Identity and Cooperation in Multicultural Societies: An Experimental Investigation

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Abstract

We experimentally investigate how cooperation in a mixed society, comprising both natives and immigrants, can be influenced through a priming intervention that alters the salience of naturally occurring social identities. For immigrants, identity encompasses both ethnic elements, tied to their country of origin, and elements associated with the host country. Our aim is to examine whether cooperation within mixed groups can be enhanced by making one specific identity dimension salient: a common identity (e.g., belonging to the same society) or a multicultural identity (e.g., belonging to an ethnic group within a multicultural society), compared to a control condition in which no identity dimension is made salient. We conducted an incentivized lab-in-the-field experiment involving over 390 adolescents aged 11 to 14, all attending middle school, leveraging naturally occurring identity dimensions. Within each class, participants were randomly assigned to groups and to one of three priming conditions: common identity, multicultural identity, or a neutral (no-priming) condition. Groups then played a repeated public goods game, both with and without the possibility of punishment. Our findings show that immigrants—defined as participants whose parents were not born in Italy—are initially more cooperative than natives, contributing 13% more on average at baseline. Furthermore, we observe that priming the multicultural dimension of identity increases cooperation among native participants by approximately 3 percentage points, effectively eliminating the initial cooperation gap between them and their immigrant peers. When punishment is introduced, priming has only a modest effect on cooperation levels; however, the earlier pattern re-emerges in the domain of punishment behavior. Immigrants are more likely to punish free riders, and this tendency is shared by natives exposed to multicultural priming. These findings suggest that fostering cooperation within diverse groups requires more than simply targeting migrants—it also involves engaging members of the host society. In other words, integration is a reciprocal process.

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1 Introduction

Over the past decade, both international migration flows and the share of foreign-born residents have grown significantly. As of 2023, around 146 million people were living outside their country of birth across OECD countries—an increase of over 25% compared to a decade earlier. This trend has contributed to a substantial presence of foreign-born populations in many host countries: in the United States, they account for 14% of the total population; in Germany, 17%; and in Italy, 10.6% (OECD, 2025).

This growing mixture and diversity in the population poses several challenges: without proper integration, whether in terms of economic, political, or social facets, immigrant communities risk being marginalized and unable to fully utilize the opportunities available in their new country. Conversely, for the host nation, unsuccessful immigrant integration or a perception of threats to employment, housing, or culture by the native population might generate higher fiscal costs, segregation, and social conflicts (Gathmann and Garbers, 2023). Indeed, European citizens consider immigration and integration as one of the biggest challenges for the European Union (Eurostat, 2022).

Integration is a multifaceted phenomenon that cannot be fully captured by a single measure (Hainmueller et al., 2015). While economists have traditionally focused on comparing immigrants' outcomes to those of natives—such as educational attainment (Schüller, 2015), labor market performance (Rienzo, 2022; Sweetman and van Ours, 2015), and health status (Qureshi et al., 2022)—an equally important dimension of integration concerns social interactions, namely, social integration. These interactions—ranging from casual daily encounters to collaborative tasks and service provision—frequently require cooperation to achieve socially optimal outcomes. However, disparities in opportunities (Hoffman et al., 1996), as well as differences in socioeconomic background, ethnicity, and cultural identity between immigrants and natives, can undermine cooperation (Akerlof and Kranton, 2000). As such, when assessing integration policies or interventions, it is not sufficient to measure success solely in terms of reducing disparities in education or employment. Rather, it is also crucial to evaluate their potential to foster cooperation across diverse social groups.

In this paper, we experimentally investigate whether cooperation within mixed groups—composed of both natives and migrants—can be influenced through a priming intervention that exogenously alters the salience of naturally existing social identities. To our knowledge, this study is the first to explore how a priming manipulation affects cooperation in

a Public Good Game within a naturally diverse setting of natives and migrants.[1]

Following the framework proposed by Akerlof and Kranton (2000), we consider identity as a multidimensional construct that for immigrants includes both ethnic components (linked to their country of origin) and host-country elements. Our study investigates whether cooperation between natives and migrants can be enhanced by emphasizing either shared or distinct identity dimensions. We operationalize this through three identity priming conditions: (i) a *Common Identity* treatment, which stresses shared belonging to the same society; (ii) a *Multicultural Identity* treatment, which emphasizes the coexistence of multiple ethnic identities within a broader society; and (iii) a *Neutral Identity* condition, with no specific priming.

To this end, we conducted a lab-in-the-field experiment with over 390 adolescents (aged 12–14), 33% of whom have a migrant background, in two middle schools in Bologna, Italy. Within each classroom, students were randomly assigned to one of the three priming treatments and participated in a repeated Public Good Game. This within-classroom randomization allowed us to hold constant class-level factors—such as peer networks, teaching quality, and extracurricular activities—across treatment arms. Data were collected between December 2019 and February 2020. To evaluate the impact of the priming treatments, we also collected extensive individual-level background information, data on social networks, incentivized measures of altruism, risk preferences, general trust, ethnic stereotypes, and an open-ended self-description task following Bugental and Zelen (1950).

The results reveal that immigrants are significantly more cooperative than natives at baseline—contributing approximately 13% more than the baseline mean. Furthermore, natives substantially increase their contributions to the public good when exposed to the *Multicultural Identity* treatment, which highlights distinct identity elements within society. This increase—approximately 3 percentage points—is sufficient to close the initial cooperation gap

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[1]Previous studies examining cooperation and trust between migrants and natives have primarily focused on discrimination (Cettolin and Suetens, 2019; Chen et al., 2014; Cox and Orman, 2015; Fershtman and Gneezy, 2001; Guillen and Ji, 2011). While these contributions innovatively identify trust-based discrimination through experimental designs, only a few have examined how such biases change exogenously—e.g., following an influx of refugees (Albrecht and Smerdon, 2022) or reform in birthright citizenship laws (Felfe et al., 2021). Although our study does not focus on trust or altruism per se, it contributes to this literature by experimentally assessing how group-level cooperation can be influenced through priming interventions that manipulate the salience of social identities. Our approach builds on the priming methodology first introduced by Shih et al. (1999) and later applied in the migration context by Chen et al. (2014). However, we extend this framework to examine cooperation and punishment in a Public Good Game played in larger groups (composed of 3, 4, or 5 individuals) and involving both natives and migrants. Unlike prior studies that typically compare two ethnic groups, we leverage the natural diversity of our participant pool. Relatedly, Alan et al. (2021) study the impact of curriculum changes in Turkish schools receiving Syrian refugees on prosocial behavior—measured through trust, reciprocity, and altruism. We further discuss this literature in Section 2.

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between natives and their immigrant peers.

When punishment mechanisms are introduced in the second phase of the experiment, the effects of identity priming on public good contributions become more modest. However, the influence of priming persists in the domain of *social punishment*: immigrants are more likely to sanction free riders, as are natives who received the multicultural priming. Taken together, the findings confirm two key insights. First, immigrants exhibit higher baseline cooperation levels than natives. Second, making multicultural identity more salient encourages natives to increase their contributions in ways that align their behavior with that of immigrants.

These findings reveal that focusing solely on immigrants is insufficient for fostering cooperation in diverse groups. It's equally important to address the wider societal context, including how host-society members perceive and respond to diversity. This underscores that integration is inherently a mutual process.

Our analysis also shows that these effects are not driven by differences in socioeconomic background or by baseline generosity, as measured through an incentivized Dictator Game. Importantly, we observe that the effects of the *Multicultural Identity* priming on native participants are more pronounced in classrooms where the share of immigrant students is relatively low, where there is a higher proportion of first-generation immigrants, or where the classroom social network is less dense and immigrants occupy more peripheral positions in friendship networks.

Finally, we also ruled out several other potential explanations. Our Findings seem not to be explained by participants' understanding the instructions differently, the experimenter's influence, or variations in emotional states.

This paper contributes to the literature on the *contact hypothesis*, which posits that interaction with minority groups can reduce prejudice, strengthen social bonds, and promote integration.[2] By combining experimentally elicited data with natural variation in classroom diversity, we examine whether contextual classroom factors can account for our main findings. As classrooms grow increasingly diverse, they offer a unique setting in which to explore how intergroup contact shapes cooperation. Schools are particularly valuable environments for

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[2]The contact hypothesis suggests that cross-cultural interactions reduce intergroup bias when certain conditions are met, such as shared goals, intergroup cooperation, institutional support, and equal status between groups (Allport et al., 1954; Williams Jr, 1947). In contrast, the *social comparison hypothesis* (Festinger, 1954) argues that individuals tend to compare themselves with peers in their immediate environment, and that such comparisons—particularly with those of higher socioeconomic status or superior performance—may trigger negative emotional outcomes or feelings of inadequacy.

studying these dynamics, as they foster daily peer interaction among students from varied backgrounds—interactions that can generate both intergroup conflict and cooperation (Allport et al., 1954; Lowe, 2021; Mousa, 2020). In our study, we exploit the quasi-random assignment of students to classes within schools to analyze peer-group variation.[3]

In addition, we show that carefully designed integration policies—specifically, those that highlight the multicultural dimensions of a diverse society—can significantly foster cooperation, as measured by contributions to a public good. This calls for a shift from integration approaches focused exclusively on assimilating immigrants into the host culture toward strategies that also engage the native population. Second, our priming intervention offers a broadly applicable tool for enhancing group cooperation in diverse contexts. Schools, in particular, provide a promising platform for implementing such strategies, with potential long-term benefits for social cohesion and economic performance (Gradstein and Justman, 2002).

The remainder of this paper is organized as follows: Section 2 reviews the relevant literature. Section ?? outlines the experimental setting, sample, and design. Section ?? presents the main results and explores potential mechanisms. Section ?? concludes with policy implications and directions for future research. Supplementary materials are provided in the Appendix.

2 Literature Review

Our research employs a lab-in-the-field experiment leveraging naturally occurring identities to offer a novel perspective on the interplay between immigration, social identity, and cooperation. By building on insights from experimental economics, social psychology, and labor economics, this study contributes to a more comprehensive understanding of cooperation in naturally diverse societies.

Specifically, our experiment adds to the growing literature on immigrant-native integration. Most economic studies have traditionally assessed integration by comparing economic outcomes—such as labor market performance, health status, and educational attainment—between migrants and natives (for reviews, see (Brell et al., 2020; Edo, 2019; Giuntella et al., 2018; Schneeweis, 2011)). Other works have considered broader proxies of social integration, including self-identification, values, intermarriage and fertility patterns,

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[3]This work also contributes to the literature on the non-pecuniary returns to education by showing that exposure to diverse peer environments fosters cross-cultural interaction and social cohesion (Goldin and Katz, 2008; Oreopoulos and Salvanes, 2011).

residential segregation, and political participation (for a review, see Laurentsyeva and Venturini (2017)). Yet, an equally crucial but often overlooked dimension of integration lies in the quality of social interactions and the ability of natives and migrants to cooperate despite differences in background and worldview.

Much of the existing work on cooperation and trust between migrants and natives focuses on discrimination. The seminal study by Fershtman and Gneezy (2001) documented systematic bias in trust among Jewish subgroups in Israel, finding that both Ashkenazic and Eastern Jews discriminated against Eastern Jews in a Trust Game. This work sparked a rich literature in experimental economics exploring trust-based discrimination. For instance, Guillen and Ji (2011) analyzed trust discrimination between domestic Australian students of non-Asian descent and international students of Asian origin. In the United States, Cox and Orman (2015) found that first-generation immigrants and native-born Americans both exhibited mutual trust and trustworthiness, although subtle differences remained. In the Netherlands, Cettolin and Suetens (2019) showed that native Dutch trustees were up to 12% less likely to reciprocate trust when the trustor was a non-Western immigrant.

Recent contributions have explored how trust discrimination can evolve following exogenous shocks. Albrecht and Smerdon (2022), for example, studied a refugee resettlement shock in Australia and found that residents in treated towns displayed relatively higher trust towards refugees compared to residents in control towns. Similarly, Felfe et al. (2021) investigated the impact of a reform in Germany's birthright citizenship law, finding that immigrant children exposed to the policy demonstrated significantly higher trust toward native peers.

Another important contribution is offered by Chen et al. (2014), who studied coordination and effort provision between Caucasian and Asian participants in both Prisoner's Dilemma and minimum-effort games. Their work also tested whether priming ethnic identity could exogenously influence discriminatory behavior. They found that making ethnic identity salient led to lower effort contributions in the minimum-effort game, whereas a common identity prime significantly improved coordination outcomes in the Prisoner's Dilemma. However, the effectiveness of priming varied depending on the game and the specific behavior being studied.

Our work builds on these foundational studies, extending the literature by shifting the focus from individual-level interactions to group-level cooperation and punishment dynamics within diverse populations.

While not directly investigating discrimination or individual choices in isolation, our study makes a unique contribution to the literature on identity and cooperation. We experimentally

investigate whether cooperation in diverse social settings can be influenced by external cues. Specifically, our paper is the first to use identity priming to examine cooperation levels in a Public Goods Game played by a natural mix of natives and migrants.

To this end, we build upon the framework introduced by Chen et al. (2014), who adapted the identity priming method initially developed by Shih et al. (1999) to manipulate the salience of existing social identities. In our experiment, identity salience is subtly emphasized through a pre-experimental questionnaire and visual cues displayed throughout the game. This priming intervention is designed to bring specific identity dimensions to the forefront of participants' minds without their explicit awareness.

Following this approach, we implement two types of identity priming: a *Multicultural Identity* treatment, which highlights the ethnic diversity, family histories, and cultural heritage within the group, and a *Common Identity* treatment, which emphasizes shared belonging to the same school community. These identity dimensions resonate with the theoretical perspective proposed by Akerlof and Kranton (2000), in which immigrants' identities comprise both ethnic components—rooted in their country of origin—and civic or institutional components—tied to the host country.[4]

Our study departs from this literature in several key respects. First, rather than examining dyadic coordination or effort provision, we explore how identity priming affects group-level cooperation and punishment behavior in a Public Good Game. Second, our design includes groups of varying sizes (3, 4, or 5 participants), which allows us to investigate how results vary with group size and composition. Third, unlike studies restricted to two specific ethnic groups, our subject pool reflects rich natural diversity in ethnic backgrounds. Lastly, we focus on a younger demographic—middle school students aged 11–13—who have been exposed to ethnic diversity in school settings from early childhood.[5]

Our study also complements the work of Alan et al. (2021), who examine prosocial behaviors

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[4]The literature on social identity has utilized two main experimental strategies to examine the behavioral effects of identity: artificial group identities induced in the laboratory and the priming of naturally occurring identities (Charness and Chen, 2020). While most experimental studies have relied on induced identities (see Charness and Chen (2020) for a review), we instead prime existing identity dimensions, namely, ethnic and school-based identities, as our participants naturally identify with these groups. Naturally occurring identity primes have been shown to significantly affect economic behavior in various domains (Chang et al., 2019; Chen et al., 2014; Cohn et al., 2017, 2015; Hetey and Eberhardt, 2014, 2018; Li et al., 2017; McLeish and Oxoby, 2011; Peffley and Hurwitz, 2007).

[5]Our sample includes students born between 2006 and 2011, who began primary school between 2011 and 2016. These years correspond to a period of rising ethnic diversity in Italian schools, marking them as the first generation extensively exposed to diverse classroom environments (MIUR, 2021).

and cohesion in ethnically mixed schools in Turkey following a curricular reform. While that study focuses on large-scale policy changes in response to the rapid influx of Syrian refugee children, our intervention is designed to be low-cost and easily scalable. It is applicable to broader contexts where ethnic diversity arises from long-term migration rather than recent displacement. Moreover, while Alan et al. (2021) primarily analyze settings with two dominant ethnic groups, our participants come from a wide range of cultural backgrounds, and many of the immigrant students in our sample were born in Italy but do not hold Italian citizenship.

3   Institutional Setting

3.1   Immigration in Italy

The enrollment of students without Italian citizenship (non-Italian) has steadily increased in Italy since the early 1990s. However, the overall share of non-Italian students remained below 1.5% until the academic year 1999/2000. Over the following decade, this share grew significantly, reaching 7.52% in 2009/2010—rising from 119,679 to 673,800 students. By 2019/2020, the academic year during which our experiment took place, non-Italian students accounted for 10.3% of the total student population—an increase of less than three percentage points compared to ten years earlier. Notably, around 62.2% of students with a migrant background were born in Italy (MIUR, 2021).[6]

In the region of Emilia-Romagna—where this study was conducted—the share of enrolled students without Italian citizenship is 17.1%, the highest among all Italian regions. In the municipality of Bologna, this figure is 16.4% among middle school students, 62.6% of whom were born in Italy. The majority of students of migrant origin in Bologna come from Europe (38%), including 18.5% from European Union member states, followed by students from Asia (29.0%) and Africa (28.7%) (MIUR, 2021).[7]

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[6]Italian citizenship is acquired primarily through the principle of *jus sanguinis* (right of blood), meaning that citizenship is granted to those born to Italian parents or adopted by Italian citizens. There are limited cases in which citizenship is acquired by *jus soli* (right of soil)—for instance, when a child is born in Italy to stateless parents or parents whose nationality is unknown or cannot be transmitted. Foreign nationals may apply for citizenship after at least ten years of legal residence in Italy, provided they meet specific requirements, including stable income, a clean criminal record, and no threats to national security. Additionally, Italian citizenship can be obtained through marriage: a non-Italian spouse may apply for citizenship after two years of legal residence in Italy post-marriage, assuming there has been no dissolution or separation of the union.

[7]The most represented countries of origin among non-Italian students in Bologna include: Pakistan (8.7%), Bangladesh (6.1%), Moldova (5.0%), the Philippines (4.1%), Morocco (3.6%), China (2.4%), Romania (2.4%), Albania (1.7%), India (1.1%), and Egypt (0.9%) (MIUR, 2021).

In this study, we identify immigrant students based on their parents' citizenship status. This definition encompasses both first-generation immigrants (students born outside of Italy) and second-generation immigrants (students born in Italy to non-Italian parents). As in many European countries—unlike the United States—Italy adopts the *jus sanguinis* principle, which does not automatically confer citizenship to children born on Italian soil unless certain conditions are met. Non-Italian students born in Italy may apply for citizenship upon reaching the age of 18, provided they can demonstrate uninterrupted legal residency since birth.

Thus, throughout the paper, we refer to any student whose parents were not born in Italy as an immigrant. Table A1 presents the distribution of citizenship among immigrant students in our sample. When considering the place of birth, 75.4% of immigrant students were born in Italy (thus within the European Union), 11.5% were born elsewhere in Europe, 8.5% in Asia, 1.5% in Africa, and 0.8% in Central or South America.

Table A3 describes the socio-economic characteristics of the municipality of Bologna and the two city districts involved in our study. On average, foreign residents constitute about 15% of Bologna's total population. The two districts we focus on—"Borgo Panigale - Reno" and "Savena"—mirror this trend, with foreign resident shares of 16% and 14%, respectively. In terms of average income and educational attainment, both districts fall slightly below the citywide average, particularly in "Borgo Panigale - Reno".

3.2 The Educational System in Italy

In Italy, education is publicly funded and provided free of charge to all children. Schooling is compulsory from ages 6 to 16 and is structured into three main stages: five years of primary school (*scuola primaria*), three years of middle school (*scuola secondaria di primo grado*), and five years of high school (*scuola secondaria di secondo grado*). Upon completing middle school, students must choose one of three high school tracks: academic (*liceo*), technical, or vocational.

Italian schools enjoy a high degree of autonomy: each institution defines its own curriculum, expands its educational offerings, and organizes teaching methods, including school hours and the composition of student groups. At all school levels—primary, middle, and high—students follow all subjects within the same class and with the same cohort of peers. In both primary and middle school, it is common for students to have the same teacher for a given subject throughout the full educational cycle. For example, a student's mathematics and science teacher typically remains the same for all three years of middle school.

In recent years, the Italian Ministry of Education has faced increasing challenges in managing the integration and placement of students with non-Italian citizenship. In response, since 2006 the Ministry has issued several sets of guidelines aimed at promoting inclusion, enhancing intercultural dialogue, and addressing the growing ethnic and cultural diversity in classrooms.[8]

According to ministerial guidelines introduced in the 2010/2011 academic year, the proportion of students with non-Italian citizenship and limited Italian language proficiency should not, as a rule, exceed 30% of enrolled students per class.[9] Nationally, Emilia-Romagna—the region where our study was conducted—has the highest percentage of classes that meet or exceed this 30% limit (16.2%) (MIUR, 2021).

Table A4 reports a few descriptive statistics of our study population across the two participating schools. In both institutions, the average share of immigrant students per class exceeds the national threshold, standing at approximately 33%. Similarly, the average proportion of immigrant students per experimental group is also around 33%.

4 Experimental Framework

4.1 Schools

The experiment was implemented as a within-class randomized controlled trial. The pool consists of 390 students from 2 middle schools in Bologna, a municipality of the Emilia-Romagna region in Italy. The average number of students per class is around 19 students, and approximately 33% of students in the class are immigrants. Notice that in School 2, the class size is slightly bigger than in School 1, but given that we randomize the treatment within class, this difference should not impact our treatment effects.

The timeline of our study is as follows: in the spring of 2019, we first checked the average distribution of immigrant students per class using the administrative data from the Ministry of

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[8]These guidelines include: *Linee guida per l'accoglienza e l'integrazione degli alunni stranieri* (2006); *La via italiana per la scuola interculturale* (2007); *Linee guida per l'accoglienza e l'integrazione degli alunni stranieri* (2014); *Diversi da chi?* (2015); and *Orientamenti Interculturali. Idee e proposte per l'integrazione di alunne e alunni provenienti da contesti migratori* (2022).

[9]This threshold may be exceeded if students with non-Italian citizenship already possess adequate language skills, or reduced in cases where many students lack basic Italian proficiency. Importantly, schools are not permitted to refuse enrollment based on surpassing this threshold.

Education and information on the number of classes per school from selected school website.[10]. This was done in order to prioritize recruitment in schools with a higher number of students and a certain degree of diversity in terms of composition. In September, at the start of the academic year 2019/2020, we recruited two schools, one located in the "Borgo Panigale - Reno" district and the other in the "Savena" district, as shown in Table A4. Each school headteacher received a description of the project and the IRB approval from the University of Bologna during our initial visit to the school. Then, together with each headteachers, we designed a calendar of meetings for each class to run the experiment during the school-time, so to adopt the same research protocol in both schools and to avoid any conflict with other afternoon activities.[11]

4.2 Experimental Design

Our experimental design is structured over two meetings of two hours each, conducted about one week apart. In the first meeting, students were randomly assigned to the priming treatment and played the Public Good Game using tablets. The random assignment to the treatment, the priming, and the game were programmed using the software Otree (Chen et al., 2016).

In the second meeting, we collected the data described in the sub-section 4.2.3, which comprises incentivized and non-incentivized games and a general questionnaire on the demographic characteristics of the students.

4.2.1 Priming Treatment

Priming aims to manipulate the salience of shared or distinct natural identity elements among students and study their influence on subsequent cooperative behavior observed in the Public Good Game. In particular, in each class, we randomly assigned participants to treatment, so that any class-specific factors which may potentially affect cooperation (peer composition and network, teaching methods, curricula and extra-curricula activities, etc.), are kept constant across treatments and control groups. The three different priming treatments are:

- Common Identity Treatment: where we primed a unitary social identity (i.e., attending

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[10]We collected information on the number of classes in each school from the schools website and only for those schools with a percentage of immigrant students over the total number of students near the 30% limit, computed using the data on the number of students per school publicly available from the Ministry of Education, here: https://dati.istruzione.it/opendata/progetto/

[11]We also recruited a pilot school in June 2019 to test the length of the experiment, the tablet and software functioning, and the clarity of the instructions. We will describe the procedure in more detail in Section 4.3.

the same middle school);

- Multicultural Identity Treatment: where we primed the natural ethnic identity of participants, to highlight the presence of multi-cultural natural identities;

- Control Treatment: where a neutral priming was present in order to have a baseline for evaluating the impact of the other priming intervention.

We used the priming technique first introduced by Shih et al. (1999), according to which a specific identity can be activated unconsciously by exposing participants to certain stimuli (e.g., images, videos, and pre-experimental questionnaires). Building upon the implementation by Chen et al. (2014), we introduce the priming with a pre-experimental questionnaire, and we reinforced it through images/pictures throughout the game. In particular, Table 1 shows the questionnaire we adopted in each treatment, and Figure 1 and Figure 2 show the treatment-specific welcome screens and waiting screens, respectively.

Specifically, in the Common Identity treatment, we primed a unitary social identity associated with being a student of the same middle school. To this end, we asked participants questions about the school they attended, the reasons why they chose it, as well as the features of the school they liked the most (see Table 1). At the same time, throughout the whole experiment, participants assigned to this treatment see on the "welcome" and "waiting" screens some pictures of their school as well as the logo (see in the first panel of Figure 1 an example related to one of the participating schools). In the Multicultural Identity treatment, we highlight the presence of different ethnic and cultural backgrounds by asking participants questions like: "What is the country of origin of your family?" or "Which language is spoken in your family?" as reported in Table 1. As a "welcome" ("waiting") screen, we translate a welcome (waiting) message in the languages of the most represented ethnic minorities in the municipality of Bologna, together with their national flags (see Figures 1 and 2).[12] To ensure comparability, in the Control group we ask participants "neutral" questions such as: "What extra school activities do you practice?"; "How often do you watch television?", etc. to expose them to the same procedure, but without making salient a specific dimension of identity. For the Control group, we use neutral "welcome" and "waiting" screens throughout the whole experiment, as shown in the third panel of Figures 1 and 2.

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[12]We retrieved this information from the statistical registry of individuals living in the municipality of Bologna, created by the National Institute of Statistics (ISTAT), available at this link: http://inumeridibolognametropolitana.it/dati-statistici/popolazione.

After the pre-experimental priming questionnaires, participants played the public good game, seeing the above-described "welcome" and "waiting" screens (after each round). This procedure allows us to estimate whether the different treatments, which made salient different dimensions of identity, have an effect on cooperation. We also collected individual background data, information on social networks, incentivized lab-in-the-field measure of altruism behaviors, general risk taking, trust, and ethnic stereotypes. Details on these other measures are provided in section 4.2.3.

At the end of the public good game, all participants are requested to write an open-ended description of themselves and their interests (Bugental and Zelen, 1950). We use this task to check for the effectiveness of our priming, expecting that in the description, the writer will highlight the "primed" dimension of their identity more than the control group. For example, we expect that participants in the treatment where the multicultural identity is primed, the open-ended description will have a higher number of words referring to their ethnic origins, compared to the text written by the participants assigned to the neutral identity priming. The results in Table 2 shows how the probabilities of mentioning words either related to the cultural identity or the school identity in the text of the open-ended description of oneself change under each treatment, both in the full sample (columns (1) and (2)), among natives (columns (3) and (4)) and among immigrants (columns (5) and (6)). Indeed, the Tables show that each priming has activated the specific identity, since under the Multicultural treatment, students are more likely to mention words related to their cultural identity, and under the Common treatment, students are more likely to refer to their school or their student status. This evidence further supports the internal validity of our priming technique, which has been empirically validated by Chen et al. (2014).

4.2.2 Public Good Game

In order to elicit preferences for cooperation, we used a standard public good game using the "take frame" (Fosgaard et al., 2019) under a partner matching protocol within the session (class). Given that, in each session (class) it was not known ex-ante the number of participants, at the start we counted the number of students present in that day, and we randomly allocated participants to treatments using an algorithm assigning all the students to treatments and to groups of different sizes (i,e. N= 3, 4 or 5).[13] After the first 10 rounds (first part), participants

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[13]Although we asked parents to sign the consent about one week in advance with respect to the date of the session, some children may be not present in the specific day of the data collection due, for example to sickness.

received the instructions related to the second part, which was identical to the first except for the introduction of the punishment possibilities in the public good game. They were also informed that the group was the same as the one they had been assigned in the first part. Notice that all the instructions were read aloud and participants had the time to ask questions, as well as to solve control questions, before starting each part. In the first part of the experiment, the randomly formed groups played 10 rounds of the public good game, with feedback about the contributions of the other group members after each round. Specifically, the instructions clarified that, in each round, each group begins with a common pool containing "150" or "200" or "250" points, depending on the number of subjects in the group (50xN points, where N is equal to the group size). Each group member starts with no points and faces the same decision: either leave the points in the common pool or take from 0 to 50 points (in multiples of five points) from the common pool. The number of points that each member chose to take from the common pool represented his/her private earnings, while what was left in the common pool was doubled and then split evenly among all group members.[14] At the end of each round, each participant receives feedback about: the points she left in the common pool, the total number of points the group left in the common pool, the earnings from the point she took (private earnings), the earnings from the common pool (individual share), and her total earnings in the round.

Only after part one, participants discover the content of part two, which is composed of another 10 rounds of the same public good game (played in the same group), but introducing punishment possibilities. In each round, the punishment possibilities are shown after the contribution stage, which is identical to the first part. After the contribution stage, participants see the points taken by each group member, their earnings, and the earnings of the other group members, and they now have the chance to reduce the number of points (hence the earnings) of the other group members through costly punishment. Figure 7 shows the screenshot of the punishment stage taken from the instruction and referring to a group of size N=4. The table displays, for each group member, the number of points taken by each group member from the common pool (from 0 to 50) and the associated earnings. In the last column, it is displayed the number of points that can be subtracted and the relative cost (in parenthesis), as well as the total costs of punishment.[15] After the punishment stage, participants see a feedback screen showing the total cost of the points subtracted from the

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[14]The experiments had been conducted in Italian. Online Appendix A reproduces the English version of the instructions, while the Italian version can be found at the following link.

[15]In order to preserve anonymity, participants are informed that the order in which the group members are displayed in each punishment stage is randomized in each round.

other group members, the total points subtracted from the other group members, and the net earnings of the round.

Participants were informed that, at the end of the study, one of the two parts was going to be randomly selected to be relevant for the final earnings. As payment for the selected part, participants received the sum of the points accumulated over the ten rounds of play.

4.2.3 Other measures

After the public good game, participants have to write an open-ended description of themselves and their interests Bugental and Zelen (1950). We use this task to check for the effectiveness of our priming, expecting that in the description, the writers, who are exposed to the priming treatment, will highlight the primed dimension of the identity compared to those in the control group. The results are shown in Table 2 and discussed in Section 4.2.1.

After this activity, we also collect each student's friends network using the methodology applied by Landini et al. (2016) and Chen et al. (2016). These data allow us to construct measures on the intra- and inter-cultural friendship links among the class peers, which can be interpreted as measures of the socialization and assimilation between students from different cultural backgrounds in the class (see, for example, Patacchini and Zenou (2016) and Facchini et al. (2015)). Specifically, as in Landini et al. (2016), participants had to fill out a sheet of paper where a table and five chairs were depicted. Each participant had to write his/her ID number on the chair on the head of the table and (up to) five other ID numbers of his/her friends in the same class that s/he would like to have seated close to him/her on the same line (from the closer to the farther, see Figure 4). We informed participants that we would keep the IDs they reported confidential and that neither the parents, the teachers, nor other friends would know what they wrote. Children received a fixed number of points for completing this task.

After this activity, we collected incentivized measures on generosity using the standard Dictator Game (Kahneman et al., 1986) and on fairness views using the impartial version of the same game (Konow, 2000). Participants were divided into pairs comprising one dictator and one recipient. Dictators were endowed with 10€ and had to decide how much to keep for themselves and how much to give to the recipient, who had no decision to make. A self-interested dictator should keep the entire endowment, while positive transfers are interpreted as a proxy for generosity. Here, we used role-reversal; all players were asked to

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make decisions as dictators. Roles were assigned and revealed at the end of the experiment.

Finally, participants also answered a questionnaire collecting info on the household compositions, participants' aspirations, risk preferences, general trust, and questions on stereotypes. Notice that the questionnaire was collected in a second meeting with each class, which was scheduled one week after the first meeting; during the second meeting, we also finalized the data collection of the first meeting, in case students didn't finish all the activities in the first meeting. In the next section, we provide more details on the experimental procedures.

4.3   Experimental Procedures

As introduced in Section 4, we agreed with each school headteacher a calendar of meetings, in December 2019 for the first school and in February 2020 for the second school. Approximately one week before the experiment, we distributed to the children's parents (or legal guardians) a flayer with a description of our study and asked them to sign a consent form to agree for the student participation in the study.[16] In each school, we used a room to set up an experimental lab.   At the beginning of each session, students from one class entered the laboratory accompanied by the teachers and met the experimenters. The research team carried out all the data collection.

During the different activities, participants collected points to be converted into euros, at the exchange rate of 100 points = 1 euro, paid as a gift card. We used gift cards from Feltrinelli, a famous chain of bookshops in Italy, or Amazon to be spent online or physically in the bookshops. The average payment was about XX, with the minimum and the maximum payment being ZZ and YY, respectively.

Notice that when we consider the measures collected over the second meeting described in 4.2.3, we lose some observations since, for a few classes in the second school, we had to postpone the second meeting to June 2020 due to the first wave of the COVID-19 emergency. However, when testing whether attrition in these measures was different across treatments, we didn't find any difference. Table 3 indeed shows that there is no difference across treatments in the probability of completing the other activities – the open-ended description of themselves (Column 1), the Dictator (Column 2), the elicitation of students' fairness views (Column 3) and

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[16]Participation rate was extremely high (over 95% in each school. Children who did not participate had the chance to help the experimenter distribute and collect the materials and get a small prize as a show-up fee. We indeed wanted to prevent any school absenteeism or social stigma due to non-participation in our study.

of the network of friends (Column 4) – in February 2020, rather than in June 2020. Furthermore, in Table 4, we do not see any differential attrition by treatments in the probability of completing the activities at all, i.e., at the end-line of the experiment.

Additionally, when we test for differences in the observable characteristics measured in the first meeting between students who have completed at least one of the other activities before the first wave of the COVID-19 emergency or in June 2020, we don't observe relevant differences, see Table 5. This check is further confirmed when we look at the differences in the observable characteristics with those students who never completed the other activities, see Table 6. Overall, these checks confirm that we do not have differential attrition or self-selection, both at the midline and at the endline of the experiment. Anyhow, the main analysis is carried out using only the data collected in the first meeting, as detailed in the next section. Moreover, when we use the other measures in the analysis, we will restrict the sample to those who have completed the activity before the first wave of the COVID-19 emergency. While in Section XY, we will present some results on the effect of the COVID-19 emergency on these other measures.

5   Results

In this section, we present the results of our treatment interventions on cooperation attitudes measured in the public good game. In particular, we present first the results on the first part of the experiment, where participants played the public good game without punishment, and then we focus on part two to analyze how the introduction of punishment affects cooperation, as well as the punishment choices. Through the analyses, we will compare the treatment effects associated with the type of priming and the immigration status of our participants. Since our students are nested in classes, and classes are nested in schools, and schools are nested in districts, we use a set of Multilevel Mixed-Effects Models to account for the lack of independence within each of these groups. However, in Section XY, we show that the main results are robust compared to other estimation choices. In the next subsection, we first provide evidence on the effectiveness of our priming manipulation by looking at the content of text written by participants in the open-ended description of themselves (Bugental and Zelen, 1950).

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5.1 Priming effectiveness

We used the text data collected in the open-ended description to test whether our priming had made the intended dimension of participants' identity salient. In particular, in Table 2, we tested how the probability of using words related to the specific identity, over the total number of words, changes across treatment groups. Column 1 shows how the probability of using words related to participants' origins (ethnicity, place of birth, place of residence) changes when exposed to the Multicultural or the Common priming, with respect to the reference group, i.e., the Neutral group, in the full sample. While Column 2 of Table 2, shows how the probability of mentioning their school or their student status, when exposed to the Common or Multicultural priming, with respect to the Neutral treatment, in the full sample. The results indeed show that students in each of the identity priming (Common or Multicultural) conditions mention the elicited identity more often than in the control group. This test confirms that our priming interventions have activated the specific identity so that the identified treatment effects are not simply generated by a change in emotions or by chance, as shown also in previous studies using similar priming techniques (Chen et al., 2014; Shih et al., 1999).

5.2 Priming and Cooperation in the Public Good Game

In this section, we now present the main results of the experiment. In particular, we start by looking at the first part of the experiment where participants played the Public Good Game without any punishment possibilities, as described in Section 4.2.2.

We start by first plotting in Figure 6 the individual contribution to the public good (i.e., the number of points left in the common pool). Panel a) of Figure 6 displays the overall contribution over the ten rounds of play by treatment and student status (panel a), while panel b) shows the dynamics of contributions in each round by treatment and student status, i.e., native or immigrant. As is possible to see from the first panel of Figure 6, in the control group, i.e., the Neutral treatment, there is a significant difference in the overall contribution between immigrants and natives. This is indeed observed, not only over the entire period, but also in each round, see panel b) of Figure 6. This result suggests that immigrants contribute more to the public good at the baseline than natives. When looking at how this difference change across treatments, we notice that, while in the Common treatment the difference has remained almost unchanged, the Multicultural treatment has shift the natives' contribution upward, irrespectively of the round, see the central plot in panel b) of Figure 6. From this first graphical inspection of the data,

we see that the treatment priming a multicultural identity induces an increase in cooperation, which is driven by the natives.

These results, namely the higher contribution of migrants at baseline and the positive effect of the multicultural priming on natives' contribution, are further confirmed through a more formal approach. In particular, in Table 7 we show the results from the regression analysis using the data on the first part of the experiment. Notice that since individual contribution is observed over multiple rounds, and individuals are nested in groups, which are nested within classes, which are nested in school, we use a four level mixed-effects models in order to account for the lack of independence of individual observations over rounds and among participants belonging to the same group and class.

$$
\begin{aligned}
Y_{itgcs} = \alpha &+ \beta_1 Treatment_i + \beta_2 Immigrant_i + \beta_3 Treatment_i * Immigrant_i + \\
&+ \beta_4 X_i + \beta_5 Z_g + \tau_{it} + \delta_i + \delta_i * \tau_{it} + \gamma_g + \lambda_c + \psi_s + \epsilon_{itgcs}
\end{aligned}
\tag{1}
$$

where Y_{itgcs} represents the individual contribution to the public good in each round (i.e. the number of points left in the common pool), the variable $Treatment_i$, which indicates either the Common, the Multicultural or the Neutral priming the individual has been exposed to; the dummy $Immigrant_i$ represents the Immigration status (1 if the participant has at least one parent not Italian, and 0 otherwise), X_i identifies a set of controls (e.g. gender and group size), τ_t accounts for round fixed effects capturing the time trend in the contribution over the multiple rounds of the first part, δ_i is the individual random effect, $\delta_i * \tau_t$ is the individual random slope, γ_g group-specific deviation from the intercept (second-level nesting), λ_c is the class specific deviation from the intercept (third-level nesting), ψ_s is the school deviation from the intercept (fourth-level nesting), and ϵ_{itgcs} is the error term. More precisely, the four-level model uses random intercepts and slopes for individual contribution choices observed over rounds, and it accounts for dependence in the observations among individuals belonging to the same experimental group, class, and school. In the Appendix A7 replicate the same analysis using ordinary-least-squared linear regression model.

Columns 1-2 of Table 7 estimate the model of equation 1 on the full sample (i.e. 3900 observations obtained from 390 participants deciding in 10 rounds of public good game), models 3 and 4 refer to the participants classified as immigrants (N=130 participants) while models 5 and 6 refer to native participants (N=260 participants). When looking at the results in the full sample (Columns 1-2), we see that the dummy $Immigrant$ is significant in both

specifications, indicating that immigrants are more cooperative than natives, i.e., the reference group, at the baseline. i.e., in the Neutral group, by more than 3 points (which is around 16% of the average contribution in the control group). Being in a group of size five is associated with higher cooperation compared to groups of size three. Moreover, when we look at the treatment effect by student status, i.e., Immigrant or Native, both the dummies *Common* and *Multicultural* are positive and significant, with the latter being significantly bigger in magnitude than the former. This suggests that our priming interventions were effective in pushing higher contributions among natives. While no differential response is detected among immigrants (the interaction between the treatment dummies *Common* and *Multicultural* and the immigration status is not significantly different from zero). Indeed, when we look more precisely at the treatment effects among immigrants, we do not detect any significant effect (Columns 5 and 6), but only a positive relation between individual contribution and the group size. Contrarily, in Columns 7 and 8, when we focus on participants with a native status, the dummy related to the Multicultural priming treatment is positive and significant at 1%, while the Common treatment dummy does not display any significant effect. In addition, the female dummy becomes positive and significant in both models.

The results of the first part of the experiment can be summarized in result 1:

Result 1 (Priming and cooperation). *Priming a multicultural identity increases cooperation compared to priming of a common identity and compared to the control treatment. The increase in cooperation is driven by the more cooperative behavior of native individuals. Migrants are more cooperative than native individuals regardless of the treatment.*

In the next section, we focus on the second part of the experiment, where we introduce the possibility of punishing free riders, to understand how our treatment affects cooperation under this different institutional context.

5.3   Priming and Cooperation in the Public Good Game with Punishment

In this section, we focus on the second part of the experiment, where participants played the same public good game but with punishment possibilities. In particular, participants are still playing with the same group as in part 1, but now, in each round, they have the possibility of punishing other group members. As described in Section 4.2.2, in each round, after participants

decided how many points to take from the common pool, they see the points taken by each group member, their earnings and the earnings of the other group members, and they have now the chance to reduce the number of points (hence the earnings) of the other group members through costly punishment.

5.4 Punishment

Following Herrmann et al. (2008), we classify two different types of punishment behavior: i) social punishment, i.e., punishment of free-riding, namely of participants who have contributed less than the individual; ii) anti-social punishment, i.e., punishment of positive deviations from the punisher's contribution.

Figure 7 represents the overall punishment by treatment and immigration status, by distinguishing between social punishment (panel a) and anti-social punishment (panel b). A joint inspection of both panels reveals that, at the baseline, immigrants punish more than natives, especially socially. Moreover, when looking at Panel a), it seems that both treatments, but especially the Multicultural priming, have increased the social punishment of natives (dark line). While, when looking at Panel b) of Figure 7, it seems that the Multicultural treatment might have reduced the anti-social punishment of natives (dark line).

To better analyze the determinants of punishment, following Herrmann et al. (2008), we estimate the following model:

$$
\begin{aligned}
Y_{itgcs} = {} & \alpha + \beta_1 Treatment_i + \beta_2 Immigrant_i + \beta_3 Treatment_i * Immigrant_i + \\
& + \beta_4 PunishedContribution_{it} + \beta_5 Contribution_{it} + \beta_6 ContributionOthers_{it} + \\
& + \beta_7 PunishmentReceived_{it-1} + \beta_8 X_i + \sigma_5 Z_g + \tau_{it} + \delta_i + \delta_i * \tau_{it} + \gamma_g + \lambda_c + \psi_s + \epsilon_{itgcs}
\end{aligned}
\tag{2}
$$

where Y_{itgcs} identifies the assigned (anti-) social punishment points in each round, the variable $Treatment_i$, which indicates either the Common, the Multicultural or the Neutral priming the individual has been exposed to; the dummy $Immigrant_i$ represents the Immigration status (1 if the participant has at least one parent not Italian, and 0 otherwise). $PunishedContribution$ identifies the punished subject's contribution. $Contribution$ identifies the punisher's contribution, $ContributionOthers$ identifies the average contribution of other group members, and $PunishmentReceived$ identifies the received punishment in t-1. X_i

identifies a set of controls (e.g. gender and group size), τ_t accounts for round fixed effects, δ_i is the individual random effect, $\delta_i * \tau_t$ is the individual random slope, γ_g group-specific deviation from the intercept (second-level nesting), λ_c is the class specific deviation from the intercept (third-level nesting), ψ_s is the school deviation from the intercept (fourth-level nesting), and ϵ_{itgcs} is the error term. Table 8 shows the results of model 2 on social punishment, namely the amount of points subtracted from free-riders. In particular, the Table shows in Columns 1-2 the results on the full sample, while Columns 3-4 and 5-6 refer to only immigrants and natives, respectively. When focusing on models 1-2, it can be noted that immigrants are significantly more likely to punish free-riders by around 12 points. Both treatments have increased social-punishment among natives, i.e., the reference group, with the *Multicultural* treatment having a stronger effect, both statistically and economically, when we consider the native sample only (Columns 5-6). While both treatments on immigrants do not generate a significantly different effect than on natives, even though the point estimates are negative and sizable. Indeed, when we look at immigrants only in Columns 4 and 5, we don't find any significant treatment effects.

As in Herrmann et al. (2008), we notice that social punishment is positively correlated with the player's contribution to the public good, i.e., *Contribution*, and negatively with the average contribution by other players in the group *ContributionOthers*. Female participants generally subtract fewer points, especially among immigrants (Columns 3-4). Finally, the intensive margin of social punishment is higher in larger groups, i.e., in groups of four or five people, there is stronger punishment of free-riders than in groups of three subjects.

Overall, this evidence suggests that being exposed to multicultural priming increases the intensity of social punishment among natives. When looking at other explanatory variables, we see that both the level of own contribution and the average contribution in the group are the stronger predictors of this behavior. Moreover, participants identified as immigrants are more likely to engage in social punishment at the baseline. When we look, instead, at anti-social punishment, in Table 9 of the Appendix, using the same model of equation 2, we find no baseline difference between natives and immigrants. In particular, immigrants and natives, when they punish anti-socially, i.e., they subtract points to players who have contributed more than they have to the public good, they subtract the same amounts of points (around 31 points as indicated in the constant term). Both treatments, *Common* and *Multicultural*, have reduced anti-social punishment among natives, even though the latter by a larger extent, namely by around 5-6 points, while the former by around 3 points (Columns 1-2 and 5-6). While the effects of both treatments among immigrants are of opposite sign and stronger in magnitude, it seems that only

the *Common* treatment has significantly increased anti-social punishment among immigrants by around 7 points (Columns 3-4), which is around 20% of the baseline average. Other variables have common effects across the four models. Specifically, antisocial punishment is negatively correlated with one's own contribution and positively correlated with the punished subject's contribution. In addition, it is positively correlated to the lagged punishment points received, suggesting that participants engage in a "punishment-and counter-punishment" decision.

Overall, these results on social and anti-social punishment mirror the results found on contribution in part 1, where subjects played the Public Good without punishment. In particular, it seems that the multicultural treatment brings native to increase their contribution in part 1, but also to increase their punishment of free-riders and to reduce their anti-social punishment, which can be considered as cooperative behaviors to the Public Good, but of a different nature with respect to direct contribution.

Results from the second part of the experiment can be summarized in result 2:

Result 2 (Punishment). *When punishment possibilities are introduced, we observe that immigrants are more likely to engage in social punishment at the baseline, while natives, exposed to a multicultural priming, are more likely to punish free-riders and to reduce their anti-social punishment.*

In the next paragraph, we look at the contribution in the second part of the experiment and, overall, consider the 20 rounds of the Public Good game. Consider the contribution in the second part of the experiment (rounds 11-20) first. To understand how contribution varies across treatments and by student status, we estimated the same model reported in equation 1, using a multi-level mixed fixed effect model. The results are shown in Table 10. The Table shows in Columns 1-2 the estimates for the full sample (i.e. 3900 observations obtained from 390 participants deciding in 10 rounds of public good game); Columns 3 and 4 consider only participants identified as immigrants (N=130 participants), while Columns 5 and 6 refer to native participants (N=260 participants). As in the first part, immigrants contribute more at the baseline, by around 3 points as in part 1, even when punishment possibilities are introduced, i.e., the dummy *Immigrant* is positive and significant in Columns 1 and 2. On the other hand, while the *Multicultural* treatment has a mild positive effect on natives, the results are not statistically significant nor meaningful in size. Unlike in part 1, in part 2 the *Multicultural* priming displays a weaker effect on cooperation. This could be explained by the fact that introducing punishment possibilities changes the dynamics of cooperation. Indeed, the *Multicultural* priming has an

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effect on punishment behavior among natives. Finally, as in part 1, we find that the two priming interventions have no effect on immigrants, while immigrants in larger groups tend to contribute more by around 4 points than in smaller groups. As previously found, female participants tend to be more cooperative even in this second part of the game.

Next, we use the model of equation in 1 to estimate the contribution behavior in the whole 20 rounds of the Public Good Game. Table **??** summarizes the results. From the Table, it can be noted that both treatment dummies related to the priming of a common or a multicultural identity are positive and significant, as well as the dummy identifying the immigration status. When we consider the subset of immigrants (Columns 3 and 4), we don't see any significant treatment effect, and larger groups are more cooperative. In Columns 5 and 6, where we look at natives only, we confirm that the *Multicultural* priming has increased the contribution of natives to the Public Good, and that generally female participants are more cooperative.

Result 3 (Overall cooperation). *Analysis across the 20 rounds of the Public Good game revealed that multicultural identity priming enhanced overall cooperation relative to common identity or neutral priming. This effect was specifically attributed to increased cooperation among native participants. Notably, at the start (baseline), immigrants were more cooperative than native individuals.*

6 Mechanisms

In this Section, we try to pin down the mechanisms driving the two main results of this experiment. Namely, we use the data we collected during the experiment, in the questionnaire, and in the other experimental games, to understand why immigrants have higher cooperative attitudes at the baseline, and why natives increase their contribution under Multicultural priming.

First, as detailed in Section 7, our results are not generated by a low internal validity of the experiment. Indeed, when we control for the mistakes made in the comprehension questions or we exclude participants who have made a mistake in both questions, these results do not change. In addition, it seems that behavior is not driven either by the "Experimenter demand" effect, but it follows the players' reported strategies at the end of the experiment, see Section 7 for more details.

Next, to explain the differences in baseline cooperative attitudes, we examine whether migrants and natives differ in other relevant dimensions, which are conducive to more

cooperative behavior. In particular, in Table 12 we test which of the observable characteristics we collected differ between migrants and natives. As it is possible to see from Table 12, there are no relevant differences except for the socio-economic background of the students, as proxied by the level of education and the working status of the mother and by the number of siblings. Indeed, some of the previous evidence on cooperation in economics games has found a link (most of the cases positive) between socio-economic background and voluntary cooperation (see, for example, Andreoni et al., 2021; Angerer et al., 2015; Bauer et al., 2014; Falk et al., 2018; Gächter et al., 2004; Kosse et al., 2020; Smeets et al., 2015). To test wether the difference in the students' socio-economic background drive the difference in the baseline cooperative attitudes between migrants and natives, we use the same model of equation 1 and we add the different dimensions (the level of education and the working status of the mother and by the number of siblings), either one by one, or jointly or using their principal component. This test allows us indeed to check if the magnitude or the significance of the main results change when we control for the students' socio-economic background. The results are shown in Table A2. As it is possibile to notice by looking at Columns 1-5, none of the elements of the socio-economic background – the number of siblings or the level of education and the working status of the mother – can help explain the baseline difference in cooperation observed between natives and immigrants, since the *Immigrant* dummy remains significant and strong in magnitude, independently of wether we include each dimension separately (Columns 1-3), or jointly (Column 4), or as proxied by their first principal component (Column 5).

Another mechanism we explore hinges on the idea that natives and migrants are intrinsically different in the level of unconditional generosity or social norms, since their cultural or socio-economic backgrounds lead them to value the endowment differently. To test this mechanism, we rely on the data we collected experimentally in the Dictator Game (Kahneman et al., 1986). Indeed, this game is widely used in the literature to measure the level of unconditional generosity and participants' social norms (List, 2007). As it is possible to see in Column 6 of Table A2, even after controlling for the share of endowment sent to an anonymous recipient in the Dictator Game, we do not close the higher baseline contribution of migrants in the Public Good game.

Next, we combine our experimentally elicited data with the natural variation in classroom diversity to explore whether classroom contextual factors could help in explaining our main results. Indeed, classrooms are a setting where young people engage daily with peers from diverse backgrounds, fostering an environment that can give rise to both inter-group conflict and cooperation (Allport et al., 1954; Lowe, 2021; Mousa, 2020), and we exploit the variation of the peer group arising from students' quasi-random assignment to classes within schools. We first

explore how baseline cooperation and the treatment effects vary with the fraction of immigrants in a class, and then we leverage the data we collected on the network of friendship in each classroom, which we have described in Section 4.2.3. These data allow us indeed to construct measures on the intra- and inter-cultural friendship links among the class peers, which can be interpreted as measures of the socialization and assimilation between students from different cultural backgrounds in the class (Facchini et al., 2015; Landini et al., 2016; Patacchini and Zenou, 2016). The results are shown in Table 14. As it is possible to see from Column 1, contribution to the Public Good is higher where the share of immigrants in the class is higher, i.e. if the coefficient $Immigrants in the class$ is significant and of about 10 points, i.e. an increase of 10% in the share of immigrants in the classroom increase the contribution to the Public Good by 10 points. The effect of multicultural priming is stronger in classes where there is a low share of immigrants, i.e., the coefficient $Multicultural$ is positive, around 4 points, and strongly significant. By looking at Column 2, we further characterize this result by noticing that not only is the Multicultural treatment stronger in classes with fewer immigrants, but also in those where there is a high share of first-generation immigrants, i.e., not born in Italy. In line with this evidence, Column 3 interacts the treatment dummies with the density level of the network, and it shows that the Multicultural treatment is stronger where the network is more sparse. This is, indeed, further confirmed if we look at Columns 4 and 5, where we control for the centrality of immigrants in the network (Column 4) and for the friendship links of immigrants in the class (Column 5), while controlling for the share of immigrants in the classroom. Indeed, when migrants are more disconnected and less mentioned as friends by other class members, the Multicultural treatment has stronger effects. Overall, this seems to suggest that the Multicultural priming has stronger effects on natives in the classroom where immigrants are more disconnected and culturally different from natives. This could be interpreted through the lenses of the "contact hypothesis", which suggests that contact with minority groups can promote social integration and reduce prejudice. Indeed, the hypothesis posits that groups where there is a cross-cultural interaction can effectively break down stereotypes and prejudices when a set of conditions, such as common goals, inter-group cooperation, are satisfied (Allport et al., 1954; Williams Jr, 1947).

7 Robustness

In this section, we present several robustness checks we conducted to test the internal validity of the identified treatment effects and of the main results.

We start by showing that the results are not driven either by emotional changes or by the "experimenter demand effect". In particular, we follow Benjamin et al. (2016), so at the end of the Public good Game, we administered a shortened version of the Spielberger State-Trait Anxiety Inventory (Marteau and Bekker, 1992), and we asked participants to answer the question "Think back to when you were making your choices. While you were making those choices, were you thinking about what we wanted you to do?". Indeed, if participants understood the purpose of the experiment, our treatment effects might be explained by the so-called "demand effect", which induces participants to behave in the way they thought the experimenters wanted them to behave. From Table 12 we know there are no baseline differences between immigrants or natives in their feelings of calmness, tension, upsetting, relaxation, happiness, and worry. Table A5 confirms that the two primes had no effect on any of the reported feelings, as shown in Columns 1-6 of the Table. Similarly, when we look at what participants think about the "experimenter demand" effect, we do not find any difference at baseline between natives and immigrants in Table 12. Column 7 of Table A5 confirms that the two treatments have not induced any strongly significant differential demand effect with respect to the Neutral priming, nor by immigration status of the participants.

Next, we check whether the results are driven by any differential comprehension by treatment group and immigration status. First, Table 12 shows that there is no baseline difference in the level of understanding of the instructions between immigrants and natives, as the number of mistakes on the two control questions does not significantly differ between the two groups at baseline. Then, in the first two Columns of Table A6, we notice that the allocation of subjects to the two treatments is not correlated with the level of comprehension, as random allocation should suggest. Finally, Column 3 of Table A6 estimates the main model, as in equation 1, directly controlling for the level of understanding through the inclusion of the number of mistakes in the two control questions in the regression. The results show that, even when we control for the comprehension level, the main results are still highly significant and strong in magnitude.

At the end of the main experiment, we also asked participants to state the strategy they had followed throughout the game. In particular, we asked their level of agreement with the following statement: "During the game, I tried to maximize my own payoff, rather than the group payoff". While this question is not incentivized, it might signal if the stated strategy agrees with the observed behavior. Table 12 indeed shows that natives are more likely to agree with the above statement, signaling that they have followed a less cooperative strategy than immigrants, a difference, which is confirmed significantly when looking at the level of contribution at the baseline in both parts of the game as shown in the Section 5.

Finally, in Tables A7 and ?? we show that the main results on contribution to the Public Good in Part 1 and in Part 1 and Part 2, respectively, are robust to the use of the Ordinary Least Squared estimation, even thought this estimator is less preferred since it does not fully take into account the hierarchical structure of out data.

8   Conclusion

Integration of immigrants and their children, and the achievement of cooperation in heterogeneous societies, is one of the most urgent issues upon which citizens call for political interventions both at the national level and at the supranational level. Can we design our institutions in order to make salient specific dimensions of identity favoring cooperation between immigrants and natives? In the last decades, the presence of immigrants has grown in all developed countries, and the success in integrating immigrant children is one of the crucial points to be tackled in order to preserve cooperation and trust within societies.

We have addressed this issue by exploiting the fact that a natural network characterized by the coexistence of different ethnic identities already exists in schools. Relying on this network, we exogenously introduced two primings of specific dimensions of identity and analyzed their impact on cooperation. We found that priming of multicultural identity increases cooperation for natives, while this is not the case in the treatment where a common social identity is primed.

The results of our priming intervention suggest the importance of thinking about the integration process as a two-sided process where both the immigrants and the natives are crucial actors. This finding represents a challenge for policymakers who are called to design institutions that promote and maintain cooperation within groups. Interestingly, we find that the priming of the common social identity did not impact cooperation compared to the neutral priming (i.e. the control treatment), while our checks suggest that priming was successful, since participants in this treatment are more likely to refer to this dimension of identity in the "who am I?" letter. The fact that the priming did not induce strong in-group feeling may be due to the fact that this is not the right layer of social identity to be made salient. Indeed, usually, children do not have many options when choosing a middle school as their choices are restricted to the schools located in the area where they live, and by the fact that parents play an important role in this decision. For these reasons, students may experience lower identification with their middle school, compared, for example, to the choice of high school and university. Future research on this topic should explore this issue further.

Declaration of generative AI and AI-assisted technologies in the writing process
During the preparation of this work, the authors used ChatGPT 4 to improve language and readability, with caution. After using this tool, the authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

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9   Figures and Tables
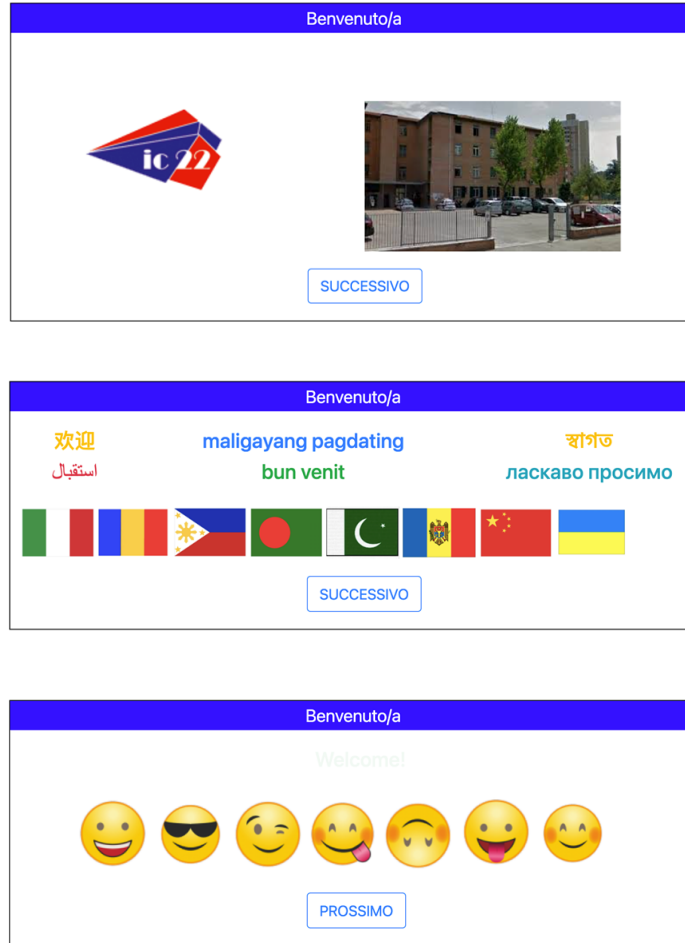
Figure 1: Welcome Screen in each treatment : (a) Common Identity (b) Multicultural Identity (c) Control
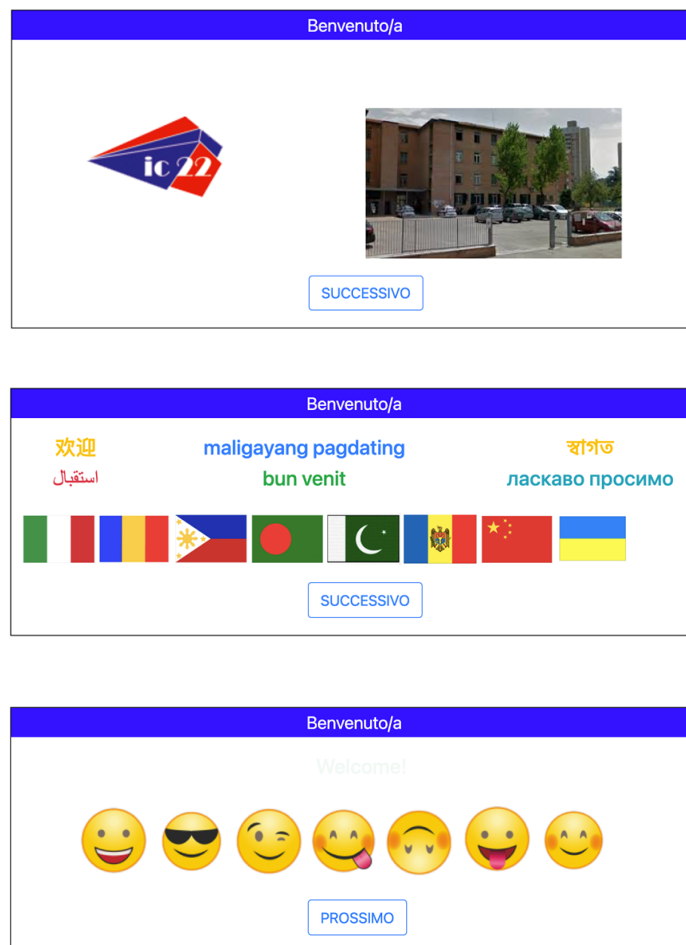
Figure 2: Waiting Screen in each treatment : (a) Common Identity (b) Multicultural Identity (c) Control

#	Punti presi dal progetto comune	Guadagni	Punti sottratti (costo)			
Tu	0	25				
1	50	75	0 (0)	15 (2)	30 (5)	45 (9)
2	50	75	0 (0)	15 (2)	30 (5)	45 (9)
3	50	75	0 (0)	15 (2)	30 (5)	45 (9)
		Costi totali	0			

Figure 3: Screen shoot of the punishment stage.
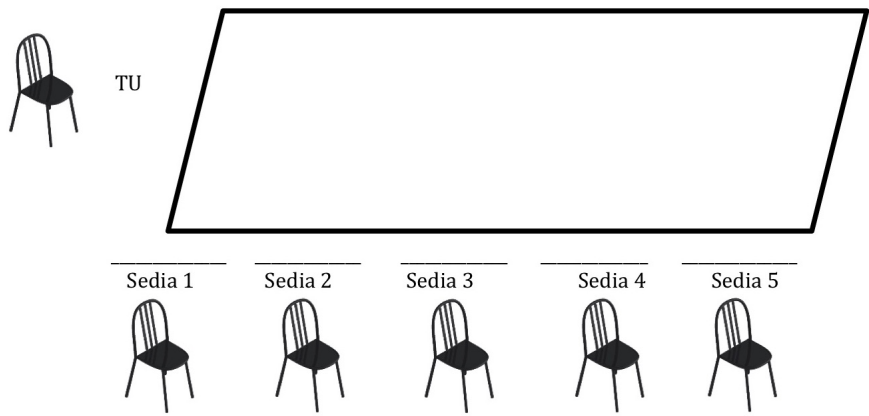
Figure 4: Friends elicitation map

Figure 5: Contribution to the PGG by treatment and status

(a) Overall

(b) Over rounds
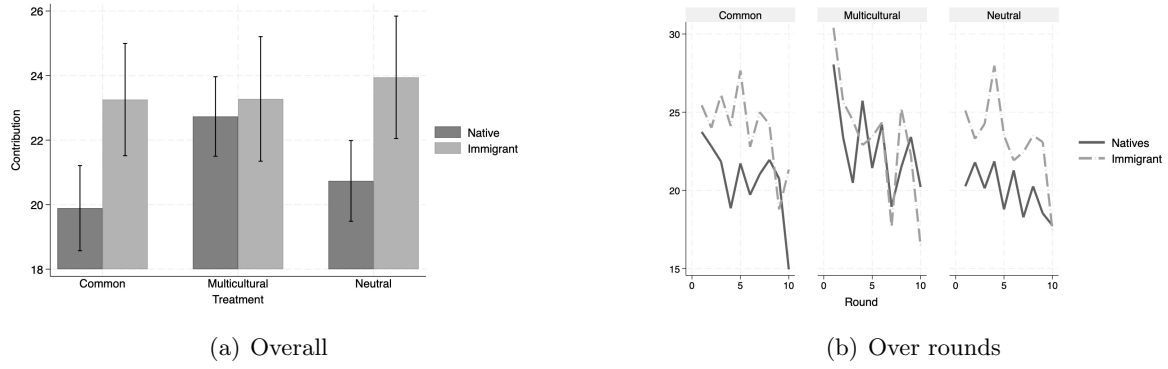
Figure 6: Contribution to the PGG by treatment and status

Figure 7: Punishment by treatment and status
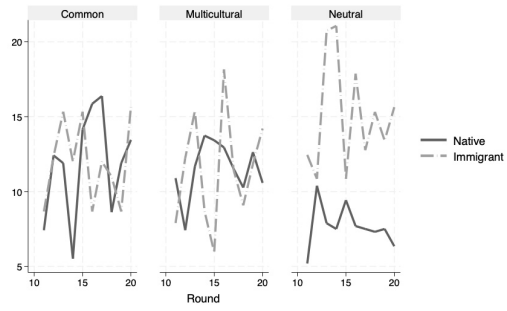
(a) Social Punishment
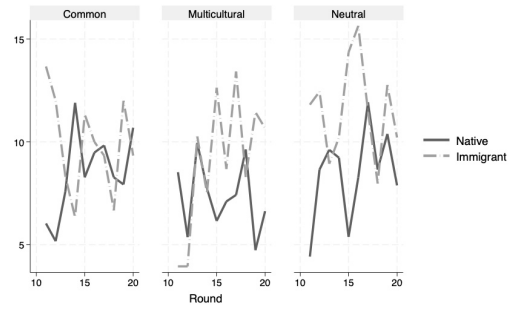
(b) Anti-social punishment

Treatment	Questions
All	Date of Birth: DD/MM/YYYY; Gender: M F; Grade: I, II, III
Common Identity	1)Name of the School:... 2) When choosing the school you are attending, did you consider any other schools?: YES, NO. If yes, what other schools? ...(Please specify).3) Why did you decide to choose your specific school? 4) List three things you like about your school and make it special.
Multicultural Identity	1) Where were you born?: Italy, in a different country than Italy, that is... (Please specify). 2) Where was your mother born?: Italy, in a different country than Italy, that is... (Please specify). 3) Where was your father born?: Italy, in a different country than Italy, that is... (Please specify)... (The following question was displayed ONLY if one of the parents was NOT Italian. 4) Which country is the one you feel closer to? the one where my mother is born; the one where my father is born). 5) What languages do you speak at home?
Control	1) How often do you watch television? a)every day; b)4/5 times a week; c)2/3 times a week; d)a few times a month; e)a few times a year; f)rarely if ever; g)never. 2) How often do you surf the web? a)never; b)about 15 minutes per day; c)about 1 hour per day; d)about 1 hour per day; e)about 1,5 hours per day; f)about 2 hours per day; g)more than 2 hours per day. 3) How often do you watch TV series? a)every day; b)4/5 times a week; c)2/3 times a week, d)a few times a month, e)a few times a year; f)rarely if ever, g)never.

Table 1: Priming questionnaires

Table 2: Identity Primed by Treatment

	Full		Natives		Immigrant	
	(1)	(2)	(3)	(4)	(5)	(6)
	P(Cultural)	P(School)	P(Cultural)	P(School)	P(Cultural)	P(School)
main						
Common	0.111	0.301***	0.111*	0.207***	0.194*	0.518***
	(0.087)	(0.022)	(0.058)	(0.014)	(0.100)	(0.009)
Multicultural	0.165**	0.216	0.199***	0.201	0.133***	0.182
	(0.075)	(0.227)	(0.062)	(0.203)	(0.047)	(0.213)
Constant	0.413***	0.436***	0.406***	0.465***	0.385***	0.315***
	(0.109)	(0.028)	(0.096)	(0.042)	(0.094)	(0.003)
N Obs.	160	160	113	113	47	47
Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes
Group nesting	Yes	Yes	Yes	Yes	Yes	Yes

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: Words identified in the "School" identity are:"scuol-", "studente","studio","Rita Levi Montalcini", "Dozza", "medie", "media". Words identified in the "Cultural" identity are: "origin-", "Italia", "African-", "Rumen-", "vengo da", "Perú", "bengalese", "Filippine", "ghanese", "Pakistan", "moldav-", "svizzero", "Nigeria", "Colombia", "Algeria", "Cina", "cinese","nat-", "vivo", "abito", "paese, "spagnolo, "Svezia""".

Table 3: Attrition by Treatment – Completion between February 2020 and June 2020

	(1) P(Description)	(2) P(Dictator)	(3) P(Fairness)	(4) P(Friends)
Common	0.038	0.018	0.029	0.013
	(0.027)	(0.018)	(0.022)	(0.028)
Multicultural	0.038	0.012	0.038	0.020
	(0.026)	(0.020)	(0.030)	(0.024)
Constant	0.179*	0.705***	0.613***	0.101
	(0.098)	(0.122)	(0.131)	(0.068)
N Obs.	390	390	390	390
Clustering	Yes	Yes	Yes	Yes
School fixed effects	Yes	Yes	Yes	Yes

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: The Table show how the probability of having completed each activity before the COVID-19 first wave, rather than in June 2020, changes across treatments.

Table 4: Attrition by Treatment – Completion at end-line

	(1) P(Description)	(2) P(Dictator)	(3) P(Fairness)	(4) P(Friends)
Common	-0.068	-0.030	-0.042	-0.060
	(0.048)	(0.031)	(0.033)	(0.050)
Multicultural	-0.025	-0.008	-0.027	-0.009
	(0.032)	(0.022)	(0.030)	(0.031)
Constant	0.208***	0.100**	0.125**	0.227***
	(0.051)	(0.046)	(0.047)	(0.047)
N Obs.	390	390	390	390
Clustering	Yes	Yes	Yes	Yes
School fixed effects	Yes	Yes	Yes	Yes

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: The Table show how the probability of having completed each activity at the end-line of the study changes across treatments.

Table 5: Observable characteristics and Mid-line sample attrition

	Full	Sample 1	Sample 2	Diff.
Immigrant	0.333	0.333	0.273	0.061
	(0.472)	(0.472)	(0.449)	
Born in Italy	0.913	0.917	0.927	-0.011
	(0.282)	(0.277)	(0.262)	
Speak only Italian at home	0.697	0.696	0.764	-0.068
	(0.460)	(0.461)	(0.429)	
Female	0.413	0.417	0.382	0.035
	(0.493)	(0.494)	(0.490)	
How often I practice sport	3.854	3.808	4.018	-0.210
	(1.307)	(1.313)	(1.298)	
How often I surf the web	3.036	3.003	3.273	-0.270
	(1.522)	(1.525)	(1.484)	
How often I watch TV	4.700	4.657	5.000	-0.343
	(1.654)	(1.692)	(1.414)	
Contribution	25.103	25.192	24.364	0.829
	(19.476)	(19.191)	(21.039)	
I tried to maximize joint payoff in PGG	0.569	0.567	0.564	0.004
	(0.496)	(0.496)	(0.501)	
I did what I think you wanted me to do	0.419	0.421	0.436	-0.015
	(0.494)	(0.495)	(0.501)	
Calm	0.615	0.606	0.636	-0.031
	(0.487)	(0.489)	(0.485)	
Tense	0.651	0.660	0.600	0.060
	(0.477)	(0.474)	(0.494)	
Upset	0.679	0.679	0.618	0.061
	(0.467)	(0.467)	(0.490)	
Relaxed	0.505	0.484	0.545	-0.061
	(0.501)	(0.501)	(0.503)	
Happy	0.682	0.663	0.709	-0.046
	(0.466)	(0.473)	(0.458)	
Worried	0.759	0.756	0.745	0.011
	(0.428)	(0.430)	(0.440)	

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: The Table show how the observable characteristics measured at the first meeting change between students who completed at least one activity among the open-ended description of themselves, the dictator game, the elicitation of fairness views, and of the network of friends – before the COVID-19 first wave (Sample 1), and those who completed everything in June 2020 (Sample 2). Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Table 6: Observable characteristics and End-line sample attrition

	Full	Sample 1	Sample 2	Diff.
Immigrant	0.333	0.324	0.478	-0.154
	(0.472)	(0.469)	(0.511)	
Born in Italy	0.913	0.918	0.826	0.092
	(0.282)	(0.274)	(0.388)	
Speak only Italian at home	0.697	0.706	0.565	0.141
	(0.460)	(0.456)	(0.507)	
Female	0.413	0.411	0.435	-0.023
	(0.493)	(0.493)	(0.507)	
How often I practice sport	3.854	3.839	4.087	-0.248
	(1.307)	(1.311)	(1.240)	
How often I surf the web	3.036	3.044	2.913	0.131
	(1.522)	(1.520)	(1.593)	
How often I watch TV	4.700	4.708	4.565	0.143
	(1.654)	(1.656)	(1.647)	
Contribution	25.103	25.068	25.652	-0.584
	(19.476)	(19.451)	(20.299)	
I tried to maximize joint payoff in PGG	0.569	0.567	0.609	-0.042
	(0.496)	(0.496)	(0.499)	
I did what I think you wanted me to do	0.419	0.423	0.348	0.076
	(0.494)	(0.495)	(0.487)	
Calm	0.615	0.610	0.696	-0.085
	(0.487)	(0.488)	(0.470)	
Tense	0.651	0.651	0.652	-0.001
	(0.477)	(0.477)	(0.487)	
Upset	0.679	0.670	0.826	-0.156
	(0.467)	(0.471)	(0.388)	
Relaxed	0.505	0.493	0.696	-0.202
	(0.501)	(0.501)	(0.470)	
Happy	0.682	0.670	0.870	-0.199*
	(0.466)	(0.471)	(0.344)	
Worried	0.759	0.755	0.826	-0.071
	(0.428)	(0.431)	(0.388)	

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: The Table show how the observable characteristics measured at the first meeting change between students who completed at least one activity among the other measures we collected (Sample 1), and those who never completed them (Sample 2). Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Table 7: Contribution to the Public Good - Part I

	(1) Full	(2) Full	(3) Immigrants	(4) Immigrants	(5) Natives	(6) Natives
Contribution						
Common	1.152***	1.172***	0.352	0.352	0.961	0.636
	(0.364)	(0.397)	(3.608)	(3.608)	(0.632)	(1.082)
Multicultural	2.991***	3.076***	0.878	0.878	2.820***	2.938**
	(0.773)	(0.793)	(3.148)	(3.148)	(0.954)	(1.209)
Immigrant	3.475**	3.740**				
	(1.544)	(1.509)				
Common x Immigrant	-0.593	-0.864				
	(4.861)	(5.093)				
Multicultural x Immigrant	-2.558	-2.616				
	(3.868)	(3.950)				
Female	1.016	1.020	-1.849	-1.849	2.264*	2.497**
	(1.057)	(1.076)	(1.193)	(1.193)	(1.345)	(1.062)
Group of 4	-0.151	-0.164	5.566***	5.566***	-2.596	-2.550
	(1.683)	(1.681)	(1.130)	(1.130)	(2.146)	(2.190)
Group of 5	0.471***	0.639***	4.148***	4.148***	-0.294	0.505
	(0.131)	(0.079)	(0.393)	(0.393)	(0.369)	(0.349)
Constant	22.476***	22.350***	23.985***	23.985***	23.101***	22.851***
	(2.670)	(2.722)	(1.003)	(1.003)	(4.169)	(4.432)
N Obs.	3,900	3,900	1,300	1,300	2,600	2,600
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes	Yes
Individual correlation	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes
Group nesting	No	Yes	No	Yes	No	Yes

Column 4: Post estimation tests for Common = [Common x Immigrant - Common]: p=0.4554.

Column 4: Post estimation tests for Multicultural = [Multicultural x Immigrant - Multicultural]: p=0.0002.

Column 6: Post estimation tests for Common = Multicultural: p=0.2525.

Column 8: Post estimation tests for Common = Multicultural: p=0.0000.

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: Linear mixed-effects models, to account for the hierarchical structure of the data, i.e. observations are nested in groups, and the correlation over rounds of individual observations. In particular, the four-level model uses random intercepts and slopes for individual choices observed over rounds, and it account for dependence in the observations among the individuals belonging to the same group, class and school. Columns 1-2 looks at the full sample. Columns 3 and 4 at immigrants only. Columns 5-6 at natives only.

Table 8: Social Punishment Cost in Public Good - Part I

	(1) Full	(2) Full	(3) Immigrants	(4) Immigrants	(5) Natives	(6) Natives
Common	3.881*	4.011*	-0.755	-0.755	3.509	3.795
	(2.235)	(2.137)	(4.870)	(4.869)	(3.498)	(2.985)
Multicultural	9.618***	9.669***	-3.384	-3.384	9.831***	9.787***
	(0.144)	(0.193)	(8.464)	(8.464)	(1.845)	(1.693)
Immigrant	12.094***	12.207***				
	(1.283)	(1.411)				
Common x Immigrant	-4.976	-5.114				
	(3.869)	(4.061)				
Multicultural x Immigrant	-11.409	-11.564				
	(7.600)	(7.701)				
Contribution	0.516***	0.515***	0.483***	0.483***	0.541***	0.540***
	(0.053)	(0.054)	(0.003)	(0.003)	(0.101)	(0.103)
Punished subject contrib.	-0.060	-0.056	-0.117	-0.117	-0.026	-0.018
	(0.196)	(0.195)	(0.213)	(0.213)	(0.219)	(0.219)
Average contrib. others	-0.410***	-0.409***	-0.442***	-0.442***	-0.403***	-0.399***
	(0.033)	(0.032)	(0.048)	(0.048)	(0.080)	(0.077)
Lagged p. received	0.062	0.059	-0.005	-0.005	0.089*	0.082*
	(0.080)	(0.081)	(0.137)	(0.137)	(0.049)	(0.049)
Female	-9.922**	-9.840**	-11.667***	-11.667***	-9.435*	-9.280
	(4.352)	(4.395)	(0.153)	(0.154)	(5.687)	(5.754)
Group of 4	14.345***	14.417***	8.223***	8.223***	16.086***	16.782***
	(2.963)	(2.976)	(1.055)	(1.055)	(5.006)	(4.752)
Group of 5	25.388***	25.549***	17.391***	17.391***	28.807***	29.318***
	(2.049)	(2.049)	(3.351)	(3.351)	(0.423)	(0.003)
Constant	27.250***	27.078***	45.320***	45.320***	25.541***	24.907***
	(0.367)	(0.290)	(2.590)	(2.590)	(3.445)	(3.301)
N Obs.	909	909	312	312	597	597
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes	Yes
Individual correlation	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes
Group nesting	No	Yes	No	Yes	No	Yes

Column 2: Post estimation tests for Common = [Common x Immigrant - Common]: p=0.0000.

Column 4: Post estimation tests for Multicultural = [Multicultural x Immigrant - Multicultural]: p=0.0000.

Column 4: Post estimation tests for Common = Multicultural: p=0.4646.

Column 6: Post estimation tests for Common = Multicultural: p=0.0000.

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: Linear mixed-effects models, to account for the hierarchical structure of the data, i.e. observations are nested in groups, and the correlation over rounds of individual observations. In particular, the four-level model uses random intercepts and slopes for individual choices observed over rounds, and it account for dependence in the observations among the individuals belonging to the same group, class and school. Columns 1-2 looks at the full sample. Columns 3 and 4 at immigrants only. Columns 5-6 at natives only.

Table 9: Anti-Social Punishment in Public Good - Part II

	(1) Full	(2) Full	(3) Immigrants	(4) Immigrants	(5) Natives	(6) Natives
Common	-3.635***	-3.635***	7.171***	7.170***	-2.968***	-2.968***
	(1.059)	(1.059)	(2.044)	(2.044)	(0.545)	(0.545)
Multicultural	-5.160**	-5.160**	1.056	1.056	-6.332*	-6.332*
	(2.323)	(2.324)	(3.529)	(3.528)	(3.716)	(3.716)
Immigrant	0.853	0.853				
	(0.878)	(0.878)				
Common x Immigrant	8.334	8.334				
	(5.714)	(5.714)				
Multicultural x Immigrant	6.025***	6.025***				
	(0.549)	(0.549)				
Contribution	-0.622***	-0.622***	-0.654***	-0.654***	-0.573***	-0.573***
	(0.049)	(0.049)	(0.029)	(0.029)	(0.025)	(0.025)
Punished subject contrib.	0.212***	0.212***	0.310***	0.310***	0.195***	0.195***
	(0.001)	(0.001)	(0.118)	(0.118)	(0.036)	(0.036)
Average contrib. others	-0.013	-0.013	0.076***	0.076***	-0.070	-0.070
	(0.049)	(0.049)	(0.000)	(0.000)	(0.067)	(0.067)
Lagged p. received	0.030**	0.030**	0.059	0.059	0.019***	0.019***
	(0.013)	(0.013)	(0.063)	(0.063)	(0.002)	(0.002)
Female	-5.301***	-5.301***	-4.906	-4.905	-3.481	-3.481
	(1.555)	(1.555)	(4.157)	(4.157)	(3.630)	(3.630)
Group of 4	5.268**	5.268**	-0.828	-0.828	10.680***	10.680***
	(2.260)	(2.260)	(4.650)	(4.650)	(0.112)	(0.112)
Group of 5	8.050***	8.050***	-4.514	-4.513	13.380***	13.381***
	(0.244)	(0.244)	(6.202)	(6.202)	(2.162)	(2.162)
Constant	31.182***	31.182***	34.499***	34.500***	27.053***	27.054***
	(2.073)	(2.073)	(4.334)	(4.334)	(0.657)	(0.657)
N Obs.	751	751	267	267	484	484
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes	Yes
Individual correlation	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes
Group nesting	No	Yes	No	Yes	No	Yes

Column 2: Post estimation tests for Common = [Common x Immigrant - Common]: p=0.0463.

Column 2: Post estimation tests for Multicultural = [Multicultural x Immigrant - Multicultural]: p=0.0017.

Column 4: Post estimation tests for Common = Multicultural: p=0.0000.

Column 6: Post estimation tests for Common = Multicultural: p=0.2888.

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: Linear mixed-effects models, to account for the hierarchical structure of the data, i.e. observations are nested in groups, and the correlation over rounds of individual observations. In particular, the four-level model uses random intercepts and slopes for individual choices observed over rounds, and it account for dependence in the observations among the individuals belonging to the same group, class and school. Columns 1-2 looks at the full sample. Columns 3 and 4 at immigrants only. Columns 5-6 at natives only.

Table 10: Contribution to the Public Good - Part II

	(1) Full	(2) Full	(3) Immigrants	(4) Immigrants	(5) Natives	(6) Natives
Contribution						
Common	-2.254	-2.050	-4.772	-4.772	-2.179	-2.536
	(2.153)	(2.132)	(3.940)	(3.940)	(2.128)	(2.508)
Multicultural	-0.206	0.075	-1.609	-1.609	-0.018	0.244
	(2.537)	(2.627)	(2.465)	(2.465)	(2.381)	(2.469)
Immigrant	2.397***	3.193***				
	(0.494)	(0.392)				
Common x Immigrant	-1.904	-2.878				
	(2.384)	(3.529)				
Multicultural x Immigrant	-2.489***	-2.748***				
	(0.060)	(0.179)				
Female	1.776***	2.170***	-1.949	-1.949	3.118***	3.926***
	(0.319)	(0.673)	(1.982)	(1.982)	(0.998)	(0.333)
Group of 4	-2.416	-2.334	2.321	2.320	-3.876	-3.464
	(4.070)	(4.056)	(2.665)	(2.665)	(4.766)	(4.473)
Group of 5	-1.760	-1.557	4.562***	4.561***	-3.750	-2.727
	(2.828)	(2.560)	(1.367)	(1.367)	(2.592)	(2.562)
Constant	23.242***	22.718***	24.301***	24.301***	23.362***	22.484***
	(6.629)	(6.567)	(3.723)	(3.723)	(7.878)	(7.593)
N Obs.	3,900	3,900	1,300	1,300	2,600	2,600
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes	Yes
Individual correlation	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes
Group nesting	No	Yes	No	Yes	No	Yes

Column 4: Post estimation tests for Common = [Common x Immigrant - Common]: p=0.0962.

Column 4: Post estimation tests for Multicultural = [Multicultural x Immigrant - Multicultural]: p=0.5679.

Column 6: Post estimation tests for Common = Multicultural: p=0.0320.

Column 8: Post estimation tests for Common = Multicultural: p=0.0000.

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes:
Notes: Linear mixed-effects models, to account for the hierarchical structure of the data, i.e. observations are nested in groups, and the correlation over rounds of individual observations. In particular, the four-level model uses random intercepts and slopes for individual choices observed over rounds, and it account for dependence in the observations among the individuals belonging to the same group, class and school. Columns 1-2 looks at the full sample. Columns 3 and 4 at immigrants only. Columns 5-6 at natives only.

Table 11: Contribution to the Public Good - Part I + II

	(1) Full	(2) Full	(3) Immigrants	(4) Immigrants	(5) Natives	(6) Natives
Contribution						
Common	0.768***	0.777***	-0.264	-0.264	0.502	0.115
	(0.082)	(0.112)	(3.731)	(3.731)	(0.342)	(0.844)
Multicultural	2.776***	2.852***	0.539	0.539	2.534***	2.640**
	(0.646)	(0.666)	(3.158)	(3.158)	(0.858)	(1.128)
Immigrant	3.581**	3.834**				
	(1.554)	(1.512)				
Common x Immigrant	-0.920	-1.192				
	(5.329)	(5.542)				
Multicultural x Immigrant	-2.763	-2.810				
	(4.060)	(4.116)				
Female	0.895	0.881	-2.007*	-2.007*	2.108*	2.360***
	(0.900)	(0.911)	(1.124)	(1.124)	(1.253)	(0.893)
Group of 4	-0.258	-0.280	5.770***	5.770***	-2.809	-2.757
	(1.648)	(1.659)	(1.096)	(1.096)	(2.173)	(2.267)
Group of 5	0.443***	0.575***	4.217***	4.217***	-0.520	0.192
	(0.128)	(0.093)	(0.751)	(0.751)	(0.586)	(0.615)
Constant	22.790***	22.694***	24.256***	24.256***	23.542***	23.325***
	(2.508)	(2.561)	(0.967)	(0.967)	(4.028)	(4.330)
N Obs.	7,800	7,800	2,600	2,600	5,200	5,200
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes	Yes
Individual correlation	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes
Group nesting	No	Yes	No	Yes	No	Yes

Column 4: Post estimation tests for Common = [Common x Immigrant - Common]: p=0.6055.

Column 4: Post estimation tests for Multicultural = [Multicultural x Immigrant - Multicultural]: p=0.0022.

Column 6: Post estimation tests for Common = Multicultural: p=0.1610.

Column 8: Post estimation tests for Common = Multicultural: p=0.0000.

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes:
Notes: Linear mixed-effects models, to account for the hierarchical structure of the data, i.e. observations are nested in groups, and the correlation over rounds of individual observations. In particular, the four-level model uses random intercepts and slopes for individual choices observed over rounds, and it account for dependence in the observations among the individuals belonging to the same group, class and school. Columns 1-2 looks at the full sample. Columns 3 and 4 at immigrants only. Columns 5-6 at natives only.

Table 12: Individual characteristics - Immigrants and Natives

	Full	Natives	Immigrants	Diff.
Female	0.413	0.408	0.423	-0.015
	(0.493)	(0.492)	(0.496)	
How often I practice sport	3.854	3.935	3.692	0.242
	(1.307)	(1.252)	(1.402)	
How often I surf the web	3.036	2.904	3.300	-0.396*
	(1.522)	(1.497)	(1.543)	
How often I watch TV	4.700	4.812	4.477	0.335
	(1.654)	(1.637)	(1.672)	
Number of siblings	1.152	1.000	1.495	-0.495***
	(0.905)	(0.820)	(0.994)	
Mother has a job	0.787	0.842	0.677	0.165***
	(0.410)	(0.365)	(0.469)	
Mother has a degree	0.536	0.573	0.462	0.112*
	(0.499)	(0.496)	(0.500)	
Father has a degree	0.482	0.481	0.485	-0.004
	(0.500)	(0.501)	(0.502)	
Father has a job	0.795	0.823	0.738	0.085
	(0.404)	(0.382)	(0.441)	
I maximized my own payoff	0.782	0.819	0.708	0.112*
	(0.413)	(0.386)	(0.457)	
I did what I think you wanted me to do	0.419	0.412	0.434	-0.023
	(0.494)	(0.493)	(0.498)	
Mistakes in control question 1	0.846	0.735	1.069	-0.335
	(2.339)	(2.300)	(2.409)	
Mistakes in control question 2	1.044	0.846	1.438	-0.592
	(3.171)	(2.636)	(4.017)	
Calm	0.615	0.627	0.592	0.035
	(0.487)	(0.485)	(0.493)	
Tense	0.651	0.662	0.631	0.031
	(0.477)	(0.474)	(0.484)	
Upset	0.679	0.688	0.662	0.027
	(0.467)	(0.464)	(0.475)	
Relaxed	0.505	0.500	0.515	-0.015
	(0.501)	(0.501)	(0.502)	
Happy	0.682	0.708	0.631	0.077
	(0.466)	(0.456)	(0.484)	
Worried	0.759	0.781	0.715	0.065
	(0.428)	(0.415)	(0.453)	

Notes: The Table show how the observable characteristics differ between natives (Column 2) and immigrants (Column 3) at the baseline. Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Table 13: Contribution to the Public Good - Mechanisms

	(1) Contribution	(2) Contribution	(3) Contribution	(4) Contribution	(5) Contribution	(6) Contribution
Contribution						
Common	0.672**	0.830***	0.640***	0.627	-0.224	0.213
	(0.296)	(0.302)	(0.077)	(0.436)	(0.800)	(0.551)
Multicultural	2.923***	2.842***	2.766***	2.797***	2.779***	2.838***
	(0.662)	(0.662)	(0.710)	(0.708)	(0.662)	(0.686)
Immigrant	3.771***	3.808***	3.300***	3.334***	3.060**	3.749**
	(1.274)	(1.475)	(0.899)	(0.705)	(1.524)	(1.780)
Common x Immigrant	-0.917	-0.972	-0.694	-0.630	2.064	0.932
	(5.103)	(5.982)	(5.008)	(5.577)	(4.795)	(5.191)
Multicultural x Immigrant	-2.796	-2.749	-2.798	-2.786	-2.635	-2.138
	(4.023)	(4.222)	(3.819)	(4.067)	(6.323)	(5.024)
Not having siblings	1.363			0.443		
	(1.211)			(0.377)		
Mother has a degree=1		0.681		0.088		
		(1.869)		(2.895)		
Mother has a job=1			-2.152	-1.918		
			(1.389)	(2.353)		
1st PCA (SES)					-0.208	
					(0.728)	
Share sent in Dictator Game						4.429
						(4.498)
Female	0.840	0.918	0.914	0.901	1.589*	0.296
	(0.984)	(0.996)	(0.856)	(1.024)	(0.883)	(1.262)
Group of 4	-0.304	-0.252	-0.346	-0.343	0.064	0.801
	(1.710)	(1.739)	(1.739)	(1.896)	(1.561)	(1.301)
Group of 5	0.573***	0.642**	0.581**	0.587	0.243	0.220
	(0.124)	(0.300)	(0.271)	(0.540)	(0.554)	(0.668)
Constant	22.411***	22.253***	24.587***	24.233***	22.920***	21.739***
	(2.292)	(3.805)	(3.716)	(6.365)	(6.597)	(4.330)
N Obs.	7,800	7,800	7,800	7,800	6,460	6,220
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes	Yes
Individual correlation	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes
Group nesting	Yes	Yes	Yes	Yes	Yes	Yes

Symbols ∗ ∗ ∗, ∗∗, and ∗ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: Linear mixed-effects models, to account for the hierarchical structure of the data, i.e. observations are nested in groups, and the correlation over rounds of individual observations. In particular, the four-level model uses random intercepts and slopes for individual choices observed over rounds, and it account for dependence in the observations among the individuals belonging to the same group, class and school. Columns 1 include the number of siblings, Column 2 control for the level of education of the mother, in Column 3 we add the working status of the mother, Column 4 include all the proxies of the socio-economic background jointly, Column 5 include the principal component of the socio-economic backrgound, while Column 6 controls for the unconditional "generosity" as measures by the share of endowment kept in the Dictator Game.

Table 14: Contribution to the Public Good - Context Mechanisms

	(1) Contribution	(2) Contribution	(3) Contribution	(4) Contribution	(5) Contribution
Common	2.387	1.813	5.858	4.407	1.061
	(4.788)	(2.126)	(10.569)	(6.350)	(1.819)
Multicultural	4.500***	3.387***	10.122**	5.330***	1.742***
	(0.295)	(1.038)	(4.912)	(0.051)	(0.351)
Common × Immigrants in the class	-5.616				
	(10.544)				
Multicultural × Immigrants in the class	-5.792				
	(4.723)				
Common × High share of immigrants born in Italy=1		-2.472			
		(2.404)			
Multicultural × High share of immigrants born in Italy=1		-1.576***			
		(0.137)			
Common × Network Density			-22.446		
			(52.123)		
Multicultural × Network Density			-31.329		
			(30.869)		
Common × Centrality-in among Immigrants				-1.091	
				(2.350)	
Multicultural × Centrality-in among Immigrants				-0.798	
				(0.620)	
Common × Mentioned as friends immigrants					-0.751
					(2.969)
Multicultural × Mentioned as friends immigrants					0.444
					(1.055)
Immigrants in the class	10.222**				9.644**
	(4.561)				(3.896)
High share of immigrants born in Italy=1		0.744			
		(1.044)			
Network Density			12.910		
			(39.701)		
Centrality-in among Immigrants				0.541	
				(1.639)	
Mentioned as friends immigrants					-0.895
					(1.668)
Female	-0.475**	-0.038***	-0.529***	-0.342	-0.415
	(0.216)	(0.006)	(0.144)	(0.506)	(1.043)
Constant	20.468***	23.257***	20.931***	22.007***	21.878***
	(3.075)	(2.189)	(7.268)	(3.410)	(1.618)
N Obs.	2,160	2,160	2,160	2,160	2,140
Round fixed effects	Yes	Yes	Yes	Yes	Yes
Clustering	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes
Individual correlation	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes
Group nesting	Yes	Yes	Yes	Yes	Yes

Symbols ∗ ∗ ∗, ∗∗, and ∗ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: Linear mixed-effects models, to account for the hierarchical structure of the data, i.e. observations are nested in groups, and the correlation over rounds of individual observations. In particular, the four-level model uses random intercepts and slopes for individual choices observed over rounds, and it account for dependence in the observations among the individuals belonging to the same group, class and school. Columns 1 interact the treatment with the share of immigrants in the classroom, Column 2 control for the share of first generation immigrants, in Column 3 we add the network density, Column 4, 5 and 6 include the interaction with a measure of classroom-network density, the centrality of immigrants in the network, and the number of mentions as immigrant friend (while controlling for the share of immigrants in the classroom).

10 Appendix A

Table A1: Summary Statistics - Immigrants origins

	Where born	Mother born	Father born	Grandmother born	Grandfather born
Afghanistan	0.023	0.031	0.069	0.062	0.046
Albania	0.008	0.085	0.062	0.077	0.069
Algeria	0.000	0.008	0.015	0.008	0.008
Argentina	0.000	0.000	0.000	0.000	0.008
Bangladesh	0.008	0.085	0.077	0.077	0.077
Cabo Verde	0.000	0.008	0.008	0.008	0.008
China	0.000	0.054	0.054	0.054	0.054
Colombia	0.000	0.008	0.000	0.000	0.000
Cuba	0.000	0.008	0.008	0.008	0.008
Dominican Republic	0.008	0.008	0.008	0.008	0.008
Eritrea	0.000	0.038	0.015	0.038	0.015
Ethiopia	0.000	0.000	0.023	0.000	0.023
France	0.000	0.000	0.000	0.008	0.000
Germany	0.000	0.008	0.015	0.000	0.000
Ghana	0.000	0.008	0.015	0.000	0.008
Gibraltar	0.000	0.000	0.000	0.008	0.000
Greece	0.000	0.000	0.000	0.008	0.000
India	0.000	0.015	0.023	0.015	0.015
Italy	0.754	0.000	0.000	0.023	0.038
Lebanon	0.000	0.000	0.008	0.000	0.008
Moldova	0.085	0.138	0.123	0.123	0.131
Monaco	0.000	0.000	0.000	0.008	0.000
Morocco	0.015	0.146	0.131	0.146	0.131
Mozambique	0.000	0.000	0.000	0.000	0.008
Nigeria	0.000	0.038	0.031	0.038	0.038
Oman	0.000	0.000	0.000	0.000	0.008
Pakistan	0.046	0.046	0.046	0.038	0.038
Peru	0.008	0.015	0.023	0.008	0.015
Philippines	0.008	0.038	0.038	0.038	0.038
Republic of North Macedonia	0.000	0.008	0.000	0.000	0.000
Romania	0.000	0.085	0.077	0.085	0.069
Russian Federation	0.000	0.000	0.000	0.008	0.000
Senegal	0.000	0.008	0.008	0.008	0.008
Serbia	0.008	0.015	0.031	0.015	0.038
Slovakia	0.000	0.008	0.000	0.000	0.000
Sudan	0.000	0.000	0.008	0.000	0.008
Tunisia	0.000	0.015	0.015	0.015	0.015
Turkey	0.000	0.008	0.008	0.008	0.008
Ukraine	0.015	0.054	0.046	0.038	0.038
Venezuela	0.000	0.000	0.000	0.008	0.000
Europe Union	0.754	0.100	0.092	0.138	0.108
Other Europe	0.115	0.308	0.269	0.269	0.285
Asia	0.085	0.269	0.315	0.285	0.285
Africa	0.015	0.269	0.269	0.262	0.269
Central America	0.008	0.015	0.015	0.015	0.015
South America	0.008	0.023	0.023	0.015	0.023

Notes: The table reports the nationality distribution of the immigrant students, considering the place where the subject is born (Column 1), the place where the mother (Column 2), the father (Column 3), the grandmother (Column 4), and the grandfather (Column 5) are born. The different nationalities are grouped into "European Union" which groups together Austria, Croatia, France, Germany, Greece, Italy, Monaco, Poland, Romania, Slovakia, Spain, Switzerland, United Kingdom; "Other Europe" grouping together Albania, Belarus, Moldova, Republic of North Macedonia, Russian Federation, Serbia, Turkey, Ukraine; "Asia" groups together Afghanistan, Bangladesh, China, India, Lebanon, Oman, Pakistan, Philippines; "Africa" groups together Cabo Verde, Egypt, Eritrea, Ethiopia, Ghana, Mozambique, Niger, Nigeria, Senegal, Sudan, Algeria, Morocco, Tunisia; "Central America" groups together Cuba, Dominican Republic; "South America" groups together American Samoa, Argentina, Brazil, Chile, Colombia, Peru, Venezuela.

Table A2: Contribution to the Public Good - Mechanisms

	(1) Contribution	(2) Contribution	(3) Contribution	(4) Contribution	(5) Contribution	(6) Contribution
Contribution						
Common	0.672**	0.830***	0.640***	0.627	-0.224	0.213
	(0.296)	(0.302)	(0.077)	(0.436)	(0.800)	(0.551)
Multicultural	2.923***	2.842***	2.766***	2.797***	2.779***	2.838***
	(0.662)	(0.662)	(0.710)	(0.708)	(0.662)	(0.686)
Immigrant	3.771***	3.808***	3.300***	3.334***	3.060**	3.749**
	(1.274)	(1.475)	(0.899)	(0.705)	(1.524)	(1.780)
Common x Immigrant	-0.917	-0.972	-0.694	-0.630	2.064	0.932
	(5.103)	(5.982)	(5.008)	(5.577)	(4.795)	(5.191)
Multicultural x Immigrant	-2.796	-2.749	-2.798	-2.786	-2.635	-2.138
	(4.023)	(4.222)	(3.819)	(4.067)	(6.323)	(5.024)
Not having siblings	1.363			0.443		
	(1.211)			(0.377)		
Mother has a degree=1		0.681		0.088		
		(1.869)		(2.895)		
Mother has a job=1			-2.152	-1.918		
			(1.389)	(2.353)		
1st PCA (SES)					-0.208	
					(0.728)	
Share sent in Dictator Game						4.429
						(4.498)
Female	0.840	0.918	0.914	0.901	1.589*	0.296
	(0.984)	(0.996)	(0.856)	(1.024)	(0.883)	(1.262)
Group of 4	-0.304	-0.252	-0.346	-0.343	0.064	0.801
	(1.710)	(1.739)	(1.739)	(1.896)	(1.561)	(1.301)
Group of 5	0.573***	0.642**	0.581**	0.587	0.243	0.220
	(0.124)	(0.300)	(0.271)	(0.540)	(0.554)	(0.668)
Constant	22.411***	22.253***	24.587***	24.233***	22.920***	21.739***
	(2.292)	(3.805)	(3.716)	(6.365)	(6.597)	(4.330)
N Obs.	7,800	7,800	7,800	7,800	6,460	6,220
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes	Yes
Individual correlation	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes
Group nesting	Yes	Yes	Yes	Yes	Yes	Yes

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: Linear mixed-effects models, to account for the hierarchical structure of the data, i.e. observations are nested in groups, and the correlation over rounds of individual observations. In particular, the four-level model uses random intercepts and slopes for individual choices observed over rounds, and it account for dependence in the observations among the individuals belonging to the same group, class and school. Columns 1 include the number of siblings, Column 2 control for the level of education of the mother, in Column 3 we add the working status of the mother, Column 4 include all the proxies of the socio-economic background jointly, Column 5 include the principal component of the socio-economic backrgound, while Column 6 controls for the unconditional "generosity" as measures by the share of endowment kept in the Dictator Game.

Table A3: Summary Statistics - Bologna and Districts

	Bologna	Borgo Panigale - Reno	Navile	Porto Saragozza	San Donato - San Vitale	Santo Stefano	Savena
Average income 2017	25839	22097	21277	29060	22365	35794	24474
Population 2019	391984	61359	69525	69595	66320	64510	60142
Foreign residents 2019	60698	10018	15132	8287	11414	7276	8402
Share of pop with High School	0.54	0.44	0.47	0.64	0.54	0.68	0.52
Share of home-owners (households)	0.61	0.67	0.60	0.57	0.58	0.61	0.69
Share Foreign residents 2019	0.15	0.16	0.22	0.12	0.17	0.11	0.14
Share of immigrants from EU	0.23	0.25	0.19	0.24	0.21	0.25	0.26
Share of immigrants from other EU	0.19	0.23	0.16	0.19	0.19	0.19	0.23
Share of immigrants from west Asia	0.013	0.011	0.0061	0.016	0.013	0.021	0.016
Share of immigrants from Asia	0.36	0.32	0.41	0.36	0.35	0.35	0.32
Share of immigrants from North Africa	0.093	0.086	0.12	0.076	0.12	0.049	0.071
Share of immigrants from Africa	0.065	0.065	0.074	0.053	0.074	0.062	0.049
Share of immigrants from North America	0.0048	0.00090	0.00099	0.0091	0.0032	0.018	0.0030
Share of immigrants from Central America	0.0080	0.0077	0.0065	0.011	0.0091	0.0093	0.0061
Share of immigrants from South America	0.038	0.033	0.029	0.043	0.037	0.050	0.047

Notes: The data are provided by the Statistical Office of the Municipality of Bologna. Income is the average income in 2017 expressed in Euro. The population statistics and the related percentage shares are all taken from the 2019 census.

Table A4: Summary Statistics by School

	School 1	School 2	Diff.
Common	0.328	0.362	-0.034
	(0.471)	(0.483)	
Multicultural	0.332	0.362	-0.030
	(0.472)	(0.483)	
Neutral	0.339	0.276	0.064
	(0.474)	(0.449)	
Class size	18.650	19.517	-0.868***
	(2.595)	(1.853)	
Percent Immigrants per class	0.336	0.328	0.008
	(0.116)	(0.068)	
Percent immigrants per group	0.336	0.328	0.008
	(0.271)	(0.235)	
Immigrants per class	6.372	6.457	-0.085
	(2.572)	(1.701)	
Immigrants in School	92	38	54
School district	Borgo Panigale - Reno	Savena	
Observations	274	116	390

 Notes: The table shows the summary statistics by school. *Common*, *Multicultural* and *Neutral* measures the share of students assigned to each treatment within each school. *Class size* measures the average number of students present in the class during the experiment. *Percent Immigrants per class* and *Percent immigrants per group* show the average share of immigrants students over the total number of student in each class and in each group, respectively.*Immigrants per class* and *Immigrants per school* show the average absolute number of students in the class and the total number of students in the school. *School District* is the name of district of the municipality of Bologna where the school is located.

Table A5: Feelings by Treatment and Immigration Status

	(1) Calm	(2) Tense	(3) Upset	(4) Relaxed	(5) Happy	(6) Worried	(7) Demand
Common	0.149	0.200	-0.084	0.034	-0.200	-0.147	-0.162*
	(0.084)	(0.149)	(0.180)	(0.015)	(0.167)	(0.142)	(0.01)
Multicultural	-0.109	0.066	-0.063	0.013	-0.104	-0.160	-0.023
	(0.082)	(0.122)	(0.031)	(0.024)	(0.046)	(0.103)	(0.050)
Immigrant	-0.091	0.196	-0.017	0.143	-0.391	0.011	-0.025
	(0.240)	(0.182)	(0.066)	(0.230)	(0.229)	(0.061)	(0.068)
Common x Immigrant	-0.128	-0.573	-0.278	-0.293	0.244	-0.573	0.104
	(0.222)	(0.411)	(0.115)	(0.284)	(0.084)	(0.244)	(0.035)
Multicultural x Immigrant	-0.051	-0.183	-0.202	-0.184	0.260	-0.233	0.015
	(0.134)	(0.249)	(0.207)	(0.386)	(0.062)	(0.278)	(0.144)
Female	-0.002	0.162	0.210	-0.053	-0.038	0.039	-0.018
	(0.088)	(0.027)	(0.093)	(0.077)	(0.115)	(0.056)	(0.095)
Constant	2.701***	2.780***	3.044***	2.458***	3.016**	3.367**	0.484*
	(0.021)	(0.008)	(0.041)	(0.025)	(0.097)	(0.086)	(0.052)
N Obs.	389	389	389	389	389	389	389
Clustering	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Class nesting	Yes	Yes	Yes	Yes	Yes	Yes	Yes

OLS regression. Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: The feelings are reported as answer to the question "I feel ..." as in the short 6-items Spielberger State-Trait Anxiety Inventory (Marteau and Bekker, 1992).

Table A6: Mistakes by Treatment and Immigration Status

	(1) Mistakes in control question 1	(2) Mistakes in control question 2	(3) Contribution
Common	-0.422	-0.259	0.664***
	(0.151)	(0.205)	(0.006)
Multicultural	-0.121	-0.135	2.853***
	(0.069)	(0.262)	(0.413)
Immigrant	0.188	0.588	3.921***
	(0.052)	(1.260)	(1.218)
Common x Immigrant	0.033	-0.352	-1.164
	(0.459)	(1.613)	(4.945)
Multicultural x Immigrant	0.881	0.706**	-2.402
	(0.558)	(0.039)	(3.972)
Female	-0.372	-0.202	0.709
	(0.182)	(0.386)	(0.822)
Mistakes in control question 1			-0.375***
			(0.037)
Mistakes in control question 2			-0.128
			(0.223)
Constant	1.032**	1.036	23.178***
	(0.063)	(0.237)	(2.027)
N Obs.	390	390	7,800
Round fixed effects			
Clustering	Yes	Yes	Yes
Random Slopes	Yes	Yes	Yes
Individual correlation	No	No	Yes
Class nesting	Yes	Yes	Yes
Group nesting	No	No	Yes

Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Notes: The mistake output variables count the number of times the subjects has reported a wrong answer to the control question 1 and 2 we asked befor the main experiment to check if the instructions were clear. Column 3 estimate equation 1 directly controlling for the level of understanding by including the number of mistakes in the control questions.

Table A7: OLS: Contribution - Part I

	(1) Full	(2) Full	(3) Immigrants	(4) Natives
Common	1.017	1.328	-0.290	1.124
	(0.748)	(0.925)	(1.289)	(0.925)
Multicultural	2.092***	3.103***	0.116	2.933***
	(0.747)	(0.913)	(1.408)	(0.914)
Immigrant	2.245***	3.484***		
	(0.659)	(1.102)		
Common x Immigrant		-0.744		
		(1.574)		
Multicultural x Immigrant		-3.135*		
		(1.617)		
Female	1.505**	1.561**	-0.678	2.883***
	(0.621)	(0.620)	(1.202)	(0.748)
Group of 4				
Group of 5				
Constant	19.547***	19.052***	23.853***	18.588***
	(0.640)	(0.722)	(0.985)	(0.730)
N Obs.	3,900	3,900	1,300	2,600
Round Fixed effects	Yes	Yes	Yes	Yes
Classroom fixed effect	Yes	Yes	Yes	Yes
Robust standard errors	Yes	Yes	Yes	Yes

Column 2: Post estimation tests for Common = [Common x Immigrant - Common]: p=0.2654.

Column 2: Post estimation tests for Multicultural = [Multicultural x Immigrant - Multicultural]: p=0.0022.

Column 3: Post estimation tests for Common = Multicultural: p=0.7719.

Column 4: Post estimation tests for Common = Multicultural: p=0.0390.

OLS regression, symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

Table A8: OLS: Contribution - Part I + Part II

	(1) Full	(2) Full	(3) Immigrants	(4) Natives
Common	-0.668	-0.198	-2.044**	-0.241
	(0.513)	(0.634)	(0.893)	(0.632)
Multicultural	0.664	1.515**	0.055	1.570**
	(0.517)	(0.632)	(0.971)	(0.630)
Immigrant	1.550***	2.779***		
	(0.452)	(0.780)		
Common x Immigrant		-1.215		
		(1.084)		
Multicultural x Immigrant		-2.577**		
		(1.121)		
Female	1.811***	1.837***	-1.275	3.242***
	(0.426)	(0.426)	(0.831)	(0.516)
Group of 4				
Group of 5				
Constant	17.682***	17.203***	21.425***	16.508***
	(0.444)	(0.502)	(0.712)	(0.504)
N Obs.	7,800	7,800	2,600	5,200
Round Fixed effects	Yes	Yes	Yes	Yes
Classroom fixed effect	Yes	Yes	Yes	Yes
Robust standard errors	Yes	Yes	Yes	Yes

Column 2: Post estimation tests for Common = [Common x Immigrant - Common]: p=0.6963.

Column 2: Post estimation tests for Multicultural = [Multicultural x Immigrant - Multicultural]: p=0.0081.

Column 3: Post estimation tests for Common = Multicultural: p=0.0251.

Column 4: Post estimation tests for Common = Multicultural: p=0.0022.

OLS regression, symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.