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

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

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December 6, 2025

## Abstract

In advanced economies, growing population diversity often fuels hostility toward immigrants and deepens social divides. We study a short educational program for high-school students designed to promote cultural diversity and improve attitudes toward immigration through active learning. Using a randomized controlled trial involving 4,500 students from 252 classes across 40 schools in northern Italy, we find that the program fostered more positive attitudes and behaviors toward immigrants, particularly in more diverse classrooms. In terms of mechanisms, the intervention reduced students' misperceptions and shifted perceived classroom norms, but did not affect implicit bias, empathy, or social networks. Our findings indicate that anti-immigration attitudes largely stem from stereotypes and broad societal concerns, and that educational programs combining factual learning with norm-shaping elements, such as critical thinking and structured intergroup engagement, can effectively mitigate them.

**JEL:** F22, J15, J61, D72.

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

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\*We are grateful to Helpcode and the University of Genoa for their superb collaboration with this research, and Fondazione Cariplo for financial support. We thank Yusuf Agus, Catalina Amuedo-Dorantes, Vojtěch Bartoš, Massimiliano Bratti, Alfredo Burlando, Marinella Leone, David McKenzie, Salma Mousa, David Yang and seminar participants at the Université Paris 1 Panthéon-Sorbonne, University of Luxembourg, Bocconi University, University of Milan, University of Padua, LISER, World Bank (Humans-Lacea Workshop), the IDB, 2025 RFBerlin Migration Forum, 2025 SPSA Conference, 2025 ESPE Conference, and 2025 BSE Summer Forum for their valuable discussions and suggestions. Vitor Cavalcante provided excellent research assistance. The study was registered with the AEA RCT registry (0010674) and received ethical approval from the University of Milan-Bicocca Ethics Committee (736). The usual disclaimer applies.

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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 particularly the recent influx of refugees into the European Union, has contributed to intense public debate, heightened the polarization of attitudes toward immigrants, and sharpened identity-driven divides. Evidence from multiple countries indicates that rising migration flows are often accompanied by increased support for anti-immigrant parties and a decline in preferences for redistribution and diversity (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).<sup>1</sup> Despite the significance of anti-immigration attitudes in driving political polarization (Alesina and Tabellini, 2024), 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 designed to hack negative attitudes and stereotypes toward immigrants among teenagers in high schools. Our study is set in Italy, a country that has witnessed a rapid increase in the share of foreign-born residents, from 2.3% in 2001 to about 10% in 2022. Italy is a uniquely interesting context for our experimental study, given the its accelerating demographic and ethnic diversification and the central role of immigration in public discourse. The increasing population diversity is reflected within schools: currently, about 11% of students attending Italian schools do not hold Italian citizenship and two-thirds of them are second-generation immigrants.<sup>2</sup> Immigration has become a key concern in the public debate in Italy, fueling support for Eurosceptic, nationalist parties with strong anti-immigration stances (Genovese, 2023; Campo et al., 2024, 2025).

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<sup>1</sup>Stereotypes 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).

<sup>2</sup>Italian 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. The distribution of foreign students is uneven across Italian regions, with 62.7% being based in northern Italy.

We focus on adolescence as a critical period for the formation of socio-political attitudes and ethical behaviors. Teenagers are nearing their first political engagement and their attitudes are still malleable, while their cognitive maturity allows them to engage thoughtfully with complex social issues (Dhar et al., 2022; Kohlberg, 1976; Markus and Nurius, 1986). Studying this age group is therefore crucial: adolescents both shape future societies and are particularly receptive to the formation of long-lasting attitudes. International organizations such as the OECD and UNESCO have emphasized the importance of stronger training in Global Competencies to prepare students for increasing multicultural societies (Colvin and Edwards, 2018; UNESCO, 2014). The 2018 Programme for International Student Assessment (PISA) accordingly included measures of attitudes toward immigration and cultural diversity (OECD, 2020). Yet, despite increasing exposure to diversity, Italian teenagers score well below the European average in “Attitudes toward 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 (age 14 to 19) and was explicitly designed as a short intervention that could fit within regular school hours, to facilitate its adoption. The program consists of a total of four hours, delivered through two classroom sessions that combine the provision of factual information about immigration with critical-thinking and structured group activities. The activities were designed using game-based learning techniques to help students reflect on their perceptions, stereotypes, and attitudes toward immigrants, and to promote intergroup relations and cultural diversity. The program design also includes a peer-to-peer component, as university students were trained by NGO staff to deliver the active learning intervention alongside them and act as peer educators for high school students. In addition to providing key support for the activities, the presence of university students was meant to enhance 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 urban areas 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, 43% of whom were born abroad (first-generation immigrants), while 57% were born in Italy to foreign-born parents (second-generation im-

migrants). Given that the interest in the program far exceeded implementation capacity, schools were enrolled on a rolling admission basis until capacity was reached. 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 2023, while control classes did not interact with the NGO and continued their regular activities.<sup>3</sup> We collected two rounds of survey data during the school year: one in the month preceding the program launch and another an average of 40 days after the completion of program activities.

We assess the effects of the intervention on two primary sets of outcomes. First, we examine attitudes toward immigration, measured through a series of questions capturing students' preferences and feelings regarding immigrants' role in society. Second, we assess behavioral responses toward immigrants using two incentivized tasks: (i) an experimental ultimatum game that randomly varies whether the counterpart is a native or a foreign individual, thereby capturing discriminatory behavior; and (ii) a lottery-based donation decision involving contributions to NGOs supporting immigrants in Italy, designed to measure pro-sociality toward immigrants.

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 experimenter demand or social desirability bias. We address these concerns through the survey design and a set of robustness tests conducted across students with different social desirability scores (Crowne and Marlowe, 1960). Our results also indicate that the program did not lead to increased polarization, but rather shifted students away from the most negative attitudes. Moreover, we find that the program improves students' actual behavior toward immigrants, as captured through the ultimatum game. 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 intergroup behavior aligns with the observed improvement in attitudes. We do not observe, instead, any impact on pro-sociality toward immigrants, as measured through the incentivized donation decision. We interpret this null effect as consistent with the nature of our intervention, which targets perceptions, attitudes and discrimination, rather than altruistic actions.

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<sup>3</sup>The 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.

We next exploit natural variation in the classroom-level share of immigrant students to explore heterogeneity in program effects across contexts with more or less intergroup contact. We find that the program’s impact is driven by classrooms with a high share of immigrant students.<sup>4</sup> It is worth noting that students in classrooms with high and low immigrant shares exhibit similar attitudes at baseline. Moreover, the treatment effect does not differ by immigration status, i.e. our results hold when we restrict the sample to Italian students only. We also rule out potential alternative explanation behind the stronger effects observed in more mixed classes, such as different neighborhood exposure to immigration, different academic tracks, family backgrounds, or social segregation. This means that it is specifically the high presence of immigrant classmates that drives the effect, suggesting that the intervention is particularly effective at shaping attitudes and behaviors in contexts where immigration is more salient. We further show that the impact remains stable irrespective of the ethnic or cultural composition of the immigrant student population (defined by first- vs second-generation, or by country of origin). This indicates that the presence of immigrant classmates with diverse backgrounds 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 our results, including students’ misperceptions, implicit bias, empathy, social contact, and social norms. Our analysis reveals that the program’s positive effects in mixed classrooms primarily stem from two specific dimensions. First, the intervention substantially enhances students’ knowledge of migration-related issues (“migration literacy”) and effectively corrects prevalent misconceptions regarding the magnitude and characteristics of immigration in Italy. Second, the program significantly improves students’ perceptions of their classmates’ attitudes toward immigrants (“perceived social norms”). Students in classrooms exposed to the program believe their peers hold more favorable views toward immigrants - and report greater confidence in these beliefs — with the effect being particularly pronounced in classrooms characterized by a high proportion of immigrant students. We do not find evidence of effects on other potential mechanisms, such as implicit bias against immigrants (measured using an Implicit Association Test embedded in our survey), empathetic concerns, or cross-group social interactions (measured through classroom network data).

Overall, our findings suggest that anti-immigration attitudes are not primarily driven by individual factors, such as implicit bias, empathy, or intergroup interactions, but rather by misconceptions and broader societal concerns rooted in collective issues, stereotypes, and

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<sup>4</sup>We define classrooms with a high immigrant share as those exceeding the sample median (18.75%).

norm conformity. The light-touch educational program we examine effectively addresses these underlying dimensions in mixed classrooms by promoting critical thinking and structured intergroup engagement through factual learning and norm-shaping elements. Taken together, our intervention indicates that openly acknowledging and discussing group differences, while giving voice to everyone, can enhance understanding without provoking backlash.

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; Facchini et al., 2022; 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). In general, these interventions have proved effective at correcting misperceptions, but they have produced mixed or null effects on preferences, as the provision of factual information alone can backfire by heightening the salience of group differences. Some recent studies have shown that providing positive narratives about migrants may be more successful in improving individuals’ attitudes toward immigration (Kalla and Broockman, 2020, 2023; Haaland and Roth, 2020; Cattaneo and Grieco, 2021; Facchini et al., 2022; Bandiera et al., 2024).<sup>5</sup>

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,

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<sup>5</sup>On 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.

in a set of playful activities, designed to help students exchange views on complex issues. 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 also relates 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 intergroup conflict (e.g. Adida et al., 2018; Simonovits et al., 2018; Chatruc and Roza, 2024). In the context of education, Alan et al. (2021) evaluate the effects of a program designed to foster social cohesion among primary school children in Turkey following the arrival of Syrian refugee students during the 2015 crisis. We contribute to this literature by focusing on older students (teenagers) and by proposing a light-touch, classroom-based intervention that leverages socio-cognitive skills (e.g., critical thinking, peer learning) in addition to socio-emotional ones. Moreover, we study a high-immigration context in which immigrant classmates are not refugees but primarily long-term immigrants (first- and second-generation). Hence, classroom social conflict is not a major concern, yet prejudicial attitudes may still emerge within a broader polarized context, potentially undermining social cohesion within and beyond schools. Crucially, our analysis centers on attitudes toward immigration in society as a whole, rather than on attitudes toward immigrant peers.

Finally, our analysis leverages the classroom melting pot as a source of natural variation in interethnic social contact, friendship networks, and class-level exposure to immigration. The question of how personal experiences of intergroup 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). Overall, existing evidence suggests that contact alone may be insufficient when the social fabric is actively polarized (Mousa and Hultman, 2025). 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 and behaviours in more mixed classrooms, where the presence of immigrants likely heightens issue salience and makes group discussions more engaging.

By focusing on young adults in a real-world melting pot, our analysis provides novel in-

sights into the design of non-neutral programs that are effective in promoting social inclusion 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).<sup>6</sup> 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 represents 11.2% of the total student population (MIUR, 2024). Almost two-thirds (65.4%) of them were born in Italy, but remain non-citizens and are classified as second-generation immigrants. According to the nationality law, they can apply for citizenship only after turning 18, provided they have maintained continuous residence in Italy (MIUR, 2024). Approximately 44% of the foreign students are European, which represents 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). Foreign students attend school at the same rate as Italians until lower secondary, but only 74.8% continue until age 17–18 (vs. 81.6% among Italians).

These demographic transformations have been accompanied by immigration rising to prominence among the primary concerns of Italian citizens (ODI, 2023)<sup>7</sup>, 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).<sup>8</sup> Survey evidence shows persistent misperceptions with respect to the immigration phenomenon: in 2017 Italians es-

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<sup>6</sup>While the composition of immigrants has constantly changed over the past few decades, in recent years, the largest groups have been Romanian, Albanian, Moroccan, Chinese, Filipino, and Indian.

<sup>7</sup>Immigration 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).

<sup>8</sup>Italian 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)).

estimated that non-EU immigrants were about 25% of the population, while the actual figure was 7%, which represents the largest perception gap among European countries (ODI, 2023). In 2018, another survey put the perceived share of immigrants at 26% (Alesina et al., 2023). These misperceptions likely contribute to hostile attitudes: 62% of adults currently report that there are “too many immigrants” in Italy (IPSOS, 2023).

Misperceptions and negative attitudes are also widespread among Italian youth. According to PISA 2018, Italian 15-year-olds scored below most of their European peers in “Global Competencies”, especially in “attitudes toward immigrants” and “respect for people from other cultures” (Figures B1 and B2 in Appendix).<sup>9</sup> Our baseline survey similarly finds that students overestimate the share of immigrants (the average guess is 34%) but display somewhat more positive attitudes than adults: about 30% considered immigration “too high”.

The program we study, was implemented during the 2022/23 academic year in the provincial areas of Milan and Genoa, two of the largest Italian cities and key immigrant destinations. Foreign residents account for 18.8% of the population in Milan and 10% in Genoa (ISTAT, 2023). Reflecting these demographics, the broader regions around the two cities (Lombardy and Liguria) host some of the highest proportions of foreign students nationwide (17.1% and 15.8% of total enrollment, respectively).<sup>10</sup>

The education system in Italy is free and compulsory between the ages of 6 and 16. Italian high schools are divided into academic, technical, and vocational tracks, representing 50%, 28%, and 22% of institutes in the study provinces, respectively (see Table B1 in Appendix). Students are typically assigned randomly to classes, which they keep for all school years.<sup>11</sup> Schools also require students to complete at least 90 hours of extra-curricular activities per year, aimed at developing transversal skills and career orientation. Our program was embedded in this framework and delivered during regular school hours.

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<sup>9</sup>The 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).

<sup>10</sup>Milan is in fact the first Italian city in terms of share of non-EU immigrants, with the main groups coming from Egypt, the Philippines, and China; while Genoa is the fourth city in terms of non-EU immigrants, mostly from Ecuador, Albania, and Morocco.

<sup>11</sup>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 show that Italian school principals are less likely than their European counterparts to admit students based on their residential area or to form classes based on student ability levels.

## 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 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. These are the so-called “impressionable years” that play a key role in the formation of 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 implementation of the program is managed by the Italian-based NGO Helpcode. The program is grounded on the principle of active learning and follows a *Global Citizenship Education* approach delivered through game-based activities.<sup>12</sup> It is designed as a short intervention that can be easily embedded within regular school hours. Meetings with the students are organized in two sessions of 2 hours 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 in Italy and all over the world.<sup>13</sup>

The intervention 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.<sup>14</sup> The activities were implemented in the

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<sup>12</sup>In 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 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”.

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

<sup>14</sup>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.

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.<sup>15</sup> In our analysis, we will always rely on the original random assignment, 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.

### 3 Study Design and Outcomes

The program was implemented as a cluster randomized controlled trial at the class level. The study sample covers 252 classrooms from 40 high schools in Milan and Genoa. These include 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.<sup>16</sup> The NGO had the capacity to deliver the program to around 120 classes

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We tested our main results against facilitators' characteristics and found no differences.

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

<sup>16</sup>Participation in the program was determined by the school board; teachers did not voluntarily enroll

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

*Notes:* 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.

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.<sup>17</sup> The ex-ante probability of treatment is

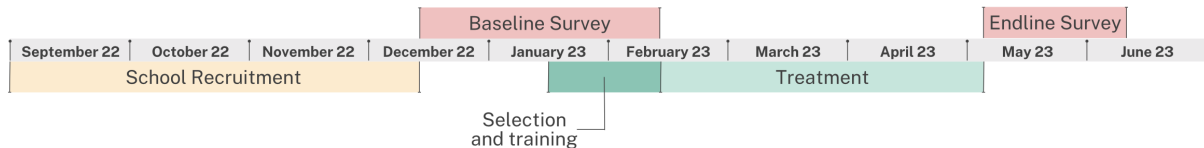
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their classes.

<sup>17</sup>Class-level randomization enables us to rely on a larger number of clusters, as opposed to a coarser school-level randomization. One potential concern with this approach, however, is the higher risk of contamination across students assigned to treatment and control groups. While any contamination would lead us to estimate a lower bound of the true effect of the program, we expect this risk to be low. Indeed, as explained above, the program does not simply provide information – which could be passed over to other

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 supported the facilitators between late February and early May 2023 and kept us informed on their schedules and progress. [Endline data were collected between May and June 2023, approximately 40 days after program completion.](#)<sup>18</sup>

Figure 1: Project timeline



The surveys were administered during a lecture hour in each classroom. All students present in the study classes on survey days participated. The survey dates were not disclosed to students in advance and were coordinated only with the school principal and individual teachers. There was no compensation for the students for taking the survey.<sup>19</sup>

We implement a set of strategies to limit the risk of experimenter demand effect (Haaland et al., 2023). Both baseline and endline surveys were presented to participants as independent studies and administered by locally recruited enumerators with no affiliation to the NGO implementing the program. The questionnaires were introduced as part of a research project on high school students’ habits and attitudes toward a broad range of contemporary issues. To avoid priming effects, the survey team made no explicit references to prejudice, discrimination, or migration. Moreover, migration-related items were interspersed with questions on other salient societal topics, such as climate change and gender relations, to further minimize links to the intervention. The temporal distance between the treatment and the endline survey (40 days on average) further diminished potential experimenter demand effects.

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people – but provides a rich experience, through active learning and role playing, which is hard to transmit to people who have not taken part in the activities. In our analysis, we can gauge the likelihood of spillovers by leveraging variation in the share of students exposed to the program, which arose from differences in the number of classes made available by each school. While this analysis is only suggestive – since the number of classes per school was not randomized – we find no evidence that greater program exposure (measured by the share of students in the school receiving the program) is associated with more positive attitudes or behavior towards migrants among students in control classes. This alleviates the concern of spillover across students assigned to treatment and control classes.

<sup>18</sup>The schedule for endline data collection tries to follow the timeline of the intervention, with schools treated first being surveyed in roughly the same order.

<sup>19</sup>Prior to the first round of data collection, informed consent was obtained from the parents of all students enrolled in the study classes. On each survey day, students were also asked to provide their own informed assent. Thanks to the strong support we received from schools, 99.6% of parents and students signed the consent form.

To mitigate social desirability bias driven by social image concerns, we implemented several measures to reassure participants about the anonymity of their responses (Bursztyn et al., 2025). At the start of each session, enumerators distributed a tablet with the preloaded survey to each student, who then completed it individually under the supervision of trained staff.<sup>20</sup> To further reinforce the perception of privacy and data protection, students entered a personal code—generated by the research team and revealed individually by the enumerators during tablet distribution—instead of their name. Given the sensitivity of some questions, students were also instructed to separate their desks and work independently. Baseline and endline data collection followed the same protocol. At endline, however, we modified the questionnaire by replacing some knowledge questions, as students might have looked up the correct answers after the baseline. We also introduced two incentivized games to measure behavior toward immigrants, as described below.

The study was registered with the AEA RCT registry (#0010674) and received ethical approval from the University of Milan-Bicocca Ethics Committee (#736). 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 and behavior toward immigrants. To measure attitudes, we collect data at both baseline and endline using three survey questions. Respondents are asked to indicate their level of agreement 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.<sup>21</sup>

Although we implemented several strategies to limit experimenter-demand effects and social desirability bias during data collection (see Section 3), students exposed to the program may still have been more likely to report what they believed the research team wanted to hear, or what they had come to view through the program as the most ‘desirable’ response, even if it did not reflect their true attitudes. To test whether treatment effects are driven

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<sup>20</sup>Enumerators ensured a quiet environment and provided assistance in case of questions.

<sup>21</sup>This vignette was modeled around the one used by Alesina et al. (2023).

by individuals with greater sensitivity to social expectations, we measure social desirability at the individual level using a standard index constructed combining five items from the Marlowe–Crowne Social Desirability Scale (Crowne and Marlowe, 1960).<sup>22</sup> As we will show below, we find no evidence of social desirability bias in our main results. Nevertheless, at endline we also included two incentivized activities to capture more directly students’ revealed preferences and behavior, described next (Bursztyn et al., 2025).

### *Discriminatory Behavior and Pro-sociality toward Immigrants*

In the endline survey, we introduced two incentivised tasks, namely a behavioral game and a donation exercise to elicit respondents’ discriminatory behavior and pro-sociality toward immigrants respectively. The behavioral game was modeled on the well-known ultimatum game, a standard task for measuring discrimination in experimental settings (Güth et al., 1982; Freddi et al., 2024). Unlike other behavioral games, the ultimatum game keeps the task simple for students while embedding a strategic rationale that helps “obfuscate” the discrimination test and reduce experimenter-demand effects.<sup>23</sup> The design 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 a non-Italian name (e.g., Mohammad) or an Italian name (e.g. Marco) to act as proposers.<sup>24</sup> The proposers played the game a few

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<sup>22</sup>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).

<sup>23</sup>The ultimatum game is similar to the dictator game but introduces a strategic dimension, as the responder can reject unfair offers, whereas the recipient in the dictator game cannot. Both games are simple and easily implemented with students playing autonomously on tablets. A key concern with using the dictator game to measure discrimination—by experimentally varying the recipient’s identity—is that its purpose may become too transparent, thereby increasing the risk of experimenter demand effects. The ultimatum game, by contrast, maintains simplicity while concealing the task’s true purpose through the introduction of a second strategic layer, thus helping to minimize such biases.

<sup>24</sup>The 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).

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.<sup>25</sup> Students participating in the survey were randomly matched with one of the ten university students and were only told their names. After learning the rules of the game, students were asked to choose the minimum amount they would be willing to accept from the proposer.<sup>26</sup> The respondent’s decision in the ultimatum game reflects two layers of reasoning: a first-order consideration about fairness or bias toward the proposer (e.g., being more or less demanding depending on the proposer’s name), and a second-order belief about what offers the proposer is likely to make (e.g. Freddi et al., 2024). Hence, 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.<sup>27</sup> 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.<sup>28</sup>

### 3.2 Secondary outcomes and mechanisms

Through our surveys, we also collected data on potential mechanisms underlying the program’s impact, including migration literacy and misperceptions, implicit bias, empathic

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<sup>25</sup>Proposers 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.

<sup>26</sup>To 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. After explaining the rules, students played a trial round to test their understanding and clarify any doubts.

<sup>27</sup>Students willing to donate could choose between two well-known organizations: ResQ People Saving People and NoWalls.

<sup>28</sup>As a further pre-specified 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 (0.5% of our sample) subscribed to the activity, and we therefore exclude it from the analysis.

concern, social ties, and social 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 test 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?".<sup>29</sup>

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.

### *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 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, 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

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<sup>29</sup>This 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.

individuals of foreign origins. A higher score indicates greater implicit bias (Greenwald et al., 2009).<sup>30</sup>

### *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 intergroup 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 the program may shift students' attitudes is through a change in intergroup contact and networks. Indeed, the intergroup 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 forming these links, and the actual observed share of inter-ethnic links.<sup>31</sup>

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<sup>30</sup>We 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.

<sup>31</sup>The 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.

Finally, we want to understand whether the program changed students’ perceptions of their classmates’ attitudes toward immigrants. 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. 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 (25%) when considering support for school-related matters. Overall these figures suggest a relatively high level of intergroup contact between native and foreign students, which is confirmed when considering class-level ethnic segregation indexes (see 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 25 percentage points (pp). 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.<sup>32</sup>

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.<sup>33</sup>

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 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.<sup>34</sup> This also means that at endline roughly 13% of the surveyed students were absent at baseline. Tables B6 in Appendix shows the share of

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<sup>32</sup>Table 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.

<sup>33</sup>The 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-value<0.1), 5 instances (3.1%) in which it is significant at 5% level (p-value<0.05), and no instances in which it is significant at 1% level (p-value<0.01).

<sup>34</sup>Table B5 mirrors Table B3 and reports baseline balance when restricting the sample to students who were present both baseline and endline.

Table 2: Descriptive statistics

Variable	N	Mean	SD	Min	Max
<b>Panel A: Student characteristics</b>					
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
<b>Panel B: Classroom characteristics</b>					
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.

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.<sup>35</sup>

## 5 Results

### 5.1 Empirical specification

To assess the impact of the program on our outcomes of interest, we estimate the following simple 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  $\theta_s$ , 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,  $\beta$ , 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.

In our preferred specification, we include all students, to capture the average treatment effect across the entire student population in our sample. But we also show results restricting the analysis to Italian students only. Moreover, we are interested in understanding whether the impact of the program differs across classes with different ethnic composition. 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 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,

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<sup>35</sup>Here we refer to “attrited” as students being absent on the survey day.

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  $\alpha_2$  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,  $\alpha_3$ , 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 also 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 3.9 pp (12%) less likely to support the claim that there are too many immigrants in Italy (column 1), 4 pp (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.

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

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.

rather moved students away from the most negative attitudes (see Table B8 in Appendix).

A potential concern with self-reported attitudes is that students exposed to the program may be more inclined to provide socially desirable answers, even if these do not reflect their true beliefs. Although we cannot directly test for this potential bias, we assess its relevance by constructing a “social desirability” index following Crowne and Marlowe (1960). We find no evidence that students in treatment classes were more likely than those in control classes to select socially desirable responses (Table B9 in the Appendix). Moreover, our main results remain unchanged when (i) excluding individuals with the highest social desirability scores (Table B10 in the Appendix) or (ii) including an interaction term between treatment status and the social desirability index (Table B11 in the Appendix).

In addition to eliciting stated preferences, at endline we capture students’ revealed behavior toward immigrants through two incentivized experimental tasks, i.e. an adapted version of the ultimatum game to measure discrimination and a donation decision to measure pro-sociality.

As mentioned above, 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 name.<sup>36</sup> On average, students in the control group report being willing

<sup>36</sup>The average amount the senders proposed to split with the recipients is 10 euros.

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).<sup>37</sup> 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 (0.126)	0.273 (0.172)	0.001 (0.014)	-1.020 (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.

The second incentivized task was a potential donation decision, aimed at capturing pro-social behavior toward immigrants. Students were informed they would be enrolled in a

<sup>37</sup>Table B12 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.

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 in the context of the ultimatum game, but not in the donation exercise, might suggest that the program was effective in reducing discriminatory behavior but not strong enough to motivate students to take more explicit actions in support of immigrants. Yet, it should be noted that the program did not explicitly address altruistic behaviors or actions through which students could actively support immigrants. An alternative explanation is that while the ultimatum game required students to make decisions involving peers they could relate to, the donation to an NGO represented a more anonymous and abstract action—something students might feel less familiar or personally engaged with. Furthermore, the students might have overestimated the cost of the donation requests, since they are unfamiliar with managing substantial amounts of money in their daily lives.

### 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.<sup>38</sup> 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).<sup>39</sup> The

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<sup>38</sup>We 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.

<sup>39</sup>These results are in line with what observed at baseline (see Table B2 in Appendix).

estimates, however, show that the program improved attitudes toward migration for both groups.<sup>40</sup> The same result holds when considering the ultimatum game (column 6).<sup>41</sup>

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).<sup>42</sup> 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.<sup>43</sup> 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.<sup>44</sup>

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.

<sup>40</sup>Table 5 reports the outcome of the augmented equation 1, where the  $het_{i,c,s}$  term indicates whether the student is an immigrant.

<sup>41</sup>We also tested for heterogeneity across gender, finding no differential effects across male and female students.

<sup>42</sup>The 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).

<sup>43</sup>Table 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%).

<sup>44</sup>Results are not reported but available upon request.

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

	(1)	(2)	(3)	(4)	(5)	(6)
	Q1: Size	Q2: Crime	Q3: Job	Q4: Stereotype 1	Attitude Index	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.

Our analysis clearly shows that the program impact on attitudes and discriminatory behavior is driven by students in classes with a higher proportion of immigrant students. This opens up the question of why this is the case: is the presence of immigrant students strengthening the program by facilitating intergroup 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;<sup>45</sup> 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 B13 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., 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.<sup>46</sup> Results are mostly unchanged across the alternative definitions, suggesting 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. This suggests that students think about immigration as a general category, treating all immigrants as part

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<sup>45</sup>Students 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.

<sup>46</sup>Students born abroad are likely to 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, and Latin American countries.

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.<sup>47</sup>

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 <sup>2</sup>	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.

<sup>47</sup>As a robustness check, Table B14 in Appendix shows the outcomes of horse-race regressions estimated augmenting our estimates as in Table 6 with additional terms proxing 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 <sup>2</sup>	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 outlined earlier, the program consisted of two main elements: delivering factual information on migration and engaging students through active learning activities. To assess whether these components enhanced students’ understanding of the migration phenomenon, we analyze responses to the four knowledge questions presented in Section 3.2.

Migration literacy is generally low: the share of students answering correctly 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 the first three questions and raising by 3 pp the share of students providing the correct definition of a refugee (results are reported in Table B15 in the Appendix).<sup>48</sup> For the question on the share of immigrants in Italy, we can also move beyond a simple right-or-wrong measure and instead assess the magnitude of students’ error, defined as the absolute difference between their estimate and the true value (10%). Our analysis shows that program reduced this gap from 23.1 pp in the control group to 14.4 pp (a 38% decline).<sup>49</sup>

Panel A of Figure 2 summarizes these results, showing the program’s impact on the aggregate migration literacy index (left image) and on the magnitude of the misperception (right image), distinguishing between classes with above- and below-median shares of immigrant students. The figure indicates that the program’s positive effect on overall migration

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<sup>48</sup>Table B15 shows that the program led to overall large improvements in migration literacy, by combining the previous outcomes in a weighted index. This is also confirmed through average standardized treatment effect estimates across this family of four outcomes (available upon request).

<sup>49</sup>Results are robust to using the share of immigrants in the school, neighborhood, or city as alternative benchmarks, ensuring that the results do not capture the effect of higher local exposure to immigration (available upon request).

knowledge was similar across both groups.<sup>50</sup> The reduction in misperceptions about the share of immigrants in Italy was instead somewhat larger in classes with a higher share of immigrant students, though the effect is evident in both groups. Similar patterns hold when comparing immigrant and native students (Table B16).

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 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 channels, which we explore below.

### *Implicit Bias*

We explore the possibility that the program changed students' deeply held prejudice 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 in Section 3.2. Results (detailed in Table B17 in Appendix) indicate that the program had no impact on implicit biases, as measured through IAT. The first image in Panel B of Figure 2 shows that this is true irrespective of the share of immigrant students in the class.<sup>51</sup> The overall IAT score reflects both accuracy (the share of correct matches) and response speed. When analyzing these components separately, we find that the likelihood of giving a correct answer is similar across treatment and control groups, but students in treatment classes complete the test somewhat faster. Although this does not indicate a change in implicit bias, since the difference in response time does not vary across the different pairing combinations, it provides additional evidence against social

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<sup>50</sup>Panel A of Figure 2 and Panel B of Table B15 report estimates from the augmented version of equation 1, where  $het_{i,c,s}$  equals one for classes with an above-median share of immigrant students (18.75%). For clarity, we display marginal treatment effects for each group. The F-test in Table B15 reports whether the difference between groups is statistically significant.

<sup>51</sup>Similarly to Table B15, Panel B of Table B17 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.

desirability concerns, suggesting that treated students are not deliberately slowing down to conceal potential prejudice against immigrants (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 stereotypes, 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 bias. 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.<sup>52</sup>

### *Empathetic Concerns*

We next test whether the program, through its group activities, impacted students’ general empathy toward others and empathy towards immigrant peers. Results clearly indicate that this is not the case: we do not find any program impact on the seven empathy-related variables described in Section 3.2 (results are reported in Table B18). The middle image in Panel B of Figure 2 confirms this null result even when distinguishing between classes with different shares of immigrant students.

It is therefore clear that the intervention did not affect students’ overall empathy toward others or their empathy toward immigrants, both of which were already high in the control group.<sup>53</sup>

### *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. As shown in Section 4, natives and foreign students were already relatively well connected at baseline. Nevertheless, program activities could have prompted students to reflect on their relationships with foreign peers, potentially strengthening these ties. We test

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<sup>52</sup>Some 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).

<sup>53</sup>The average total empathy score in the control group is 22.2 out of a maximum of 28.

this hypothesis using survey questions on which classmates students turn to for personal or study-related support.<sup>54</sup> Estimates reported in Table B19 in Appendix show no significant impact on intra-class relationships—whether measured at the individual level (presence or number of inter-ethnic ties) or at the class level (ethnic segregation index, defined as the gap between the expected and observed share of inter-ethnic ties; see Section 3.2). The third figure in panel B of Figure 2 confirms that this null result holds across classes with above- and below-median share of immigrant students. Overall, the evidence suggests that this light-touch intervention did not meaningfully alter students’ daily routines or social bonds, which likely evolve over longer time horizons.

### *Perceived Social Norms*

As a last step, we investigate the program impact on perceived social norms. A key objective 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. As described in Section 3.2, we test this 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”, as well as how confident they are in their answer. Results show that students in treatment classes expect fewer of their peers to agree with this statement and report greater confidence in their responses (results are reported in Table B20 in Appendix). Panel C of Figure 2 further indicates that this effect is driven by classes with a higher share of students with an immigrant background.<sup>55</sup> Consistent with the idea that the mechanism operates through in-class discussions, the effect is confined to the classroom context and does not extend to students’ perceptions of family norms.

This effect likely reflects the role of group discussions and the influence of class composition on how program activities unfolded. Immigrant students, who generally hold more positive baseline attitudes and have direct experience with migration, may have contributed more actively to in-class debates in diverse classrooms. Their personal stories and arguments could have helped challenge abstract stereotypes, anchoring the discussion in concrete, positive experiences. The program may also have helped native students connect their immigrant classmates with the broader category of immigrants. Consistent with this interpretation,

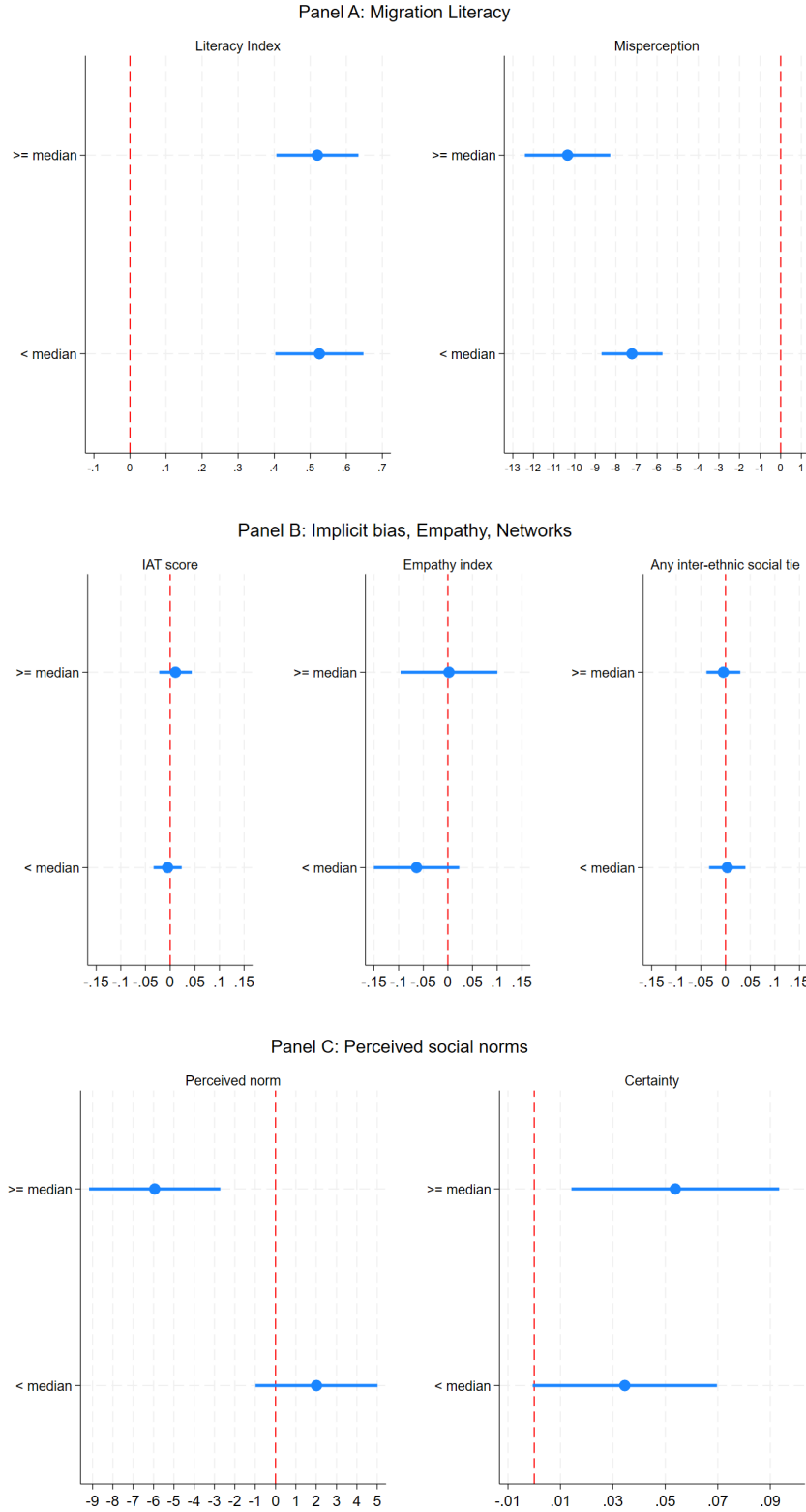
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<sup>54</sup>Results are virtually identical when aggregating the two dimensions.

<sup>55</sup>The p-value reported at the bottom of Table B20 rejects equality of effects across high- and low-immigrant-share classes at the 1% level.

the shift in perceived classroom norms is stronger among native students (Table B21 in Appendix). Overall, the results suggest that non-discriminatory norms spread more readily in mixed classrooms through informed dialogue and cross-group interaction.

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 B15 (Panel B). Panel B refers to implicit bias, empathetic concerns and in-class student networks and reports results in Column 1 in Tables B17, Column 7 in Table B18 and Column 5 in Table B19 (Panel B). Panel C refers to perceived social norms and reports results in Column 1 and 2 in Table B20 (Panel B).

## 7 Conclusions

This paper studies a light-touch educational program aimed at reducing out-group hostility and identity-driven divides among high-school students, by fighting stereotypes and improving attitudes and behaviors toward immigrants. Through a field experiment in Italian high schools, we find that a short yet structured intervention can significantly improve attitudes toward immigrants and reduce discriminatory behavior, as measured by an incentivized behavioral game. These effects are particularly pronounced in classrooms with a higher share of immigrant students, suggesting that the program was especially effective in more issue-salient environments where intergroup exchanges are more prominent.

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. These findings are consistent with the idea that hostility toward out-groups is fueled by misperceptions, stereotyping, conformity to perceived norms, and that educational interventions promoting critical thinking and open discussion can effectively tackle these dimensions, particularly in environments where the salience of the topics discussed is more relevant. Our results suggest 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.

Our study contributes to the growing body of field experimental evidence on the causes and potential remedies for out-group hostility and discrimination. While social divides are often seen as entrenched and resistant to change, our results show that even brief, carefully structured educational interventions can move the needle on attitudes and behavior. Also, the natural exposure to immigrant peers offered by the school context may enhance the program’s effectiveness by facilitating meaningful intergroup discussions among participants. At the same time, we find no effects on deeper-seated bias (e.g., IAT scores), empathy, or social networks, suggesting some limits to what light-touch interventions can achieve. It is very possible that a longer and heavier-handed intervention would have highlighted stronger results, also on these additional dimensions.

This points to a broader trade-off between program intensity and scalability—one that future research should explore further. The encouraging response from schools, and the relatively low cost of implementation suggest that such programs can be scaled and embedded into existing curricula, providing a feasible policy lever for mitigating affective and behavioral

polarization in diverse school environments.

We also acknowledge that our study focuses on a short follow-up horizon (4-6 weeks). Whether these short-term improvements in attitudes and behavior persist over time remains an open question, and one that is especially relevant given the formative age of our participants. 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.

In a context where political and social polarization threatens social cohesion and democratic institutions, our findings offer cautious optimism. They show that stereotypes and out-group discrimination are not immutable – and that well-designed, low-cost interventions can foster more inclusive attitudes in the next generation of citizens.

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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?

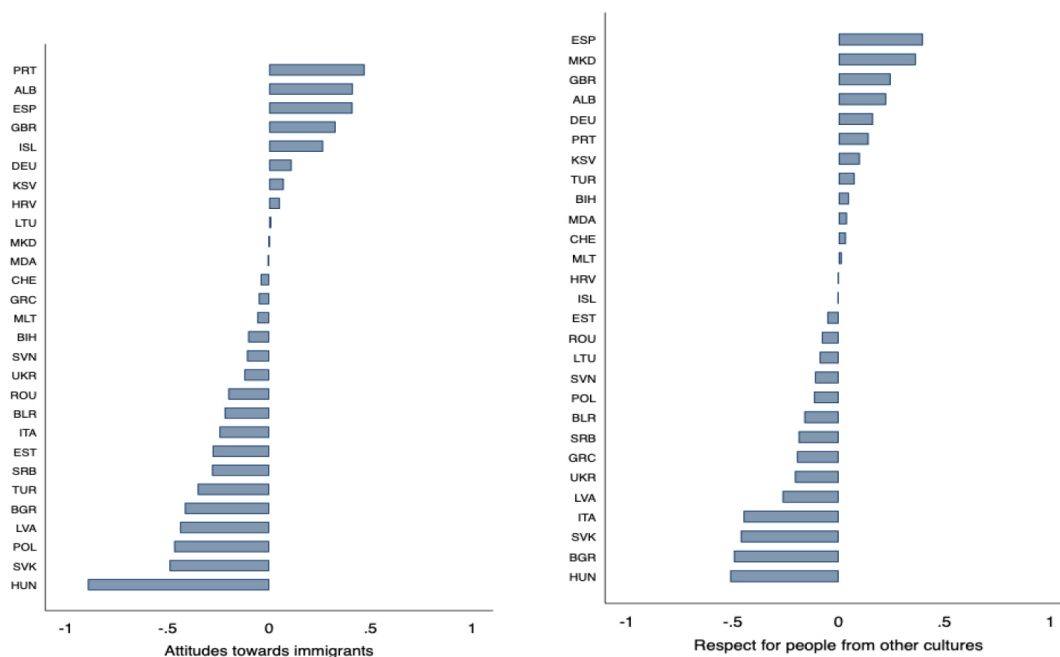


Figure A4: Activity 4: World's map



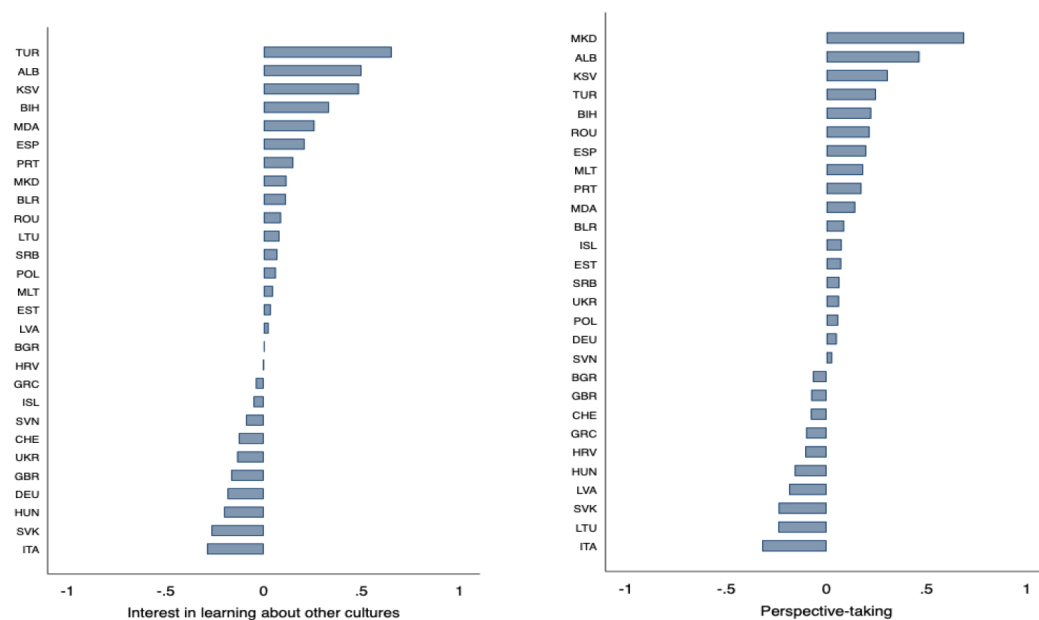
## B Additional Tables and Figures

Figure B1: PISA Global Competencies (2018)



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

Figure B2: PISA Global Competencies (2018)



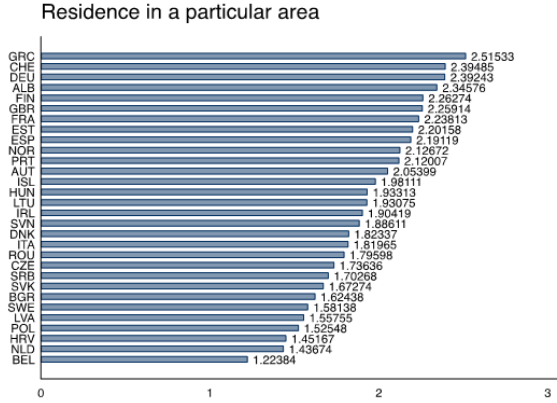
Notes: Authors' elaboration on PISA data (2018).

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.

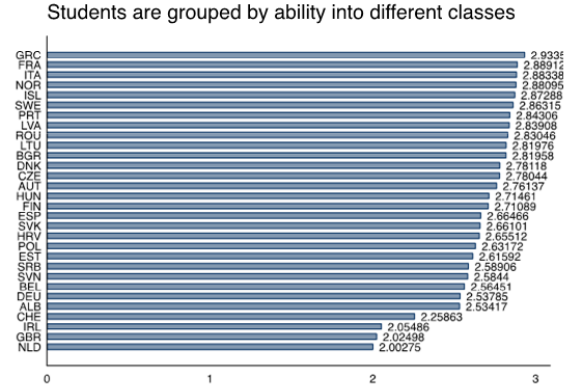
Answer Options: (1) Never, (2) Sometimes, (3) Always.



**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. (p-value)	Obs. N	Mean (SE)		Std. diff. (p-value)	Obs. N
	No sample	Sample			No sample	Sample		
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-yrs 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

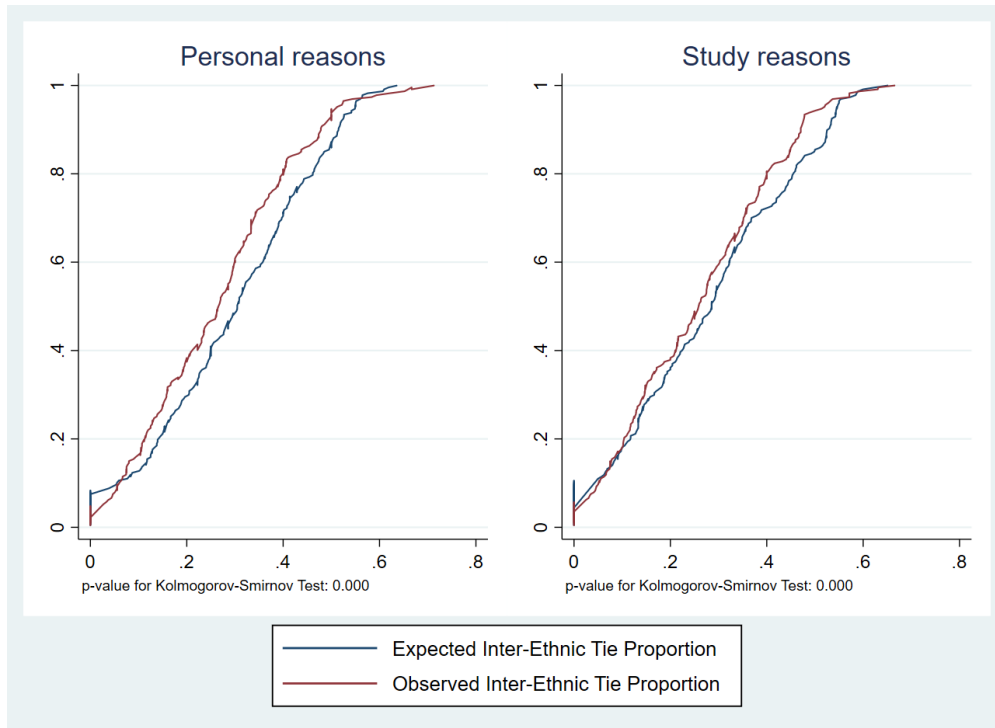
Notes: Province fixed effects included. Robust standard errors are in parentheses, clustered at the province level. \*, \*\*, \*\*\* indicate significance at the 10, 5 and 1 percent level. Data source: MIUR (<https://dati.istruzione.it/opendata/opendata/catalogo/Scuola>).

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 (1)	Treatment (2)		
<i>Student characteristics</i>				
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
<i>Anti-immigration attitudes</i>				
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
<i>Other outcomes of interest</i>				
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)	(2)	(3)	(4)	(5)	(6)
	Q1: Size	Q2: Crime	Q3: Job	Q4: Stereotype 1	Index	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)	(2)	(3)	(4)	(5)	(6)
	Des. Score	D1	D2	D3	D4	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: Intervention impact on main outcomes - social desirability bias

	(1)	(2)	(3)	(4)	(5)
	Q1: Size	Q2: Crime	Q3: Job	Q4: Stereotype 1	Attitude Index
Treatment	-0.051** (0.020)	-0.050** (0.022)	-0.021 (0.021)	-0.023 (0.019)	-0.115** (0.045)
SD score $\geq$ median	-0.108*** (0.019)	-0.107*** (0.020)	-0.051*** (0.019)	0.013 (0.020)	-0.173*** (0.041)
Treatment $\times$ SD score $\geq$ median median=1	0.024 (0.026)	0.021 (0.030)	-0.005 (0.028)	-0.019 (0.030)	0.005 (0.061)
School FE	Yes	Yes	Yes	Yes	Yes
Observations	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. 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 B12: 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 B13: 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 B14: 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 B15: 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 B16: Treatment effects on migration literacy/misperception by class-level immigration share &amp; 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 B17: 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 B18: 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 B19: 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 B20: 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 B21: 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.