

## ISSUES IN ACCESS TO EDUCATION

# Tailoring Mentorship: Evidence on Diverse Needs and Application Patterns for High School Students<sup>†</sup>

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Barriers to accessing tertiary education may lead to significant disparities in opportunities among different sociodemographic groups. Factors contributing to such forms of inequality include financial barriers, educational background, and other cultural and social factors (e.g., Carrell and Sacerdote 2017). Addressing these issues requires a multifaceted approach (Bettinger et al. 2012). An increasingly relevant policy proposal has been to offer one-to-one mentorship (e.g., Barrios Fernández, Eluchans Errázuriz, and Ramirez-Espinoza 2021; Resnjanskij et al. 2024; Bortolotti and Loviglio 2024).

An important obstacle to mentoring and similar social initiatives is ensuring uptake of the program by those who need it most. This often involves eliciting specific qualities or pinpointing individuals with particular characteristics. This process can be bureaucratically intricate and might unintentionally contribute to stigmatization (e.g., Lasky-Fink and Linos 2023).

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Alternatively, programs can focus on highlighting aspects that are particularly appealing to the intended audience to attract them.

This paper provides insights into the preferences of diverse high school students when considering matching with a mentor. We analyze various aspects related to selection into a mentoring program that targets high schools in underprivileged neighborhoods and is offered to all students in their last year. The program connects participants with a volunteer university student or graduate with whom to have one-to-one sessions aiming at informing a potential transition into tertiary education. This is part of a randomized controlled trial at the applicant level evaluating the impact of receiving a volunteer mentor on future academic and labor market outcomes (Calsamiglia, Garcia-Brazales, and Loviglio 2023). Crucially, prior to the program implementation, we elicited (i) which particular aspects mentors and mentees would like to share with their matched partners and (ii) initial interest in participating in the program, which we complement with observational data on who eventually provides all the documentation legally required to participate in the program.

Similarly to Carlana and Fort (2022), our setup offers the opportunity to understand who among all students shows intrinsic interest in our mentoring program and applies to it, but it additionally allows us to identify who opts out once some further bureaucratic steps are required from the potential mentees. In particular, we explore how students' characteristics and preferences are related to initial interest and actual enrollment. Such analysis can guide future mentoring programs in understanding which aspects about the mentorship program should be highlighted to promote the desired self-selection of mentees.

We find that female students exhibit greater initial interest and are substantially more likely to complete the application process. First-generation immigrants and financially constrained students are also more likely to express initial interest but ultimately are not more likely to apply.

According to the survey results, the overwhelming majority of students prioritize shared academic interests for a potential match with a mentor. However, interesting heterogeneity in the relevance of other nonacademic characteristics emerges. In particular, females are significantly more likely to signal a preference for same-gender mentors. On average, immigrant students would appreciate sharing their ethnic background or religion with their mentor, while financially constrained individuals seem to prefer mentors from the same municipality or who attended the same high school. This suggests that students who are usually underrepresented in tertiary education would value contact with individuals who share similar life experiences. Given that they opt out more despite their initial interest in the program, these findings hint at a need for improved targeting to ensure higher participation from students who may be less likely to benefit from other sources of advice. Promoting the participation of mentors with similar backgrounds may be a way to consolidate their interest.

## I. Experimental Design and Data

### A. Program Description

“Hedera” is a one-to-one mentoring program aiming at providing a judgment-free space where students in their final year of high school can get a more realistic and complete picture of a potential transition into tertiary education—together with practical information on available funding opportunities, particularly means-based scholarships. It has been implemented in Catalonia (Spain) since the school year 2022/2023 by the local foundation Fundesplai, drawing inspiration from other local programs currently running on a smaller scale. It was financed by the Spanish government in an effort to identify successful policies to alleviate poverty and these policies’ impacts using NextGenerationEU funds.

The program targets high schools operating in relatively poor neighborhoods and offers a

mentor to all students enrolled in the final year (approximately 17 years old).<sup>1</sup> In parallel, university students or graduates are recruited to serve as volunteer mentors in one-to-one sessions with their mentees. Both mentors and mentees are asked about what they would like to share with their partner, and this information is used to maximize the quality of the pairing given preferences and available options using the Gale Shapley Deferred Acceptance algorithm. Couples are advised to meet every two weeks, but the program mostly enforces the first meeting and follows up on the progress of the relationship after a few weeks. The meeting format and topics of discussion are completely at the discretion of the pairs. At the end of the program, couples meet with a representative of Fundesplai for the last time and are invited to continue their relationship—but without the program’s supervision.

### B. Data and Research Design

In the academic year 2023/2024, 57 schools were targeted for the study, and a randomized controlled trial at the applicant level was implemented. In particular, the implementation team visited each participating school and introduced the program and the benefits of having a mentor to the students. All students were then asked to answer a survey collecting information on their characteristics, what they would like to learn about from a mentor, as well as what they would like to share with a mentor if they were to be paired with one. The last question in the survey asked them whether they were interested in having a mentor, to which they had to answer yes, maybe, or no. Only students who said yes or maybe were sent instructions on how to complete the forms to be eligible to receive a mentor. Among those who completed the process, we randomized within schools to determine who got a mentor and who did not.

<sup>1</sup>The participating schools are located in neighborhoods with a net household income below the regional median. Moreover, in 2023, almost 60 percent of the participating schools were classified as “complex” by the Catalan Ministry of Education due to the relatively deprived socioeconomic status of the families they serve. By contrast, only 16 percent of nonparticipating schools in the region are considered “complex.”

The fact that we survey all students irrespective of their interest in the program gives us the unique opportunity to document the dimensions along which students consider a mentor to be potentially helpful for them, which aspects they would like to have in common with potential mentors, and how all this relates to selection patterns into the program in terms of initial interest and final application.

## II. Characteristics of Interested and Final Applicants

Table 1 describes the interest in and application patterns to the mentorship program within our high school student sample. Of the students, 79.7 percent expressed some interest in participating, and 33.4 percent eventually completed the application in the following three weeks. Females are substantially more interested in the program from the onset (11.5 percentage points) and even more likely to follow through and apply (14.1 percentage points), coefficients being large and significant in both instances. Additionally, students with better academic performance (GPA) are more inclined to express interest and apply. One of the goals of the mentoring program is to raise awareness about available funding opportunities and help students apply; therefore, financially constrained students are a natural target.<sup>2</sup> However, while they initially express significantly higher interest (6.4 percentage points), they eventually opt out and do not apply at a higher rate. Immigrant students behave similarly, being 6.8 percentage points more likely to be interested but ultimately no more likely to follow through.<sup>3</sup> It is frequently observed that individuals refrain from enrolling in interventions that can benefit them (e.g., Bhargava and Manoli 2015; Finkelstein and Notowidigdo 2019). Our findings further suggest the existence of barriers that may deter application

<sup>2</sup>We classify as financially constrained students who state that their probability of enrolling in tertiary education would increase if they received a scholarship or students who state that their family may have trouble funding their education (24 percent of the sample).

<sup>3</sup>Of the students, 8.3 percent are immigrants, meaning that they were born abroad with at least one parent born abroad. Second-generation immigrants (21.9 percent) have a similar interest and application rate to students with a Spanish background (as shown in the online Appendix).

TABLE 1—INITIAL INTEREST AND APPLICATION

	Initial interest	Application
Female	0.115 (0.019)	0.141 (0.027)
GPA	0.030 (0.010)	0.048 (0.010)
Immigrant	0.068 (0.028)	−0.002 (0.033)
Highly educated family	−0.015 (0.018)	0.006 (0.020)
Financial constraints	0.064 (0.016)	0.003 (0.021)
Mean dep. var.	0.797	0.334
Observations	2,335	2,335
Adjusted $R^2$	0.081	0.123

*Notes:* “Initial interest” is an indicator taking the value of 1 if the respondent answers “yes” or “maybe” to the question of whether s(he) would be interested in participating in the program. “Application” is an indicator taking the value of 1 if the person provides all the necessary documents to participate in the program. Regressions include school fixed effects and the following additional controls: indicators for being a repeater, a second-generation immigrant, and having two parents currently employed. Standard errors clustered at the school level in parentheses.

despite initial interest. Perhaps surprisingly, having a family member who completed university does not significantly influence interest. This may be attributed to the positive selection of students who have reached high school, as their families likely hold favorable views on education, irrespective of their background. In fact, 84 percent of students reported receiving some form of encouragement from their family to attend university.

Given the goal of informing the design of other programs, we select for Table 1 a limited set of background characteristics that should be easily available in similar settings. The online Appendix reports additional specifications including measures of noncognitive skills and family or teacher encouragement to pursue further studies. The findings discussed in this section hold.

## III. Mentorship Essentials: Valued Mentor Characteristics and Source of Information

Table 2, panel A shows that a substantial fraction of our population considers mentors to be potentially helpful along multiple dimensions. These beliefs are largest for mentors’

TABLE 2—PERCEIVED IMPORTANCE OF MENTORS AND DESIRED DIMENSIONS FOR MATCHING

<i>Panel A. Usefulness of mentors</i>								
I would find a mentor useful for ...	Choosing what to study	Knowing details of specific programs	Knowing about social life	Choosing tertiary institution	Knowing about job opportunities	Any		
Female	0.072 (0.022)	0.116 (0.015)	0.145 (0.020)	0.129 (0.020)	0.103 (0.018)	0.076 (0.015)		
GPA	0.019 (0.010)	0.036 (0.009)	0.044 (0.009)	0.023 (0.010)	0.039 (0.009)	0.031 (0.008)		
Immigrant	-0.005 (0.034)	-0.032 (0.040)	-0.024 (0.041)	0.031 (0.039)	0.002 (0.035)	0.009 (0.029)		
Highly educated family	0.006 (0.021)	-0.003 (0.015)	0.000 (0.020)	-0.026 (0.018)	-0.016 (0.021)	-0.010 (0.013)		
Financial constraints	0.091 (0.023)	0.021 (0.019)	0.021 (0.021)	0.021 (0.022)	0.020 (0.018)	0.030 (0.012)		
Observations	2,335	2,335	2,335	2,335	2,335	2,335		
Mean dep. var.	0.582	0.771	0.582	0.669	0.777	0.879		
Adjusted R <sup>2</sup>	0.041	0.058	0.060	0.058	0.051	0.057		
<i>Panel B. Desired matching with mentors</i>								
Match with those with the same ...	Program (major)	Tertiary educ. institution	Municipality	High school institution	Gender	Origin/ethnicity	Religion	LGBTI+
Female	0.032 (0.010)	0.077 (0.026)	0.062 (0.021)	-0.064 (0.022)	0.084 (0.023)	-0.057 (0.014)	-0.028 (0.012)	0.000 (0.009)
GPA	0.013 (0.005)	0.082 (0.010)	-0.010 (0.010)	-0.035 (0.009)	0.002 (0.008)	-0.021 (0.006)	-0.012 (0.005)	-0.001 (0.004)
Immigrant	0.021 (0.024)	-0.022 (0.043)	0.018 (0.039)	0.041 (0.040)	0.035 (0.031)	0.073 (0.029)	0.037 (0.020)	-0.005 (0.016)
Highly educated family	0.009 (0.010)	-0.002 (0.021)	-0.007 (0.021)	0.005 (0.026)	-0.010 (0.016)	0.004 (0.013)	-0.013 (0.011)	0.002 (0.007)
Financial constraints	-0.019 (0.012)	0.018 (0.026)	0.054 (0.027)	0.039 (0.018)	0.043 (0.024)	-0.003 (0.018)	-0.005 (0.016)	-0.002 (0.008)
Observations	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335
Mean dep. var.	0.931	0.577	0.590	0.293	0.288	0.111	0.072	0.037
Adjusted R <sup>2</sup>	0.013	0.099	0.027	0.017	0.027	0.046	0.025	0.001

Notes: Panel A's outcomes are indicators signaling a high level of agreement that a mentor would be helpful for the respondent along the dimensions in the columns' headers. The outcome takes a value of 1 if the student indicates an agreement of 4 or 5 in a 5-point scale (ranging from not useful at all to very useful). "Knowing details of specific programs" includes aspects such as program-specific dropout rates or exam style. "Knowing about social life" includes aspects such as class composition and social activities organized by the academic institution attended. "Any" takes the value of 1 if, for a given respondent, the outcome in any of the five previous columns is a 1 and 0 otherwise. Panel B's outcomes are indicators signaling a high level of agreement that matching along the dimension in the header would be important for the respondent. The outcome takes a value of 1 if the student indicates an agreement of 2-4 in a 4-point scale (ranging from not important at all to very important). All regressions contain the same set of controls and school fixed effects as in Table 1. Standard errors clustered at the school level in parentheses.

ability to provide information about job opportunities related to tertiary education studies and about specific details of a given study program (77.7 percent and 77.1 percent of respondents, respectively), but they are still sizable for other guidance, such as choosing a tertiary education institution or learning about its social life

(66.9 percent and 58.2 percent, respectively). The majority of students would also appreciate guidance on choosing their field of study (58.2 percent).

Panel A further documents that females and higher-GPA students are more likely to believe that mentors can help along all the dimensions

elicited. This tendency is summarized in the last column where we see that females are 7.6 percentage points more likely than comparable males to believe that a mentor would be useful for them in at least one of the five dimensions elicited. Similarly, students with a one-point-higher GPA (on a 0–10 scale) are 3.1 percentage points more likely to deem mentors to be useful for them. This size is very comparable to that of those facing financial constraints, although for the latter, the effect is mostly driven by their strong beliefs that the mentor will be able to help them with choosing what to study, suggesting a potential lag in their decision-making regarding tertiary education compared to otherwise similar peers. Immigrants and those who have a family member with university education are not more likely to believe that mentors will be useful for them. All these patterns align well with the results from Table 1.

Panel B in Table 2 documents that, by and large, students think that it would be crucial to match with a mentor that has or is studying a program (major) closely related to the interests of the student. Other important dimensions are sharing the specific institution where the student would want to continue his/her studies (57.7 percent) and sharing geographical location (59 percent). Aspects more related to the sociodemographic background of the mentor are relevant for a smaller fraction of individuals (matching on gender matters for 28.8 percent of respondents, while on ethnicity or religion for 11.1 and 7.2 percent, and being part of the LGTBI+ community is important for 3.7 percent).

Turning to the correlates of the perceived importance of matching along specific dimensions, we find that both females and higher-GPA students are more likely to care about matching with someone who shares the program and institution of tertiary education with them, while they are less likely to find it relevant to share the same cultural traits (origins/ethnicity and religion). Females are, however, more likely than males to wish to match with someone of their same gender. This aligns with existing literature emphasizing the importance of female role models for females' education decisions. Importantly, we find that immigrants and those facing financial constraints seem to specifically care about matching with someone with similar backgrounds to them. In particular, immigrants are 7.3 percentage points more likely to wish

to match with someone with the same origin or ethnicity (and 3.7 percentage points more for the same religion), while financially constrained individuals are 5.4 and 3.9 percentage points more likely to find it important to match with someone from their same municipality and high school, respectively, suggesting that these students may prefer mentors who faced similar challenges growing up as they have.

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