers' recommendations regarding students' high school track choices do not seem to be affected by the ORME intervention. We find only a small and imprecisely estimated improvement in the likelihood of a teacher recommending the academic track, or the likelihood that students in the treatment group follow their teacher's recommendation when making their final enrollment decision.

To provide a unified assessment of its overall impact—and to account for multiple hypothesis testing—we construct composite indices that aggregate all main outcomes into a single measure of program success. The analysis of these indices confirms the overall effectiveness of ORME, with standardized effects ranging between 0.26 and 0.33 standard deviations, all statistically significant. This synthesis reinforces the conclusion that ORME had a positive and coherent impact across a wide range of student outcomes. Beyond its measurable effects on these quantitative outcomes, ORME was widely appreciated by students, teachers, and parents, who reported high levels of engagement and interest in the program. While this *qualitative* feedback is not the focus of our analysis, it suggests that the intervention was both well-received and perceived as relevant in the classroom context.

Taken together, our analysis of ORME paints a consistent picture of a program that effectively improves some key student outcomes. The evidence suggests a plausible pathway through which this impact unfolded: the program shifts students' beliefs about the returns to effort, strengthens the alignment between their aspirations and confidence in achieving them, and increases school effort. These attitudinal and behavioral changes are, in turn, associated with improved academic performance and a higher likelihood of both intending to enroll in—and ultimately enrolling in—the more demanding academic track. It is important to note that, while the overall impact of ORME is positive, these effects are not uniform across all students. The program strengthened perseverance and study effort among female students and those from more educated families, whereas it primar-

the choice of upper-secondary track is made solely by students and their families, and all tracks belong to the state school system and are therefore equally accessible in terms of cost.

ily reshaped beliefs and expectations among male students and those from less educated families.

Contribution and novelty This study examines a new school-based program designed to complement standard school curricula by focusing on students' beliefs, aspirations, and school-related preferences. Around the world, school curricula tend to concentrate on traditional subjects like math and language, despite growing evidence on the importance and malleability of soft skills such as self-confidence, motivation, and curiosity. Recent research highlights the potential of programs aimed at fostering these non-cognitive skills (Alan et al., 2019; Almlund et al., 2011; Sorrenti et al., 2025; Berger et al., 2025; Alan and Mumcu, 2024). Our project contributes to this literature by designing and evaluating an intervention that strengthens children's mindset and motivation and, crucially, updates their beliefs and aspirations about what they can achieve, independent of their background.

ORME, the program developed in this study, brings together insights from two influential strands of literature: role model interventions and growth mindset programs. We draw on identity-based motivation theory to explore how exposure to relatable individuals can shift beliefs and aspirations through changes in self-concept (Bénabou and Tirole, 2011; Oyserman and Destin, 2010). Prior work has emphasized the importance of specific role model characteristics—such as gender (Beaman et al., 2012; Porter and Serra, 2020; Kipchumba et al., 2024), race, or socioeconomic background (Gershenson et al., 2022).[5] Instead of focusing on specific demographic traits, this study evaluates instead the opportunity of meeting and interacting with a "general population" role model, selected based on success outside of the school system and chosen based on broad relatability on meaningful indicators such as geographic and socioeconomic background.[6]

Growth mindset interventions, by contrast, aim to change internal beliefs—the idea that intelligence and abilities can be improved through effort and learning from mistakes. These programs have shown promise for improving academic outcomes (Alan et al., 2019), though their effectiveness varies depending on context and demographics (Paunesku et al., 2015; Broda et al., 2018; Sisk et al., 2018; Kim et al., 2022). This paper complements that literature by evaluating a program that draws on external motivation: online role model

[5]For a review on role models, though limited to low-and-middle income countries, see Serra (2025).
[6]Literature has shown that, in some contexts, even fictional characters can inspire. For example, La Ferrara et al. (2012) find that exposure to soap operas portraying small families reduced fertility in Brazil.

sessions in which students interact with successful individuals who share some common background traits. In doing so, our study explores whether role model interventions can serve as an alternative or complementary approach to mindset-based strategies—especially in environments where students may lack inspiring examples in their everyday lives.

A key innovation of ORME is its online format. While most role model interventions are conducted in person (e.g., Kipchumba et al., 2024) or via pre-recorded videos (Bhan, 2020; Dimastrochicco and Ghisolfi, 2022; Riley, 2022), ORME maintains the interactivity of in-person meetings while benefiting from the flexibility and scalability of digital platforms. Online meetings make scheduling easier and allow role models to reach students across multiple classes or even schools simultaneously. This combination of live interaction and remote access supports broader implementation.

Recent studies provide further support for the potential of (online) mentoring. Carlana and La Ferrara (2025) evaluate the Tutoring Online Program (TOP), a one-to-one online mentoring initiative during the pandemic, finding improvements in academic performance and soft skills. However, TOP differs from ORME in several respects: it targets individual or small-group tutoring, focuses more directly on school outcomes, and involves university student mentors working with underprivileged middle schoolers. In contrast, ORME uses a classroom-wide format, connecting a single role model to a group of students, thereby enhancing peer interaction and scalability. Our findings also connect to recent work showing that exposure to near-peer role models can meaningfully affect students' academic performance and aspirations, as demonstrated by the Online Tutoring by College Volunteers pilot program (Kraft et al., 2022). Bortolotti and Loviglio (2024) examine a one-to-one mentoring program that helps high school students select university programs. While highly tailored, that intervention is less scalable than ORME and operates at a different stage of the educational pipeline—after school tracking has already taken place. Schilling and Maggio (2025) study a classroom-level intervention aimed at fostering career planning in Italian high schools, finding a reduction in stress but only limited effects on aspirations or academic outcomes.

Finally, ORME requires only a limited time commitment from schools. A typical implementation involves one or a few one-hour sessions (e.g., Resnjanskij et al., 2024). It is significantly more affordable than other successful mentoring programs, such as the Baloo and You Program (Kosse et al., 2020), the Pathways program (Oreopoulos et al., 2017), or Goals and Gaps (Carlana et al., 2022), which target narrower student populations.

Unlike high-intensity child interventions such as the Abecedarian or Perry Preschool programs—which cost over $10,000 per child—ORME relies on a low-cost, scalable design built around short online interactions. This makes it particularly well-suited for broader adoption across diverse educational contexts.

2 Institutional Background

Location This study is conducted in Campania, a southern Italian region where educational challenges are particularly pronounced compared to other regions. Italy has one of the highest early school leaving rates in Europe (ISTAT, 2019), with a stark north–south divide. While the EU average is 9.7%, Italy's rate stands at 12.7%, rising to nearly 17% in the southern regions (Eurostat, 2022). Educational attainment follows a similar pattern: only 76% of Italians aged 25–34 hold a diploma, compared to the EU average of 85%, with southern Italy lagging further at 71%. Likewise, tertiary education rates are lower, with just 27% of Italians aged 30–34 holding a degree, dropping to 21% in the south.

These disparities make southern Italy, and particularly Campania, an ideal setting to evaluate educational interventions like ORME. With a population of 5.6 million in 2024, Campania is among the largest Italian regions yet ranks among the lowest in GDP per capita (ISTAT, 2020), signaling untapped potential. Its high early school leaving rate of 17% mirrors the southern average (ISTAT, 2021), and students in the region report lower aspirations and expectations for the future (Fubini, 2018). These factors make Campania a relevant context for studying policies that aim to enhance educational aspirations and shape students' beliefs about their opportunities.

At the same time, the intervention is not specific to Campania: its low cost, online format, and focus on locally relatable role models make it broadly adaptable to other regions facing similar educational and socioeconomic challenges.

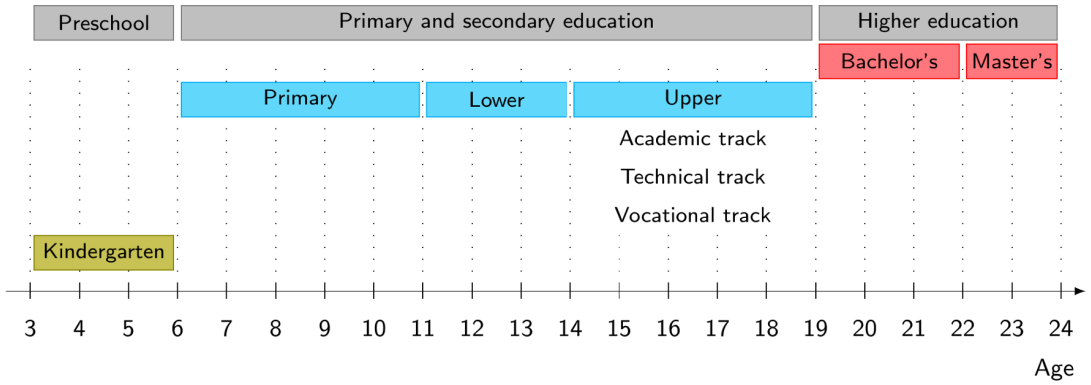
Tracking choices Education in Italy is predominantly public and free, with over 93% of primary school students enrolled in state schools. Schooling is compulsory for ten years, from ages 6 to 16, though students have the right to remain in school until age 18. The vast majority of lower and upper secondary schools are also public, with minimal direct costs for families. This structure ensures that access to education is either not

constrained—or only minimally constrained—by household income, and that educational decisions are not driven by tuition fees or the availability of private options.

Figure 1 provides an overview of the Italian education system, detailing its structure across primary, lower secondary (middle school), and upper secondary (high school) levels. Like several other European countries—including Germany, Austria, the Netherlands, and Belgium—Italy adopts an early tracking system that channels students into different educational pathways at the end of lower secondary school (grade 8), typically around age 14. This choice can significantly shape students' academic trajectories and, to a lesser extent, their labor market outcomes (Hanushek and Wößmann, 2006; Guyon et al., 2012; Brunello and Checchi, 2007; Dustmann and Puhani, 2017).

However, a key feature that distinguishes the Italian system from many of its counterparts is that students and their families are free to choose their preferred track without any formal entry criteria. There are no standardized test scores or GPA thresholds required for enrollment in a particular track, and all three tracks are equally accessible. Transitions between tracks are allowed and technically possible during the course of upper secondary education. This high degree of flexibility makes Italy an especially useful context for studying how students form preferences and make decisions in the absence of institutional constraints.

Figure 1: The Italian School System



Notes: This figure illustrates the structure of the Italian education system, including primary school (grades 1–5), lower secondary or middle school (grades 6–8), and upper secondary school (grades 9–13). At the end of grade 8 (around age 14), students choose one of three upper secondary tracks: academic (*Licei*), technical (*Istituti Tecnici*), or vocational (*Istituti Professionali*). All tracks are, for the most part, offered within the public school system and are accessible without formal entry requirements.

At the end of middle school, students must choose among three upper secondary school

tracks: the academic track (*Licei*), the technical track (*Istituti Tecnici*), and the vocational track (*Istituti Professionali*). While all tracks theoretically grant access to university or other forms of tertiary education, they differ significantly in practice. In 2017, 74% of students from the academic track enrolled in university, compared to 33% from technical schools and only 11% from vocational institutions (Ministero dell'Istruzione, 2017). These figures highlight the long-term implications of tracking decisions and reinforce the importance of interventions at this formative stage—when students are developing aspirations and making choices that may affect their future opportunities.

3 Intervention and Evaluation

3.1 The Online Role Model MEntoring Program (ORME)

The role model mentoring program ORME is a school-based intervention that consists of online, interactive meetings between 12-year-old students and role models.[7] Thanks to its online format, the program connects up to four lower secondary school classes through an online platform (e.g., Zoom) with an individual who embodies certain characteristics, as explained below, and whom we refer to as a *role model*.

Role models Role models are recruited based on their potential ability to activate three key dimensions in children—identification, admiration, and motivation—which the literature highlights as essential for their effectiveness (Lockwood, 2006; Rask and Bailey, 2002; Nguyen, 2008; Morgenroth et al., 2015).

Crucially, our role models are selected not only for their achievements, but also for being *accessible* figures—individuals whose life paths, while often challenging, are realistically within reach. The goal is not to showcase extraordinary or hard-to-replicate success stories—such as those of elite athletes or celebrities—but rather to present students with concrete examples of people who have pursued and achieved personal goals through effort, perseverance, and informed choices. The emphasis is on conveying the idea that students can work toward their own aspirations—whatever they may be—as long as those aspira-

[7]The intervention was pre-registered in the AEA RCT Registry (RCT ID #AEARCTR-0007567). Minor deviations from the pre-registered plan are described in Appendix A.3.

tions are meaningful and attainable.

Identification occurs when students see aspects of themselves in the role model, making the role model's experiences feel relevant and relatable. To foster identification, role models are chosen based on the "someone like me" principle, ensuring that students can relate to them. To achieve this, we recruited individuals who share the same geographical and cultural background as the students, leveraging informal networks and partnerships with organizations in Campania.

Admiration is triggered when the role model is perceived as a figure worth emulating. To elicit admiration, role models are selected based on their achievements in their profession, education, or public visibility. As noted above, and in line with Morgenroth et al. (2015), we prioritize individuals whose success stems from hard work and perseverance rather than nepotism or luck, highlighting stories of resilience and overcoming adversity.

Motivation arises when students are encouraged to pursue their own ambitions, believing that hard work and perseverance can lead to similar achievements. To maximize motivation, role models must be effective communicators capable of inspiring students. They are encouraged to openly discuss the challenges they have faced in their careers and how they overcame them through effort and endurance.

These and other relevant characteristics were assessed by the research team during a series of pre-intervention selection interviews. Appendix A.2 provides an anonymized descriptions of the role models who participated in our intervention.

The intervention As part of the program, each student participates in a session with a role model, structured around two main components: a presentation followed by a student-led discussion. The first part, lasting approximately 15 minutes, features the role model introducing themselves, sharing their background, and discussing their educational and professional experiences. To balance authenticity with standardization, role models were given flexibility in how they presented (e.g., the use of slides or pictures), but were asked to cover at least four key topics:

- **Territorial origin and background:** Role models describe their background, emphasizing their connection to the local area. This is essential to foster students' identification with the role model, as students perceive the role model as someone

who understands the local conditions, opportunities, and challenges they may face.

- **Educational journey:** Role models share their educational choices and career paths. This part of the presentation serves an important informational purpose, exposing students to new possibilities—such as opportunities within the public education system in Italy—which may otherwise be overlooked due to limited awareness and access to information.

- **Current professional profile:** Role models present their career trajectory, illustrating attainable professional outcomes. The primary aim is to show that success in the labor market and professional recognition are attainable through hard work and perseverance, regardless of one's social origin.

- **Obstacles, failures, and barriers encountered along the way:** Role models are encouraged to openly discuss the challenges, failures, and barriers they have faced. This demonstrates that setbacks are a natural part of progress, reinforces the idea that obstacles can be overcome, and strengthens the identification process by helping students see that others with similar backgrounds have faced and conquered difficulties, making it easier for them to envision their own success.

The presentation is followed by a live discussion, lasting around 45 minutes, in which students directly engage with the role model. This interactive session is the core of the intervention, as it enables real-time dialogue that fosters empathy and identification—elements often missing in more scalable but impersonal video-based formats. While pre-recorded videos may be easier to disseminate, they lack the dynamic, reciprocal exchange that helps students relate to the role model as someone who genuinely understands their lived experiences.

Learning from our pilot study, we introduced a field manager as a facilitator to help break the ice and encourage participation. Initially, students were hesitant to ask questions, but as the discussion progressed, the atmosphere shifted. Once the first few questions were asked, the ice broke, leading to several inquiries that impressed both role models and teachers. This interactive component proved crucial in making students feel comfortable and engaged, ensuring they could fully benefit from the experience of meeting and learning from their role model.

3.2 Empirical Setting and Implementation

Empirical design At the beginning of 2022, a sample of lower secondary schools in the Campania region of Italy was invited to participate in the ORME program. Each school received an invitation letter accompanied by an information sheet describing the project. Eligibility required internet access in every classroom and the presence of an interactive whiteboard or screen to enable the connection with the role model. Schools that expressed interest confirmed their availability for the intervention period, which was scheduled for April and May 2022.

The final sample consists of five schools, selected to enhance comparability and reduce the influence of potential contextual confounders. Although a sample of five schools cannot ensure national representativeness, it provides a reasonable reflection of the local setting. Specifically, the participating schools capture both urban and rural realities: two are located in medium-sized cities (around 50,000 inhabitants), two in smaller towns (around 20,000 inhabitants), and one in a small village (around 3,000 inhabitants) near Naples. Figure 2 shows the geographical distribution of the participating schools.[8] In total, the sample includes 35 classes and over 600 potential students.

We evaluate the impact of ORME through a randomized controlled trial (RCT), stratified at the school level. Within each school, half of the classes (18 in total) were randomly assigned to the treatment group and the remainder (17 classes) to the control group.[9] Treated classes participated in a session with a role model, while control classes continued with their regular school schedule. Sessions were conducted during normal school hours, replacing previously scheduled lessons. As such, ORME did not increase the total number of instructional hours.

Data We collected data through two waves of surveys conducted in classrooms, complemented by administrative records. **Surveys** were administered during teaching hours by trained interviewers using tablets, ensuring standardized data collection procedures for all participants. Figure 3 illustrates the study timeline.

[8]For privacy reasons, school names are not disclosed in the paper.

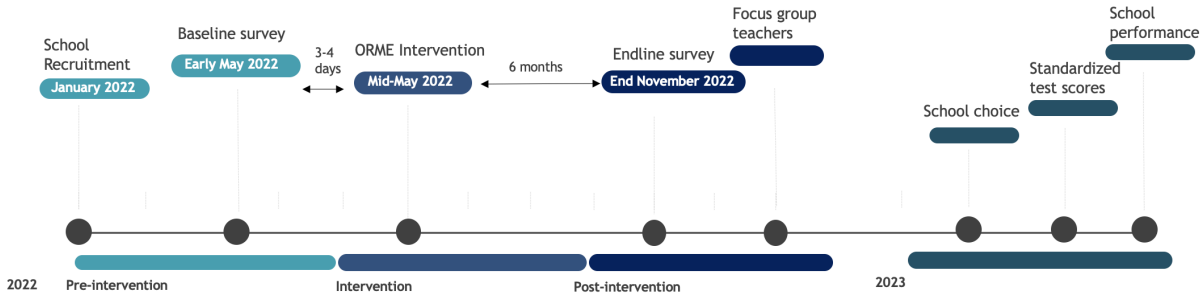
[9]Our design does not rule out the possibility of spillovers across classrooms. However, such spillovers are highly unlikely in our setting, as Italian middle school classes function as largely self-contained units. Any spillovers that do occur would likely be positive, implying that our estimates represent a lower bound of the true effects.

Figure 2: School Locations

Notes: This figure illustrates the approximate geographical locations of the five schools participating in ORME. For privacy reasons, the names and exact addresses of the schools are not reported.

In early May 2022, we conducted the *baseline* survey in both treatment and control classes. The survey was administered 3–4 days before the treatment group met with a role model and gathered information on family background, students' expectations and aspirations, educational preferences, beliefs about the returns to school effort and family background, school performance, tracking preferences, and soft skills such as grit. The baseline and follow-up questionnaires are reported in Appendix B.

Figure 3: Timeline of the Intervention



Notes: This figure shows the timeline of the ORME intervention.

The *endline* survey was carried out in late November 2022, when students were in the final

grade of middle school (8^{th} grade), but before they had to decide which high school track to attend in January. It included a subset of the questions asked in the baseline survey and added some measures of beliefs and effort.[10] By the time of the endline, nearly six months had passed since the intervention. This time gap reduces concerns about social desirability bias and allows us to capture medium-term effects.

Survey data were complemented with **administrative records**. First, we collected students' official tracking choices at the end of middle school, which both validate the self-reported preferences and extend the time horizon of the study, as the official choice is made one year after the intervention. Second, we obtained student performance data from standardized national tests taken one year after the intervention. These data are available for four of the five schools, as one school—due to repeated leadership changes—has so far declined to provide them. Standardized test scores allow us to assess whether the intervention influenced academic outcomes, for example through greater effort. The tests are administered annually by the *Istituto Nazionale per la Valutazione del Sistema Educativo di Istruzione e di Formazione* (INVALSI) to students in grades 2, 5, 8, 10, and 13, with the aim of measuring proficiency in Italian, Mathematics, and English at key stages of the school cycle. Finally, schools provided data on teachers' recommendations regarding tracking. Although students' choices of track and school are unconstrained, teachers are asked to recommend the track they consider the best match to each student's profile.

Baseline Balance and Attrition The internal validity of our RCT is supported by balanced baseline characteristics and the absence of differential attrition across treatment arms. Tables 1 and 2 present descriptive statistics for our sample, comparing the treatment and control groups based on students' and family characteristics, respectively.[11] The third column of each table reports whether average values differ statistically across groups.[12] To ensure that differences between the baseline and estimation samples do not

[10]For more information, see Appendix B.

[11]Descriptive statistics for the full sample, without distinction between treatment and control groups, are reported in Appendix Table A1.

[12]While balancing checks could in principle be conducted using demographic characteristics both at baseline and at endline, the endline survey collected only limited demographic information (see data section above). For completeness, we also report the endline balancing table in Appendix A3. While our study follows a standard randomized controlled trial design, it faces a common challenge in dynamic educational settings: changes in sample composition over time. The endline sample comprises students observed at baseline as well as students not previously observed, resulting in imperfect overlap between the two samples. Some differences in the endline balance table are larger than those observed in the baseline sample, but none are statistically different from zero. Moreover, estimates are robust across

bias results, we also test for selective attrition. Appendix Table A2 shows no evidence of differential attrition by treatment arm: the probability of completing the endline survey is virtually identical for treatment and control students, with an estimated coefficient close to zero.

The treatment and control groups appear well balanced in terms of students' characteristics. None of the variables in Table 1 shows statistically significant differences across treatment arms. Specifically, gender, age, and migrant background are similar across groups, as are individual traits such as self-esteem, grit, and locus of control. The treatment group reports a slightly higher—though statistically insignificant—alignment between the jobs students aspire to and those they expect to hold in the future (Aspire=Expect). Preferences for future enrollment in the academic track are also identical across groups.

Table 2 confirms that family characteristics are likewise similar between treatment and control groups, with no significant differences. If anything, the treatment group has marginally fewer only children (13.1 versus 17.7%) and slightly more fathers with a high school degree (36 versus 31%). However, the share of highly educated parents (i.e., with a university degree) is virtually the same across groups.

Empirical model The use of an RCT to assess the impact of ORME makes the empirical model straightforward. We estimate the following equation:

$$Y_{ics} = \beta_0 + \beta_1 ORME_{cs} + \beta_2 Y_{ics}^0 + \boldsymbol{X}_{\boldsymbol{ics}}' \beta_3 + \eta_s + \varepsilon_{ics} \quad , \tag{1}$$

where Y_{ics} denotes the outcome variable for student i in class c of school s, measured either in the endline survey or using administrative data. Outcomes include beliefs about returns to effort and wealth, students' aspirations and expectations for the future, school effort, grit, tracking preferences and actual choices, and school performance. Each outcome and its precise definition will be detailed in the results section. ORME_{cs} is an indicator equal to one for students randomly exposed to the ORME program. ε_{ics} is the error term. We estimate Equation 1 using ordinary least squares (OLS) with standard errors clustered at the classroom level.[13]

multiple specifications, both with and without controls. We therefore focus on balancing at baseline, where richer information on individual and family characteristics is available.

[13]To assess robustness, we re-estimate the main outcomes using robust, clustered, and bootstrapped clustered standard errors. We find no substantial differences across specifications, as shown in Appendix

Table 1: Balance of Baseline Students' Characteristics

Variable	(1) Control Mean/(SD)	(2) Treatment Mean/(SD)	(1)-(2) Mean Difference	P-value
Female	0.502	0.521	-0.019	0.587
	(0.501)	(0.501)	(0.045)	
Age	13	13	-0.013	0.738
	(0.408)	(0.496)	(0.051)	
Migrant background	0.079	0.050	0.029	0.466
	(0.270)	(0.219)	(0.028)	
Self-esteem index	0.703	0.715	-0.012	0.587
	(0.191)	(0.183)	(0.020)	
Grit index	0.695	0.716	-0.020	0.351
	(0.144)	(0.138)	(0.019)	
Locus of control index	0.726	0.729	-0.004	0.560
	(0.116)	(0.101)	(0.013)	
Aspire=Expect	0.549	0.595	-0.046	0.319
	(0.499)	(0.492)	(0.057)	
Academic track	0.809	0.819	-0.009	0.723
	(0.394)	(0.386)	(0.040)	
Observations	215	259	474	

Notes: This table reports descriptive statistics for students' baseline characteristics by treatment status. The sample includes students who completed the baseline survey. Columns (1) and (2) present the means and standard deviations (SD) for the control and treatment groups, respectively. Column (3) reports the difference in means between the two groups. The last column reports the p-value from the t-test. Standard errors are clustered at the classroom level. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 2: Balance of Baseline Family's Characteristics

Variable	(1) Control Mean/(SD)	(2) Treatment Mean/(SD)	(1)-(2) Mean Difference	P-value
Only child	0.177	0.131	0.045	0.149
	(0.382)	(0.338)	(0.031)	
Number of siblings: One	0.605	0.587	0.018	0.690
	(0.490)	(0.493)	(0.039)	
Child lives with single parent	0.088	0.097	-0.008	0.847
	(0.284)	(0.296)	(0.028)	
Mother works	0.786	0.780	0.006	0.864
	(0.411)	(0.415)	(0.030)	
Mother's education: Middle school or less	0.102	0.093	0.010	0.557
	(0.304)	(0.291)	(0.036)	
Mother's education: High school	0.265	0.313	-0.048	0.135
	(0.442)	(0.465)	(0.040)	
Mother's education: University	0.507	0.490	0.017	0.766
	(0.501)	(0.501)	(0.053)	
Father's education: Middle school or less	0.158	0.131	0.027	0.225
	(0.366)	(0.338)	(0.032)	
Father's education: High school	0.312	0.359	-0.047	0.417
	(0.464)	(0.481)	(0.057)	
Father's education: University	0.381	0.351	0.030	0.843
	(0.487)	(0.478)	(0.063)	
Observations	215	259	474	

Notes: This table reports descriptive statistics for students' family characteristics by treatment status. The sample includes students who completed the baseline survey. Columns (1) and (2) present the means and standard deviations (SD) for the control and treatment groups, respectively. Column (3) reports the difference in means between the two groups. The last column reports the p-value from the t-test. Standard errors are clustered at the classroom level. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

We estimate three specifications of Equation 1, which differ in the set of control variables included to assess robustness. The first specification is the most parsimonious and includes only school fixed effects η_s, which are required given that randomization was stratified within schools. The second specification adds a minimal set of controls $\boldsymbol{X_{ics}}$, such as students' gender and parental education, available for nearly the full sample, to account for potential minor imbalances in baseline characteristics. The third specification incorporates a richer set of controls, including parents' occupation, an index of students' self-esteem, and baseline measures of the outcome variables Y^0_{ics}, when available. These additional controls are only observed for the subsample of students who completed both baseline and endline surveys. For the roughly 25% of observations missing this information, we impute the sample mean. To account for imputation, all specifications that use the full set of controls also include a dummy variable equal to one when any control value is imputed.[14]

4 Results

4.1 Qualitative Results and Quality of Implementation

Before moving to a rigorous quantitative analysis of ORME's effectiveness, this section offers a brief qualitative assessment of the intervention, its implementation, and feedback from teachers, parents, and students. Although qualitative (and at times anecdotal), we believe it provides preliminary evidence of the program's potential.

The technical implementation of the program was highly appreciated by all parties involved: students, teachers, school principals, and role models. All meetings were held on schedule without significant delays. Figure 4 depicts one of the online sessions. As shown, the role model (top-left corner) interacts with four classes simultaneously. A moderator (second box in the top row) facilitates the interaction by gathering questions and reflections from the students.[15] According to teachers, moderators, and video recordings of the

Table A5.

[14] Appendix Table A2 investigates possible selective attrition and finds no evidence of systematic differences by treatment arm.

[15] The moderator was one of the field-managers, not a member of the research team. This figure was included following feedback from the pilot suggesting the need to "break the ice" and kick-start the Q&A session.

sessions, the level of engagement during the meetings was high, particularly during the second part, which was dedicated to questions and a dynamic back-and-forth between the students and the role model.[16]

Students expressed a high level of satisfaction with the program. According to teachers, discussions among students often continued after the sessions with the role models, demonstrating strong interest in the stories and career paths shared. For example, during the online sessions, students asked the role models questions such as,"How did you achieve that?" or "Were you aware of this career path when you were our age?" These inquiries suggest that the program sparked curiosity and deeper consideration of possible career trajectories.

Figure 4: Meeting Between a Role Model and Students

Notes: This figure shows one of the meetings between a role model (top-left corner) and students in four different classrooms interacting online. The picture was taken during the pilot of ORME.

Another important aspect of the meetings was the students' ability to identify with the role models and their stories. From a qualitative perspective, this objective appears to have been successfully achieved through our intervention. In many circumstances, students displayed a strong sense of self-identification with the role model figures. Two anecdotal episodes support this claim. Figure 5 shows a slide used by one of the role models. The blue arrow points to a picture of his first day of school, taken in front of what used to be his mother's shop, emphasizing his origins, which closely resembled those of many students in the session. In the second picture, the role model showed a class photo with

[16]We recorded only the online sessions of the pilot.

a broken basket in the background. Many students immediately recognized the (broken) basket, leading them to see the role model as "one of them." In another meeting, a role model recounted her experiences with bullying during her school years. This story deeply resonated with students, prompting them to ask numerous questions about whether her success helped her overcome those episodes and gain a sense of personal vindication.

Figure 5: Example of a Role Model's Presentation

Notes: This figure shows one of the slides used by a role model in their presentation.

Finally, in addition to the students' high satisfaction, teachers were also highly pleased with the intervention. In a follow-up focus group meeting, teachers confirmed that the role model meetings encouraged students to reflect on and discuss their potential future paths. Teachers acknowledged that programs like ORME, which allow students to interact with successful individuals who share similar backgrounds and provide valuable insights and inspiration, are missing from the standard school curriculum. Importantly, all participating schools expressed interest in continuing ORME in the following school year.

4.2 Quantitative Results

This section presents the main empirical analyses of ORME's causal impact on different outcomes. For each outcome, we provide a detailed explanation of how the outcome variable is constructed, followed by analyses using three specifications: no controls, a restricted set of controls, and the full set of controls, as outlined in Section 3.2.

Beliefs Role models, by emphasizing concepts such as perseverance and hard work in achieving what students may perceive as unattainable goals, can influence students' beliefs about the returns to effort and wealth. By this, we mean students' beliefs about how increased study effort or family socioeconomic background affects future outcomes. We explore whether ORME has an impact on these beliefs. Drawing inspiration from Attanasio et al. (2022), Boneva and Rauh (2018), and Cunha et al. (2022), we developed four different real-life scenarios to elicit students' beliefs about the returns to effort and wealth.

The scenarios are as follows:

- Scenario 1: Low effort & wealthy family: *Imagine 100 middle school students studying for* ***less than 10 minutes*** *a day and coming from a* ***wealthy family****. How many do you think will have a good job as adults?*
- Scenario 2: Low effort & non-wealthy family: *Imagine 100 middle school students studying for* ***less than 10 minutes*** *a day and coming from a* ***non-wealthy family****. How many do you think will have a good job as adults?*
- Scenario 3: High effort & wealthy family: *Imagine 100 middle school students studying for* ***1 hour and 30 minutes*** *a day and coming from a* ***wealthy family****. How many do you think will have a good job as adults?*
- Scenario 4: High effort & non-wealthy family: *Imagine 100 middle school students studying for* ***1 hour and 30 minutes*** *a day and coming from a* ***non-wealthy family****. How many do you think will have a good job as adults?*

Following the literature, the scenarios refer to a hypothetical set of peers—rather than to the respondent—to elicit students' beliefs about the average relationship between effort, family background, and long-run outcomes. This approach reduces concerns that students

may anchor their responses on their own ability, circumstances, or aspirations, thereby providing a cleaner measure of general beliefs rather than self-assessments. We construct these belief measures by comparing responses across pairs of scenarios that vary along a single dimension. Each comparison isolates a specific component of students' perceived returns. For example, the difference between Scenario 4 (high effort, non-wealthy family) and Scenario 2 (low effort, non-wealthy family) captures students' beliefs about the return to effort for peers from non-wealthy backgrounds.

Table 3 presents the empirical analysis showing the impact of ORME on individual beliefs. In the first two columns, these measures capture students' perceptions of how similar peers translate effort into future success. The first column shows no treatment effect for scenarios involving wealthy families, suggesting that students generally view the career prospects of wealthy peers as less sensitive to school effort. In contrast, the second column reveals two important patterns for peers from non-wealthy families. First, control-group students perceive substantial structural barriers: they believe that only about one in three non-wealthy peers will succeed in the labor market as adults, even when those peers exert high academic effort. Second, exposure to ORME shifts these beliefs. Students in the treatment group expect that, on average, six additional non-wealthy peers (out of 100) will achieve a good job—an economically meaningful increase of roughly 18% relative to the control mean. This pattern indicates that meeting relatable role models leads students, particularly those who perceive greater socioeconomic constraints, to hold more optimistic beliefs about the returns to effort. The third and fourth columns of Table 3 examine beliefs about the returns to wealth. These beliefs are unaffected by participation in ORME, which is unsurprising, as the role models were instructed to focus their presentations on the importance of perseverance and effort, independent of individuals' socioeconomic background.

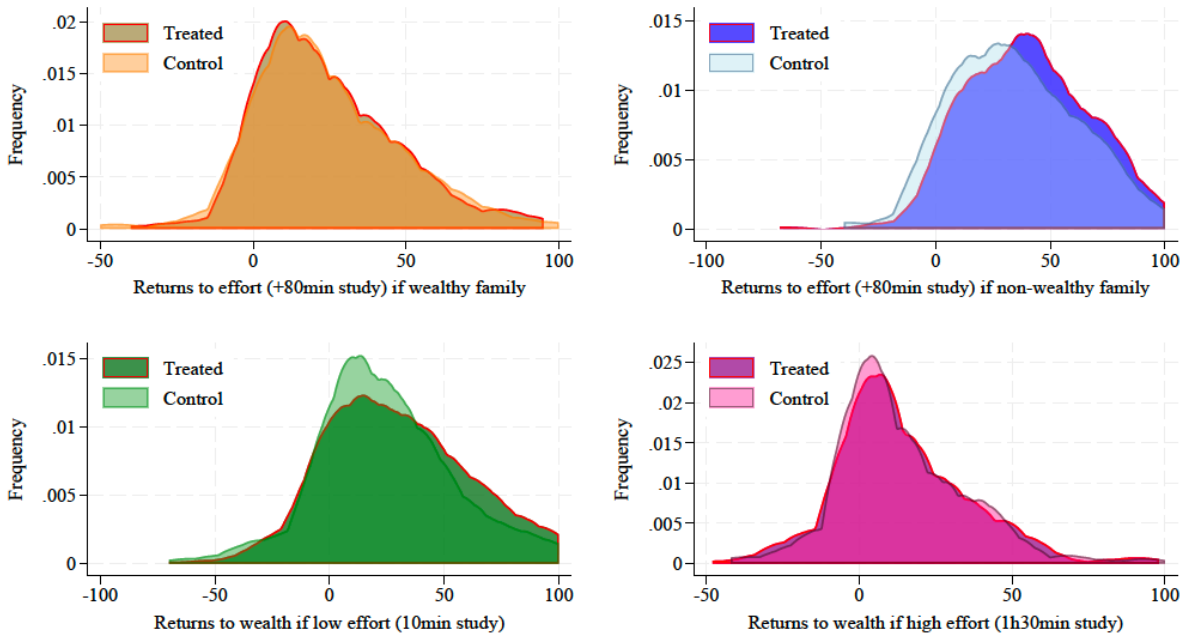
Table 3: Treatment Effects on Beliefs About Returns to Effort and Wealth

	(1) Returns to Effort, Wealthy Family	(2) Returns to Effort, Non-Wealthy Family	(3) Returns to Wealth, Low Effort	(4) Returns to Wealth, High Effort
Panel A: No Controls				
ORME treatment	1.550	6.026**	4.690	0.215
	(2.244)	(2.839)	(2.934)	(1.980)
Panel B: Controls				
ORME treatment	1.237	5.461*	4.342	0.118
	(2.216)	(2.815)	(3.016)	(1.988)
Panel C: Full Set of Controls				
ORME treatment	1.181	6.294**	5.164	0.050
	(2.318)	(2.833)	(3.117)	(1.916)
Control Group Mean	23.19	34.13	24.47	13.53
Observations	478	478	478	478

Notes: This table shows the treatment effects of the ORME program on students' beliefs regarding the returns to effort and wealth, differentiated by family wealth status and levels of effort. Panel A reports results without controls. Panel B includes a set of basic controls such as the gender and education levels of the parents. Panel C incorporates a full set of controls, adding variables like parents' occupations and a self-esteem index. Missing information is imputed. All specifications are estimated using linear probability models and include school fixed effects. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. The "Control Group Mean" at the bottom of the table shows the average value of each outcome variable for students in the control group. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Figure 6 extends the analysis by examining the full distributions of beliefs rather than focusing solely on average values. The top-right panel, which illustrates the returns to effort for non-wealthy families, shows that the average treatment effect reported in Table 3 stems from a rightward shift in the entire distribution for the treatment group. For the other outcomes, the distributions for the treatment and control groups are quite similar, and in some cases (e.g., returns to effort for wealthy students in the top-left corner) they almost overlap.

Figure 6: Students' Beliefs on Returns to Effort and Wealth: Distribution



Notes: This figure presents the distribution of students' beliefs about the returns to effort and wealth, divided by treatment and control groups. Each graph shows the effect of treatment on the perceived returns to different combinations of effort levels and family wealth status. The top-left graph illustrates the perceived returns to effort (+80 minutes of study) for students from wealthy families, while the top-right graph shows the same for students from non-wealthy families. The bottom-left graph displays beliefs about returns to wealth when students invest low effort (10 minutes of study), and the bottom-right graph shows beliefs about returns to wealth with high effort (1 hour and 30 minutes of study).

Aspirations, effort, and grit We explore whether meeting a role model, and the resulting changes in students' beliefs about the returns to effort, are reflected in their aspirations, effort, and grit. One challenge for students living in regions like the one studied is that they often aspire to goals they perceive as unattainable. In theory, meeting role models could shift this perception and better align students' aspirations with their expectations for the future.

We assess the potential increase in alignment between aspirations and expectations induced by ORME using two questions asked both in the baseline and endline surveys: "What would you like to do when you grow up?" and "What do you think you will actually do when you grow up?" For our analysis, we define the outcome variable as an indicator equal to one if the two answers are the same, and zero if they differ. This approach avoids any subjective assessment of students' responses. Instead, we focus on whether students become more optimistic about achieving their desired goals, regardless of what those goals are.[17]

The first column of Table 4 presents the analysis. Fewer than one out of two students in the control group (42%) think they will actually do what they would like to do when grown up. However, ORME has a positive and significant effect on the alignment between students' aspirations and expectations. In the model without controls, the treatment effect amounts to a 12 pp increase in the probability of alignment. This represents a sizeable 28% increase relative to the control group mean. The effect remains consistent across specifications and statistically significant; for example, in the model with the full set of controls, the treatment effect is 11 pp, corresponding to a 25% increase.

School effort is also positively impacted by the intervention. We use the question, "Think about yesterday, how much time did you spend studying or doing homework (excluding time spent at school)?" to construct two measures of effort. The first, reported in column (2) of Table 4, is an indicator variable that equals one if the student reported at least one hour of study time the previous day, and zero otherwise. The second, reported in column (3), is a continuous variable for the number of minutes studied. ORME increases the share of students studying at least one hour by about 12.5 percentage points (a 25% increase) and raises average study time by roughly 8 minutes, corresponding to a 13% increase relative to the control group mean.

Finally, we assess whether ORME impacts grit, using the short scale developed by Duckworth and Quinn (2009). In our sample, the grit index ranges between 0.32 and 1 (SD = 0.13). The analysis in the third column of the table shows no significant effect of ORME on grit.

[17]Table A4 helps address the concern that the increase in alignment between aspirations and expectations reflects a downward adjustment of aspirations. If students had simply lowered their goals, we would observe a decline in consistency between aspired professions requiring a degree and enrollment in academic tracks. Instead, Table A4 shows a positive effect, indicating that the program strengthened students' confidence in pursuing ambitious educational paths.

Table 4: Treatment Effects on Aspirations, School Effort, and Grit

	(1) Aspire = Expect	(2) Effort (0/1)	(3) Effort (min)	(4) Index Grit
Panel A: No Controls				
ORME treatment	0.120**	0.125**	8.154**	0.010
	(0.051)	(0.060)	(3.409)	(0.014)
Panel B: Controls				
ORME treatment	0.112**	0.105*	8.468**	0.006
	(0.054)	(0.060)	(3.970)	(0.013)
Panel C: Full Set of Controls				
ORME treatment	0.109**	0.099	6.871*	0.003
	(0.051)	(0.059)	(3.416)	(0.009)
Control Group Mean	0.423	0.490	61.203	0.713
Observations	478	478	478	478

Notes: This table shows the treatment effects of the ORME program on students' aspirations, school effort, and grit. "Aspire=Expect" is an indicator variable equal to 1 if the answers to "What would you like to do when you grow up?" and "What do you think you will actually do when you grow up?" are the same, and 0 if they differ. "Effort (0/1)" is a dummy variable equal to 1 if the student reported at least one hour of study time the previous day, and zero otherwise. "Effort (min)" is a numeric variable indicating the midpoint of the reported study time intervals (0, 22.5, 45, or 90 minutes). "Index Grit" is an index constructed using the short scale developed by Duckworth and Quinn (2009) and ranges from 0 (not at all gritty) to 1 (extremely gritty). Panel A reports results without controls. Panel B includes a set of basic controls such as the gender and education levels of the parents. Panel C incorporates a full set of controls, adding variables like parents' occupations, a self-esteem index, and the baseline analogue of the outcome variable when available. Missing information is imputed. All specifications are estimated using linear probability models and include school fixed effects. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. The "Control Group Mean" at the bottom of the table shows the average value of each outcome variable for students in the control group. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Tracking preference and choice Our survey asks students about their intentions regarding future educational choices. Given the importance of tracking in the Italian education system (see Section 2), selecting a particular educational path can have long-lasting individual consequences. Meetings with role models may influence students' educational preferences for various reasons. Role models can provide new information about potential career paths and how to pursue them. For instance, in one meeting, the role model emphasized several times that his entire career developed within the public education system, suggesting minimal economic costs for his family. Additionally, role models can serve as sources of inspiration, encouraging students to revise their preferences as they feel more confident in achieving goals that once seemed unattainable.

We classify students' intentions regarding tracking by constructing an indicator equal to one for students intending to enroll in upper secondary education, specifically in the academic-oriented track.[18] While completing this track is not a formal requirement for university enrollment, it is widely perceived as the path that best equips students with the knowledge needed for a university career.

The first column of Table 5 shows the analysis of students' tracking intentions, expressed six months after the intervention when students began their final year of middle school. Although coefficients are not statistically significant at conventional levels, the positive and sizable point estimates suggest a promising direction. In the model without controls, the treatment effect is approximately 4.5 pp, representing a 6% increase relative to the control group mean of 76.5%. The effect is smaller in the models with controls.

Results are stronger when actual enrollment, rather than intentions, is used as the outcome of interest. Indeed, the second column of Table 5 presents results for actual enrollment in the academic track, measured one year after the intervention using administrative data.[19] As with tracking preferences, all point estimates are positive. This time, coefficients in all specifications are statistically significant at the 10% level and large in magnitude (6–7 pp, about a 10% increase relative to the control group mean). The effects on actual enrollment are broadly similar to those observed for tracking intentions. This pattern

[18]We classify the following school tracks as part of the academic-oriented track: scientific lyceum, classical lyceum, artistic lyceum, linguistic lyceum, musical and choreutic lyceum, and human sciences lyceum. For more information, visit the MIUR website: https://www.miur.gov.it/scuola-secondaria-di-secondo-grado.

[19]We report the coefficients estimated for the endline sample for comparison. When using the full administrative dataset (645 students), the estimated coefficient is very similar, 0.058 (standard errors = 0.062), but it is imprecisely estimated.

Table 5: Treatment Effects on Tracking

	(1) Aspire to Academic Track	(2) Enrolled in Academic Track
Panel A: No Controls		
ORME treatment	0.045	0.071*
	(0.044)	(0.040)
Panel B: Controls		
ORME treatment	0.023	0.063*
	(0.037)	(0.036)
Panel C: Full Set of Controls		
ORME treatment	0.034	0.065*
	(0.036)	(0.036)
Control Group Mean	0.765	0.714
Observations	478	469

Notes: This table shows the treatment effects of the ORME program on students' school aspirations and choices. "Aspire to Academic Track" is an indicator variable equal to 1 if the student aspires to enroll in an academically oriented track. "Enrolled in Academic Track" is a dummy variable equal to 1 if the student is enrolled in an academic track. Column (2) has slightly fewer observations because some students could not be matched with administrative data. Panel A reports results without controls. Panel B includes a set of basic controls such as the gender and education levels of the parents. Panel C incorporates a full set of controls, adding variables like parents' occupations, a self-esteem index, and the baseline analogue of the outcome variable when available. All specifications for "Enrolled in Academic Track" also control for teachers' recommendations. Missing information is imputed. All specifications are estimated using linear probability models and include school fixed effects. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. The "Control Group Mean" at the bottom of the table shows the average value of each outcome variable for students in the control group. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

suggests that ORME may have had a meaningful impact not only on students' aspirations but also on their realized educational choices. Moreover, the similarity between self-reported intentions and actual administrative data provides further evidence against the presence of social-desirability bias in students' responses.[20]

Standardized test scores To assess whether the reported increase in effort translates into actual school engagement, we analyze the intervention's treatment effect on standardized test scores obtained through INVALSI. Participation in the INVALSI test is mandatory for admission to the middle school final exam, which is a prerequisite for completing the school cycle. The test results are categorized into levels that indicate the extent to which a student can apply the skills, knowledge, and abilities acquired throughout their education. For both Italian and mathematics, there are five competence levels, while English is assessed using three levels aligned with the Common European Framework of Reference for Languages (CEFR).

The levels for the standardized tests in Italian and mathematics are defined as follows:

- **Level 1:** Very weak result, corresponding to the learning goals expected at the end of primary school (Grade 5).
- **Level 2:** Weak result, not in line with the learning goals set for the end of lower secondary school (Grade 8).
- **Level 3:** Adequate result.
- **Level 4:** Good result.
- **Level 5:** Very good result.

For English, the levels are:

- **Pre-A1:** Very weak result, below the expected standard for exiting primary school (Grade 5).
- **A1:** Result not in line with national guidelines.
- **A2:** Level of competence required by national guidelines.

[20] One of the schools participating in ORME is relatively small, with around ten treated students, all of whom aspire to—and actually enroll in—the academic track.

We define outcomes as indicator variables based on the competence levels described above. For Italian and mathematics, the indicator variable takes the value of one if the student achieves at least Level 3, indicating an adequate level of competence. For English, the indicator variable takes the value of one if the student achieves Level A2.

Table 6: Treatment Effects on Standardized Test Scores

	(1) Mathematics	(2) Italian	(3) Eng. Read.	(4) Eng. List.
Panel A: No Controls				
ORME treatment	0.006	0.090*	0.004	-0.072
	(0.059)	(0.045)	(0.041)	(0.052)
Panel B: Controls				
ORME treatment	0.007	0.087**	0.004	-0.069
	(0.054)	(0.039)	(0.040)	(0.049)
Panel C: Full Set of Controls				
ORME treatment	0.024	0.094**	0.010	-0.063
	(0.057)	(0.042)	(0.042)	(0.047)
Control Group Mean	0.651	0.691	0.863	0.709
Observations	352	352	352	352

Notes: This table shows the treatment effects of the ORME program on students' standardized test scores. The outcome variables are coded as dummy indicators. For Italian and mathematics, a value of 1 is assigned if a student achieves at least Level 3, indicating an adequate level of competence. In the case of English, a value of 1 is assigned for students at Level A2. Panel A reports results without controls. Panel B includes a set of basic controls such as the gender and education levels of the parents. Panel C incorporates a full set of controls, adding variables like parents' occupations and a self-esteem index. Missing information is imputed. All specifications are estimated using linear probability models and include school fixed effects. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. The "Control Group Mean" at the bottom of the table shows the average value of each outcome variable for students in the control group. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 6 reports the impact of ORME on standardized test scores, broken down by subject. As mentioned above, standardized test data are available for only four out of the five schools in our sample, due to a recent leadership change in one school. Therefore, we consider this analysis as only suggestive of the potential impact of ORME on school performance.

Given these considerations, ORME shows some treatment effects on students' performance: students exposed to ORME are 9 percentage points (+13%) more likely to achieve a sufficient level on the Italian language test compared to the control group. This result remains robust and statistically significant across different empirical specifications. Conversely, no significant effects are observed on mathematics or English scores, although the effect size for the latter is negative and relatively large but statistically insignificant.

Teachers' recommendations We now turn to examining whether teachers may have played a role in students' decisions to enroll in the academic track. In Italy, before students make their final high school choices, teachers provide recommendations on the track they consider most suitable for each student. These recommendations are non-binding, but they could still matter for students who are uncertain about which path to follow.

Since a teacher was present during the ORME intervention, their guidance could also have been affected. To explore this, we focus on two outcomes. The first captures whether teachers recommended the academic track, and the second measures whether students' final enrollment decisions align with those recommendations. Both variables are coded as dummy variables. Table 7 reports the results. Overall, we find no evidence that ORME influenced either outcome: the estimated effects are small and not statistically significant, suggesting that the program did not meaningfully alter teachers' recommendations or the alignment between recommendations and students' choices.

A unified view of the findings (and multiple hypothesis testing) Up to this point, we have analyzed multiple outcomes of different natures, obtained from various data sources (e.g., self-reported surveys vs. administrative records). In this section, we aim to synthesize all the empirical evidence discussed in the previous analyses with a twofold objective. First, given the considerations above and the fact that not all results are strongly significant from a statistical standpoint, we seek to assess whether, overall and regardless of the specific outcome considered, ORME can be characterized as a successful intervention. Second, since we have estimated treatment effects for a substantial number of outcomes, it is important to account (at least partially) for multiple hypothesis testing.

To do so, we construct an overall index capturing the success of the ORME program. Heckman et al. (2010) note that the definition of blocks of hypotheses to be jointly tested in a multiple hypothesis testing procedure is, to some extent, arbitrary. Therefore, we adopt a cautious approach and, following Anderson (2008), construct two composite indices. The first index–*Success Index*–combines beliefs about returns to effort, students' aspirations,

Table 7: Treatment Effects on Teachers' Recommendations

	(1) Recommendation Academic Track	(2) Recomm.=Enrollment Academic Track
Panel A: No Controls		
ORME treatment	0.019	0.042
	(0.045)	(0.057)
Panel B: Controls		
ORME treatment	-0.004	0.012
	(0.038)	(0.046)
Panel C: Full Set of Controls		
ORME treatment	0.002	0.022
	(0.038)	(0.045)
Control Group Mean	0.714	0.650
Observations	469	469

Notes: This table reports the treatment effects of the ORME program on teachers' recommendations for the academic track and on the alignment between teacher recommendations and students' choices. The outcome variables are coded as dummy indicators. For "Recommendation Academic Track", a value of 1 is assigned if the teacher recommendation corresponds to an academic track and 0 otherwise. For "Recomm.=Enrollment Academic Track", a value of 1 is assigned if the teacher recommendation for an academic track matches the student's decision to enroll in an academic track. Panel A reports results without controls. Panel B includes a set of basic controls such as the sex and education levels of the parents. Panel C incorporates a full set of controls, adding variables like parents' occupations and a self-esteem index. Missing information is imputed. All specifications are estimated using linear probability models and include school fixed effects. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. The "Control Group Mean" at the bottom of the table shows the average value of each outcome variable for students in the control group. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

effort, grit, tracking preferences and actual choices. For effort, we restrict attention to the indicator variable to prevent duplicating the same outcome. The second index–*Success Index (Extended)*– adopts an even more conservative approach by including all outcomes discussed in the paper, adding standardized grades and teachers' recommendations.[21] Both standardized indices are constructed such that higher values correspond to more favorable outcomes, and each has a mean of zero and a standard deviation of one.

Table 8: Analysis of the Program's Overall Success

	(1) Success Index	(2) Success Index	(3) Success Index (Extended)	(4) Success Index (Extended)	(5) Success Index (Extended)	(6) Success Index (Extended)
ORME treatment	0.327***	0.297***	0.289***	0.260***	0.258**	0.294***
	(0.106)	(0.095)	(0.105)	(0.090)	(0.096)	(0.085)
Controls	No	Yes	No	Yes	No	Yes
Observations	478	478	478	478	352	352

Notes: This table shows the treatment effects of the ORME program on students' outcomes, measured through composite indices. The outcome variables are Anderson (2008) standardized indices, which aggregate multiple related measures into a single dimension, with higher values indicating more favorable outcomes. All variables included in the indices are standardized relative to the control group to have a mean of 0 and a standard deviation of 1. Columns (1) and (2) report estimates for the "Success Index", which combines beliefs about returns to effort (0/1), students' aspirations, effort, grit, tracking preferences, and choices. Columns (3) and (4) report estimates for the "Success Index (Extended)", which includes all components of the Success Index and additionally incorporates standardized test scores (in Italian, Mathematics, and English) and teachers' recommendations regarding high school track suitability. Columns (5) and (6) restrict the sample to the four schools for which standardized test scores are available. Columns (1), (3) and (5) present results without controls, while Columns (2), (4) and (6) include a full set of controls: student gender, parental education, parental occupation, and a self-esteem index. Missing information is imputed. All specifications are estimated using linear probability models with school fixed effects. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 8 reports the results of this analysis. Columns (1) and (2) present estimates for the *Success Index*, while Columns (3) and (4) refer to the *Success Index (Extended)*. Columns (5) and (6) restrict the sample to the four schools for which standardized test scores are available. Across all specifications, the analysis paints a coherent and robust picture: ORME emerges as a successful intervention. Indeed, the estimated effects on the overall success measures range from 0.26 to 0.33 standard deviations and are consistently statistically significant.

In summary, this final analysis integrates all previous results and reveals a positive over-

[21]The reason for not including these outcomes in the main index from the outset is that grades and recommendations may be interpreted as potential mechanisms underlying other outcomes.

all impact of the program. This finding is not surprising: despite some imprecision in individual estimates, nearly all results in the paper point to either positive or null effects of ORME on students' outcomes. Moreover, this synthesis provides reassurance regarding concerns about multiple hypothesis testing, as the composite index analysis delivers strong and robust evidence, even in the context of a relatively limited sample size.

4.3 Heterogeneity

Our heterogeneity analysis is constrained by limited statistical power and should therefore be interpreted as suggestive rather than conclusive. Nonetheless, exploring potential variation in effects can provide valuable insights.

Heterogeneity by gender Table 9 presents the heterogeneous effects of ORME by students' gender. The results suggest that female and male students responded differently to the intervention. Among female students (Panel A), the program significantly increased effort as well as grit, indicating that the intervention may have fostered greater perseverance and study discipline. In contrast, among male students (Panel B), the ORME program appears to have mainly affected beliefs about the returns to effort and the alignment between aspirations and expectations, with both coefficients statistically significant at the 5% level. For both genders, there are no statistically significant difference on aspirations or actual enrollment in the academic track, though the coefficients are positive in all cases.

Taken together, the results suggest that the ORME program operated through distinct channels by gender: enhancing effort and perseverance among girls, and shaping beliefs and expectations among boys. These patterns may reflect differences in baseline behaviors, social norms, or sensitivity to perceived returns to effort. Girls appear particularly responsive to the program's emphasis on persistence, translating into higher effort and grit, whereas boys primarily updated beliefs about the value of effort and the alignment between aspirations and expectations, without immediately changing observable study behaviors.

Table 9: Heterogeneity by Gender

	(1) Ret. to Effort, NW Family	(2) Aspire = Expect	(3) Effort (0/1)	(4) Effort (min)	(5) Index Grit	(6) Aspire to Acad. Track	(7) Enroll Acad. Track
Panel A: Female							
ORME treatment	4.230	0.093	0.170***	12.672***	0.041**	0.032	0.045
	(3.604)	(0.068)	(0.059)	(3.458)	(0.020)	(0.057)	(0.033)
Control Group Mean	35.956	0.478	0.549	62.920	0.700	0.841	0.800
Observations	240	240	240	240	240	240	237
Panel B: Male							
ORME treatment	9.564**	0.159**	0.026	-0.139	-0.023	0.041	0.063
	(4.234)	(0.068)	(0.092)	(4.949)	(0.015)	(0.059)	(0.050)
Control Group Mean	31.538	0.370	0.462	61.261	0.729	0.689	0.646
Observations	221	221	221	221	221	221	215

Notes: This table shows the treatment effects of the ORME program on students' outcomes by gender. We code gender as Female and Male. The very few students who selected "Other" or "Prefer not to say" in response to the question "What is your gender?" are grouped together in a third dummy category. Panel A reports the estimate for females and Panel B for males. "Ret. to Effort, NW Family" measures the students' beliefs regarding the returns to effort if coming from a non-wealthy family. "Aspire=Expect" is an indicator variable equal to 1 if the answers to "What would you like to do when you grow up?" and "What do you think you will actually do when you grow up?" are the same, and 0 if they differ. "Effort (0/1)" is a dummy variable equal to 1 if the student reported at least one hour of study time the previous day, and zero otherwise. "Effort (min)" is a numeric variable indicating the midpoint of the reported study time intervals (0, 22.5, 45, or 90 minutes). "Index Grit" is an index constructed using the short scale developed by Duckworth and Quinn (2009) and ranges from 0 (not at all gritty) to 1 (extremely gritty). "Aspire to Acad. Track" is an indicator variable equal to 1 if the student aspires to enroll in an academically oriented track. "Enroll Acad.Track" is a dummy variable equal to 1 if the student is enrolled in an academic track. All specifications are estimated using linear probability models with school fixed effects and no additional controls, except in column (7), where teachers' recommendations are included as controls. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. The "Control Group Mean" at the bottom of the table shows the average value of each outcome variable for students in the control group. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Heterogeneity by maternal education Table 10 presents the heterogeneous effects of the ORME program by maternal education, where "high education" refers to having attended university.

Table 10: Heterogeneity by Mother's Education

	(1) Ret. to Effort, NW Family	(2) Aspire = Expect	(3) Effort (0/1)	(4) Effort (min)	(5) Index Grit	(6) Aspire to Acad. Track	(7) Enroll Acad. Track
Panel A: High-Education							
ORME treatment	3.724	0.174**	0.173**	11.766**	0.023	0.065	0.026
	(4.131)	(0.068)	(0.082)	(4.652)	(0.018)	(0.042)	(0.031)
Control Group Mean	37.180	0.396	0.559	64.459	0.730	0.847	0.861
Observations	233	233	233	233	233	233	230
Panel B: Low-Education							
ORME treatment	8.636***	0.031	0.074	5.819	0.007	-0.006	0.095
	(2.675)	(0.093)	(0.075)	(4.395)	(0.020)	(0.073)	(0.063)
Control Group Mean	32.099	0.495	0.426	57.030	0.693	0.703	0.546
Observations	193	193	193	193	193	193	189

Notes: This table shows the treatment effects of the ORME program on students' outcomes by maternal education. Panel A reports estimates for students whose mothers attained a university degree, while Panel B reports estimates for those whose mothers did not. "Ret. to Effort, NW Family" measures the students' beliefs regarding the returns to effort if coming from a non-wealthy family. "Aspire=Expect" is an indicator variable equal to 1 if the answers to "What would you like to do when you grow up?" and "What do you think you will actually do when you grow up?" are the same, and 0 if they differ. "Effort (0/1)" is a dummy variable equal to 1 if the student reported at least one hour of study time the previous day, and zero otherwise. "Effort (min)" is a numeric variable indicating the midpoint of the reported study time intervals (0, 22.5, 45, or 90 minutes). "Index Grit" is an index constructed using the short scale developed by Duckworth and Quinn (2009) and ranges from 0 (not at all gritty) to 1 (extremely gritty). "Aspire to Acad. Track" is an indicator variable equal to 1 if the student aspires to enroll in an academically oriented track. "Enroll Acad.Track" is a dummy variable equal to 1 if the student is enrolled in an academic track. All specifications are estimated using linear probability models with school fixed effects and no additional controls, except in column (7), where teachers' recommendations are included as controls. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. The "Control Group Mean" at the bottom of the table shows the average value of each outcome variable for students in the control group. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

The total number of observations is slightly lower than in the main analysis, as some students did not report their parents' education. While suggestive, the analysis provides useful insights into how the intervention can operate across different backgrounds, even in low-opportunity environments. Among students whose mothers did not attend university, the program increased beliefs about the returns to effort; however, this shift did not translate into clear changes in study behavior or aspirations. In contrast, for students with highly educated mothers, the program significantly increased effort, study time, and the alignment between aspirations and expectations, suggesting that even within a low-

opportunity socio-economic environment, parental support and educational resources at home can amplify the program's effects. Finally, a substantial gap exists, with academic track enrollment at 86% for students with highly educated mothers compared to 55% for their peers. Consequently, the estimated treatment effect, though imprecise due to the small sample size, implies a larger relative increase for the less advantaged group.[22]

5 Conclusion

We designed and implemented ORME, an innovative light-touch online mentoring program aimed at enhancing students' aspirations and beliefs. ORME seeks to inspire students by connecting them with successful individuals whom they perceive as similar to themselves, particularly in terms of geographical and institutional background. We evaluated ORME's effectiveness in middle schools in Campania, Italy—a region where students often lack awareness of, and access to, opportunities to pursue specific educational and career paths.

ORME improves students' perceptions of the returns to effort, strengthens the alignment between their career aspirations and their confidence in achieving them, and increases their school effort. While these effects are most evident in beliefs and self-reported outcomes, administrative data also suggest positive impacts on school tracking choices—with students opting for more challenging paths—and on standardized test performance. A composite success index combining a wide range of outcomes further confirms the program's overall potential.

More broadly, our findings underscore the promise of light-touch, low-cost interventions to expand aspirations and improve educational trajectories. They also raise important considerations for educational policy and curriculum design. Should school curricula integrate soft-skills training and aspiration-building initiatives alongside traditional subjects? Our results suggest that early exposure to relatable role models can meaningfully shape students' beliefs and motivations, indicating that structured role model programs may effectively complement conventional teaching—especially in contexts where aspirations are constrained by institutional, cultural, and socioeconomic factors.

[22]Similar patterns are observed for paternal education. However, we focus on heterogeneity by maternal education because fewer students reported their fathers' educational background, which would further limit statistical power.

Finally, our study is subject to some limitations, which point to avenues for future research. First, some estimates, while economically meaningful, are measured with limited precision due to sample size. Reassuringly, the composite success indices suggest that the program has strong and consistent potential overall. Second, as the intervention was recently implemented, only short-term effects can be assessed. It remains uncertain how changes in tracking choices will translate into longer-term academic and non-academic success. Future research should therefore examine whether these effects persist over time and extend to outcomes such as labor market performance and life satisfaction. Third, our design estimates the reduced-form impact of the program and does not identify which specific characteristics of role models drive effectiveness—an important direction for future work. Fourth, while ORME was designed to be easily scalable, our study does not directly test large-scale implementation; nevertheless, its decentralized structure and reliance on online tools suggest it could be integrated into school systems with limited external support.

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A Appendix

A.1 Additional Tables

Table A1: Descriptive Statistics

	Mean	SD	Min	Max
Educational Aspirations and Ambitions				
Academic track	0.81	0.39	0.00	1.00
Technical track	0.12	0.33	0.00	1.00
Vocational track	0.04	0.21	0.00	1.00
Not sure track	0.02	0.14	0.00	1.00
Baseline Child Characteristics				
Female	0.51	0.50	0.00	1.00
Self-esteem index	0.71	0.19	0.20	1.00
Grit index	0.71	0.14	0.30	1.00
Locus of control index	0.73	0.11	0.23	1.00
Baseline Household Characteristics				
Migrant background	0.06	0.24	0.00	1.00
Only child	0.15	0.36	0.00	1.00
Number of siblings: One	0.59	0.49	0.00	1.00
Child lives with single parent	0.09	0.29	0.00	1.00
Mother works	0.78	0.41	0.00	1.00
Mother's education: University	0.50	0.50	0.00	1.00
Father's education: University	0.36	0.48	0.00	1.00

Notes: This table shows the descriptive statistics in the baseline sample. SD stands for Standard Deviation.

Table A2: Attrition and Treatment Arm

	(1) Student Observed in Baseline	(2) Student Observed in Endline
ORME treatment	0.072	-0.003
	(0.080)	(0.043)
Observations	645	645

Notes: This table presents estimates examining survey attrition with respect to the initial sample. The dependent variable is an indicator variable for having completed the baseline (Column 1) or endline survey (Column 2). All specifications are estimated using linear probability models and include school fixed effects. The "ORME treatment" is an indicator variable for being exposed to the ORME program. Robust standard errors clustered at the classroom level are shown in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table A3: Balance of Students' Characteristics (Endline Sample)

Variable	(1) Control Mean/(SD)	(2) Treatment Mean/(SD)	(1)-(2) Mean Difference	P-value
Female	0.465	0.540	-0.075	0.198
	(0.500)	(0.499)	(0.058)	
Mother's education: Middle school or less	0.144	0.089	0.055	0.294
	(0.352)	(0.286)	(0.044)	
Mother's education: High school	0.272	0.302	-0.031	0.480
	(0.446)	(0.460)	(0.044)	
Mother's education: University	0.457	0.519	-0.062	0.409
	(0.499)	(0.501)	(0.057)	
Father's education: Middle school or less	0.173	0.111	0.062	0.143
	(0.379)	(0.314)	(0.041)	
Father's education: High school	0.325	0.366	-0.041	0.465
	(0.469)	(0.483)	(0.057)	
Father's education: University	0.333	0.366	-0.033	0.724
	(0.472)	(0.483)	(0.056)	
Observations	243	235	478	

Notes: This table reports descriptive statistics for students' characteristics by treatment status. The sample includes students who completed the endline survey. Columns (1) and (2) prsent the means and standard deviations (SD) for the control and treatment groups, respectively. Column (3) reports the difference in means between the two groups. The last column reports the p-value from the t-test. Standard errors are clustered at the classroom level. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table A4: Consistency Between Choosing an Ambitious Track and Aspired Profession

	(1) Consistency Aspired Job and Enrollment Choice	(2) Consistency Expected Job and Enrollment Choice
Panel A: No Controls		
ORME treatment	0.0711	0.112*
	(0.0434)	(0.0583)
Panel B: Controls		
ORME treatment	0.043	0.083*
	(0.039)	(0.048)
Panel C: Full Set of Controls		
ORME treatment	0.020	0.061*
	(0.040)	(0.031)
Control Group Mean	0.355	0.470
Observations	469	469

Notes: This table reports the treatment effects of the ORME program on students' consistency between choosing an ambitious track and their aspired profession. The variable "Consistency Aspired Job and Enrollment Choice" equals one if a student's reported career aspiration in response to the question "What would you like to do when you grow up?" requires a university degree and the student enrolls in an academic track (e.g., aspiring to become a lawyer and enrolling in a lyceum), and zero otherwise. The variable "Consistency Expected Job and Enrollment Choice" equals one if a student's reported career aspiration in response to the question "What do you think you will actually do when you grow up?" requires a university degree and the student enrolls in an academic track (e.g., expecting to become a lawyer and enrolling in a lyceum), and zero otherwise. Panel A reports results without controls. Panel B includes a set of basic controls such as the gender and education levels of the parents. Panel C incorporates a full set of controls, adding variables like parents' occupations and a self-esteem index. Missing information is imputed.All specifications are estimated using linear probability models and include school fixed effects. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. The "Control Group Mean" at the bottom of the table shows the average value of each outcome variable for students in the control group. Robust standard errors clustered at the classroom level are shown in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table A5: Treatment Effects of ORME: Robustness Across Different Standard Errors

	(1) Ret. to Effort, NW Family	(2) Aspire = Expect	(3) Effort (0/1)	(4) Effort (min)	(5) Index Grit	(6) Aspire to Acad. Track	(7) Enroll Acad. Track
ORME Treatment	6.026	0.121	0.125	8.154	0.011	0.045	0.072
	(2.628)**	(0.046)***	(0.045)***	(2.700)***	(0.012)	(0.036)	(0.028)**
	[2.839]**	[0.051]**	[0.060]**	[3.409]**	[0.014]	[0.044]	[0.040]*
	{3.059}**	{0.057}**	{0.069}*	{3.916}**	{0.016}	{0.047}	{0.044}
Control Group Mean	34.132	0.424	0.490	61.204	0.713	0.765	0.714
Observations	478	478	478	478	478	478	469

Notes: This table shows the treatment effects of the ORME program, estimated with robust standard errors, robust standard errors clustered at the classroom level, and bootstrapped clustered standard errors. "Ret. to Effort, NW Family" measures the students' beliefs regarding the returns to effort if coming from a non-wealthy family. "Aspire=Expect" is an indicator variable equal to 1 if the answers to "What would you like to do when you grow up?" and "What do you think you will actually do when you grow up?" are the same, and 0 if they differ. "Effort (0/1)" is a dummy variable equal to 1 if the student reported at least one hour of study time the previous day, and zero otherwise. "Effort (min)" is a numeric variable indicating the midpoint of the reported study time intervals (0, 22.5, 45, or 90 minutes). "Index Grit" is an index constructed using the short scale developed by Duckworth and Quinn (2009) and ranges from 0 (not at all gritty) to 1 (extremely gritty). "Aspire to Acad. Track" is an indicator variable equal to 1 if the student aspires to enroll in an academically oriented track. "Enroll Acad.Track" is a dummy variable equal to 1 if the student is enrolled in an academic track. All specifications are estimated using linear probability models with school fixed effects. The "ORME treatment" variable indicates whether a student was exposed to the ORME program. Robust standard errors in parentheses (). Clustered standard errors in square brackets []. Bootstrap standard errors in curly braces {}. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

A.2 Role Models Description

The role models in ORME come from The role models in ORME come from backgrounds similar to those of the students they mentored, yet each brings a unique set of experiences and challenges that make them both relatable and inspiring.

Characteristics of the Female Role Model

- **Background:** She was born and raised in Naples. She is 30 years old and come from a family where the highest level of education is high school diploma.
- **Education:** She studied in a technical path before obtaining a university degree in engineering.
- **Current occupation:** Aerospace engineer.
- **Obstacles and barriers:** Teachers and friends did not believe in her abilities. She lacked a strong background in mathematics for the university degree.

Key Message: Overcame obstacles through perseverance, demonstrating that determination can lead to success despite initial barriers.

Characteristics of the Male Role Model

- **Background:** He was born and raised in Naples. He is around 35 years old.
- **Education:** He completed a university degree in Italy and earned a Master in Management abroad.
- **Current occupation:** Co-founder and CEO of an e-commerce platform.
- **Obstacles and barriers:** Faced the challenges of taking entrepreneurial risks in a competitive startup market.

Key Message: Successfully navigated educational and entrepreneurial challenges, demonstrating that adaptability and perseverance can lead to the creation of impactful ventures.

A.3 Deviations from pre-analysis plan

Some deviations occurred relative to the pre-registered design (The intervention was pre-registered in the AEA RCT Registry (RCT ID #AEARCTR-0007567). These deviations were minor and primarily driven by data availability and logistical constraints. First, although the pre-analysis plan envisioned controlling for prior academic performance, schools ultimately declined to share these data, preventing their inclusion. Second, while the pre-registration and pilot study specified two online meetings per student, the main intervention implemented one meeting due to scheduling and school availability constraints. Students were randomly assigned to interact with either a male or a female role model, but not both, depending on role model and school availability. This necessarily limits the scope for analyzing heterogeneity by role model gender, particularly given the modest sample size. Finally, the experiment covered five schools and 645 students, slightly exceeding the pre-registered sample size.

B Questionnaire

B.1 Students' Questionnaire

We report some of the questions included in the survey for illustrative purposes. From the endline questionnaire, we excluded some items from the analysis. A few questions related to leisure activities, such as sports and videogames as opposed to homework effort, were included primarily as internal consistency checks rather than as key outcomes. Additional items designed to elicit students' perceptions of gender representation across professions were ultimately dropped, as their interpretation proved challenging and their responses exhibited limited variation. These questions are therefore not reported or analyzed in the paper.

Questions

Q1. What would you like to do when you grow up? _____

Q2. What do you think you will actually do when you grow up? _____

Q3. If you had to choose now, which high school would you choose?

- ☐ Academic high school (Lyceum)
- ☐ Technical institute
- ☐ Professional institute
- ☐ Other, which one? _____

Socio-Emotional Skills and Individual Traits.

Q4. **Self-esteem** (adapted from Rosenberg (1965).). For each of the following statements, give a score from 0 to 5 indicating whether you agree or disagree with the statement. [*Only asked during the baseline survey*]

1. On the whole, I am satised with myself
2. I feel that I have a number of good qualities

3. I am able to do things as well as most other people

Q5. **Grit** (following Duckworth and Quinn (2009) and adapted by Carlana and La Ferrara (2025)). For each of the following statements, give a score from 0 to 5 indicating whether you agree or disagree with the statement.

1. I prefer homework that requires more effort, even if I make many mistakes.
2. Setbacks discourage me.
3. If I think I will lose in a game, I do not want to continue playing.
4. If I set a goal and see that it's harder than I thought I easily lose interest.
5. When I receive a bad result on a test I spend less time on this subject and focus on other subjects that I'm actually good at.
6. I work hard in homework.
7. I prefer easy homework where I can easily answer all questions correctly.
8. If I'm having difficulty in a homework, it is a waste of time to keep trying. I move on to things which I am better at doing.

Q6. **Locus of Control** (adapted from Rotter (1966)). For each of the following statements, give a score from 1 to 5 indicating whether you agree or disagree with the statement. [*Only asked during the baseline survey*]

1. Many of the bad things in people's lives are partly due to bad luck.
2. Relying on luck has turned out to be better for me than deciding to follow a certain plan.
3. If a student is well-prepared, they rarely get a negative result.
4. When I make plans, I am almost certain I can achieve them.
5. When I get what I want, it is usually because I worked hard to obtain it.
6. Some people have fewer opportunities because they come from less wealthy families.
7. When I see a wealthy person in my city, I think they deserve it.

Effort and Beliefs Return to Effort

Q7. **Self-reported Effort**. Think about yesterday: how much time did you spend studying or doing homework? (Do not consider time spent at school) [*Only asked during the endline survey*]

1. I did not do it.
2. Between 15 and 30 minutes.
3. Between 30 and 60 minutes.
4. More than 60 minutes.

Q8. **Beliefs Returns to Effort**. We will now ask for your opinion on some possible situations. [*Only asked during the endline survey*]

Scenario 1: Imagine that 100 middle school students study for less than 10 minutes a day and come from a wealthy family. How many do you think will have a good job as adults?

Scenario 2: Imagine that 100 middle school students study for less than 10 minutes a day and come from a non-wealthy family. How many do you think will have a good job as adults?

Scenario 3: Imagine that 100 middle school students study for 1 hour and 30 minutes a day and come from a wealthy family. How many do you think will have a good job as adults?

Scenario 4: Imagine that 100 middle school students study for 1 hour and 30 minutes a day and come from a non-wealthy family. How many do you think will have a good job as adults?

Socio-demographic information

Q9. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

Q10. In what month were you born? [*Only asked during the baseline survey*]

Q11. In what year were you born? [*Only asked during the baseline survey*]

Q12. What language or dialect is spoken at home? [*Only asked during the baseline survey*]

- ☐ Italian
- ☐ Campanian dialect
- ☐ Another dialect
- ☐ Another language

Q13. With whom do you live at home? [*Only asked during the baseline survey*]

- ☐ Mom and dad
- ☐ Only dad
- ☐ Only mom
- ☐ Mom and her new partner
- ☐ Dad and his new partner
- ☐ Other: _____

Q14. Do you have sisters? [*Only asked during the baseline survey*]

- ☐ No
- ☐ One
- ☐ Two or more

Q15. Do you have brothers? [*Only asked during the baseline survey*]

- ☐ No
- ☐ One
- ☐ Two or more

Q16. What education did your mom complete?

- ☐ Middle school or less
- ☐ High school
- ☐ University
- ☐ I don't know

Q17. What education did your dad complete?

- ☐ Middle school or less
- ☐ High school
- ☐ University
- ☐ I don't know

Q18. Does your mom currently work? [*Only asked during the baseline survey*]

- ☐ Yes
- ☐ Occasionally
- ☐ No

Q19. What is your mom's most recent profession? [*Only asked during the baseline survey*]

- ☐ Stay-at-home
- ☐ Self-employed (shops, small businesses, artisan workshops)
- ☐ Entrepreneur
- ☐ Freelancer (doctor, dentist, lawyer, notary, architect, accountant...)
- ☐ Manager (bank manager, university professor...)
- ☐ Employee (teacher, nurse, army/police)
- ☐ Factory worker/manual laborer
- ☐ I don't know

Q20. Does your dad currently work? [*Only asked during the baseline survey*]

- ☐ Yes
- ☐ Occasionally
- ☐ No

Q21. What is your dad's most recent profession? [*Only asked during the baseline survey*]

- ☐ Stay-at-home
- ☐ Self-employed (shops, small businesses, artisan workshops)
- ☐ Entrepreneur

☐ Freelancer (doctor, dentist, lawyer, notary, architect, accountant...)

☐ Manager (bank manager, university professor...)

☐ Employee (teacher, nurse, army/police)

☐ Factory worker/manual laborer

☐ I don't know