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Italian High Schools**

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Hacking Anti-Immigration Attitudes and Stereotypes: A Field Experiment in Italian High Schools*

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Abstract

Global demographic shifts have increased population diversity in advanced economies, often leading to anti-immigrant attitudes and discrimination fueled by prejudice and stereotypes. In this paper, we study a short educational program for high-school students aimed at promoting cultural diversity and improving attitudes toward immigration through active learning. To identify the impact of the program, we designed a randomized controlled trial involving 4,500 students from 252 classes across 40 schools in northern Italy. The program led to more positive attitudes and behaviors toward immigrants, especially in more mixed classes. In terms of mechanisms, the intervention reduced students' misperception and changed their perceived norms toward immigration, while it had no impact on implicit bias, empathy, or social contacts. Our findings suggest that anti-immigrant attitudes are primarily driven by sociotropic concerns rather than individual inter-group experience, and that educational programs fostering critical thinking and group discussion in an issue-salient context can correct them.

JEL: F22, J15, F68, H53.

Keywords: Immigration attitudes, Ethnic Stereotypes, Social Inclusion Policy, Impact Evaluation.

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"Our ability to reach unity in diversity will be the beauty and the test of our civilization". M. Gandhi

1 Introduction

The rising share of immigrants in advanced economies in recent decades, and in particular the recent influx of refugees into the European Union, has led to intense public debate and polarization of attitudes toward immigrants. Evidence from several countries indicates that that increased migration flows have often been accompanied by an increase in support for anti-immigrant parties and a decline in preferences for redistribution and diversity in destination countries (Bansak et al., 2016; Hangartner et al., 2019; Steinmayr, 2021; Vertier et al., 2023; Dinas et al., 2019; Campo et al., 2024). Hostile attitudes toward immigrants are often rooted in widespread misconceptions and ethnic stereotypes (Alesina et al., 2023; Carlana et al., 2022; Alesina et al., 2024), which influence preferences and, ultimately, policies and actions (Facchini and Mayda, 2008; Hainmueller and Hopkins, 2015).¹ Despite the significance of anti-immigration attitudes in driving political polarization, little is known about how to erode misconceptions and prejudices against immigration to stem discrimination and foster more inclusive societies (Bertrand and Duflo, 2017; Paluck et al., 2021).

In this paper, we evaluate an educational program aimed at hacking negative attitudes and stereotypes toward immigrants among teenagers in high schools. The setting of our study is Italy, a country that has experienced a rapid growth in the proportion of the population born abroad, from 2.3% in 2001 to around 10% in 2022. Italy is a uniquely interesting context for our experimental study, given the rapidly increasing degree of diversity in the demographic and ethnic composition of the population and the central role of immigration in public discourse. The increasing diversity of the population is reflected in the Italian student population: currently, about 10% of students attending Italian schools do not have Italian citizenship, with relevant disparities in regional location being most of them (62.7%) based in northern Italy.

We focus on adolescence since this is a critical time in the development of socio-political attitudes and ethical behavior, as adolescents are still young enough to have malleable attitudes, yet have the knowledge and ability to reflect on complex social issues (Dhar et al., 2022; Kohlberg, 1976; Markus and Nurius, 1986). Multiple organizations, including the OECD and UNESCO, have recently advocated for increased training and education on “Global Compe-

¹Stereotypes about immigrants stem from exaggerated differences between immigrants and natives (Bordalo et al., 2016). Misperceptions about some characteristics of the two groups are examples of these stereotypes (Alesina et al., 2023).

tencies” within school curricula, aiming to prepare students to become global citizens and succeed in today’s interconnected world (Colvin and Edwards, 2018; UNESCO, 2014). This emphasis is reflected in the inclusion of an assessment of attitudes toward immigration and cultural diversity in the 2018 round of the Programme for International Student Assessment (PISA) test (OECD, 2020). Despite their exposure to diversity, according to 2018 PISA data, Italian teenagers rank well below the European average on dimensions such as “Attitudes towards migrants” and “Respect for people from other cultures” (OECD, 2020).

The program we study, called “Integration - Beyond Prejudices” (IBP), draws its conceptual framework from the principles of “Global Competencies” (UNESCO, 2014) and implements an educational initiative in a real-world setting. The intervention was developed in collaboration with a non-governmental organization (NGO) specializing in educational activities and multidisciplinary experts from the University of Genoa.

The IBP program targets high school students (average age 14 to 19) and was explicitly developed as a short intervention that could fit within regular schooling hours, to facilitate its adoption. It consists of a total of four hours, delivered through two classroom sessions that combine the provision of factual information on immigration with a set of critical-thinking activities. The activities were designed to help students reflect on their perceptions, stereotypes, and attitudes toward immigrants, and to promote inter-group relations and cultural diversity. A comprehensive summary of the topics and themes discussed in the intervention is reported in Appendix A.² The program also included a peer-to-peer component, as university students were trained by NGO staff to deliver the active learning intervention with them and become peer educators of high school students. In addition to providing key support for the activities, the presence of university students was meant to facilitate communication and engagement with the target student audience.

The program was implemented as a cluster randomized controlled trial. The evaluation sample includes more than 4,500 students, from 252 classes (grades 9 to 13) located across 40 high schools in the provinces of two main immigration-recipient cities in Northern Italy, i.e., Milan and Genoa. In line with regional statistics, approximately 21% of the students in our sample have an immigration background, with both parents born abroad (second-generation immigrants), and close to half of them (43%) were themselves born abroad (first-generation immigrants). Given that the interest in the program far exceeded implementation capacity, within each school, we randomly divided eligible classes into two groups of equal size. Treatment classes hosted the two IBP program sessions between February and April

²The set of active learning exercises are inspired by the Global Citizenship Education (GCED) approach, which aims to promote a sense of belonging to a common humanity and help students become responsible and active global citizens, and was inspired by game-based learning techniques.

2023, while control classes did not interact with the NGO during the 2022/23 school years and continued their regular activities.³ We collected two rounds of survey data during the school year, before and after implementation of the program.

We assess the effects of the intervention on two primary outcomes of interests, i.e., attitudes toward immigration and discriminatory and pro-social behavior toward immigrants. We measure attitudes by a set of questions about students' preferences and feelings about immigrants in the society. Discriminatory and pro-social behavior toward immigrants are tested through two incentivized tasks: an experimental game (ultimatum game) where we randomly vary the identity of the counterpart in the game to be a native or a foreign person, and a donation decision toward NGOs that provide support to immigrants in Italy.

We find that students enrolled in classes that hosted the IBP program report more positive attitudes toward immigrants by endline. In particular, students are significantly less likely to report that the number of immigrants living in Italy is too high (about 10% less relative to the control mean) or that immigrants increase crime rates in their neighborhoods (-8%). We show that results are unlikely to be driven by social desirability and that the program did not lead to increased polarization, but rather moved students away from the most negative attitudes. The program also improves students' behavior toward immigrants, as captured through the ultimatum game. More specifically, while in control classes we observe evidence of discriminatory behavior against immigrant players, such discrimination is fully corrected in classes assigned to receive the program. Notably, this change in inter-group behavior aligns with the change in attitude. We do not observe instead any impact on pro-sociality toward immigrants, as measured through the incentivized donation decision.

When exploring heterogeneity across migration exposure, we find that the program impact is driven by classrooms with a high share of immigrant students.⁴ Notably, students in high and low immigrant classrooms tend to have similar attitudes at baseline, and the results are not driven by the immigrant students themselves, but hold true for native students as well. In addition, we show that the heterogeneous effect does not capture overall higher immigration exposure in the neighborhood, differences across academic tracks, differences across family backgrounds, or differences in levels of social segregation. Thus, our results suggest that it is truly the high presence of immigrant classmates that matters and that the program works especially well in correcting attitudes in these settings where the salience

³The program was implemented as part of the extra-curricular hours that each class is expected to complete during a school year, within the Italian high-school system. Control classes thus typically engaged in alternative activities, focusing on orientation toward future career paths or developing other non-cognitive skills.

⁴We define classrooms with a high immigration share as those with a share of immigrant students above the median of our sample, i.e. 18.75%.

of the immigration topic is higher. We also take advantage of the variation in immigration background across the sample (according to first- or second-generation immigrant, and country of origin) to explore potential triggers of the salience effect. We find that the program impact remains stable irrespective of the ethnic or cultural composition of the immigrant population, suggesting that the presence of immigrant classmates with a diverse background is enough to trigger the salience, in line with the categorical thinking framework, that sees students classify immigrants as part of a single, predefined group.

We investigate a broad range of potential mechanisms underlying the primary outcomes, including misperception, implicit bias, empathy, social contact and norms. Our analysis indicates that the program positive impact in mixed classrooms is primarily driven by two dimensions. First, we find that the program is highly effective in improving students' knowledge about migration issues ("migration literacy") and in correcting widespread misperceptions about the entity of immigration in Italy. Second, the program also has a significant impact on students' perceptions of what others in the classroom think about immigrants ("perceived social norm"). Students in classrooms assigned to the program believe their classmates hold more positive views toward migrants (and are more confident about this belief), and this effect is especially pronounced in classrooms with a high share of immigrant students. We do not find instead any effect of the program on other potential channels, such as implicit bias against immigrants (as measured through an Implicit Association Test embedded in our survey), empathetic concerns, or cross-group interactions (as measured through in-class student networks).

Overall, our findings suggest that anti-immigrant attitudes are not driven by individual experiences (e.g. implicit bias, empathy, inter-group contact) but are grounded in sociotropic concerns related to collective issues or shared interests, such as misconceptions, stereotyping, and norm conformity. The light-touch educational program we study successfully tackles these dimensions through interactive activities that stimulate critical thinking and group discussions about others' views in mixed classrooms, i.e. between natives and immigrants. Interestingly, the IBP program, with its multifaceted approach, shows that it is possible to acknowledge and discuss about group differences head-on without potential backlash. The program achieves significant short-term improvements in both attitudes and behaviors, even beyond the field context, with potentially long-term positive effects on social cohesion.

Our study adds to the extensive literature on anti-immigration sentiments, with contributions from both political economy and political psychology. This literature has shown that immigration preferences are influenced to some extent by economic concerns or self-interest (e.g. Scheve and Slaughter, 2001; Mayda, 2006; O'Rourke and Sinnott, 2006; Card et al., 2012) as well as cultural reasons (Citrin et al., 1997; Sides and Citrin, 2007; Alesina

and Tabellini, 2024). Most importantly, there is a consensus that anti-immigrant sentiment stems significantly from symbolic prejudice and sociotropic concerns about the economic, social and cultural impact of immigration on the nation as a whole (e.g. Brader et al., 2008; Burns and Gimpel, 2000; Hainmueller and Hiscox, 2010; Bansak et al., 2016; Lebow et al., 2024; Solodoch, 2021). However, there is still limited evidence of interventions that could influence the formation and change of attitudes toward immigration in advanced economies. Most of the literature has focused on the role of information provision (see Haaland et al. (2023) for a review of this literature). Within this literature, a number of experimental studies have attempted to mitigate anti-immigrant sentiments by correcting respondents' misperceptions about the size and characteristics of the migrant population (Alesina et al., 2023; Hopkins et al., 2019; Grigorieff et al., 2020) or demographic shifts (Boeri et al., 2024). In general, these interventions had mixed or no effects on preferences, and they even proved to backfire by making group differences more salient through factual information alone. Some recent studies have shown that providing positive narratives about migrants may be more successful in improving individuals' attitudes toward immigration (Kalla and Brookman, 2020, 2023; Haaland and Roth, 2020; Cattaneo and Grieco, 2021; Facchini et al., 2022; Bandiera et al., 2024).⁵

While most of the above-mentioned experimental studies primarily provide specific information or narratives about immigration through survey tools mostly among adults, our paper takes a different approach by focusing on a classroom-based educational intervention. The central aim of the intervention we evaluate is to influence young people's attitudes during their formative years through the use of active learning activities embedded in the regular school day. The program combines the provision of hard facts with open group discussions, in a set of playful activities, designed to help students exchange views on complex issues and navigate stereotypes, discrimination, cultural diversity and inclusion. Along this line, a recent experimental study on discrimination against transgender workers in India shows that group discussion, rather than individual communication, is more effective in persuading people to reverse discriminatory behavior (Webb, 2024).

Our study is also relevant to the growing experimental literature on the impact of perspective-taking activities in reducing prejudice and discrimination against outgroups, while promoting pro-social behavior and social cohesion in settings of inter-group conflict (e.g. Adida et al., 2018; Simonovits et al., 2018; Chatruc and Rozo, 2024). In the specific context of education, an influential paper by Alan et al. (2021) evaluates the impact of a

⁵On the contrary, Manzoni et al. (2024) show the positive effect of information on reducing anti-immigration views vanishes when information is combined with a sensational news about immigrant rape crimes.

program designed to promote social cohesion among children in primary schools in Turkey, which hosted a high share of Syrian refugee students in the aftermath of the 2015 refugee crisis. The intervention consisted in 3-hrs per week, over a period of about 6 months, and was delivered by teachers in official extracurricular hours. Results show that the program was effective in reducing peer violence, segregation, and social exclusion among refugee students in the classroom. We add to this literature by proposing a light-touch school-based intervention that leverages young adults' socio-cognitive skills (e.g. critical thinking, peer learning) rather than children's socio-emotional skills. We work in a context where social conflict is less pronounced, yet prejudicial attitudes can still be formed, potentially undermining social cohesion in and out of school. Most importantly, we focus on attitudes toward immigration in society as a whole, as opposed to attitudes toward immigrant peers.

Finally, our analysis exploits the classroom 'melting pot' as a source of natural variation in inter-ethnic social contact, friendship and class-level exposure to immigration. The question of how personal experiences of inter-group contact shape beliefs about outgroup members and influence attitudes toward the outgroup as a whole has been explored in the literature, with contrasting evidence, largely depending on the intrinsic nature of social contact (Scacco and Warren, 2018; Mousa, 2020; Lowe, 2021; Corno et al., 2022). A recent experimental study investigates the role of different types of social interaction in the context of Hindu-Muslim relations in India (Chakraborty et al., 2024). It shows that broad contact (i.e. brief interactions with multiple outgroup members) rather than deep contact (longer interactions with a single outgroup member) can correct misperceptions about outgroups, with improvements in attitudes beyond outgroup peers. Consistent with this evidence, our heterogeneous treatment effects suggest that the intervention is more effective at shifting outgroup attitudes as a whole in more mixed classrooms, where the presence of immigrants likely makes issue salience and group discussions more engaging.

Overall, by focusing on young adults in a real-world melting pot setting, our analysis provides novel insights into the design of non-neutral programs that are effective in promoting social cohesion without ignoring differences between groups. Furthermore, our findings on attitudes towards immigration in society at large, supported by a direct partnership with the education sector, enhance the policy relevance and scalability of the intervention.

The paper is organized as follows: Section 2 provides details on the study setting and the program. Section 3 details the evaluation design and describes our outcome measures. Section 4 illustrates the data and tests for internal validity. Section 5 reports our main results. We discuss potential mechanisms in Section 6 and conclude with Section 7.

2 Context and Program

Italy currently hosts about 6 million immigrants, corresponding to roughly 10% of its population, of which 3.5 million come from outside the European Union (EU).⁶ The population of non-Italian students in the national school system has grown from about 25,000 individuals in 1991/92 to more than 914,000 in 2022/23, and currently represent 11.2% of the total student population (MIUR, 2024). Non-Italian students attend school at the same rate as Italian citizens from ages 6 to 13; however, only 74.8% of them continue their education until ages 17 and 18 (MIUR, 2024).⁷ The share of non-Italian students in high schools has also been increasing over the past years, exceeding 8% in 2022/23. Almost two-thirds (65.4%) of the non-Italian students who attended school in Italy in 2022/23 were born in Italy, but are not citizens and classify as second-generation immigrants (MIUR, 2024).⁸ Approximately 44% of the foreign students are European - a stable if slightly decreasing percentage over the past decade -, followed by children of African and Asian origin who represent, respectively, 27.3% and 20.3% of the total (MIUR, 2024).

These demographic transformations have been accompanied by immigration rising to prominence among the primary concerns of Italian citizens (ODI, 2023)⁹, and by an increase in support for anti-immigration policies and Eurosceptic political parties that oppose immigration and promote national identity (Campo et al., 2024).¹⁰

Overall, the public debate about immigration is often characterized by misinformation and politicization, leading to misconceptions and misperceptions. In 2017, Italian respondents to the Eurobarometer survey estimated, on average, the share of non-European Union (EU) immigrants in Italy at 24.6%, against an actual figure of 7%, which corresponded to the widest gap among all European countries (ODI, 2023). Similarly, respondents to a large-

⁶Compared to other European countries, one of the peculiarities of immigration to Italy has been the fragmentation and globalization of origins. From the first significant influxes from Albania in the early nineties to the refugees from North Africa in recent years, the composition of the immigrant population has changed over the last few decades. In 2022, the most represented migrant nationalities are Romanian, Albanian, Moroccan, Chinese, Filipino and Indian.

⁷The corresponding percentage among Italian students is 81.6%.

⁸Italian nationality law follows the principle of *jus sanguinis*, whereby children born in Italy to foreign citizens inherit their parents' citizenship. They have the right to apply for Italian citizenship only upon reaching the age of 18, provided they have maintained continuous residence in Italy.

⁹Immigration became the second-most important issue in Italy between 2015 and 2017 (Eurobarometer), with Italians holding the most hostile views about immigrants in Europe in 2017 (ESS, 2017).

¹⁰Italian electoral campaigns in recent years have revolved significantly around immigration issues, with recent governments introducing several measures to restrict immigration flows, including naval blockades to limit the arrival of migrants across the Mediterranean. The 2015-16 refugee crisis has been shown to have increased votes toward anti-immigration parties in Italy (Campo et al. (2024)) as well as in other European countries, such as Austria (Steinmayr (2021)), France (Vertier et al. (2023)), and Greece (Dinas et al. (2019)).

scale survey conducted in Italy between January and March 2018 by Alesina et al. (2023) greatly overestimated the share of immigrants in the total population, at 26.4%. These large misperceptions likely play an important role in shaping attitudes toward migration. A recent opinion poll indicates that 62% of the adult population in Italy considers the number of immigrants too high (IPSOS, 2023).

Negative attitudes toward immigrants and misperception appear to be widespread also among the younger population. According to the results of the 2018 PISA assessment, Italian 15-year-old students rank well below their European peers in terms of “global competencies”¹¹ and, in particular, they rank low in “Attitudes toward immigrants” and “Respect for people from other cultures”, and are the lowest in Europe in terms of “Interest in learning from other cultures” and “Perspective taking” (Figures B1 and B2 in Appendix). Our survey confirms a widespread misperception among students in terms of the share of immigrants in the Italian population, with the average (median) student estimating it at 34% (30%) at baseline. On the positive side, students seem to have a generally more positive attitude toward immigration, compared to the older population: our survey shows that “only” 30% of the students consider the number of immigrants too high.

The educational program evaluated in this study was designed and implemented within this context of misinformation and polarization. The program, which targets high school students (aged 14-19), was first implemented during the 2022/23 academic year in the provincial areas of Milan and Genoa in Northern Italy. Milan and Genoa are the 2nd and 6th largest Italian cities, respectively, and are among the main destination areas for immigrants in the country. Overall, foreign residents represent 18.8% of the total population in Milan and 10% in Genoa (ISTAT, 2023). Milan is the first city in terms of share of non-EU immigrants, mostly coming from Egypt (16%), the Philippines (11%), and China (10%); while Genoa is the 4th city in terms of non-EU immigrants, mostly from Ecuador (22%), Albania (14%), and Morocco (11%). Reflecting these demographic trends, the majority of students with migrant backgrounds are concentrated in Northern Italy, which hosts 65.2% of this population. The Lombardy region, where Milan is located, is home to more than a quarter (25.3%) of all foreign students in Italy. The proportion of foreign minors among total students is 17.1% in Lombardy and 15.8% in Liguria (where Genoa is located) (MIUR, 2024).

¹¹The concept of global competencies was defined by the OECD’s Programme for International Student Assessment (PISA) in 2018, which regularly measures 15-year-olds’ ability to use their reading, mathematics, and science knowledge. In its 2018 edition, PISA incorporated a new section, specifically designed to evaluate students’ “global competencies”. These consist of eight dimensions, defined as multidimensional skills that encompass the ability to “*examine local, global and intercultural issues, understand and appreciate different perspectives and world views, interact successfully and respectfully with others, and take responsible action toward sustainability and collective well-being*” (OECD, 2018).

The education system in Italy is free and compulsory between the ages of 6 and 16. After 5 years of primary school and 3 years of lower secondary school, students must choose between three high school tracks: academic, technical, and vocational, which represent 50%, 28%, and 22% of all high school institutes located in the provinces of Milan and Genoa, respectively (see Table B1 in Appendix). High school institutes are organized along these tracks to deliver grades 9 to 13. Within high schools, students are assigned to the same class for all subjects and school years. Usually, students are assigned to classes on a random basis, with the idea of creating heterogeneous groups. Figure B3 in the Appendix presents data from the 2022 PISA edition regarding class composition criteria, collected through questionnaires administered to school principals in Italy and other European countries. The data indicate that Italian school principals are relatively less likely to admit students based on their residential area or to form classes based on student ability levels..

Students enrolled in high schools are expected to attend at least 90 hours per year of extra-curricular activities , which are typically designed to develop non-cognitive skills and to provide information on future career paths. Our program was delivered within this set of complementary activities during curricular hours.

2.1 Program description

The program “Integration - Beyond Prejudices” (IBP) is inspired by the *Migration au delà des prejudices (MADP)* program, which was first launched in 2015 at the Université Libre de Bruxelles in Belgium, during the European refugee crisis. The program aimed to foster intercultural dialogue and social inclusion among youths through activities that encourage participants to debunk stereotypes and consider cultural diversity as a value. The original tools and activities were developed around the principle of active learning by a multi-disciplinary group of social scientists, pedagogical consultants, and multimedia developers, and were implemented by volunteers trained and supported by two Belgian non-profit organizations (ULB Engagée and Jagora).

The IBP program studied in this paper is an adaptation of the MADP program to the Italian school context. The implementation is managed by the Italian-based NGO Helpcode, whose members have closely interacted with the Belgian team. The program maintains its original focus on active learning and follows a *Global Citizenship Education* approach delivered through game-based activities.¹² The program is designed as a short intervention that

¹²In game-based learning activities, the learning process is facilitated through the use of a game. The learner moves from the space of reality to the space of the game, where they are invited to adopt different perspectives. This is expected to lead the participant to experience the point of view of others and to develop critical thinking about a specific topic (Bertolo et al., 2014). According to UNESCO, “the primary

can be easily embedded within regular school hours. Meetings with the students are organized in two sessions of 2-hrs each and are structured around four main activities designed to stimulate reflections on topics such as stereotypes, prejudices, and discrimination. Students are encouraged to share their reflections and experiences in the process as a source of learning within the group, allowing for the co-construction of knowledge and active learning. All four activities also include a knowledge-sharing component, in which facilitators present and discuss with students hard facts and objective data about migration patterns and refugee flows.¹³ The program targets high-school students who are at a critical time in the development of their socio-political attitudes and ethical behaviour, and have the knowledge and ability to reflect on complex social issues. Research on the development of individual-level social and political stances has long emphasized the key role that “impressionable years” play in influencing subsequent attitudes and behaviors, which then tend to become much more stable later in life (Bartels and Jackman, 2014; Neundorff and Soroka, 2018; McLaren and Paterson, 2020; Jeannet and Dražanová, 2019).

The program also entails an element of peer-to-peer dialogue and education: classroom activities are managed by a pair of facilitators, consisting of a university student from either the University of Milano-Bicocca or the University of Genova, trained as a peer educator, working alongside a Helpcode staff member. The majority of the facilitators were of Italian origin and were females, although in 11% of the meetings there was at least one male facilitator, and in 38% of them there was at least one facilitator of foreign origin.¹⁴ The activities were implemented in the school building, within the regular classroom environment. Each class participating in the program was visited twice by the same Helpcode staff member and tutor. The two meetings happened on average one to two weeks apart from each other. As the program took place during regular school hours, every student who was present in class on that day attended the program activities (school absenteeism was 12%, on average). Program implementation was monitored through administrative data collected through the facilitators. Table 1 summarizes the information from the administrative records. Adherence to the original design was high: 124 out of 126 classes (98.4%) received the two sessions of the IBP program.¹⁵ In our analysis, we will always rely on the original random assignment,

aim of Global Citizenship Education (GCED) is nurturing respect for all, building a sense of belonging to a common humanity and helping learners become responsible and active global citizens. GCED aims to empower learners to assume active roles to face and resolve global challenges and to become proactive contributors to a more peaceful, tolerant, inclusive and secure world”.

¹³Appendix A provides more details about the program, including the details on the four main activities.

¹⁴We tested the main results against facilitators’ characteristics and found no statistically significant differences.

¹⁵The two missing classes had to drop out because were lagging behind with the regular curriculum and had to stop all extra-curricular activities.

thus focusing on intention-to-treat estimates. Overall, enumerators reported that students enjoyed the meetings and engaged in the activities (on average, participation was ranked 4.2 on a 5-point scale). The program was designed to be as engaging and interactive as possible, and facilitators were trained to maintain some flexibility and adapt the conversation to the specific questions that emerged throughout the activities. Topics that appear more often in the media and public discourse (such as reasons to migrate, immigration data, and relation between immigration and crime) were typically perceived as more relevant by most students and were discussed in virtually every class. Some more specific topics, however, such as the role of religion, gender, the Schengen Area, and visa issues, emerged in some classes and not others, following the specific interests, perceptions, and experiences of the students.

Table 1: Program implementation

| | Mean | SD | Min | Max | N |
|--|-------|-------|-----|-----|-----|
| Class attention/participation (scale 1-5) | 4.195 | 0.732 | 2 | 5 | 124 |
| Share of absent students | 0.113 | 0.082 | 0 | 0 | 124 |
| At least one male facilitator | 0.113 | 0.318 | 0 | 1 | 124 |
| At least one facilitator of foreign origin | 0.379 | 0.487 | 0 | 1 | 124 |
| <i>Content of activities:</i> | | | | | |
| Motivation to emigrate | 0.919 | 0.273 | 0 | 1 | 124 |
| Immigration indicators | 0.895 | 0.308 | 0 | 1 | 124 |
| Crime | 0.823 | 0.384 | 0 | 1 | 124 |
| Origins | 0.734 | 0.444 | 0 | 1 | 124 |
| Arrivals by the sea | 0.492 | 0.502 | 0 | 1 | 124 |
| Regional distribution | 0.484 | 0.502 | 0 | 1 | 124 |
| Religion | 0.226 | 0.420 | 0 | 1 | 124 |
| Others (Shengen Area, gender, income, visa) | 0.024 | 0.154 | 0 | 1 | 124 |
| <i>Notes:</i> Authors' elaboration from administrative records filled by the facilitators. Two classes assigned to the treatment group did not receive the program and are therefore excluded from this table. | | | | | |

3 Study Design and Outcomes

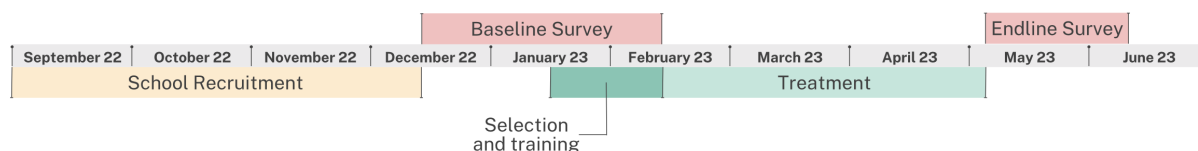
The program was implemented as a cluster randomized controlled trial at the class level. The study sample contains 252 classrooms from 40 high schools in Milan and Genoa. The study covers over 4,500 students enrolled in grades 9 to 13, of ages 12 to 21.

We recruited sample classrooms from the universe of high schools located in the two provinces of Milan and Genoa. At the beginning of the school year (September 2022), we contacted by email all school principals to share general information about the program and

followed up with two reminders. Schools interested in the project were invited to contact the partner NGO to express their interest and receive more details. Among other things, interested schools were invited to indicate the number of classes potentially eligible to host the program.¹⁶ The NGO had the capacity to deliver the program to around 120 classes during this first pilot year. We therefore aimed to recruit a total of 240 classes interested in the program, considering schools on a first-come, first-served basis. We eventually ended up including in the sample a total of 252 classes, across 40 schools. Figure B4 in Appendix shows the location of sample schools within the urban areas of Milan and Genoa. We use data from the Italian Ministry of Education to compare the 40 schools in our sample to the other 350 high-schools located in the study area (results are reported in Table B1 in Appendix). Although the sample is non-random, we find it to be generally representative of schools in the study area along most observable characteristics related to students composition and school type. However, our sample includes a slightly higher proportion of technical schools and fewer private schools compared to the average in the study area.

The timeline of the trial, illustrated in Figure 1, was as follows: we collected baseline data between December 2022 and February 2023. We then conducted the randomization at the classroom level. We stratified our randomization by school as we expect outcomes to be highly correlated with school type and location. The ex-ante probability of treatment is set to 50%, assigning 126 classrooms to treatment and 126 to control. Facilitators' training took place between January and February 2023. The NGO Helpcode regularly monitored the implementation of the program and facilitators between late February and early May 2023 and kept us informed on their schedules and progress. We collected endline data between May and June 2023.¹⁷

Figure 1: Project timeline



Both baseline and endline data collection were managed by the research team, independently from the implementing NGO, and were carried out by locally recruited and trained

¹⁶Participation in the program was determined by the school board; teachers did not voluntarily enroll their classes.

¹⁷The schedule for endline data collection follows the timeline of the intervention, with schools treated first being surveyed in roughly the same order. On average, there is approximately 40 days between treatment and survey.

enumerators. We spent one lecture hour in each classroom, both at baseline and endline, to administer the survey on tablets. We surveyed all students enrolled in the study classes and present in school on survey days. The exact survey day was not anticipated to the students, but was only coordinated with the school principal and the individual teachers. The surveys were conducted some weeks before the program launch and after the conclusion of program activities in the treatment classrooms and there was no explicit link with the IBP program.¹⁸ At the beginning of the data collection, enumerators distributed one tablet with the pre-loaded survey to each student. Given the sensitive nature of certain questions, students were asked to separate their desks and work independently on the survey.¹⁹ To limit the risk of experimenter demand effect, we alternated migration-related questions with a set of questions about other topics that are relevant in today’s society, such as climate change and gender relations. Enumerators helped maintain silence and provided support in case of any questions. Each student answered the survey individually on her digital tablet, under the supervision of the trained enumerators. There was no compensation for the students for taking the survey. Baseline and endline data collection followed the same procedure, although at endline we modified the survey by replacing some of the knowledge questions, as students might have searched for the correct answers after the first time, and by adding two incentivized games to measure behavior toward immigrants (details below).

The study was registered with the AEA RCT registry (#0010674) and received ethical approval from the University of Milan-Bicocca Ethics Committee (#736). Unless we indicate otherwise, the analysis and related outcomes discussed below were pre-specified in our trial registration. In what follows, we give a detailed account of our primary and secondary outcome measures.

3.1 Primary outcomes

Attitudes toward Immigrants

Our primary outcomes of interest are individuals’ attitudes toward immigrants. We collect information on them both at baseline and endline through three questions, asking how much

¹⁸Prior to the first data collection, we collected informed consent from all parents of students enrolled in the study classes. On survey days, we also requested each student to sign an informed consent. In both cases, the consent explained that the survey was part of a research project aimed at understanding high school students’ habits and attitudes on a range of current topics. There was no explicit reference to prejudices and discrimination and no references to migration specifically. Thanks to the strong support we received from schools, 99.6% of parents and students signed the consent form.

¹⁹To further reinforce the feeling of privacy and data protection, rather than asking students to type their name in the survey, they were asked to enter a personal code, which was generated by the research team and revealed to them individually by the enumerators, at the time of distributing the tablets.

the respondent agrees with the following statements: i) there are too many immigrants in Italy nowadays; ii) immigrants increase crime rates in the neighborhoods where they live; iii) *ceteris paribus*, Italians should get a job before immigrants. Students were also presented with a short vignette, in which a student called Mohammad, born in Italy to Moroccan parents, is described as having few friends in school. Students are then asked whether in their opinion the reason was more likely due to lack of effort from his side or to other reasons unrelated to his behavior.²⁰

Although we attempted to detach as much as possible the data collection from the program implementation, students exposed to the program might be more likely to answer what they believe the research team wants to hear, or what they perhaps learn through the program to be the most “desirable” answer, even if it does not reflect their true attitudes and beliefs. As we will show below, in our context we find no evidence of social desirability bias, as captured through a standard index based on the Marlowe and Crowe’s social desirability scale (Crowne and Marlowe, 1960).²¹ Nevertheless, at endline we also included two incentivized activities to capture more directly students’ revealed preferences and behavior, described next.

Discriminatory Behavior and Pro-sociality toward Immigrants

In the endline survey, we introduced a behavioral game and a donation exercise to elicit respondents’ discriminatory behavior and pro-sociality toward immigrants. The behavioral game was modeled around the well-known *ultimatum game* (Güth et al., 1982). The standard ultimatum game involves two players: one proposer and one respondent. The proposer is endowed with a sum of money (20 euros in our case) and is tasked with splitting it with the respondent (who knows what the total sum is). Once the proposer communicates the splitting decision, the respondent may accept or reject it. If the respondent accepts it, the money is split as per the proposal; if the respondent rejects it, both players receive nothing. Both players know in advance the consequences of the respondent accepting or rejecting the offer. To measure discrimination, we experimentally varied the identity of the proposers. More specifically, as a first step, we recruited ten university students with either

²⁰This vignette was modeled around the one used by Alesina et al. (2023).

²¹We construct an index measuring respondents’ concern with social approval that we generated combining five questions from the Marlowe and Crowe’s social desirability scale (Crowne and Marlowe, 1960). We asked students to respond true or false on whether the following statements are describing themselves. Social desirable answers are reported in parenthesis: i) I’m sometimes jealous of other people’s fortune (F), ii) I’m always gentle even with unpleasant people (T), iii) I’m always willing to admit a mistake (T), iv) I never get irritated when people express different opinions (T), Sometimes I get irritated when people ask for favors (F).

a non-Italian name (e.g., Mohammad) or an Italian name (e.g. Marco) to act as proposers.²² The proposers played the game a few days before the start of the data collection and were informed that they would be randomly matched with students participating in our study, who would only be informed about their names.²³ Students participating in the survey were randomly matched with one of the ten university students and were told their names only. After learning the rules of the game, students were then asked to choose the minimum amount they would be willing to accept from the proposer.²⁴ In line with previous studies in the literature (Freddi et al., 2024; Alan et al., 2021), we detect discriminatory behavior against immigrants if the minimum amount that students are willing to accept is different (and in particular, higher) when the proposer has a non-Italian-sounding name.

The donation exercise is also commonly used in the literature to capture pro-social behavior (Alesina et al., 2023; Kotsadam and Somville, 2024; Tonin and Vlassopoulos, 2017): students are told that they are eligible to participate in a lottery that might give them 100 euro (in Amazon vouchers) and are asked how much of that amount they might like to donate to an NGO that works with migrants.²⁵ We informed students that there would be 10 students among all participants who would be extracted for the donation exercise and who will therefore receive 100 euros minus the amount they have decided to donate to the NGO, which will be instead transferred to the NGO.²⁶

²²The proposers were recruited among university students voluntarily registered to the Laboratory for Experimental Economics (EELAB) of the University Milano-Bicocca, who signed up in the online recruiting system (ORSEE).

²³Proposers were paid a participation fee of 5 euros and were told that their final payoff would be paid after the data collection, once the match with the respondent selected for their payoff is realized. In particular, we told them they could be matched with multiple students throughout the study and that their actual payoffs would be based on the results of one randomly selected match.

²⁴To induce students to take these decisions seriously, we incentivized their choices by informing them that at the end of the study, one student per class would be randomly selected and his or her actions would be compensated – i.e. they would be given the amount corresponding to the result of the game - through an Amazon voucher.

²⁵Students willing to donate could choose between two well-known organizations: ResQ People Saving People and NoWalls.

²⁶As a further non-incentivized behavioral outcome, at endline, we also gave to all students that participated in the survey a flier, containing information to enroll in a volunteering activity aimed at supporting immigrants. The activity was organized by two NGOs based in Genova and Milano, and students were invited to express their interest by following a link. Unfortunately, take-up was very low, in line with the fact that only 14% of students reported having ever done some sort of volunteering activity: only 25 students subscribed to the activity, and we therefore exclude it from the analysis.

3.2 Secondary outcomes and mechanisms

We examine a wide range of secondary outcome measures to understand potential mechanisms underlying the primary outcomes, including migration literacy/misperception, implicit bias, empathic concerns, social ties, and norms.

Migration Literacy

The program was designed to combine two core elements: provide accurate information on the migration phenomenon, while also engaging students in active learning activities. In our analysis, we want to understand whether the knowledge-related component of the intervention managed to improve students’ understanding of the migration phenomenon and correct their (mis)perceptions about the size and characteristics of the immigration inflows to Italy. We test their “migration literacy” by considering four knowledge-related questions that cover topics discussed during the program: 1) what is the share of immigrants in the Italian population?; 2) what is the continent hosting the highest number of immigrants?; 3) what is the continent where most of the immigrants living in Italy come from?; and 4) what is the correct definition of “refugee?”.²⁷

On top of measuring overall migration literacy, we can precisely assess the extent of students’ (mis)perceptions by considering the difference between the share of immigrants living in Italy reported by students and the actual figure (10%).

Implicit Bias Against Immigrants

Another dimension that program activities could have affected is implicit bias against immigrants. The implicit association test (IAT) is a tool designed to capture that unconscious bias. The IAT has been used by social psychologists, and recently also by economists and social scientists, to detect implicit cognition, namely perception, stereotyping, memory, and all the cognitive processes, which an individual may not be aware of (Greenwald and Banaji, 1995; Greenwald et al., 1998; Bertrand et al., 2005; Carlana et al., 2022). The idea behind implicit association lies in the fact that the more respondents strongly associate two concepts the more rapidly they will pair them in a fast categorization task. In principle, IAT allows for detecting prejudice or bias even when subjects are not fully conscious of it or willing to reveal it (Greenwald et al., 2009). In our context, we asked students to associate,

²⁷This was a multiple-choice question with four options: “People moving to look for work”, “People coming by boat”, “People who come to play with the sports team”, “People running away from situations of persecution or violence”. The correct answers to the four questions were: 1) 10%; 2) Asia; 3) Eastern Europe; and 4) People fleeing situations of persecution or violence.

in turn, names and pictures of people of foreign or Italian origins, with positive or negative nouns and attributes (e.g., happiness, sadness, laziness). The differences in the response speed across different types of comparisons are combined in a unique score by a specifically designed software identifying the level of unconscious (or implicit) bias against individuals of foreign origins. A higher score indicates greater implicit bias (Greenwald et al., 2009).²⁸

Empathetic Concerns

It is possible that the active learning activities embedded in the program impacted students' general empathy and perspective-taking attitude toward others, irrespective of their background. Recent studies have examined the role of other-awareness, empathetic concerns, and perspective-taking in inter-group interactions, particularly in the context of immigration (Alan et al., 2021; Chatruc and Rozo, 2024; Andries et al., 2024). We thus asked students how much they agreed with a set of statements related to their ability to empathize with others: 1) My friends confide in me about their problems; 2) I understand when others feel uncomfortable; 3) I feel sorry when someone has a problem; 4) I think of myself as a sensible person; 5) I like having foreign friends as much as Italian friends; 6) I often get moved for things I see happen; 7) Before criticizing someone, I try to imagine how I would feel if I were in their place.

In-class Student Networks

Another way our program may shift students' attitudes is through a change in inter-group contact and networks. Indeed, the inter-group contact hypothesis states that positive experiences with members of the outgroup reduce prejudice and discrimination (Allport, 1954). We elicit social networks in the classroom through two questions, asking students to nominate up to three classmates they seek help from when they need support for personal matters or for study reasons. We collect this data both at baseline and endline to test whether the program has any impact on social ties between native and foreign classmates. We construct an individual measure of inter-ethnic ties, identifying whether a student nominates classmates with immigration background, as well as an ethnic segregation measure at the class level. We follow Alan et al. (2021) and measure the degree of segregation in the class by comparing the expected share of inter-ethnic ties, computed as the theoretical probability of randomly

²⁸We programmed the test using the Inquisit software, which allows to easily integrate this into the questionnaire data. We maintained the standard structure of the test and only introduced minor edits to the images and names to adapt them to our specific setting.

forming these links, and the actual observed share of inter-ethnic links.²⁹

Perceived Social Norm in the Classroom

Finally, we want to understand whether the program changed students’ perceptions of what are their classmates’ attitudes toward immigrants. Our hypothesis is that by prompting students to discuss immigration issues and share their views, the program might have reshaped what students see as the prevailing norm regarding immigration in their classroom. In general, social norms shape preferences and behavior by influencing expectations and beliefs about what is socially acceptable. For adolescents, these norms may come from peers as well as from parents.

To capture this, we asked students how many of their classmates present in class on the survey day would agree with the statement, “*Ceteris paribus*, Italians should get a job before immigrants.” We also asked how confident they felt in their assessment. Moreover, we asked students the same questions about their parents’ views.

4 Descriptive Statistics and Internal Validity

Prior to randomization, we visited all 252 classrooms and collected detailed baseline data on demographics, networks, and immigration-related measures.

Table 2 presents the main descriptive statistics for our sample of students (Panel A) and classrooms (Panel B). On average, our classes have about 18 students, 53% of them are males, and their average age is 16.1 years. About 39% of students’ mothers have a high-school degree or higher education. Importantly for the context of our study, almost 9% of students are born abroad (first-generation immigrants), while 21% have an immigration background, with (both) parents born abroad (i.e. they do not have Italian citizenship). In the remainder of the paper, when referring to immigrant students or students with a migrant background, we refer to the latter group, which includes both first- and second-generation immigrants.

In terms of networks, students report having an average of 4.4 close friends, 34% of whom are of foreign origin (when focusing on Italian students only, the share drops to 27%). Moreover, within the classroom, 23% of students list at least one foreign student among the classmates from whom they seek support for personal matters. The share is very similar

²⁹The probability of randomly formed inter-ethnic ties follows the hypergeometric distribution and depends on the ethnic composition of the class (e.g., the number of foreign origin and native students), and on the number of ties reported by each student (Alan et al., 2021). The observed share of inter-ethnic ties is given by the observed frequency of inter-ethnic ties over the total number of ties nominated in a classroom.

(25%) when considering support for school-related matters. Overall these figures suggest a relatively high level of inter-group contact between native and foreign students, which is confirmed when considering class-level ethnic segregation indexes (see Alan et al. (2021) and Section 3 for details). Figure B5 in Appendix B displays the cumulative distribution of the expected and observed proportion of inter-ethnic ties for both personal matters and study reasons. The distributions are qualitatively similar, even though the equality of the two distributions is rejected by the Kolmogorov-Smirnov tests, suggesting that segregation is low and students are used to close interactions with immigrant peers in their daily lives. Yet, on average, 14% of students—and 50% of foreign students (see Table B2 in the Appendix, where we split the sample by migration status)—report experiencing at least one episode of ethnic discrimination, either in or out of school.

Table 2 also reports baseline statistics on the key outcome measures that we are interested in, which include explicit attitudes toward immigration, knowledge about the immigration phenomenon, implicit ethnic bias, empathy toward others, and perceived social norms. About 30% of students report that the number of immigrants living in Italy is too high and almost 40% think that immigrants increase the crime rate in the neighborhoods where they live. There are also widespread misperceptions about the share of immigrants living in Italy, with the average (median) student estimating it at 34% (30%), and thus overestimating the actual proportion by almost 25pp. As expected, on average, foreign students exhibit significantly more positive attitudes toward immigrants compared to native students, yet have higher misperception about immigration size (see Table B2 in the Appendix).

Data on class composition in Panel B also reveal a high degree of heterogeneity in terms of the migration background of students within classrooms. The share of immigrant students ranges between 0 and 77%, with 93% of the classes having at least one immigrant student.³⁰

Table B3 and B4 in Appendix report the balance of baseline variables across treatment status, both on student and class-level characteristics. We observe no statistically significant differences in the means of these variables between the treatment and control groups, suggesting that the randomization was successful in creating observationally equivalent groups.³¹

As described above, at endline we surveyed again all students enrolled in the study classes who were present on the survey day. Overall, we surveyed a similar number of students

³⁰Table B1 in Appendix showed that our sample is fairly representative of high schools in the study areas as well as at the national level in terms of gender and ethnic composition.

³¹The table only includes a subset of the variables collected at baseline, which are relevant for our analysis. When we consider the entire set of variables included in the baseline survey and perform baseline checks across the two arms, we end up with a total of 159 comparisons. Out of these, we observe 7 instances (4.4%) in which the difference is significant at 10% level ($p\text{-value}<0.1$), 5 instances (3.1%) in which it is significant at 5% level ($p\text{-value}<0.05$), and no instances in which it is significant at 1% level ($p\text{-value}<0.01$).

Table 2: Descriptive statistics

| Variable | N | Mean | SD | Min | Max |
|---|------|-------|-------|-------|--------|
| Panel A: Student characteristics | | | | | |
| Age | 4492 | 16.10 | 1.36 | 12.00 | 21.00 |
| Gender: Male | 4385 | 0.53 | 0.50 | 0.00 | 1.00 |
| Mother's edu: high school degree or more | 4092 | 0.38 | 0.49 | 0.00 | 1.00 |
| Father's edu: high school degree or more | 3939 | 0.31 | 0.46 | 0.00 | 1.00 |
| Social desirability index | 4497 | -0.05 | 0.54 | -0.85 | 1.12 |
| <i>Immigration background</i> | | | | | |
| Both parents born abroad (1st & 2nd generation) | 4497 | 0.21 | 0.41 | 0.00 | 1.00 |
| Born abroad (1st generation) | 4497 | 0.09 | 0.28 | 0.00 | 1.00 |
| Born in non-EU country (1st generation) | 4493 | 0.07 | 0.26 | 0.00 | 1.00 |
| <i>Friendship / integration</i> | | | | | |
| Nr. of close friends (overall) | 4496 | 4.35 | 2.29 | 0.00 | 8.00 |
| Nr. of foreign close friends (overall) | 4496 | 1.48 | 1.91 | 0.00 | 8.00 |
| Ask help to foreign classmate for personal issues | 4497 | 0.23 | 0.42 | 0.00 | 1.00 |
| Ask help to foreign classmate for academic issues | 4497 | 0.25 | 0.43 | 0.00 | 1.00 |
| Like having foreign as well as italian friends | 4497 | 0.92 | 0.27 | 0.00 | 1.00 |
| Ever felt discriminated for ethnicity | 4497 | 0.14 | 0.34 | 0.00 | 1.00 |
| <i>Anti-immigration attitudes</i> | | | | | |
| Too many immigrants in IT | 4497 | 0.28 | 0.45 | 0.00 | 1.00 |
| Immigrants increase crime rates where they live | 4497 | 0.38 | 0.48 | 0.00 | 1.00 |
| Ceteris paribus, Italian should get a job before immigrants | 4497 | 0.33 | 0.47 | 0.00 | 1.00 |
| Attitude index | 4497 | -0.03 | 0.99 | -0.95 | 1.87 |
| <i>Other outcomes</i> | | | | | |
| IAT score | 4490 | 0.56 | 0.36 | -1.07 | 1.54 |
| Perceived immigration % in Italy | 4497 | 34.04 | 18.38 | 0.00 | 100.00 |
| Migration literacy index | 4497 | 0.07 | 0.15 | 0.00 | 1.00 |
| Empathy index | 4497 | 9.14 | 1.29 | 2.79 | 11.15 |
| Perceived % anti-immig. classmates (social norm) | 4497 | 40.58 | 33.33 | 0.00 | 100.00 |
| Panel B: Classroom characteristics | | | | | |
| Class size | 252 | 17.85 | 4.08 | 7.00 | 29.00 |
| % of male students | 252 | 53.19 | 29.01 | 0.00 | 100.00 |
| % of high educ. fathers | 252 | 28.93 | 19.73 | 0.00 | 84.62 |
| % of 1st & 2nd gen. immigrant students | 252 | 21.63 | 16.37 | 0.00 | 77.78 |
| % of 1st gen. immigrant students | 252 | 9.12 | 8.33 | 0.00 | 42.86 |
| Ethnic segregation index (personal issues) | 242 | 0.03 | 0.12 | -0.67 | 0.44 |
| Ethnic segregation index (academic issues) | 242 | 0.02 | 0.13 | -0.50 | 0.39 |
| Academic school track | 252 | 0.52 | 0.50 | 0.00 | 1.00 |
| Technical school track | 252 | 0.25 | 0.43 | 0.00 | 1.00 |
| Vocational school track | 252 | 0.24 | 0.43 | 0.00 | 1.00 |

Notes. Reported statistics are based on the baseline sample. Panel 1 presents individual-level variables collected from students. Panel 2 presents classroom-level characteristics. The varying number of observations is due to missing answers or skip patterns in the survey.

at baseline (N=4497) and endline (N=4552). Among students surveyed at baseline, 87% of them were also present and surveyed at endline, while the remaining 13% were absent from class and could not be surveyed.³² This also means that at endline roughly 13% of the surveyed students were absent at baseline. Tables B6 in Appendix shows the share of tracked, attrited, and new students did not differ across study arms, and that there was no difference across treatment arms in terms of the characteristics of students lost at endline.³³

5 Results

5.1 Empirical specification

To assess the impact of the program on our outcomes of interest, we estimate the following equation:

$$Y_{i,c,s} = \beta Treatment_{c,s} + \theta_s + \varepsilon_{i,c,s} \quad (1)$$

where $Y_{i,c,s}$ is the outcome of student i , enrolled in class c of school s . The variable of interest is $Treatment_{c,s}$, an indicator variable that takes value one if the class was randomly assigned to receive the IBP program and zero otherwise. We always include school fixed effect θ_s , as we stratified randomization at that level. Finally, $\varepsilon_{i,c,s}$ indicates the error term. We cluster standard errors at the class level, accounting for the fact that the intervention varies at that level. The coefficient of interest, β , should be interpreted as the intention-to-treat (ITT) effect, capturing the average impact on the outcome Y of being enrolled in a class that hosted the IBP program.

Given the focus on diversity, throughout the analysis, we are interested in understanding whether the impact of the program differs across classes with different ethnic composition (as well as along other pre-specified dimensions). To perform this heterogeneity analysis, we augment equation (1) by including an interaction term $Treatment_{c,s} \times het_{i,c,s}$, where $het_{i,c,s}$ indicates the source of heterogeneity we want to explore, which might vary at the individual (e.g. whether the student is an immigrant) or class (e.g. share of immigrant students in the class) level, and which is also included on its own in the regression. The coefficient of the interaction term reveals whether the impact of the program differed along the dimension identified by het .

We rely on the above specification for analyzing all outcomes, with the exception of the

³²Table B5 mirrors Table B3 and reports baseline balance when restricting the sample to students who were present both baseline and endline.

³³Here we refer to “attrited” as students being absent on the survey day.

results from the ultimatum game. In that case we estimate the following equation:

$$\begin{aligned} Amount_{i,c,s} = & \alpha_1 Treatment_{c,s} + \alpha_2 ForeignSender_{i,c,s} \\ & + \alpha_3 Treatment_{c,s} \times ForeignSender_{i,c,s} + \gamma_s + \epsilon_{i,c,s} \end{aligned} \quad (2)$$

where the outcome is the minimum amount the student is willing to accept from the sender, and $ForeignSender_{i,c,s}$ is an indicator variable that takes value one if the sender that was randomly matched with the respondent student had a foreign-sounding name, and is zero otherwise. The coefficient α_2 captures whether students in control classes are willing to accept a different amount of money depending on the identity of the sender, and is thus our proxy for discrimination. The coefficient of interest is, however, α_3 , which captures whether students in classes exposed to the program are willing to accept a different amount from a foreign-sounding sender, as opposed to students in control classes.

In order to form a judgment about the impact of the intervention on a family of related outcomes throughout the analysis we combine the related outcomes in a variance-weighted index, following the procedure of [Anderson \(2008\)](#). The index is obtained by first normalizing the variables to the same standard deviation, and then computing a weighted average, where the weights are obtained from the inverse covariance matrix (see for instance [Dhar et al. \(2022\)](#)). Finally, we follow [Kling et al. \(2004\)](#); [Duflo et al. \(2007\)](#) and estimate a seemingly unrelated regression system to derive the average standardized treatment effect (ASTE).

5.2 Primary Outcomes: anti-immigration attitudes and behavior toward immigrants

We start the analysis by studying the impact of the program on anti-immigration attitudes. The results reported in Table 3 show that students enrolled in treatment classes are 3.9pp (12%) less likely to support the claim that there are too many immigrants in Italy (column 1), 4pp (9.6%) less likely to support the claim that immigrants increase crime rates (column 2), and 2.2 pp (3.8%) less likely to support the claim that, *ceteris paribus*, Italians should get a job before immigrants (column 3). Concerning the vignette in which a student called Mohammad, born in Italy to Moroccan parents, was portrayed as having few friends in school, students in treated classes are 3.2 pp (8.5%) less likely to attribute the lack of friends to his behavior. Column 5 combines the four dimensions into the variance-weighted index and shows that the program led to a significant overall drop in anti-immigration attitudes. This is further confirmed in column 6, which reports the average standardized treatment effect (ASTE) across the four variables. To put things in perspective, the change in attitudes induced by the program closes by more than 25% the gap that we observe between native

and immigrant students in the likelihood of claiming that there are too many immigrants in Italy.

Table 3: Treatment effects on anti-immigration attitudes

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------|---------------------|---------------------|-------------------|---------------------|----------------------|-----------------------|
| | Q1: Size | Q2: Crime | Q3: Job | Q4: Stereotype | Index | ASTE |
| Treatment | -0.039** (0.015) | -0.040** (0.017) | -0.022 (0.015) | -0.032** (0.014) | -0.111*** (0.033) | -0.0695** (0.0217) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean | 0.323 | 0.417 | 0.359 | 0.376 | 0.000 | |
| Observations | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables in Column 1-3 are indicators taking value one if respondents agree with the following statements: i) there are too many immigrants in Italy nowadays; ii) immigrants increase crime rates in the neighborhoods where they live; iii) ceteris paribus, Italians should get a job before immigrants. Column 4 reports an indicator equal to one if students indicate “lack of effort from his side” as the reason why Mohammad has few friends in the vignette exercise, see Section 3.1 for more details. Results in columns 1 to 4 are obtained from a standard OLS regression. Column 5 reports the variance-weighted index combining outcomes in Columns 1-4. Column 6 reports average (standardized) effect size across outcomes (1) to (4), using the seemingly unrelated regression framework to account for covariance across estimates. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

The treatment effect is relatively stronger for students with more negative attitudes at baseline (below the median), indicating that the intervention did not polarize attitudes but rather moved students away from the most negative attitudes (see Table B8 in Appendix).

One concern related to self-reported attitudes is that students exposed to the program might be more likely to provide the answer they believe to be more desirable, even if it does not reflect their true views. We check for this by looking at the “social desirability” index that we generated by combining a set of five questions borrowed from Crowne and Marlowe (1960). Table B9 in Appendix shows that students in treatment classes were equally likely to select socially desirable answers to these questions as students in control classes.³⁴

As a second set of outcomes in our endline survey we included two incentivized tasks designed to capture actual students’ behaviour toward immigrants. As explained above, these tasks consisted of an adapted version of the ultimatum game and a donation decision.

In the ultimatum game, students played the role of the recipient of a proposed split of 20 euros and were asked to report the minimum amount they would be willing to accept. Students were randomly matched with senders with either a foreign- or an Italian- sounding

³⁴Our results are also robust to excluding students with the highest social desirability score (Table B10 in Appendix).

name.³⁵ On average, students in the control group report being willing to accept a minimum of 7.8 euros. This means that if the split proposed by the sender they are randomly matched to allocates at least 7.8 euros to them, they are going to accept it, otherwise they refuse it (and both players end up with 0). Among students not exposed to the program, we observe some evidence of discrimination against foreign students: students randomly matched with a sender with a foreign-sounding name demand, on average, a higher transfer (8.02 euro) compared to students matched with a sender with an Italian-sounding name (7.60 euro, p-value for the difference is 0.01). In treated classes, however, this imbalance is reversed: students demand a slightly *lower* transfer when matched with a sender with a foreign-sounding name (7.71), rather than with an Italian-sounding name (7.86 euro) and the difference between the two groups of senders is no longer statistically significant (p-value for the difference 0.350). Table 4 (col. 1 and 2) illustrates this difference by reporting the estimates from regression (2).³⁶ The coefficient of the interaction term confirms that the program led students to accept an offer from a foreign-sounding student that is 8% lower than the amount accepted by students in the control group, and this translates into more than compensating the discrimination observed against foreign senders.

Table 4: Treatment effects on discriminatory and pro-social behaviour

| | (1) | (2) | (3) | (4) |
|-----------------------------------|----------------|-------------|-------------------|----------------|
| | Ultimatum game | | Donation exercise | |
| | Min. amount | Min. amount | Any donation | Amount donated |
| Treatment | -0.019 | 0.273 | 0.001 | -1.020 |
| | (0.126) | (0.172) | (0.014) | (0.869) |
| Foreign sender | | 0.399** | | |
| | | (0.185) | | |
| Treatment \times Foreign sender | | -0.598** | | |
| | | (0.260) | | |
| School FE | Yes | Yes | Yes | Yes |
| Control mean | 7.811 | 7.811 | 0.668 | 25.349 |
| Observations | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variable in Column 1 and 2 is the minimum amount in Euros students are willing to accept in the ultimatum game. Column 3 and 4 report the outcomes of the donation exercise: i) whether students donate at all (Column 3); ii) the amount donated (Column 4). School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

³⁵The average amount the senders proposed to split with the recipients is 10 euros.

³⁶Table B11 in Appendix show that the baseline characteristics of students randomly matched with a sender with a foreign-sounding name did not differ from those matched with a sender with an Italian-sounding name and that this holds for both treatment and control groups.

The second incentivized task was a potential donation decision, aimed at capturing pro-sociality toward immigrants. Students were informed they would be enrolled in a lottery with the opportunity to win 100 euros and were asked how much of that money, if any, they would like to donate to an organization supporting migrants in Italy, in case they won. In the control group, 67% of the students indicated a donation, and those who donated indicated an average donation of 39 euros. Table 4 shows that in this case, the program did not have any impact neither on the extensive margin (Column 3), nor on the intensive margin (Column 4) of the donation.

The fact that we observe a significant effect on students' behavior within the context of the ultimatum game, but we do not observe any impact on the donation exercise, might suggest that the program worked in reducing discriminatory behavior, but was not strong enough to push students toward making a more explicit action in support of immigrants. An alternative explanation is that while the ultimatum game required students to make decisions that involved other students they could relate to, the donation toward an NGO appeared as a generally more anonymous action that students might feel less familiar with and less likely to undertake.

5.3 Heterogeneity by Migration Exposure

As mentioned in Section 4, our sample at baseline includes 21% of students of foreign origin, defined as students whose parents were both born abroad. Given their immigrant background, it is likely that their attitudes and behaviors toward immigration differ from those of the other students. In addition, the presence of these students in a given class may influence the attitudes and behavior of other students through regular interactions and salience. First of all, we want to document whether such differences are confirmed in the data, and second, we want to study whether the program had differential effects depending on these dimensions.

We start by considering students' individual migration status.³⁷ The control means reported at the bottom of Table 5 show that, on average, students with a migration background have more positive attitudes toward immigrants than native students (columns 1 to 5).³⁸ The estimates, however, show that the program improved attitudes toward migration for both

³⁷We define the individual migration status based on information gathered in the baseline survey, identifying as students with immigrant background those who have both parents born abroad. For those students whose information about parental place of birth is missing, we recode as students with immigrant background those who report having more than 10 foreign acquaintances among family members (N=126). The analysis is in any case robust to excluding these students from the sample.

³⁸These results are in line with what observed at baseline (see Table B2 in Appendix).

groups.³⁹ The same result holds when considering the ultimatum game (column 6).

We next consider the variation across the share of students with an immigration background in a class. The control means reported in columns 1 to 5 of Table 6 show that, on average, classes that have a share of immigrant students above or below the median (18.75%) tend to have similar attitudes toward immigration, and this remains true when considering natives only (Panel B).⁴⁰ When studying the impact of the program, we find that the change in attitudes observed in Table 3 is driven by students in classes with relatively more foreign students.⁴¹ Panel B shows that results are confirmed when restricting the focus to native students only, which is consistent with the similar program impact that we documented in Table 5 across the two groups.

Column 6 of Table 6 shows that the same conclusion holds when considering the ultimatum game. There is, instead, no differential impact of the program on donation decisions: regardless of the share of immigrant students in the class, the program did not change the decision to donate to pro-immigrant NGOs.⁴²

Table 5: Treatment effects on anti-immigration attitudes by student migration status

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|----------------------|----------------------|----------------------|---------------------|----------------------|--------------------|
| | Q1: Size | Q2: Crime | Q3: Job | Q4: Stereotype | Attitude index | Ult. response |
| Treatment | -0.027 (0.017) | -0.033* (0.018) | -0.018 (0.018) | -0.032** (0.015) | -0.095** (0.038) | 0.313* (0.183) |
| Immigration background | -0.141*** (0.023) | -0.093*** (0.025) | -0.180*** (0.025) | 0.015 (0.026) | -0.284*** (0.050) | 0.243 (0.261) |
| Treatment \times Immigration background | -0.054* (0.030) | -0.029 (0.033) | -0.015 (0.033) | -0.000 (0.035) | -0.070 (0.067) | -0.205 (0.362) |
| Foreign sender | | | | | | 0.381** (0.193) |
| Treatment \times Foreign sender | | | | | | -0.454* (0.275) |
| Foreign sender \times Immigration background | | | | | | 0.067 (0.401) |
| Treatment \times Foreign sender \times Immigration background | | | | | | -0.679 (0.539) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean (Immigration background) | 0.216 | 0.347 | 0.227 | 0.405 | 1.195 | -0.191 |
| Control mean (Natives) | 0.351 | 0.435 | 0.393 | 0.368 | 1.547 | 0.049 |
| Observations | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables are defined as in Table 3 and 4. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

Our analysis clearly shows that the program impact on attitudes and behavior is driven by students in classes with a higher proportion of immigrant students. This opens up the

³⁹Table 5 reports the outcome of the augmented equation 1, where the $het_{i,c,s}$ term indicates whether the student is an immigrant.

⁴⁰The baseline difference in attitudes between native students in classes with a high or low share of immigrants is not statistically significant (p-value 0.141).

⁴¹Table 6 reports the outcome of the augmented equation 1 where the $het_{i,c,s}$ term indicates the share of immigrant students in the class is above median (18.75%).

⁴²Results are not reported but available upon request.

Table 6: Treatment effects on main outcomes by class-level immigrant share

| | (1) Q1: Size | (2) Q2: Crime | (3) Q3: Job | (4) Q4: Stereotype 1 | (5) Attitude Index | (6) Ult. response |
|---|---------------------|-------------------|-------------------|-------------------------|-----------------------|----------------------|
| <i>Panel A: Full sample</i> | | | | | | |
| Treatment | -0.001 (0.022) | -0.031 (0.024) | 0.001 (0.021) | 0.013 (0.018) | -0.005 (0.047) | 0.187 (0.238) |
| Class imm. % \geq median | -0.011 (0.024) | -0.002 (0.026) | -0.029 (0.024) | 0.066*** (0.021) | 0.048 (0.051) | 0.539** (0.251) |
| Treatment \times Class imm. % \geq median | -0.077** (0.031) | -0.018 (0.034) | -0.048 (0.031) | -0.096*** (0.028) | -0.219*** (0.066) | 0.165 (0.352) |
| Foreign sender | | | | | | 0.146 (0.248) |
| Treatment \times Foreign sender | | | | | | 0.025 (0.334) |
| Foreign sender \times Class imm. % \geq median | | | | | | 0.497 (0.368) |
| Treatment \times Foreign sender \times Class imm. % \geq median | | | | | | -1.275** (0.510) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean (\geq median) | 0.312 | 0.413 | 0.351 | 0.423 | 0.039 | 8.110 |
| Control mean ($<$ median) | 0.333 | 0.421 | 0.367 | 0.334 | -0.035 | 7.541 |
| Observations | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 |
| <i>Panel B: Native sample</i> | | | | | | |
| Treatment | 0.003 (0.023) | -0.024 (0.023) | -0.001 (0.022) | 0.010 (0.019) | -0.002 (0.050) | 0.218 (0.239) |
| Class imm. % \geq median | 0.010 (0.028) | 0.027 (0.028) | 0.005 (0.029) | 0.093*** (0.024) | 0.140** (0.059) | 0.491* (0.280) |
| Treatment \times Class imm. % \geq median | -0.074** (0.035) | -0.026 (0.037) | -0.041 (0.037) | -0.107*** (0.031) | -0.231*** (0.077) | 0.238 (0.385) |
| Foreign sender | | | | | | 0.019 (0.247) |
| Treatment \times Foreign sender | | | | | | 0.179 (0.336) |
| Foreign sender \times Class imm. % \geq median | | | | | | 0.898** (0.388) |
| Treatment \times Foreign sender \times Class imm. % \geq median | | | | | | -1.594*** (0.559) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean (\geq median) | 0.360 | 0.447 | 0.410 | 0.433 | 0.155 | 8.129 |
| Control mean ($<$ median) | 0.344 | 0.427 | 0.382 | 0.325 | -0.022 | 7.491 |
| Observations | 3613 | 3613 | 3613 | 3613 | 3613 | 3613 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables are defined as in Table 3 and 4. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes in Panel A, while in Panel B corresponds to native students in the same 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

question of why this is the case: is the presence of immigrant students strengthening the program by facilitating inter-group contact, or by increasing the salience of the topics discussed, or is the high share of immigrants perhaps a proxy for something else?

We try to address these questions in steps. We start by replicating the previous analysis adding alternative measures that might correlate with the high share of immigrant students in the class and confound the interpretation of our results. A higher presence of immigrant students might indeed reflect overall higher immigration exposure in the neighborhood, or might be associated with different students' socio-economic background, different levels of segregation, and different types of schools (academic vs non-academic track). We therefore estimate the augmented equation 1 where, in addition to an interaction term between the treatment and the share of immigrant students in the class, we include further interactions with indicator variables that capture: 1) the student living in a neighborhood with a share of immigrants above median;⁴³ 2) the share of parents with high school degree or more in the class being above the median in the sample; 3) the level of segregation of immigrant students in the class (defined following Alan et al. (2021)) being above the median; and 4) the school being a non-academic track. Results reported in Table 7 focus on the attitude index and show that the impact of the program in classes with a high share of immigrants remains remarkably stable and highly significant, irrespective of the inclusion of other interactions. This means the high exposure to immigrants in the classroom is not simply a proxy for overall exposure to immigration (column 1) or low socio-economic background (column 2). Also, the program impact is not driven by those class groups experiencing high (or low) ethnic segregation (column 3). Finally, the program appears to be relatively more effective for students in non-academic track schools (column 4), but this effect goes above and beyond the effect associated with the share of immigrant students, which remains large and statistically significant (at 5%). Table B12 in Appendix shows very similar results when considering the ultimatum game.

Overall, these findings suggest that it is truly the high presence of immigrants in the classroom that matters, pointing to a significant role of issue salience in activating a shift in immigration attitudes. In order to better understand how the presence of immigrant classmates makes program activities more prominent, we dig deeper into the characteristics of immigrant students to test whether salience is more relevant when students are exposed to culturally, linguistically, or ethnically distant peers. In Table 8 we report our main results on anti-immigration attitude index when using alternative categories of immigrant students, i.e.

⁴³Students were asked to report their address ZIP code in the survey. Matching this information with administrative data, we generated a measure of the share of immigrants on total population living in their neighborhood.

we estimate the same augmented regression as in Table 6 defining the share of immigrant students as i) first-generation immigrants only, ii) second-generation immigrants only, iii) first- and second-generation immigrants from extra-Eu 27 countries, iv) first- and second-generation immigrants from the Global South.⁴⁴ Results are mostly unchanged across the alternative definitions, confirming that the program impact is driven by higher exposure to immigrant students overall, irrespective of their ethnic or cultural composition, and of their level of language fluency that can affect the quality of the peer interactions. In other words, the salience of immigration in classrooms with a higher proportion of foreign students is not specifically tied to ethnic or cultural differences. This suggests that students think about immigration as a general category, treating all immigrants as part of a single, overarching group, in line with the “categorical thinking” theory, which involves grouping individuals or issues into broad categories, often simplifying complex distinctions.⁴⁵

Table 7: Treatment effects on anti-immigration attitudes by class-level immigrant share and other characteristics (X)

| X= | (1) Neigh. imm. share ≥ median | (2) % High edu parents ≥ median | (3) Class segregation ≥ median | (4) Non-academic track |
|-----------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|---------------------------|
| Treatment | 0.013 (0.056) | -0.008 (0.049) | -0.086 (0.058) | 0.051 (0.050) |
| Class imm. % ≥ median | 0.042 (0.051) | 0.046 (0.052) | 0.033 (0.052) | 0.030 (0.051) |
| Treatment × Class imm. % ≥ median | -0.209*** (0.067) | -0.222*** (0.070) | -0.215*** (0.072) | -0.168** (0.067) |
| X | 0.025 (0.047) | 0.011 (0.061) | -0.025 (0.049) | 0.396* (0.203) |
| Treatment × X | -0.045 (0.062) | 0.008 (0.072) | 0.119 (0.075) | -0.181*** (0.066) |
| School FE | Yes | Yes | Yes | Yes |
| r ² | 0.050 | 0.050 | 0.049 | 0.051 |
| N | 4551 | 4551 | 4062 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables correspond to the variance-weighted index combining attitude items as defined as in Table 3. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes in Columns (1) to (3) and to 227 classes that have at least a student with migrant background in Column 4. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

⁴⁴Students born abroad may have lower linguistic proficiency in Italian. Students with an extra-EU background may be more culturally distant from natives. As a subgroup of the latter, we identify as “Global South” Asian (except Japan), African, or Latin American countries.

⁴⁵As a robustness check, Table B13 in Appendix shows the outcomes of horse-race regressions estimated augmenting our estimates as in Table 6 with additional terms proxying for the composition of immigrant students in the class. In line with the evidence provided in this section, the results of the augmented regressions are not different from the initial estimates.

Table 8: Treatment effect on anti-immigration attitudes by class-level immigrant share (issue-salience)

| | (1) | (2) | (3) | (4) | (5) |
|----------------------|-------------------------|----------------------|---------------------|------------------------------|----------------------------------|
| X: Class imm % = | 1st and 2nd gen. All | 1st gen. All | 2nd gen. All | 1st and 2nd gen. Extra-EU | 1st and 2nd gen. Global South |
| Treatment | -0.005 (0.047) | -0.019 (0.045) | -0.029 (0.048) | -0.008 (0.044) | -0.037 (0.044) |
| X | 0.048 (0.051) | 0.059 (0.057) | 0.017 (0.052) | 0.101* (0.053) | 0.102** (0.051) |
| Treatment \times X | -0.219*** (0.066) | -0.207*** (0.070) | -0.157** (0.066) | -0.217*** (0.067) | -0.154** (0.066) |
| School FE | Yes | Yes | Yes | Yes | Yes |
| r ² | 0.050 | 0.049 | 0.048 | 0.049 | 0.048 |
| N | 4551 | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The extra-EU label identifies students with both parents born in extra-EU 27 countries. The Global South label identifies students with both parents born in Asian (except Japan), African or Latin American countries. The dependent variables correspond to the variance-weighted index combining attitude items as defined in Table 3. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

6 Potential Mechanisms

Results in the previous section showed that the IBP program improves students' attitudes toward immigrants and reduces discrimination against them, as recorded through the ultimatum game. These effects are stronger in classrooms with a higher share of immigrant students. In this section, we explore a range of mechanisms that could explain these patterns to assess their potential contribution. These mechanisms include students' knowledge about immigration (migration literacy), implicit bias, empathy toward others, social contact with foreign classmates, and perceived social norms in the classroom. We summarize the results on the main mechanisms in Figure 2 below.

Migration Literacy

As described above, the program essentially did two things: it provided accurate information and data on the migration phenomenon, while engaging students in active learning activities. We therefore want to test whether students exposed to the program indeed acquired a better understanding of the migration phenomenon. We test this by focusing on four core knowledge questions described in Section 3.1.

Table B14 reports the results. The control means reported in the table show that migration literacy is generally low: the share of students answering correctly to the first three migration-related questions ranges between 2% and 14.7% in the control group, while it jumps to 88% only when it comes to the definition of refugee. The program significantly improved this knowledge, by more than doubling, on average, the share of students answering correctly to the first three questions (and raising by 3pp the share of students providing the correct definition of a refugee). While this means that even in the treated classes most students still hold misperceptions about the migration phenomenon, the fact that the program managed to double the number of students holding correct beliefs indicates that the program activities succeeded in teaching students some hard facts about migration. Results in Table B14 confirms that the program led to overall large improvements in migration literacy, by combining the previous outcomes in a weighted index.⁴⁶ Finally, we provide a more in-depth analysis of the question about the share of immigrants living in Italy: instead of simply capturing whether the student gave the correct answer (as in Column 1 of Table B14), the misperception outcome of Column 6 measures the (absolute) difference between the answer provided by students and the correct answer (10%). Results show that on average the program reduced the misperception from 23.1pp in the control group to 14.4pp (a 38%

⁴⁶Average standardized treatment effect estimates (available upon request) also confirm these findings.

reduction in misperception).⁴⁷

Panel A of Figure 2 shows that, when it comes to migration literacy, there was not much difference across classes with more or less immigrant students, as the positive impact of the program was experienced across all groups.⁴⁸ The only difference is that the program reduced misperceptions about the share of immigrants living in Italy relatively more in classes with a higher share of immigrants, although the improvement is visible in classes with relatively few immigrant students as well. Table B15 shows these findings are similar between immigrant and native students. In particular the effect on misperception is slightly higher for immigrant students in mixed classrooms, although it is not statistically different from that observed in the native student sample.

There are two main takeaways from this analysis. First, it shows that the program has been effective in teaching students factual information about immigration. Second, while improvements in migration literacy are observed across all groups, reductions in misperceptions are significantly higher in classrooms with a higher proportion of immigrant students. This suggests that correcting misperceptions may contribute to shifting attitudes and behaviors within these mixed classrooms. Yet, we cannot rule out the influence of other additional channels, which we explore below.

Implicit Bias

We explore the possibility that the program changed students’ deeply held beliefs toward immigrants. Students, like all individuals, might hold biases against immigrants, which might emerge from the influence that family, friends, and society in general exerted over the years. These biases might have become deeply rooted in the mindset of the individual and might translate into actions and attitudes even without explicit control from the individual. In order to test whether the program managed to affect these implicit biases, we administered an implicit association test, as described above. Table B16 reports the results and shows that the program had no impact on implicit biases, as measured through IAT. The estimates reported in column 1 indicated a precisely estimated zero effect on the standard IAT score. This is true irrespective of the share of immigrant students in the class (panel B of Figure

⁴⁷Results (available upon request) are robust to the use of the share of immigrants in the school, neighborhood, and city as a benchmark, ensuring that the results do not capture the effect of higher local exposure to immigration.

⁴⁸Panel A of Figure 2 and Panel B of Table B14 reports the outcome of the augmented equation 1 where the $het_{i,c,s}$ term indicates the share of immigrant students in the class is above median (18.75%). For the sake of readability, we report the treatment effects for the two groups of students separately (marginal effects). F-test reports the statistics for testing whether the difference in treatment effects across the two groups is statistically significant.

2).⁴⁹ The IAT score is constructed by combining the number of correct answers and the response time, across different combinations of questions. The overall probability of giving a correct answer is very similar across treatment and control arms (Column 2), although students in treatment classes are a bit faster in completing the test (Column 3). While this does not provide evidence of a change in implicit biases - as the gap in response time did not differ across the different combinations of matches that students were asked to pair in the game - it provides further evidence against social desirability concerns, as it shows that treated students are not trying to hide their prejudice against immigrants by thinking more about their answers (Fiedler et al., 2006).

The lack of impact on the IAT can be interpreted in different ways. One possibility is that the program was too short and “light touch” to affect deeply held beliefs, which might be the result of the progressive accumulation of external inputs and influences in the students’ lives. An alternative interpretation is that the survey tool we used was not appropriate to capture changes in these deeply held beliefs. For our survey, we relied on a standard design and framing for the IAT, which has been extensively tested used in the literature (Greenwald et al., 2009; Carlana et al., 2022; Corno et al., 2022; Bertrand et al., 2005). Nevertheless, there have been multiple criticisms against IAT as a tool to measure implicit biases (e.g. (Schimmack, 2021)). One element of concern within our setting is represented by the fact that we observe a surprisingly low correlation (0.22) in the IAT results between baseline and endline across students in the control group.⁵⁰

Empathetic Concerns

We next test whether the program, through its group activities, impacted students’ general empathy toward others. Table B17 Panel A reports the results on the seven empathy-related variables described in Section 3 and shows no impact on these measures on average. Panel B of Figure 2 confirms this null result when distinguishing between classes with different shares of immigrant students. The summary index and the ASTE reported in the last two columns of Table B17 show precisely estimated zero effects.

It is therefore clear that our intervention did not affect students’ general empathy toward

⁴⁹Similarly to Table B14, Panel B of Table B16 reports the outcome of augmented equation 1 where the $het_{i,c,s}$ term indicates the share of immigrant students in the class is above median (18.75%). The first two coefficients report the treatment effects for the two groups of students separately (marginal effects). F-test reports the statistics for testing whether the difference in treatment effects across the two groups is statistically significant.

⁵⁰Some social psychologists have also claimed that IAT is not able to measure unconscious bias, and is rather influenced by cultural stereotypes to which test takers have been exposed and by knowledge of racial disparities (Blair et al., 2015).

others, which, as shown by the control means reported in the table, appears to be generally high to begin with.⁵¹

In-class Student Networks

One way in which program activities might affect attitudes and behavior toward immigrants, especially in more mixed classes, is by inducing changes in the social ties with immigrant classmates.⁵² In Section 4 we documented a relatively high degree of connections between natives and foreign students at baseline. It is nevertheless possible that program activities, which included for instance a discussion about stereotypes against immigrants, could have induced students to reflect on their relationship with foreign peers, further strengthening their ties and interactions. Table B18 reports the results, based on the questions we asked students about classmates they seek help from when they need support for personal matters or for study reasons.⁵³ Columns 1-4 focus on individual measures, i.e. whether the student reports at least one inter-ethnic tie and the number of inter-ethnic ties reported, while columns 5 and 6 show the effect on the level of ethnic segregation in the classroom, i.e., an index measuring the difference between the proportion of inter-ethnic ties expected to be formed at random and its observed counterpart at the classroom level (see Section 3 for more details). The estimates show no impact on intra-class relationships, irrespective of class composition (Figure 2 Panel B). This suggests that the light-touch intervention did not affect day-to-day routines and bonds, which might form and evolve over longer periods of time.

⁵¹The average score given by the sum of the scores assigned to each empathy dimension is 22.2 in the control group (out of a maximum score of 28).

⁵²We note that we did not explicitly pre-registered this outcome, although we listed class composition and immigration status as core dimensions we would focus on.

⁵³The results are virtually identical when aggregating the two dimensions.

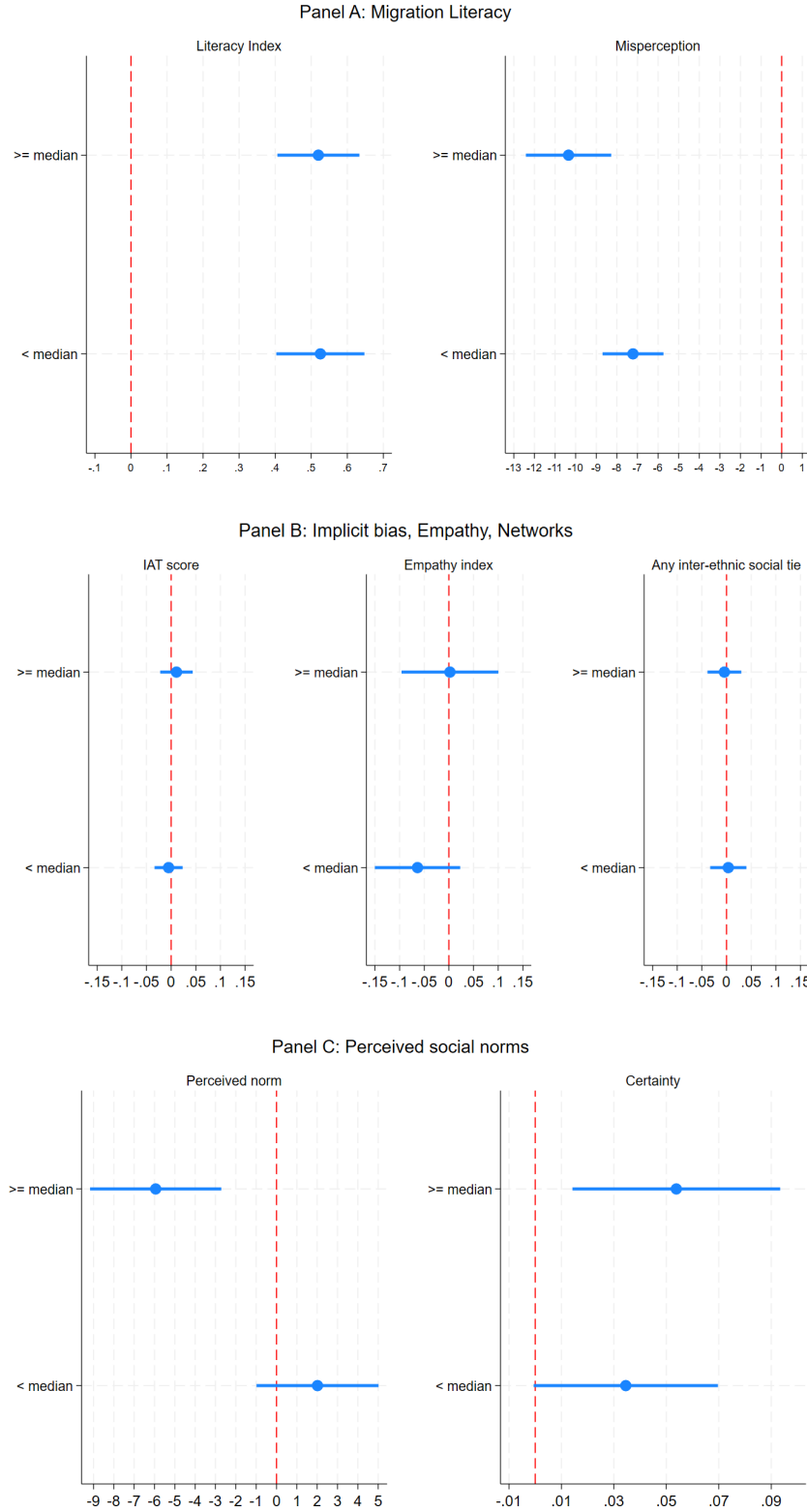
Perceived Social Norms

As a last step, we investigate the program impact on perceived social norms.⁵⁴ One of the key objectives of the program was to create a space where students could discuss topics related to migration and share their views. In doing so, the program might have led students to better understand what their classmates think about this topic, potentially modifying their perception of the prevailing norm within the class. We test for this possibility by asking students how many of their classmates they believe would agree with the statement “all things being equal, Italians should be entitled to jobs before immigrant”. We also asked about the respondents’ level of certainty regarding their answers. Results are reported in Table B19 and show that students in classes exposed to the program expect fewer of their classmates to agree with that statement, and also feel more confident about their answer. When breaking down the answer by class composition (Figure 2 Panel B), we find the effect to be driven by classes with a higher share of students with an immigration background. The p-value reported at the bottom of the table shows that we can reject the null hypothesis that the effect is the same across classes with high and low shares of immigrants at the 1% level. Columns 3 and 4 of Table B19 show that, as expected, the effect is limited to the context of the classroom, where the activities and discussion took place, and does not extend to other contexts, such as family. Interestingly, the effect on perceived social norms in classroom is stronger among native students as in Table B20 in Appendix.

This effect may be attributed to group discussions and the way class composition is likely to shape the development of program activities. It is important to recall that immigrant students tend to exhibit more positive attitudes at baseline and have direct experiences with immigration outside the school context. In classrooms with a high proportion of immigrant students, open discussions about immigration issues may encourage foreign students to be more vocal, drawing on personal experiences and presenting more engaging arguments. Thus, abstract notions and stereotypes about immigration are more likely to be challenged by aligning them with personal, positive experiences provided by immigrants. In addition, after the program, students may be better able to make the connection between their immigrant classmates and immigrants more broadly. Indeed, the shift in the perceived social norm in favor of immigration is more pronounced among native students. Overall, non-discriminatory norms of behavior are likely to spread in mixed classrooms through informed communication and cross-group discussion.

⁵⁴We note that we did not explicitly pre-registered this outcome, although it builds on one of our pre-specified primary outcomes.

Figure 2: Summary of Mechanisms: Treatment Effect by Class-Level Immigration share



Notes: This figure displays the estimated treatment effects by class-level immigrant share on the key mechanisms, comparing classes with immigrant shares above and below the median (18.75%). Panel A refers to migration literacy and reports results in Column 5 and 6 in Tables B14 (Panel B). Panel B refers to implicit bias, empathetic concerns and in-class student networks and reports results in Column 1 in Tables B16, Column 7 in Table B17 and Column 5 in Table B18 (Panel B). Panel C refers to perceived social norms and reports results in Column 1 and 2 in Table B19 (Panel B).

7 Conclusions

We evaluate the effectiveness of an educational program designed to fight stereotypes and improve attitudes toward immigrants among high-school students, through a set of active-learning activities. The program was implemented in high schools in the provinces of Milan and Genoa, in Italy, where 21% of the students have an immigration background. The program involves covering a curriculum developed in collaboration with the NGO Helpcode and the University of Genoa, implemented in class during regular school hours through two sessions of two hours each. The activities were delivered by an NGO facilitator, paired with a trained university student. To assess the program, we consider a wide range of measures that cover attitudes, behavior, knowledge, empathy, networks, and beliefs.

We find that the program significantly improves attitudes toward immigrants and reduces discrimination against them, as measured through an incentivized ultimatum game. Both these effects are driven by students in classes with a relatively high share of immigrant students (but were not driven by the behavior of the immigrant students themselves). Our analysis also discusses a number of potential mechanisms, showing that the program succeeded in improving knowledge and reducing misperceptions about migration. The program also influenced perceived norms in the classrooms, especially in those with more immigrant students, leading students to believe that their classmates hold more open views toward immigrants. Overall, our results suggest that anti-immigrant attitudes are fueled by misinformation, stereotyping (over-generalization of differences), and norm conformity and that educational interventions promoting critical thinking and open discussion can effectively tackle these dimensions, leading to improvements in attitudes and behaviors. More broadly, the impact of the program implemented indicates that managing diversity and debunking group-related stereotypes requires not only recognizing hard facts, but also integrating diversity into group discussions and dynamics, in which all voices and experiences are actively heard and respected.

While mindful of the limitations in external validity due to the specific context of our study, we believe that our results demonstrate that light-touch educational interventions can be an effective tool for improving attitudes and behaviors toward immigrants, particularly in environments where the salience of the topics discussed is more relevant. Also, the natural exposure to immigrant peers offered by the school context may enhance the program's effectiveness by facilitating meaningful inter-group discussions among participants. The widespread interest in the program that we collected from schools, which far exceeded our capacity to deliver the program and allowed for the randomization to take place, highlights that such interventions could be successfully scaled up, and at a relatively low cost.

Indeed, once the activities have been developed, the only running costs relate to the facilitators and include training (3 days), salary, and transportation costs (which can be lowered by selecting, as we did, locally-based facilitators). The inclusion of volunteer university students (who might in some cases include this activity as part of their educational training), helps further reduce costs, while introducing the peer-to-peer component that might facilitate communication with the target students.

We conclude our remarks with two caveats. First, we assessed a light-touch 4-hour intervention. While we observed significant effects on self-reported attitudes and behavior (as captured through the ultimatum game), we did not find any effects on more deeply-rooted beliefs (as captured through IAT), students' empathy, or social ties. It is very possible that a longer and heavier-handed intervention would have highlighted stronger results, also on these additional dimensions. There is, however, a trade-off between developing more intense programs and making them suitable for integration into regular school curricula without taking away time from regular educational activities. Our study showed that even a light-touch 4-hour intervention can shift attitudes and behavior, especially in contexts where diversity is a relevant issue. Second, we acknowledge that a shortcoming of the present study is that we only observe short-term effects. Hacking negative attitudes toward immigration among teenagers and adolescents in high school, during their formative years, is likely to have long-term consequences in adulthood, but whether and how much these effects persist is left for further research.

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ONLINE APPENDIX

A Program description

The Integration Beyond Prejudices (IBP) program is structured into four main activities, which are delivered in two sessions of 2-hrs each during school hours. Each session contains two core activities, with specific objects and tools as described below. Figures A1 - A4 show pictures of the implementation of the four activities.

ACTIVITY 1: Stereotype or Prejudice?

The goal of the first activity is to familiarise students with the definitions and differences of three concepts: stereotype, prejudice, and discrimination. The class is divided into groups, whose members will sit close together. One member of each team at a time, in turn, will draw a card with a statement written on it; the person must read aloud the content of the message to the class and then choose whether the statement provides an example of stereotypes, prejudice, or discrimination, by placing it into one of three spaces at the center of the class, marked by a “head”, “heart”, or “hands”. Students are invited to act on the basis of their intuition and feeling, as no formal definition of these dimensions is given in advance. Once all the cards have been read and placed, there is an open debate and students are asked to discuss different views on the choices that were made and to attempt to construct a shared definition of the three concepts. During this phase, as the definitions are discussed, the cards are read together again, and it is collectively decided to move those that are in the wrong location. The facilitators will facilitate the debate and will eventually check that all the cards are correctly placed, giving an explanation in relation to any corrections they might make. At this point, the activity is concluded by sharing an “official” definition of the three concepts and by explaining the analogy with the 3 represented images. Although the official definitions and explanations are eventually revealed, facilitators are trained to help students reach such correct definitions on their own, through their debate around the cards.

The three official definitions were provided along the following lines:

1. STEREOTYPE: In psychology, a stereotype is a preconceived, generalized, and simplistic idea that is mechanically repeated about people or events and situations. A stereotype is an idea not acquired based on direct experience and disregards the evaluation of individual cases, on people or social groups (it's the idea that exists in the HEAD).

2. **PREJUDICE:** Prejudice is the tendency to react towards a person promptly and in a clearly unfavorable manner based on the person's membership in a class or category. The term is used to refer to negative tendencies. A prejudice can be considered an attitude and as such can be socially transmitted (it's my feeling: HEART).
3. **DISCRIMINATION:** When prejudice translates into specific behavior, we can talk about discrimination. This term refers to different treatment reserved for a particular social group by another social group. The purpose of discrimination is to establish a difference between two or more groups in favor of one's own (given that it implies some form of action, it is symbolized by the HANDS).

ACTIVITY 2: The Tower of Stereotypes

The second activity has the objective to push students to reflect on the stereotypes related to migration in Italy. The activity embeds some clear symbolism, as it consists of building a physical tower made of wooden blocks that contains all stereotypes, which is then destroyed. Each stereotype is discussed and refuted with the class, whenever possible with the use of actual data. Facilitators are trained in advance with the actual data and are provided with some notes and references to discuss and confute some of the most common stereotypes that are likely to emerge.

In practice, the class is arranged in a circle and each student is given some wooden blocks. Students are then invited to write on each block a stereotype that they think is widespread about migration in Italy. In turn, each student reads the stereotypes that he or she has written and places the blocks in the middle of the circle, with the blocks stacked one over the other to form a tower. During this phase, the facilitators can add extra blocks and read their content to ensure that some of the key points to be analyzed in the activity emerge. The facilitator also sets up two posters (one True and one False) at the two ends of the room to form the "truth thermometer". Once the tower is completed, the facilitator looks at the tower and reads one stereotype aloud, asking the students to position themselves on the thermometer based on their perception of the truthfulness of that stereotype. A debate around that stereotype follows, and whenever possible, the facilitators refer to real data linked to the issue at hand. Once the stereotype has been "addressed", the students are asked to remove it from the tower, which might cause the tower to collapse. Irrespective of whether the tower resists or falls immediately, other stereotypes can still be analyzed using the same methodology. For this activity, facilitators are especially trained to stress the importance of delving into the data, the reliability of the sources, and to stress how beliefs and clichés become fragile if they are not supported by real data.

Facilitators are also specifically trained to effectively convey the image of the tower as the collection of unfounded stereotypes on which we often base our beliefs, also referring back to the definition that was discovered with the previous activity. During the debriefing, students are asked questions about what they believe that a society based on the stereotypes that they mentioned might lead to, what kind of prejudices and discriminations that might lead to, and how they can be deconstructed in reality. Facilitators are also trained to always ask students to share what they believe is the correct answer before helping them with options or providing real data, so that they can first express their real opinions. They are also invited to often ask everyone in agreement with a certain stereotype to raise their hand, to make it more explicit how widespread the (mis)belief might be in the class, as a mirror of society.

ACTIVITY 3: Migrant to whom?

The third activity, which is the first one of the second day, is a role-playing game that has the goal of changing students' perspectives and improving their knowledge of the admission process of immigrants in Italy, and the different definitions of migrant (i.e. refugee, unaccompanied minor, international protection).

The activity starts without any clear introduction, but simply by having each student draw a card (GROUP 1 card), on which they find written the following information: name, age, education level, and income. Students are only told that they will take a journey to enter Italy and must empathize with the person whose characteristics are written on the card they just drew. They are invited to think about it for a few minutes, particularly reflecting on what the aspirations and desires of the person they represent might be. After a few minutes, facilitators provide the general definition of a migrant.

At that point, each student draws another card (GROUP 2 card), independently from their previous choice, and on which they can find the nationality of the person they are empathizing with, with other generic information on that person. At this point, all students are positioned on one side of the classroom. Meanwhile, the facilitators create a line on the floor in front of them using adhesive tape, and they label it the "Italian border". The facilitators then explain that they represent the border police and that the students are all people wishing to enter and stay in Italy. The facilitators will assess each case and decide who can enter the country, who has to wait for approval, and who is denied any type of permit. In practice, at the signal of "go", each student should cross the line and line up just past the border. The facilitator will then walk in front of each student, ask about their reason for coming to Italy, and extend a hand in a gesture of dismissal towards those who cannot enter and stay in Italy (according to the guidelines they have been trained on), who

are then asked to step back behind the border line. Each student is also given their verdict card.

Once this process is over, students can sit down, while still maintaining the division between people who can stay in Italy and those who have been expelled. Starting with a representative from the latter category, they are asked how it felt at the moment they were excluded. Further, they reflect on how much the nationality card influenced the aspirations and desires thought about during the delivery of the first identity card. If a student responds that the desires of the person they empathized with cannot be fulfilled, they reflect on how that person feels after discovering this. Also, facilitators invite them to consider what it means if one cannot stay in Italy while another friend from the class can. At the end of the discussion, once each individual case has been discussed, facilitators provide an explanation as to why Italy has assessed whether the person could remain or not remain in the territory. For this final reflection phase, facilitators highlight that not everyone starts from the same conditions: where one is born is not something one can decide but happens randomly. Despite this, this makes a big difference in terms of the types of aspirations and desires one might have. Facilitators also show the ranking of passports by the number of visa-free countries they give access to, and reflect on the fact that those with an Italian passport (without assuming that everyone in the class has the Italian passport) are very fortunate. There are people for whom the journey to reach the Italian border can be very tiring and dangerous (e.g., for a person escaping from war and making the entire journey on foot), while for others it can be easier. Also, emphasize that the reasons people decide to move are very varied, and not everyone can easily go and do what they wish (work, live, study, etc.) in the country where they wish. In addition, facilitators explain the randomness and noise that is sometimes embedded in this process and explain that, for those who seek international protection, waiting times are very long (years).

Given that the size of the classes might vary, facilitators are trained to ensure that some key cards are always included in the game, by preparing them in advance. These key cards include a mix of nationalities that do not need any visa to enter Italy (or can easily obtain it), and other weaker nationalities that do not easily allow entering the country. In order to help the perspective-taking exercise, facilitators address the students with the names they drew from the first group of cards and not with their real names. This helps fully empathize with the situation.

ACTIVITY 4: World's map

The goal of the fourth and final activity is to improve students' understanding of the patterns linking the world's wealth and the main flows of migrants.

The activity is introduced by explaining to the students that a game will be conducted to try to understand how the phenomenon of migration is distributed around the world. The facilitators then place a large Peters map on the floor and explain its design and the difference from the more common Mercator map.

Students are then given 20 figurines that represent the total number of the world's migrants. Their task is to distribute them across the different continents, according to what they believe to be their actual distribution. In practice, students select one or two of them to place the figures on the map, while the entire class helps with the selection of where to place them. Once all figurines have been placed, students are given 20 gold coins, representing the global wealth of the entire world. They are again asked to distribute them by continent.

Once all figurines and coins have been placed, the actual distribution is revealed and discussed. Based on the positions that emerged, students are asked to share their impressions and the effect of discovering the actual positioning. The facilitators are trained to provide more details about why certain patterns emerged and to invite students to evaluate the difference between their perception and the actual global situation. Facilitators are also trained to enrich the conversation by providing information on the major countries of departure, and students are asked to note the geographical location of these countries, relating it to areas most affected by climate change. Regarding wealth, facilitators are instructed to explain the difference between national GDP and per capita GDP and to highlight the unequal distribution of wealth across the world. Overall, facilitators are trained to provide specific and accurate data, explaining how the game's percentages were derived. The methodological focus should be on eliciting data from the students themselves through their reasoning and assumptions, and then verifying together, rather than presenting the data directly.

Figure A1: Activity 1: Stereotype or Prejudice?



Figure A2: Activity 2: The Tower of Stereotypes



Figure A3: Activity 3: Migrant to whom?

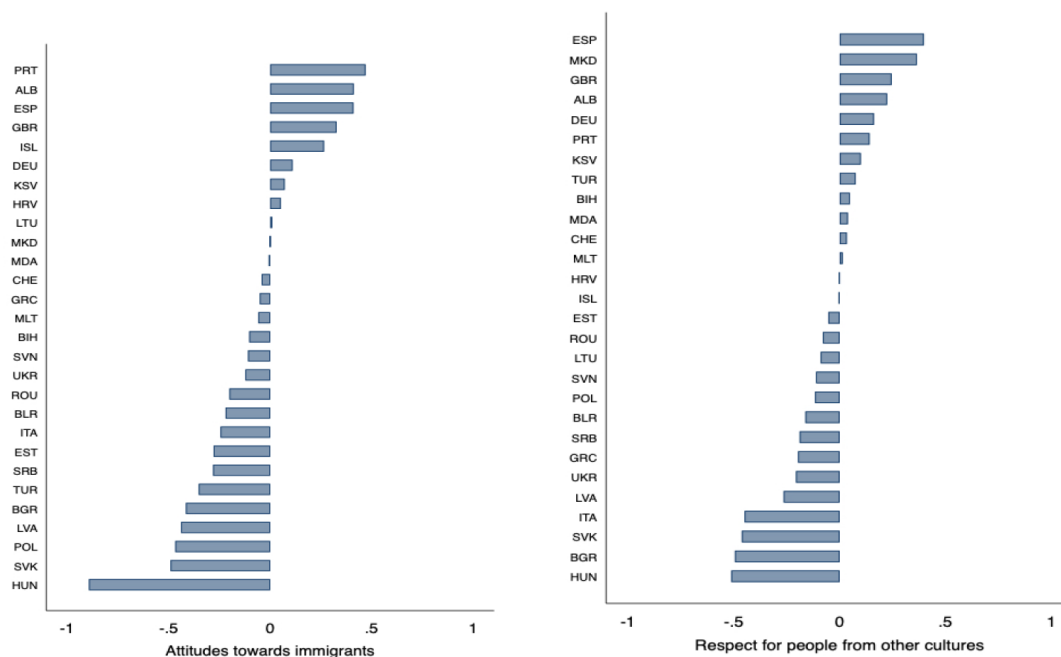


Figure A4: Activity 4: World's map



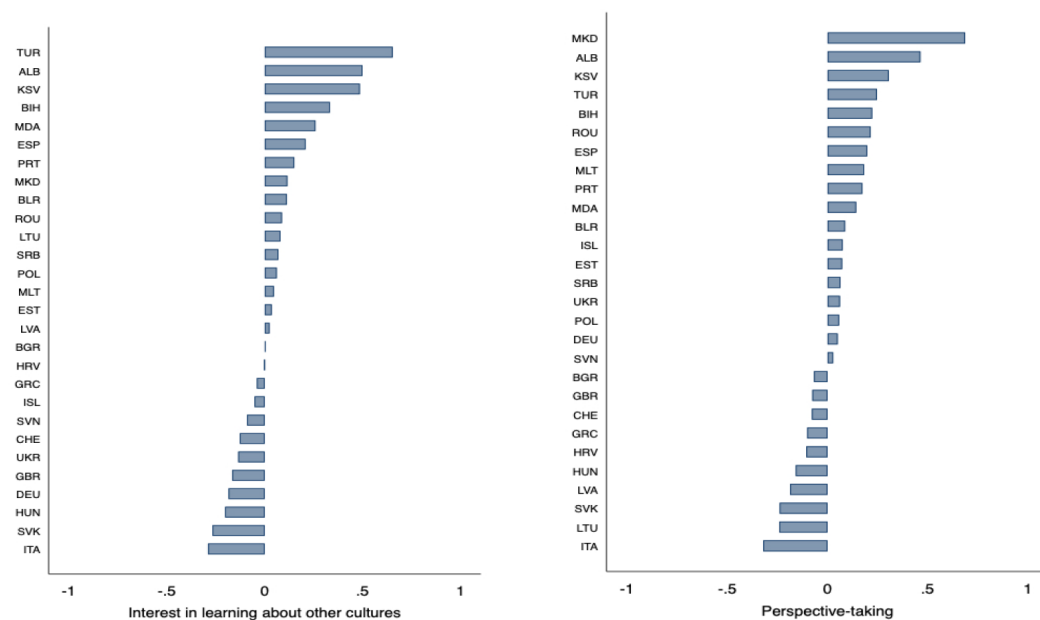
B Additional Tables and Figures

Figure B1: PISA Global Competencies (2018)



Notes: Authors' elaboration on PISA data (2018).

Figure B2: PISA Global Competencies (2018)



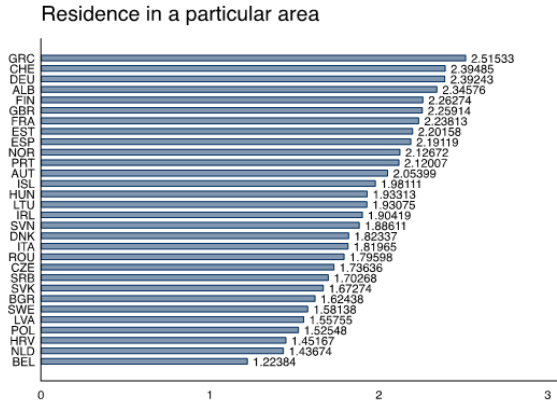
Notes: Authors' elaboration on PISA data (2018).

Figure B3: PISA School/class composition (2022)

Q) How often is the following factor considered when students are admitted to your school?

Residence in a particular area.

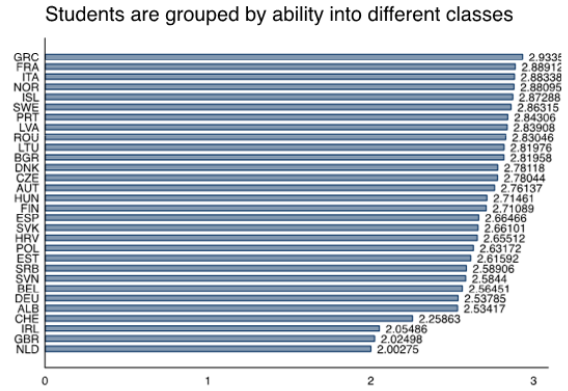
Answer Options: (1) Never, (2) Sometimes, (3) Always.



Q) What is your school's policy about this for students in <national modal grade for 15-year-olds>?

Students are grouped by ability into different classes.

Answer Options: (1) For all subjects, (2) for some subjects, (3) not for any subjects.



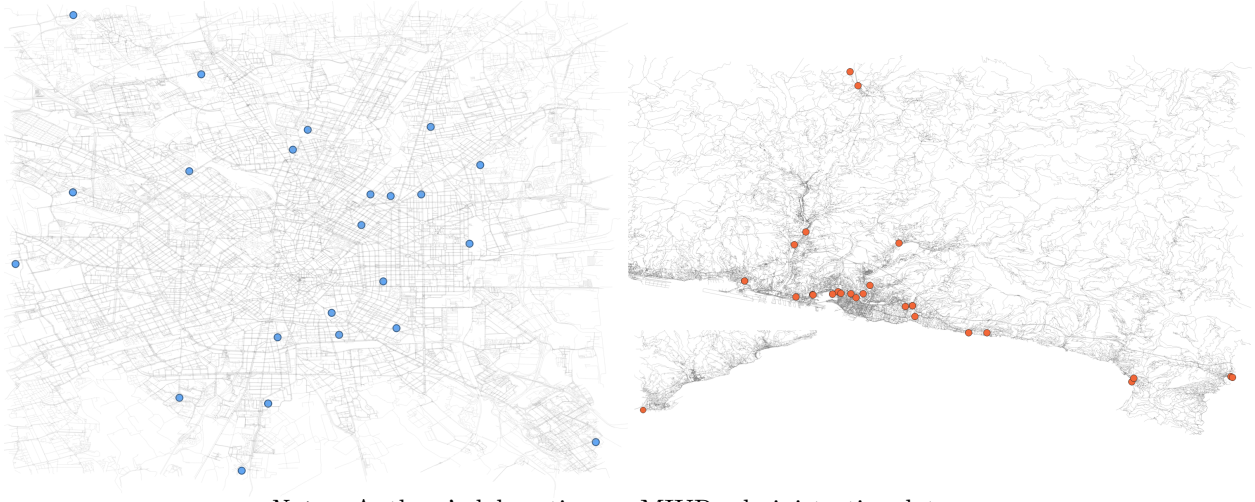
Notes: Authors' elaboration on PISA data (2022).

Table B1: Sample Representativeness

| Variable | Italy | | | | Milan and Genova (Province) | | | |
|----------------------------------|----------------------|----------------------|----------------------|-------|-----------------------------|----------------------|----------------------|-----|
| | Mean (SE) | Std. diff. | Obs. | | Mean (SE) | Std. diff. | Obs. | |
| | No sample | Sample | (p-value) | N | No sample | Sample | (p-value) | N |
| Nr. of students | 331.408 (369.040) | 631.941 (415.978) | 0.540 (0.000)*** | 7,993 | 383.021 (378.571) | 631.941 (415.978) | 0.443 (0.057)* | 390 |
| % male students | 55.217 (23.306) | 53.565 (22.844) | -0.051 (0.698) | 7,993 | 53.462 (23.521) | 53.565 (22.844) | 0.003 (0.573) | 390 |
| % foreign students | 8.816 (10.173) | 14.868 (10.445) | 0.415 (0.848) | 7,993 | 15.420 (15.453) | 14.868 (10.445) | -0.030 (0.902) | 390 |
| % non-EU students | 6.970 (9.202) | 13.755 (10.214) | 0.494 (0.966) | 7,993 | 14.013 (14.880) | 13.755 (10.214) | -0.014 (0.996) | 390 |
| % first 2-yr students | 35.913 (18.665) | 41.758 (10.257) | 0.274 (0.199) | 7,993 | 39.509 (16.050) | 41.758 (10.257) | 0.118 (0.396) | 390 |
| Private school | 0.197 (0.398) | 0.137 (0.348) | -0.113 (0.000)*** | 7,993 | 0.339 (0.474) | 0.137 (0.348) | -0.344 (0.001)*** | 390 |
| Type of school: Academic track | 0.382 (0.486) | 0.451 (0.503) | 0.099 (0.307) | 7,993 | 0.504 (0.501) | 0.451 (0.503) | -0.075 (0.593) | 390 |
| Type of school: Technical track | 0.359 (0.480) | 0.333 (0.476) | -0.039 (0.000)*** | 7,993 | 0.280 (0.450) | 0.333 (0.476) | 0.081 (0.000)*** | 390 |
| Type of school: Vocational track | 0.259 (0.438) | 0.216 (0.415) | -0.071 (0.393) | 7,993 | 0.215 (0.412) | 0.216 (0.415) | 0.001 (0.613) | 390 |

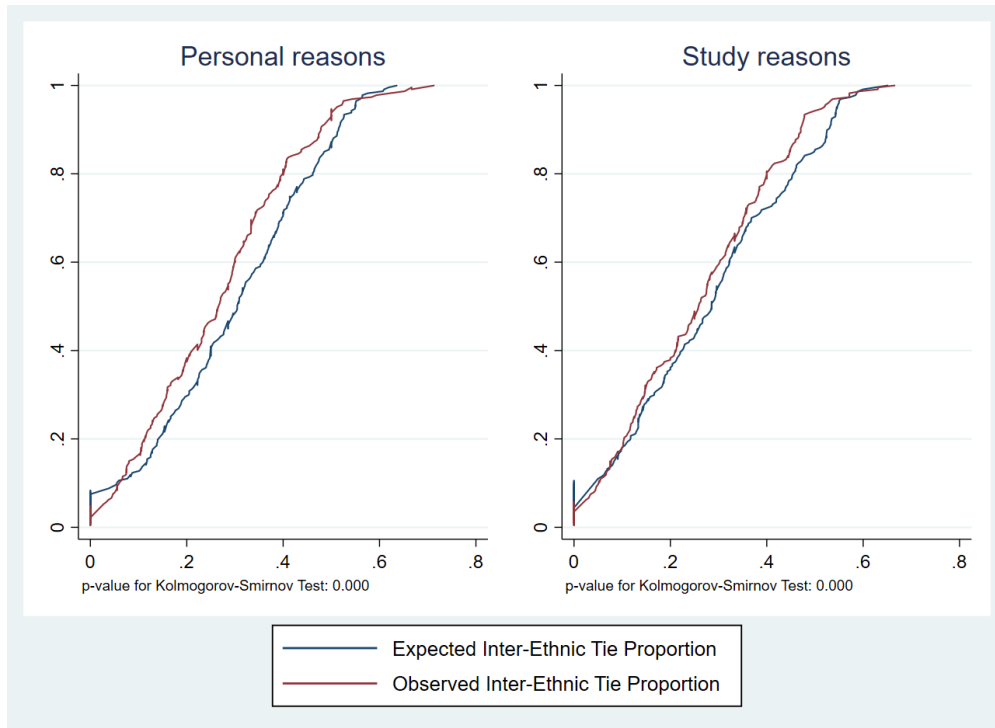
Notes: Province fixed effects included. Robust standard errors are in parentheses, clustered at the province level. *, **, *** indicate significance at the 10, 5 and 1 percent level. Data source: MIUR (<https://dati.istruzione.it/opendata/opendata/catalogo/Scuola>).

Figure B4: Sample schools in Milan and Genoa



Notes: Authors' elaboration on MIUR administrative data

Figure B5: Ethnic segregation index



Notes: The two figures display the cumulative distributions of the expected (in blue) and observed (in red) proportion of inter-ethnic ties for personal (left panel) and study (right panel) reasons at baseline. The expected distributions are calculated via probabilities derived from the hypergeometric distribution. P-values for the Kolmogorov-Smirnov test of equality of distributions are reported at the bottom of the graphs.

Table B2: Descriptive statistics by student migration status

| Variable | Native sample | | | Immigrant sample | | |
|--|---------------|-------|-------|------------------|-------|-------|
| | N | Mean | SD | N | Mean | SD |
| <i>Student characteristics</i> | | | | | | |
| Age | 3560 | 16.11 | 1.33 | 932 | 16.04 | 1.47 |
| Gender: Male | 3481 | 0.54 | 0.50 | 904 | 0.50 | 0.50 |
| Mother's edu: more than high school | 3341 | 0.40 | 0.49 | 751 | 0.31 | 0.46 |
| Father's edu: more than high school | 3252 | 0.32 | 0.47 | 687 | 0.28 | 0.45 |
| Social desirability index | 3562 | -0.09 | 0.54 | 935 | 0.10 | 0.55 |
| <i>Friendship / integration</i> | | | | | | |
| Nr. of close friends | 3562 | 4.48 | 2.25 | 934 | 3.84 | 2.35 |
| Nr. of foreign close friends | 3562 | 1.22 | 1.70 | 934 | 2.48 | 2.29 |
| Foreign classmate to ask help for pers. reasons | 3562 | 0.19 | 0.39 | 935 | 0.39 | 0.49 |
| Foreign classmate to ask help for stud. reasons | 3562 | 0.21 | 0.40 | 935 | 0.41 | 0.49 |
| Like having foreign awa italian friends | 3562 | 0.92 | 0.27 | 935 | 0.91 | 0.29 |
| Ever felt discriminated for ethnicity | 3562 | 0.04 | 0.20 | 935 | 0.50 | 0.50 |
| <i>Anti-immigration attitudes</i> | | | | | | |
| Too many immigrants in IT | 3562 | 0.31 | 0.46 | 935 | 0.15 | 0.36 |
| Immigrants increases crime rates where they live | 3562 | 0.39 | 0.49 | 935 | 0.32 | 0.47 |
| Ceteris paribus, Italian should get a job before | 3562 | 0.36 | 0.48 | 935 | 0.18 | 0.39 |
| Attitude index | 3562 | 0.05 | 1.03 | 935 | -0.34 | 0.77 |
| <i>Other outcomes</i> | | | | | | |
| IAT score | 3559 | 0.60 | 0.34 | 931 | 0.42 | 0.37 |
| Perceived immigration % in Italy | 3562 | 32.55 | 17.70 | 935 | 39.71 | 19.80 |
| Migration literacy index | 3562 | 0.07 | 0.15 | 935 | 0.06 | 0.14 |
| Empathy index | 3562 | 9.20 | 1.27 | 935 | 8.93 | 1.36 |
| Perceived % anti-immig. classmates (social norm) | 3562 | 41.73 | 33.25 | 935 | 36.21 | 33.31 |

Notes. Reported statistics are based on the baseline sample. Column 2-4 presents descriptive statistics for the sample of native students, while Column 5-7 presents descriptive statistics for the sample of students with an immigration background. The varying number of observations is due to missing answers or skip patterns in the survey.

Table B3: Balance tests - student characteristics

| Variable | Mean (SE) | | Difference (p-value) | Obs. |
|---|--------------------|--------------------|-------------------------|-------|
| | Control | Treatment | | |
| | (1) | (2) | (3) | (4) |
| <u><i>Student characteristics</i></u> | | | | |
| Age | 16.073 (1.323) | 16.119 (1.404) | 0.058 (0.613) | 4,492 |
| Gender: Male | 0.539 (0.499) | 0.526 (0.499) | -0.007 (0.732) | 4,385 |
| Mother's edu: more than high school | 0.386 (0.487) | 0.378 (0.485) | -0.004 (0.773) | 4,092 |
| Father's edu: more than high school | 0.324 (0.468) | 0.305 (0.461) | -0.018 (0.218) | 3,939 |
| Born abroad | 0.089 (0.285) | 0.085 (0.280) | -0.004 (0.578) | 4,497 |
| Both parents born abroad | 0.205 (0.404) | 0.211 (0.408) | 0.002 (0.885) | 4,497 |
| Nr. of close friends | 4.360 (2.277) | 4.338 (2.294) | -0.025 (0.723) | 4,496 |
| Nr. of foreign close friends | 1.470 (1.922) | 1.494 (1.894) | 0.014 (0.841) | 4,496 |
| Foreign classmate to ask help for pers. reasons | 0.234 (0.423) | 0.231 (0.422) | -0.006 (0.746) | 4,497 |
| Foreign classmate to ask help for stud. reasons | 0.243 (0.429) | 0.253 (0.435) | 0.006 (0.772) | 4,497 |
| Like having foreign awa italian friends | 0.915 (0.279) | 0.923 (0.267) | 0.007 (0.391) | 4,497 |
| Ever felt discriminated for ethnicity | 0.132 (0.338) | 0.144 (0.351) | 0.010 (0.356) | 4,497 |
| Social desirability index | -0.049 (0.547) | -0.051 (0.543) | -0.000 (0.997) | 4,497 |
| <u><i>Anti-immigration attitudes</i></u> | | | | |
| Too many immigrants | 0.288 (0.453) | 0.265 (0.441) | -0.020 (0.160) | 4,497 |
| Immigrants increases crime rates where they live | 0.388 (0.487) | 0.362 (0.481) | -0.024 (0.132) | 4,497 |
| Ceteris paribus, Italian should get a job before immigrants | 0.338 (0.473) | 0.314 (0.464) | -0.022 (0.161) | 4,497 |
| <u><i>Other outcomes of interest</i></u> | | | | |
| IAT score | 0.555 (0.358) | 0.566 (0.353) | 0.012 (0.243) | 4,490 |
| % immigrants in Italy (reported) | 34.149 (18.466) | 33.932 (18.297) | -0.351 (0.552) | 4,497 |
| Migration literacy index | 0.070 (0.148) | 0.066 (0.144) | -0.004 (0.340) | 4,497 |
| Empathy index | 9.149 (1.294) | 9.132 (1.288) | -0.021 (0.666) | 4,497 |
| % classmates anti-imm (social norm) | 41.131 (33.048) | 40.012 (33.619) | -0.804 (0.547) | 4,497 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. Columns 2 and 3 report mean and standard deviation (in parentheses) for each variable in the control and treatment group, respectively. Column 4 reports the coefficient of the regression (and the relative p-value in parenthesis) of each variable on treatment. School fixed effects are included. Robust standard errors are in parentheses, clustered at the class level. *, **, *** indicate significance at the 10, 5 and 1 percent level, respectively.

Table B4: Balance tests - class-level characteristics

| Variable | Mean (SE) | | Difference (p-value) | Obs. |
|---|--------------------|--------------------|-------------------------|------|
| | Control (1) | Treatment (2) | | |
| Class size | 18.048 (4.128) | 17.643 (4.039) | -0.405 (0.350) | 252 |
| % of male students | 53.461 (29.596) | 52.927 (28.525) | -0.534 (0.807) | 252 |
| % of high edu fathers | 29.802 (20.074) | 28.061 (19.425) | -1.741 (0.255) | 252 |
| % of students born abroad | 9.286 (8.256) | 8.954 (8.438) | -0.332 (0.708) | 252 |
| % of students with both parents born abroad | 21.568 (15.545) | 21.699 (17.221) | 0.131 (0.933) | 252 |
| Ethnic segregation index (personal) | 0.037 (0.100) | 0.025 (0.135) | -0.011 (0.461) | 242 |
| Ethnic segregation index (study) | 0.021 (0.122) | 0.019 (0.129) | -0.002 (0.900) | 242 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. Columns 2 and 3 report mean and standard deviation (in parentheses) for each variable in the control and treatment group, respectively. Column 4 reports the coefficient of the regression (and the relative p-value in parenthesis) of each variable on treatment. School fixed effects are included. *, **, *** indicate significance at the 10, 5 and 1 percent level, respectively.

Table B5: Balance tests - student characteristics (panel sample)

| Variable | Mean (SE) | | Difference (p-value) | Obs. |
|---|--------------------|--------------------|-------------------------|-------|
| | Control | Treatment | | |
| | (1) | (2) | (3) | (4) |
| <i><u>Student characteristics</u></i> | | | | |
| Age | 16.060 (1.312) | 16.094 (1.406) | 0.038 (0.745) | 3,896 |
| Gender: Male | 0.537 (0.499) | 0.525 (0.500) | -0.005 (0.796) | 3,810 |
| Mother's edu: more than high school | 0.391 (0.488) | 0.383 (0.486) | -0.005 (0.760) | 3,560 |
| Father's edu: more than high school | 0.327 (0.469) | 0.305 (0.461) | -0.020 (0.180) | 3,429 |
| Born abroad | 0.085 (0.279) | 0.081 (0.273) | -0.005 (0.561) | 3,901 |
| Both parents born abroad | 0.206 (0.405) | 0.205 (0.404) | -0.003 (0.839) | 3,901 |
| Nr. of close friends | 4.367 (2.288) | 4.340 (2.286) | -0.034 (0.645) | 3,900 |
| Nr. of foreign close friends | 1.443 (1.895) | 1.484 (1.884) | 0.035 (0.619) | 3,900 |
| Foreign classmate to ask help for pers. reasons | 0.232 (0.422) | 0.230 (0.421) | -0.006 (0.760) | 3,901 |
| Foreign classmate to ask help for stud. reasons | 0.243 (0.429) | 0.248 (0.432) | 0.001 (0.969) | 3,901 |
| Like having foreign awa italian friends | 0.917 (0.276) | 0.924 (0.265) | 0.006 (0.514) | 3,901 |
| Ever felt discriminated for ethnicity | 0.130 (0.336) | 0.142 (0.349) | 0.009 (0.417) | 3,901 |
| Social desirability index | -0.055 (0.549) | -0.052 (0.545) | 0.004 (0.838) | 3,901 |
| <i><u>Anti-immigration attitudes</u></i> | | | | |
| Too many immigrants | 0.289 (0.454) | 0.265 (0.441) | -0.022 (0.165) | 3,901 |
| Immigrants increases crime rates where they live | 0.383 (0.486) | 0.359 (0.480) | -0.022 (0.191) | 3,901 |
| Ceteris paribus, Italian should get a job before immigrants | 0.331 (0.471) | 0.307 (0.461) | -0.024 (0.154) | 3,901 |
| <i><u>Other outcomes of interest</u></i> | | | | |
| IAT score | 0.552 (0.358) | 0.564 (0.351) | 0.013 (0.250) | 3,895 |
| % immigrants in Italy (reported) | 34.068 (18.283) | 33.628 (18.251) | -0.575 (0.331) | 3,901 |
| Migration literacy index | 0.070 (0.148) | 0.068 (0.145) | -0.001 (0.768) | 3,901 |
| Empathy index | 9.175 (1.274) | 9.138 (1.265) | -0.046 (0.340) | 3,901 |
| % classmates anti-imm (social norm) | 40.732 (32.889) | 39.125 (33.426) | -1.430 (0.292) | 3,901 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. Columns 2 and 3 report mean and standard deviation (in parentheses) for each variable in the control and treatment group, respectively. Column 4 reports the coefficient of the regression (and the relative p-value in parenthesis) of each variable on treatment. School fixed effects are included. Robust standard errors are in parentheses, clustered at the class level. The sample includes students who were present both baseline and endline survey (panel sample N= 3,901). *, **, *** indicate significance at the 10, 5 and 1 percent level, respectively.

Table B6: Attrition: Balance tests

| Variable | Mean (SE) | | Difference (p-value) | Obs. |
|-------------------------|------------------|------------------|-------------------------|-------|
| | Control | Treatment | | |
| Attrited students at EL | 0.118 (0.323) | 0.135 (0.342) | 0.017 (0.126) | 4,564 |
| Tracked students at EL | 0.882 (0.323) | 0.865 (0.342) | -0.017 (0.126) | 4,564 |
| New students at EL | 0.126 (0.332) | 0.140 (0.347) | 0.013 (0.223) | 4,598 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. EL stands for endline survey. Columns 2 and 3 report mean and standard deviation (in parentheses) for each variable in the control and treatment group, respectively. Column 4 reports the coefficient of the regression (and the relative p-value in parenthesis) of each variable on treatment. School fixed effects are included. Robust standard errors are in parentheses, clustered at the class level. *, **, *** indicate significance at the 10, 5 and 1 percent level, respectively.

Table B7: Treatment effects on anti-immigration attitudes - alternative specifications

| | (1) Index | (2) Index | (3) Index |
|---------------------|----------------------|----------------------|----------------------|
| Treatment | -0.111*** (0.033) | -0.111*** (0.031) | -0.091*** (0.027) |
| BL attitude index | | | 0.479*** (0.017) |
| Individual Controls | No | Yes | Yes |
| School FE | Yes | Yes | Yes |
| Control mean | 0.000 | 0.000 | 0.000 |
| Observations | 4551 | 4497 | 3865 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variable is a variance-weighted index combining the attitude items as defined in Table 3. Column 1 reports the results from our main specification as in Table 3. Column 2 introduces controls for gender, class and migration status. In Column 3 we report the main results for panel sample including controls for gender, class, migration status and baseline anti-immigration index. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. *, **, *** indicate significance at the 10, 5 and 1 % level, respectively.

Table B8: Treatment effects on anti-immigration attitudes by baseline attitudes

| | (1) Q1: Size | (2) Q2: Crime | (3) Q3: Job | (4) Q4: Stereotype 1 | (5) Index | (6) ASTE |
|-----------------------------------|---------------------|---------------------|---------------------|-------------------------|----------------------|---------------------|
| Treatment - BL att. \geq median | -0.024 (0.027) | -0.064** (0.026) | -0.044* (0.024) | -0.071*** (0.022) | -0.179*** (0.049) | -0.105** (0.032) |
| Treatment - BL att. $<$ median | -0.009 (0.014) | -0.022 (0.019) | 0.009 (0.016) | -0.011 (0.021) | -0.028 (0.038) | -0.017 (0.022) |
| BL attitudes \geq median | 0.408*** (0.021) | 0.301*** (0.023) | 0.409*** (0.020) | 0.068*** (0.023) | 0.891*** (0.040) | 0.619*** (0.025) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| F_stat | 0.630 | 0.181 | 0.080 | 0.056 | 0.015 | 0.000 |
| Control mean (\geq median) | 0.543 | 0.589 | 0.600 | 0.415 | 0.505 | |
| Control mean ($<$ median) | 0.122 | 0.282 | 0.172 | 0.344 | -0.417 | |
| Observations | 3901 | 3901 | 3901 | 3901 | 3901 | 3901 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables are defined as in Table 3. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to baseline respondents. *, **, *** indicate significance at the 10, 5 and 1 % level, respectively.

Table B9: Treatment effects on desirability bias

| | (1) Des. Score | (2) D1 | (3) D2 | (4) D3 | (5) D4 | (6) D5 |
|--------------|-------------------|------------------|-------------------|-------------------|------------------|-------------------|
| Treatment | -0.024 (0.041) | 0.018 (0.014) | -0.014 (0.014) | -0.018 (0.015) | 0.002 (0.013) | -0.012 (0.014) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean | 2.380 | 0.436 | 0.516 | 0.583 | 0.322 | 0.522 |
| Observations | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables in Column 2-6 are indicators taking value one if students responded true or false on whether the following statements are describing themselves: i) I'm sometimes jealous of other people's fortune (F), ii) I'm always gentle even with unpleasant people (T), iii) I'm always willing to admit a mistake (T), iv) I never get irritated when people express different opinions (T), Sometimes I get irritated when people ask for favours (F). Column 1 combines items D1 to D5 into a social desirability index. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1 % level, respectively.

Table B10: Treatment effects on anti-immigration attitudes excluding students with high desirability bias

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------|---------------------|---------------------|-------------------|---------------------|----------------------|---------------------|
| | Q1: Size | Q2: Crime | Q3: Job | Q4: Stereotype 1 | Index | ASTE |
| Treatment | -0.040** (0.016) | -0.037** (0.017) | -0.020 (0.016) | -0.033** (0.014) | -0.108*** (0.034) | -.0672** (0.022) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean | 0.327 | 0.422 | 0.360 | 0.379 | 0.010 | |
| Observations | 4301 | 4301 | 4301 | 4301 | 4301 | 4301 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables are defined as in Table 3. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample excludes respondents in the top 5% of the distribution of the social desirability index. *, **, *** indicate significance at the 10, 5 and 1 % level, respectively.

Table B11: Student characteristics at BL by ultimatum game matching

| Variable | Mean (SE) | | Difference (p-value) | Obs. |
|---|--------------------|--------------------|-------------------------|-------|
| | Native | Foreign | | |
| | (1) | (2) | (3) | (4) |
| <i><u>Student characteristics</u></i> | | | | |
| Age | 16.094 (1.359) | 16.058 (1.358) | -0.048 (0.107) | 3,896 |
| Gender: Male | 0.537 (0.499) | 0.524 (0.500) | -0.008 (0.545) | 3,810 |
| Mother's edu: more than high school | 0.392 (0.488) | 0.382 (0.486) | 0.000 (0.983) | 3,560 |
| Father's edu: more than high school | 0.322 (0.467) | 0.310 (0.463) | -0.002 (0.900) | 3,429 |
| Born abroad | 0.077 (0.266) | 0.089 (0.285) | 0.014 (0.100) | 3,901 |
| Both parents born abroad | 0.201 (0.401) | 0.210 (0.408) | 0.006 (0.564) | 3,901 |
| Nr. of close friends | 4.326 (2.307) | 4.384 (2.265) | 0.077 (0.262) | 3,900 |
| Nr. of foreign close friends | 1.433 (1.828) | 1.495 (1.953) | 0.057 (0.341) | 3,900 |
| Foreign classmate to ask help for pers. reasons | 0.224 (0.417) | 0.239 (0.427) | 0.006 (0.609) | 3,901 |
| Foreign classmate to ask help for stud. reasons | 0.240 (0.427) | 0.251 (0.434) | 0.004 (0.757) | 3,901 |
| Like having foreign awa italian friends | 0.918 (0.274) | 0.922 (0.268) | 0.004 (0.597) | 3,901 |
| Ever felt discriminated for ethnicity | 0.137 (0.344) | 0.134 (0.341) | -0.002 (0.818) | 3,901 |
| Social desirability index | -0.053 (0.549) | -0.072 (0.543) | -0.023 (0.149) | 3,901 |
| <i><u>Anti-immigration attitudes</u></i> | | | | |
| Too many immigrants | 0.276 (0.447) | 0.279 (0.449) | 0.002 (0.892) | 3,901 |
| Immigrants increase crime rates where they live | 0.375 (0.484) | 0.368 (0.482) | -0.005 (0.756) | 3,901 |
| Ceteris paribus, Italian should get a job before immigrants | 0.315 (0.465) | 0.324 (0.468) | 0.007 (0.655) | 3,901 |
| <i><u>Other outcomes of interest</u></i> | | | | |
| IAT score | 0.549 (0.357) | 0.567 (0.352) | 0.018 (0.117) | 3,895 |
| % immigrants in Italy (reported) | 33.328 (18.110) | 34.410 (18.420) | 0.744 (0.190) | 3,901 |
| Migration literacy index | 0.070 (0.148) | 0.068 (0.146) | -0.002 (0.690) | 3,901 |
| Empathy index | 9.174 (1.277) | 9.141 (1.261) | -0.040 (0.300) | 3,901 |
| % classmates anti-imm (social norm) | 44.340 (35.501) | 43.790 (35.244) | -0.754 (0.473) | 3,901 |

Notes: *Native* and *Foreign* indicates whether the student during the ultimatum game was assigned to a native- or foreign-sounding name, respectively. Columns 2 and 3 report mean and standard deviation (in parentheses) for each variable for students matched to a native- and foreign-sounding name, respectively. Column 4 reports the coefficient of the regression (and the relative p-value in parenthesis) of each variable on being matched to a foreign-sounding name. School fixed effects are included. Robust standard errors are in parentheses, clustered at the class level. *, **, *** indicate significance at the 10, 5 and 1 percent level, respectively. The sample includes students who were present both baseline and endline survey (panel sample N= 3,901).

Table B12: Treatment effects on ultimatum game by class-level immigrant share and other characteristics (X)

| X= | (1) Neigh. imm. share ≥ median | (2) % High edu parents ≥ median | (3) Class segregation ≥ median | (4) Non-academic track |
|--|--------------------------------------|---------------------------------------|--------------------------------------|---------------------------|
| Treatment | 0.012 (0.267) | 0.348 (0.265) | 0.173 (0.348) | 0.195 (0.268) |
| Foreign sender | 0.156 (0.276) | -0.114 (0.258) | -0.186 (0.298) | 0.152 (0.282) |
| Treatment × Foreign sender | -0.017 (0.374) | 0.263 (0.370) | 0.295 (0.439) | 0.206 (0.370) |
| Class imm. % ≥ median | 0.596** (0.259) | 0.497** (0.250) | 0.459* (0.274) | 0.506** (0.249) |
| Treatment × Class imm. % ≥ median | 0.063 (0.363) | 0.322 (0.364) | 0.139 (0.376) | 0.162 (0.355) |
| Foreign sender × Class imm. % ≥ median | 0.485 (0.382) | 0.236 (0.377) | 0.613 (0.392) | 0.500 (0.383) |
| Treatment × Foreign sender × Class imm. % ≥ median | -1.296** (0.531) | -1.053* (0.542) | -1.463*** (0.542) | -1.112** (0.530) |
| X | -0.015 (0.247) | 0.104 (0.247) | 0.093 (0.257) | 2.389*** (0.592) |
| Treatment × X | 0.413 (0.324) | -0.527 (0.365) | 0.112 (0.386) | -0.014 (0.346) |
| Foreign sender × X | -0.008 (0.368) | 0.894** (0.390) | 0.522 (0.391) | -0.024 (0.380) |
| Treatment × Foreign sender × X | 0.143 (0.484) | -0.788 (0.549) | -0.397 (0.545) | -0.569 (0.533) |
| School FE | Yes | Yes | Yes | Yes |
| r2 | 0.032 | 0.035 | 0.035 | 0.031 |
| N | 4551 | 4551 | 4062 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variable is defined as in Table 4. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes in Columns (1) to (3) and to 227 classes that have at least a student with migrant background in Column 4. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

Table B13: Treatment effects on anti-immigration attitudes

| | (1) Attitude index | (2) Attitude index | (3) Attitude index | (4) Attitude index | (5) Attitude index |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Treatment | -0.005 (0.047) | 0.028 (0.050) | 0.028 (0.055) | -0.015 (0.059) | 0.008 (0.057) |
| % 1st and 2nd gen. ≥ median | 0.048 (0.051) | 0.036 (0.053) | 0.050 (0.053) | 0.050 (0.054) | 0.049 (0.051) |
| Treatment × % 1st and 2nd gen. ≥ median | -0.219*** (0.066) | -0.167** (0.070) | -0.211*** (0.066) | -0.223*** (0.069) | -0.212*** (0.067) |
| % 1st gen. ≥ median | | 0.037 (0.058) | | | |
| Treatment × % 1st gen. ≥ median | | -0.131* (0.072) | | | |
| % 1st gen on tot. imm. ≥ median | | | 0.040 (0.049) | | |
| Treatment × % 1st gen on tot. imm. ≥ median | | | -0.076 (0.066) | | |
| % 2nd gen on tot. imm. ≥ median | | | | -0.004 (0.051) | |
| Treatment × % 2nd gen on tot. imm. ≥ median | | | | 0.020 (0.074) | |
| % extra-EU on tot. imm. ≥ median | | | | | -0.011 (0.049) |
| Treatment × % extra-EU on tot. imm. ≥ median | | | | | -0.032 (0.068) |
| School FE | Yes | Yes | Yes | Yes | Yes |
| r2 | 0.0496 | 0.0504 | 0.0499 | 0.0496 | 0.0497 |
| N | 4551 | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The extra-EU label identifies students with both parents born in extra-EU 27 countries. The dependent variables correspond to the variance-weighted index combining attitude items as defined as in Table 3. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

Table B14: Treatment effects on migration literacy and misperception

| | (1) % imm. pop. | (2) Cont. w/ most migr. | (3) Most comm. orig.: Europe | (4) Refugee def. | (5) Mig. Literacy Index | (6) Misperception |
|--|---------------------|----------------------------|---------------------------------|---------------------|----------------------------|-----------------------|
| Treatment | 0.125*** (0.010) | 0.100*** (0.011) | 0.151*** (0.018) | 0.030*** (0.010) | 0.521*** (0.041) | -8.682*** (0.636) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean | 0.080 | 0.020 | 0.151 | 0.878 | 0.000 | 23.121 |
| Observations | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 |
| <i>Panel B: By class-level immigration share</i> | | | | | | |
| Treatment - Class immig. % \geq median | 0.136*** (0.014) | 0.077*** (0.012) | 0.147*** (0.027) | 0.036** (0.016) | 0.520*** (0.058) | -10.344*** (1.052) |
| Treatment - Class immig. % < median | 0.114*** (0.015) | 0.122*** (0.017) | 0.154*** (0.026) | 0.025* (0.014) | 0.525*** (0.062) | -7.217*** (0.751) |
| Class immig. % \geq median (18.75%) | -0.015 (0.016) | 0.013 (0.014) | -0.016 (0.027) | -0.032* (0.018) | -0.100 (0.064) | 4.212*** (1.016) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| F-test (p-value) | 0.308 | 0.040 | 0.853 | 0.619 | 0.950 | 0.020 |
| Control mean (\geq median) | 0.065 | 0.015 | 0.136 | 0.853 | -0.101 | 25.911 |
| Control mean (< median) | 0.093 | 0.025 | 0.165 | 0.900 | 0.091 | 20.597 |
| Observations | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables are indicators taking value one if respondents respond correctly to the following questions: 1) what is the share of immigrants in the Italian population?; 2) what is the continent hosting the highest number of immigrants?; 3) what is the continent were most of the immigrants living in Italy come from?; and 4) what is the correct definition of "refugee?". Column 5 combines items (1) to (4) into a variance-weighted index, while column 6 reports misperception of the share of immigrants living in Italy. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

Table B15: Treatment effects on migration literacy/misperception by class-level immigration share & migration status

| | (1) % imm. pop. | (2) Cont. w/ most migr. | (3) Most comm. orig.: Europe | (4) Refugee def. | (5) Mig. Literacy Index | (6) Misperception |
|--|---------------------|----------------------------|---------------------------------|---------------------|----------------------------|-----------------------|
| <i>Panel A: Native students</i> | | | | | | |
| Treatment - Class immig. % \geq median | 0.141*** (0.017) | 0.072*** (0.014) | 0.136*** (0.029) | 0.026 (0.018) | 0.481*** (0.061) | -9.775*** (1.161) |
| Treatment - Class immig. % < median | 0.114*** (0.017) | 0.127*** (0.018) | 0.147*** (0.026) | 0.028** (0.014) | 0.527*** (0.061) | -7.098*** (0.769) |
| Class immig. % \geq median (18.75%) | -0.010 (0.017) | 0.016 (0.016) | -0.019 (0.029) | -0.011 (0.018) | -0.044 (0.064) | 3.084*** (1.085) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| F-test (p-value) | 0.275 | 0.020 | 0.783 | 0.915 | 0.606 | 0.064 |
| Control mean (\geq median) | 0.072 | 0.015 | 0.135 | 0.879 | -0.033 | 24.558 |
| Control mean (< median) | 0.098 | 0.024 | 0.166 | 0.904 | 0.107 | 20.254 |
| Observations | 3613 | 3613 | 3613 | 3613 | 3613 | 3613 |
| <i>Panel B: Immigrant students</i> | | | | | | |
| Treatment - Class immig. % \geq median | 0.127*** (0.024) | 0.090*** (0.017) | 0.167*** (0.037) | 0.063** (0.027) | 0.612*** (0.086) | -11.257*** (1.536) |
| Treatment - Class immig. % < median | 0.127*** (0.043) | 0.080** (0.033) | 0.266*** (0.060) | 0.021 (0.049) | 0.627*** (0.159) | -7.417*** (2.531) |
| Class immig. % \geq median (18.75%) | -0.000 (0.031) | -0.008 (0.025) | 0.031 (0.052) | -0.061 (0.045) | -0.112 (0.130) | 4.177* (2.267) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| F-stat | 0.992 | 0.777 | 0.164 | 0.468 | 0.935 | 0.211 |
| Control mean (\geq median) | 0.050 | 0.017 | 0.138 | 0.801 | -0.238 | 28.660 |
| Control mean (< median) | 0.045 | 0.027 | 0.155 | 0.864 | -0.063 | 24.045 |
| Observations | 938 | 938 | 938 | 938 | 938 | 938 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables are indicators taking value one if respondents respond correctly to the following questions: 1) what is the share of immigrants in the Italian population?; 2) what is the continent hosting the highest number of immigrants?; 3) what is the continent were most of the immigrants living in Italy come from?; and 4) what is the correct definition of "refugee?". Column 5 combines items (1) to (4) into a variance-weighted index, while column 6 reports misperception of the share of immigrants living in Italy. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to native students (N=3613) in Panel A and immigrant students (N=938) in panel B. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

Table B16: Treatment effects on implicit bias

| | (1) IAT | (2) % correct | (3) Av. resp. time |
|--|----------------------|-------------------|-----------------------|
| <i>Panel A: Full sample</i> | | | |
| Treatment | 0.001 (0.012) | -0.035 (0.312) | -24.760* (14.084) |
| School FE | Yes | Yes | Yes |
| Control mean | 0.567 | 89.590 | 1231.381 |
| Observations | 4551 | 4551 | 4545 |
| <i>Panel B: By class-level immigration share</i> | | | |
| Treatment - Class immigr. % \geq median | 0.012 (0.017) | -0.341 (0.478) | -44.569** (22.318) |
| Treat - Class immigr. % $<$ median | -0.002 (0.014) | 0.309 (0.410) | -15.135 (20.012) |
| Class immigr. % \geq median (18.75%) | -0.086*** (0.018) | -0.363 (0.506) | 31.362 (21.558) |
| School FE | Yes | Yes | Yes |
| F-test (p-value) | 0.543 | 0.311 | 0.346 |
| Control mean (\geq median) | 0.530 | 89.242 | 1241.383 |
| Control mean ($<$ median) | 0.599 | 89.890 | 1222.764 |
| Observations | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables are: i) the IAT test score (Column 1); ii) the share of correct answers (Column 2); iii) the average response time (Column 3). School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes, except for 6 observations that did not complete the IAT for technical reasons. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

Table B17: Treatment effects on empathy

| | (1) E1 | (2) E2 | (3) E3 | (4) E4 | (5) E5 | (6) E6 | (7) E7 | (8) Index | (9) ASTE |
|--|---------------------|-------------------|---------------------|-------------------|-------------------|----------------------|--------------------|-------------------|-------------------|
| Treatment | -0.027 (0.020) | 0.001 (0.020) | -0.002 (0.023) | 0.007 (0.029) | -0.017 (0.027) | -0.060* (0.031) | -0.008 (0.025) | -0.033 (0.033) | -0.017 (0.020) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean | 3.346 | 3.224 | 3.264 | 3.096 | 3.523 | 2.673 | 3.083 | 0.000 | |
| Observations | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 |
| <i>Panel B: By class-level immigration share</i> | | | | | | | | | |
| Treatment - Class immigr. % \geq median | -0.029 (0.029) | -0.032 (0.032) | 0.052 (0.037) | 0.020 (0.049) | 0.015 (0.039) | -0.007 (0.049) | 0.035 (0.037) | 0.002 (0.050) | 0.009 0.031 |
| Treatment - Class immigr. % $<$ median | -0.023 (0.029) | 0.032 (0.026) | -0.050 (0.031) | -0.004 (0.036) | -0.046 (0.038) | -0.109*** (0.041) | -0.048 (0.034) | -0.064 (0.044) | -0.041 (0.026) |
| Class immigr. % \geq median (18.75%) | -0.073** (0.033) | 0.012 (0.033) | -0.104** (0.041) | -0.025 (0.052) | -0.018 (0.040) | -0.031 (0.054) | -0.073* (0.041) | -0.084 (0.055) | -0.056 (0.034) |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| F-test (p-value) | 0.887 | 0.127 | 0.044 | 0.709 | 0.272 | 0.120 | 0.101 | 0.328 | |
| Control mean (\geq median) | 3.290 | 3.230 | 3.206 | 3.046 | 3.509 | 2.646 | 3.058 | -0.061 | |
| Control mean ($<$ median) | 3.396 | 3.219 | 3.316 | 3.143 | 3.535 | 2.697 | 3.105 | 0.055 | |
| Observations | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables in Column 1-7 are indicators taking value one if respondents agree with the following statements: 1) My friends confide in me about their problems; 2) I understand when others feel uncomfortable; 3) I feel sorry when someone has a problem; 4) I think of myself as a sensible person; 5) I like having foreign friends as much as Italian friends; 6) I often get moved for things I see happen; 7) Before criticizing someone, I try to imagine how I would feel if I were in their place. Column 8 combines items E1 to E7 into a variance-weighted index, while column 9 reports ASTE. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

Table B18: Treatment effects on student networks

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--|---------------------|---------------------|---------------------|---------------------|-------------------|-------------------|
| | Any foreign - pers. | Any foreign - stud. | Nr. foreign - pers. | Nr. foreign - stud. | Segr. index pers. | Segr. index stud. |
| <i>Panel A: Full sample</i> | | | | | | |
| Treat | -0.002 | -0.005 | -0.009 | -0.006 | 0.028 | 0.028 |
| | (0.011) | (0.012) | (0.015) | (0.016) | (0.017) | (0.022) |
| BL outcomes | Yes | Yes | Yes | Yes | Yes | Yes |
| Class composition | Yes | Yes | Yes | Yes | Yes | Yes |
| Matching quality controls | Yes | Yes | Yes | Yes | Yes | Yes |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Control mean | 1.981 | 1.917 | 0.184 | 0.192 | 0.023 | 0.015 |
| Observations | 4551 | 4551 | 4551 | 4551 | 227 | 227 |
| <i>Panel B: By class-level immigration share</i> | | | | | | |
| Treat - Class imm. share \geq median | -0.004 | -0.003 | -0.010 | -0.005 | 0.038 | 0.034 |
| | (0.020) | (0.021) | (0.027) | (0.031) | (0.025) | (0.028) |
| Treat - Class imm. share $<$ median | 0.004 | -0.004 | -0.004 | -0.003 | 0.019 | 0.016 |
| | (0.017) | (0.016) | (0.021) | (0.018) | (0.019) | (0.018) |
| Class imm. share \geq median (18.75%) | 0.126*** | 0.138*** | 0.171*** | 0.185*** | -0.027 | -0.014 |
| | (0.020) | (0.023) | (0.026) | (0.030) | (0.021) | (0.024) |
| BL outcomes | Yes | Yes | Yes | Yes | Yes | Yes |
| Class composition | Yes | Yes | Yes | Yes | Yes | Yes |
| Matching quality controls | Yes | Yes | Yes | Yes | Yes | Yes |
| School FE | Yes | Yes | Yes | Yes | Yes | Yes |
| F-stat | 0.772 | 0.952 | 0.868 | 0.951 | 0.529 | 0.578 |
| Control mean (\geq median) | 0.381 | 0.369 | 0.497 | 0.474 | 0.017 | 0.000 |
| Control mean ($<$ median) | 0.105 | 0.096 | 0.117 | 0.098 | 0.030 | 0.032 |
| Observations | 4551 | 4551 | 4551 | 4551 | 227 | 227 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variables report both individual- (Columns 1-4) and class-level (Column 5-6) measures of inter-ethnic ties. School fixed effects and controls for BL outcomes, share of foreign students in class, no names available for matching, poor matching, reporting no ties, no nationality identification (absent students) are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to online respondents for individual indicators, while for class-level indexes we include only classes with at least a students with immigration background (N=227). *, **, *** indicate significance at the 10, 5 and 1 % level, respectively.

Table B19: Treatment effects on perceived social norms

| | (1) | (2) | (3) | (4) |
|--|--|---------------------------|------------------------------|------------------------|
| | Perceived norm among classmates (%) | Certainty (classmates) | Perceived norm of parents | Certainty (parents) |
| <i>Panel A: Full sample</i> | | | | |
| Treatment | -1.810 | 0.044*** | -0.004 | -0.013 |
| | (1.139) | (0.013) | (0.015) | (0.010) |
| School FE | Yes | Yes | Yes | Yes |
| Control mean | 45.761 | 0.663 | 0.444 | 0.860 |
| Observations | 4551 | 4551 | 4551 | 4551 |
| <i>Panel B: By class-level immigration share</i> | | | | |
| Treat - Class immigr. % \geq median | -5.924*** | 0.054*** | -0.031 | -0.034** |
| | (1.641) | (0.020) | (0.021) | (0.016) |
| Treat - Class immigr. % $<$ median | 2.015 | 0.035* | 0.022 | 0.007 |
| | (1.524) | (0.018) | (0.022) | (0.013) |
| Class immigr. % \geq median (18.75%) | 3.165* | -0.016 | -0.037 | 0.007 |
| | (1.682) | (0.021) | (0.023) | (0.017) |
| School FE | Yes | Yes | Yes | Yes |
| F-test (p-value) | 0.000 | 0.479 | 0.098 | 0.048 |
| Control mean (\geq median) | 8.372 | 0.642 | 0.427 | 0.862 |
| Control mean ($<$ median) | 8.926 | 0.682 | 0.460 | 0.858 |
| Observations | 4551 | 4551 | 4551 | 4551 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variable in Column 1 corresponds to the share of classmates that respondents believe would agree with the statement “all things being equal, Italians should be entitled to jobs before immigrant”. Column 3 reports an indicator that takes value one if students think their parents would agree with the previous statement. Column 2 and 4 report indicators equal to 1 if respondents are certain about answers provided in Column 1 and 3, respectively. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to 252 classes. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.

Table B20: Treatment effects on perceived social norms by class-level immigration share & migration status

| | (1) Perceived norm among classmates (%) | (2) Certainty (classmates) | (3) Perceived norm of parents | (4) Certainty (parents) |
|---------------------------------------|---|----------------------------------|-------------------------------------|-------------------------------|
| <i>Panel A: Native students</i> | | | | |
| Treat - Class immig. % \geq median | -7.114*** (1.949) | 0.051** (0.022) | -0.018 (0.027) | -0.024 (0.020) |
| Treat - Class immig. % < median | 2.434 (1.595) | 0.021 (0.018) | 0.028 (0.024) | 0.009 (0.013) |
| Class immig. % \geq median (18.75%) | 4.677** (1.937) | -0.029 (0.023) | -0.003 (0.028) | -0.005 (0.020) |
| School FE | Yes | Yes | Yes | Yes |
| F-test (p-value) | 0.000 | 0.289 | 0.227 | 0.175 |
| Control mean (\geq median) | 47.723 | 0.641 | 0.489 | 0.848 |
| Control mean (< median) | 45.499 | 0.691 | 0.477 | 0.859 |
| Observations | 3613 | 3613 | 3613 | 3613 |
| <i>Panel B: Immigrant students</i> | | | | |
| Treat - Class immig. % \geq median | -3.172 (2.469) | 0.061* (0.036) | -0.052 (0.035) | -0.056** (0.025) |
| Treat - Class immig. % < median | -0.339 (4.119) | 0.175*** (0.067) | -0.009 (0.059) | -0.010 (0.045) |
| Class immig. % \geq median (18.75%) | 0.802 (3.877) | 0.100 (0.062) | 0.027 (0.049) | 0.030 (0.043) |
| School FE | Yes | Yes | Yes | Yes |
| F-test (p-value) | 0.562 | 0.140 | 0.535 | 0.381 |
| Control mean (\geq median)) | 43.357 | 0.644 | 0.301 | 0.890 |
| Control mean (< median) | 43.183 | 0.591 | 0.282 | 0.855 |
| Observations | 938 | 938 | 938 | 938 |

Notes: *Treatment* indicates that the class was assigned to the IBP program. The dependent variable in Column 1 corresponds to the share of classmates that respondents believe would agree with the statement “all things being equal, Italians should be entitled to jobs before immigrant”. Column 3 reports an indicator that takes value one if students think their parents would agree with the previous statement. Column 2 and 4 report indicators equal to 1 if respondents are certain about answers provided in Column 1 and 3, respectively. School fixed effects are included in every regression. Robust standard errors are in parentheses, clustered at the class level. The sample corresponds to native students (N=3613) in Panel A and immigrant students (N=938) in panel B. *, **, *** indicate significance at the 10, 5 and 1% level, respectively.