Institutional Transmission of Social Preferences

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Abstract

Using incentivized experiments with 2,854 primary school students and 238 teachers, we study how teachers' social preferences shape students' own prosociality. Leveraging within-school variation in teachers' social preferences, we show that students taught by more prosocial teachers give more in a dictator game, contribute more in a public goods game, and cheat less in a dice-reporting task, even after controlling for students' cognitive skills, personality traits and socio-economic background. These effects grow with greater teacher exposure and are partly mediated by peers dynamics and students' beliefs. Our findings highlighting the role of teachers as key institutional agents of prosocial development.

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1 Introduction

Social preferences - such as fairness, generosity, and honesty - are fundamental to economic behavior, influencing interactions in markets and organizations, the correct functioning of institutions and, more broadly, economic development (Algan and Cahuc (2013); Bloom, Sadun, and Van Reenen (2012); Djankov et al. (2003); Fehr, Powell, and Wilkening (2021); Fountain (1998); Glaeser, Sacerdote, and Scheinkman (1996); Guiso, Sapienza, and Zingales, 2009; Knack and Keefer (1997)). Beyond their societal importance, these preferences are also key predictors of individual outcomes, including academic achievement, labor market success and democratic participation (Algan, Beasley, et al. (2022); Cantoni, Heizlsperger, et al. (2022); Carpenter and Seki (2011); Deming (2017); Dohmen et al. (2009); Dube, Giuliano, and Leonard (2019); Kosse and Tincani (2020)).[1]

Despite their importance, relatively little is known about the developmental origins of social preferences. Existing work has primarily focused on parent-child transmission (e.g., Ben-Ner et al. (2017); Chowdhury, Sutter, and Zimmermann (2022); Dohmen et al. (2012)). Yet, as long recognized by educational philosophers (e.g., Dewey (1930)), schools are also key social institutions where norms, values and cooperative behaviors can be shaped. Recent economic models similarly emphasize that institutional environments and role models - such as teachers - play a central role in the formation of prosocial preferences (Bisin and Verdier (2001); Guiso, Sapienza, and Zingales (2011); Tabellini (2008)). Consistent with this perspective, children's prosocial preferences have been shown to respond to features of their social environment (Kosse, Deckers, et al. (2020)), and teachers have been found to shape important non-cognitive outcomes, including disciplinary behavior and school-based arrests (Jackson (2018); Jackson et al. (2020)).

In this paper, we examine the transmission of social preferences from teachers to students.

A major challenge in studying this question is the availability of data linking students' and teachers' preferences. To address this problem, we elicit social preferences using incentivized experiments with almost 3000 primary school students and 240 teachers in forty-two primary schools in Campania, Italy. This is a particularly interesting setting to study social preferences as it exhibits relatively low levels of social capital, cooperation and trust compared to other Italian regions and advanced economies (Bigoni et al. (2019); Durante et al. (2025); OECD (2020); Putnam, Nanetti, and Leonardi (1994)), reflecting long-standing historical and regional legacies (Guiso, Sapienza, and Zingales (2016)). Moreover, as childhood is widely recognized as a sensitive period for the development of social and cognitive traits (Fehr, Bernhard, and Rockenbach (2008); Cunha and Heckman (2007)), and because teachers in this context typically follow the same cohort of students throughout the five years of primary school, their influence on students' development is likely to be especially strong.

Students (aged 7 to 10) and their teachers completed the *same set* of incentivized games, carefully adapted to participants' age and comprehension levels. The tasks included a dictator game, a public goods game, a one-shot prisoner's dilemma, and a die-rolling game. These are *paradigmatic economic experiments* in the sense of Fehr and Charness (2025), widely used to elicit social preferences in both adults (e.g., Andreoni and Miller (2002); Fehr and Gächter (2000); Fischbacher and Föllmi-Heusi

[1] See Fehr and Charness (2025) for a recent review on the social and economic implications of social preferences.

(2013); Krupka and Weber (2013); Yuan et al. (2022)) and children (e.g., Benenson, Pascoe, and Radmore (2007); Fehr, Bernhard, and Rockenbach (2008); Harbaugh and Krause (2000); Samek et al. (2020)). All the games involved monetary payments to the participants (in the form of stationary or stickers for the students). Following Kling, Liebman, and Katz (2007), we combine these measures into a single *pro-sociality index* that captures information from all tasks while accounting for measurement error in individual measures, but also report results for each individual measure. In addition, we collected a rich set of student-level controls, including measures of cognitive skills and personality traits.

To identify the effect of teachers' preferences on students, we exploit the *as-good-as-random* assignment of students to teachers with varying levels of social preferences within a school. Specifically, we compare students in the same school and grade who are assigned to different classes led by more or less prosocial teachers, in an approach similar to Carlana (2019).[2] We provide evidence in favor of our identifying assumption, showing that students' characteristics, including family backgrounds, cognitive skills and personality traits are not systematically associated with teachers' social preferences.

Teachers' social preferences strongly predict those of their students. A one-standard-deviation (SD) increase in teachers' prosociality is associated with a 0.09 SD increase in students' social preferences, an effect that remains remarkably stable across specifications, controlling for students' demographics, cognitive skills, personality traits, and teachers' experience and education. When we examine each individual experimental tasks in isolation we find similar results. Students taught by more generous teachers in the dictator game also give more themselves - roughly a 5% increase in average giving. These choices translate into more equal outcomes, suggesting that exposure to prosocial teachers not only raises generosity but also reduces inequality in resource allocation. Similarly, students of more cooperative teachers in the public goods game are 9 to 12 percentage points more likely to contribute. Teachers' prosociality also translates into greater honesty among students. In the die-rolling task, students of more prosocial teachers report lower (and more truthful) outcomes, closing about 10% of the gap between fair and observed reports. We find no systematic relationship between teachers' and students' behavior in the prisoner's dilemma.

We further show that the influence of teachers' social preferences on students emerges gradually over time, with increased exposure to the teacher. At the beginning of primary school, students assigned to teachers with higher and lower prosociality display similar levels of social preferences, lending credibility to our design by suggesting that initial teacher assignment is not systematically related to students' baseline traits. As exposure lengthens, however, clear differences between students assigned to higher- versus lower-prosociality teachers become apparent: by age nine, students taught by more prosocial teachers score about 0.16 SD higher, and by age ten the gap reaches 0.38 SD. These dynamics indicate that teachers' effects accumulate with continued interaction, consistent with the idea that children internalize social preferences through longer-term socialization processes within the classroom.

We next explore the mechanisms underlying the transmission of social preferences. We consider

[2]Carlana (2019) uses a similar design in the setting of Italian middle schools to study the effect of teachers' gender stereotypes on students' academic performance.

two main channels. First, teachers may shape the social environment of the classroom, influencing how peers interact and thus amplifying prosocial behavior through a "snowball" effect within the group. Second, teachers may shape students' beliefs about the behavior of others, fostering more optimistic expectations about peers' fairness, honesty, and cooperation. Consistent with both mechanisms, we find that teachers' prosociality predicts higher average prosociality among peers and more positive beliefs about others' behavior. A non-causal mediation analysis suggests that roughly one-third of the overall effect of teachers operates through peer dynamics and 10% through students' beliefs. Relating these mechanisms to the process of social preference formation offers broader insights into how prosocial motives develop during childhood and the channels through which institutional environments and actors - such as schools and teachers - can foster them.

This paper makes three main contributions to the literature. First, we advance the literature on the developmental origins of social preferences, which has largely focused on parent-child transmission (e.g., Chowdhury, Sutter, and Zimmermann (2022); Dohmen et al. (2012)), by documenting institutional transmission: how teachers, as role models within schools, shape students' prosociality. Prior work shows that educational institutions can also transmit values and beliefs (e.g., Cantoni, Chen, et al. (2017); Bandiera et al. (2019)), highlighting the broader role of schools in shaping citizens' behaviors and attitudes. Our findings complement this work by showing that the everyday interactions with teachers - beyond formal curricula or institutional reforms - constitute a powerful channel through which social preferences are transmitted in childhood, underscoring the potential of teachers as agents of socialization with implications that extend far beyond the classroom. Building on recent work on social environments (Kosse, Deckers, et al. (2020)) and teaching styles (Algan, Cahuc, and Shleifer (2013)), we provide the first evidence that teachers' own social preferences are systematically transmitted to their students. Second, we show that social preferences can be shaped during the early years, a period identified as particularly receptive to interventions (e.g., Alan, Baysan, et al. (2021); Cappelen et al. (2020)); Cunha and Heckman (2007)), indicating that policies and programs targeting teachers and classroom environments can have lasting effects on children's prosociality. Third, we provide novel evidence on the multidimensional role of teachers in shaping children's development, contributing to a recent literature that extends the focus beyond academic outcomes to include non-cognitive skills and prosocial behavior (e.g., Agostinelli, Saharkhiz, and Wiswall (2025); Jackson (2018); Jackson et al. (2020)).

The remainder of the paper is organized as follows. Section 2 describes the context, data, and experimental procedures used to elicit social preferences. Section 3 presents our empirical design, and Section 4 reports the results. Section 5 concludes.

2 Context and Data

2.1 Institutional Background

In Italy, primary school lasts five years, from age 6 to age 11. Children generally attend the school located in their residential catchment area (*circoscrizione scolastica*), although families may apply to

any school within their municipality. In practice, however, priority is given to children residing in the school's catchment zone.

Within a school, students are assigned to classes at the beginning of the first grade and typically remain with the same peers until the end of primary school. The general criteria for class formation are set by the Italian law, while the specific rules are defined by the school council in a formal document that must be published on the school's official notice board or website.[3] These criteria are binding for the school principal and usually include balancing students across classes by gender, disability status, socioeconomic background, and prior academic performance, while also considering any special needs or logistical factors.

Teachers' assignment to schools is centralized and set by the Italian Ministry of Education based on seniority ranking and available positions within each province. As teachers gain experience and seniority, they transfer toward their most preferred schools, often leaving those characterized by more disadvantaged student populations or more challenging social environments (Barbieri, Rossetti, and Sestito (2011)). Once assigned to a school, teachers are allocated to specific classes by the school principal, taking into account qualifications, continuity, and organizational needs. Each class is typically led by two main classroom teachers (*maestro or maestra*) who teach most subjects (with one typically teaching Italian, History and Geography, and the other teaching Mathematics and Science) and remain with the same group of students throughout the five years of primary school. For specific subjects such as art, music, or foreign languages, specialist teachers rotate across classes.

In a setting where teachers stay with the same students for the entire five years of primary school, the initial teacher assignment is particularly consequential, as teachers have considerable scope to influence both academic trajectories and broader developmental outcomes.

2.2 Context

We conducted incentivized experiments with students and teachers in forty-two primary schools in the Southern Italian region of Campania. This context is particularly interesting for studying social preferences because Italy ranks relatively low on various measures of social capital, including trust, compared to other advanced economies (OECD (2020)). Within Italy, Campania is among the regions with the lowest social capital, a pattern that has been documented in previous studies (Putnam, Nanetti, and Leonardi (1994); Bigoni et al. (2019); Durante et al. (2025)) and linked to historical legacies and regional experiences (Guiso, Sapienza, and Zingales (2016)). Low levels of prosociality in the region are also reflected in social outcomes, such as crime: Campania has the highest reported crime rates among Italian regions (Istat (2013)).

Schools were contacted directly by the research team and agreed to participate on a voluntary basis. Within participating schools, we aimed to survey students in grades 2 through 6, excluding grade 1 students who were considered too young to comprehend the full set of experimental tasks. In practice, we successfully surveyed approximately 70% of enrolled students and 90% of their teachers.

[3]The main regulatory framework is the *Testo Unico delle disposizioni legislative vigenti in materia di istruzione, relative alle scuole di ogni ordine e grado* (D.Lgs. 297/1994) and subsequent regulations.

2.3 Data and Experimental Procedures

We designed and implemented a series of incentivized experiments to measure social preferences among both students and their teachers, complemented by detailed background information on students' cognitive skills, personality traits, and socio-economic characteristics. We first describe the experimental procedures and measures, and then provide details on the assessment of students' cognitive and non-cognitive traits and on the characteristics of the study sample.

2.3.1 Measurement of Social Preferences

All experiments were conducted in the 2022/2023 school year on school premises under standardized conditions, following protocols carefully adapted to participants' age and comprehension levels. Trained experimenters visited each school and administered the tasks individually in one-on-one sessions with students and teachers using a tablet. To ensure the independence of responses and to prevent any potential influence or observation effects, students and teachers participated in separate testing sessions, held at different points during the school year: student sessions took place between December 2022 and April 2023, while teacher sessions were held in May and June 2023.

We used four incentivized experimental measures of social preferences, including a dictator game, a public goods game, a one-shot prisoner's dilemma, and a die-rolling game. These are *paradigmatic economic experiments* (Fehr and Charness (2025)), widely used to elicit social preferences in both adults (e.g., Andreoni and Miller (2002); Fehr and Gächter (2000); Fischbacher and Föllmi-Heusi (2013); Krupka and Weber (2013); Yuan et al. (2022)) and children (e.g., Benenson, Pascoe, and Radmore (2007); Fehr, Bernhard, and Rockenbach (2008); Harbaugh and Krause (2000); Samek et al. (2020)). Table 1 provides an overview of the choices participants could make in each task.

The design of each measure was the same for students and teachers, with one difference: students were paid in tokens, which could later be exchanged for stationery items and stickers, while teachers were paid in euros. When describing the experimental tasks, experimenters referred to payments using the appropriate units. For ease of exposition, we refer to all payments in terms of tokens.

Dictator Game. Our first experiment is a dictator game, which measures key dimensions of prosociality including altruism (Andreoni and Miller (2002)), fairness (Fehr and Schmidt (1999), Bolton and Ockenfels (2000)), and compliance with social norms (List (2007), Krupka and Weber (2013); Eckel, Hoover, et al. (2023)). Participants received an endowment of six tokens and decided how to split it between themselves and an anonymous receiver, described as a student (or teacher) from any other participating school. Following their choice, students were also asked a question to elicit their beliefs about peers' behavior: "Now I'd like you to think about how many children in this class chose to divide the coins like this: 6 for themselves and 0 for the other player".[4]

[4] At the end of the session, a subset of participants was randomly selected to receive the allocation chosen by one of the "dictators". Importantly, participants were not informed beforehand that they may also receive tokens from another participant, ensuring that decisions reflect genuine giving rather than strategic anticipation.

Public Goods Game. Our second measure of social preferences is a threshold public goods game. Public goods games have been extensively used to study cooperative behavior and are closely linked to trust and conditional cooperation (e.g., Fehr and Gächter (2000); L. R. Anderson, Mellor, and Milyo (2004); Gächter, Herrmann, and Thöni (2004); Rege and Telle (2004); Karlan (2005)).[5] In our design, students were told they would play the game with five other randomly assigned students from the study schools, while teachers were told they would play the game with five other randomly assigned teachers, again from any of the study schools. Each participant received an initial endowment of two tokens, and was informed that if at least four of the six group members contributed their tokens to the public good, all participants would receive four tokens plus any uncommitted endowment. If the threshold was not met, participants kept only any uncommitted endowment (two or zero tokens).[6] All possible contribution scenarios (0-6 contributors) and the relative payoffs were shown to the participants in the instructions to ensure comprehension. After making their binary contribution decision, students reported their beliefs about the exact number of contributors in their class. Correct answers to this question earned one additional token.

Prisoner's Dilemma. Our third measure of social preferences is a one-shot prisoner's dilemma. Prisonder's dilemma games have been widely used to study cooperation (K. M. Sheldon, M. S. Sheldon, and Osbaldiston (2000), Yuan et al. (2022)) and have been shown to correlate with other measures of prosociality, such as contributions in dictator games (Capraro, Jordan, and Rand (2014)).[7] Participants (both students and teachers) were randomly paired with another participant in their respective subject pool. Using a visual explanation on the tablet, they were informed that their payoff depended on both their choice and the choice of their opponent. Students were assigned an initial endowment of two tokens, whilst teachers had an initial endowment of three tokens. Each participant was then asked whether they wanted to transfer their endowment to their opponent. If both players chose to transfer their endowment, the initial endowment was doubled and assigned to the opponent, resulting in a total of four tokens to students (six to teachers). If only one player transferred, the participant who transferred received nothing, while the non-transferring participant received their initial endowment, and additionally, double the opponent's transferred endowment. Thus, the student who did not transfer their endowment received six tokens, and teachers who did not transfer received nine tokens. If neither transferred, each student (teacher) kept their initial endowment of two (three) tokens.

[5] Choices in the public goods game correlate with survey measures of trust (Thöni, Tyran, and Wengström (2012)) and with choices in the trust game (Kim, Putterman, and Zhang (2022); Kocher et al., 2015), although public goods games are often preferred because trust games can conflate trust with risk preferences (Rinelle Chetty et al. (2021); Eckel and Wilson (2004); Schechter (2007)) and other-regarding behavior (Cox (2004)). Public goods games additionally capture conditional cooperation, the willingness to cooperate when one believes others will too (Chaudhuri (2011); Fischbacher, Gächter, and Fehr (2001)).

[6] Students were presented with a slightly modified, child-friendly framing of the task: if four or more students placed their tokens in a "magic box", the box would double the number of tokens for everyone, including those who did not contribute; otherwise, the box would disappear along with the tokens inside.

[7] Like the public goods game, the prisoner's dilemma captures conditional cooperation (Fehr and Schmidt, 1999), but in a setting where reciprocity is more salient and cooperation is relatively easier to achieve. In particular, participants form beliefs about the actions of a single opponent, simplifying expectations and making cooperative outcomes more attainable (Grujić et al., 2012).

Table 1: Measurement of Social Preferences

Experimental measure	Social preferences studied	Players	Set of actions
Dictator Game	Altruism Compliance with social norms	2 players per group: Sender and Receiver	Give 6 tokens and keep 0 Give 5 tokens and keep 1 Give 4 tokens and keep 2 Give 3 tokens and keep 3 Give 2 tokens and keep 4 Give 1 tokens and keep 5 Give 0 tokens and keep 6
Public Goods Game	Trust Conditional cooperation	6 players per group	Contribute with two tokens Not contribute
Prisoner's Dilemma	Reciprocity	2 players per group	Give 2 tokens to the opponent Keep 2 tokens
Cheating game	Honesty	1 player	State outcome of die roll is 6 State outcome of die roll is 5 State outcome of die roll is 4 State outcome of die roll is 3 State outcome of die roll is 2 State outcome of die roll is 1

Cheating Game. We measure honesty using the cheating game developed by Fischbacher and Föllmi-Heusi (2013).[8] This measure was administered only to students. Students were asked to roll a die once in private and to observe its outcome. They then reported the outcome of the roll and placed the die in a cloth bag to complete the task. Importantly, neither the experimenter nor any other participant observed the true outcome of the die roll. Participants received a number of tokens equal to the value they declared. Because the true outcome of the die roll is never observed by the experimenter, cheating cannot be identified at the individual level. Instead, honesty can be inferred only at the aggregate level. With a sufficiently large number of participants, truthful reporting would imply an average reported outcome of 3.5, the expected value of a fair six-sided die. By contrast, systematic over-reporting shifts the average above this benchmark, with a maximum of 6 if all participants always report the highest payoff. In the analysis, we examine reported outcomes in two complementary ways. First, we analyze reported die outcomes at the individual level. Second, we assess average reports at the class level and consider whether these exceed the 3.5 benchmark, which provides evidence of systematic cheating within the classroom.

[8]Dishonesty measured through this task has been linked to significant economic inefficiencies. For example, Gächter and Schulz (2016) construct a country-level index capturing behaviors such as, corruption, tax evasion and fraud in politics and finds a positive and significant correlation between this index and behavior in the cheating game conducted across 23 countries.

Social Preferences Index. We combine behaviors across the different games into a single index of social preferences. Following Kling, Liebman, and Katz (2007), we first rescale each measure so that higher values indicate more prosocial behavior and standardize each to have mean zero and unit variance in the sample. We then compute the index as the simple average of these standardized measures and re-standardize it to have mean zero and unit standard deviation in the full sample. As a robustness check, we also build a weighted standardized index following the procedure in Anderson (2008). The same aggregation is applied separately to students and teachers. This approach improves statistical power and yields a comprehensive summary measure of prosocial behavior across tasks. We show results both for this summary index and for each individual experimental task.

2.3.2 Child Cognitive Skills and Personality Traits

We collected data on children's cognitive skills and personality traits using the Raven Progressive Matrices (RPM; Raven (2000)) and the Big Five questionnaire for children aged 6-11, that we use as control variables in the analysis. RPM are a commonly used cognitive assessment of fluid intelligence, and measure an individual's ability to think logically, identify patterns, and solve novel problems without relying on prior knowledge. The Big Five categorizes personality into five key traits - neuroticism, extroversion, openness, agreeableness, and conscientiousness - and is widely used in psychological and economic research (Almlund et al. (2011); Costa and McCrae (1992); Digman (1990)).

2.4 Sample Characteristics and Descriptive Statistics

Table 2 summarizes the characteristics of the study sample. Students are on average 8.4 years old, and 51% are female. Almost 90% of students are Italian, and about 5% have a registered disability. Sixty-four percent of students' parents have completed at least a high school degree.[9] These students are taught by teachers who are for the vast majority women (96%). About 66% have a high school degree, while the remaining 34% hold a Bachelor's or Master's degree. They are also highly experienced, with an average tenure of nearly 19 years.

Appendix Figure A.1 shows students' behavior in the incentivized experiments. On average, children allocated 1.67 tokens to the receiver (out of 6), with 38% keeping all tokens to themselves, and 26% choosing an equal split. Only 3.7% of the children gave all tokens to the receiver. In the public good game, 67% of students decided not to contribute, and a similar share (69%) did not cooperate in the prisoner's dilemma. In the cheating game, 43% of students reported the maximum outcome of 6, with an average report of 4.61, suggesting that cheating is widespread in this setting. In Appendix Table A.1, we present correlations of students' behaviors across games. We find that the correlations are statistically significant at conventional levels and have the expected signs, indicating that students who are more prosocial in one dimensions tend to be more pro-social in others (all correlations are positive except that with cheating which is negative as expected).

[9] We note that information on parental education comes from administrative records, and we could not match this information for all students in the sample.

Table 2: Sample Characteristics

	Mean	S.D.
Panel A: Students' characteristics		
Age	8.40	0.94
Gender (female)	0.51	0.50
Italian	0.90	0.30
Disability	0.05	0.21
Parents' education (secondary or more)*	0.64	0.48
Class size	15.52	4.53
Panel B: Teachers' characteristics		
Gender (female)	0.96	0.19
Education (high-school)†	0.66	0.47
Experience	18.97	4.29
Number of students	2854	
Number of teachers	238	
Number of classes	186	
Number of schools	42	

Notes: This table presents the summary statistics for the sample. Panel A reports students' characteristics, Panel B teachers' characteristics. * information on parents' education comes from administrative records provided directly by the schools and is sometimes missing. † Education is a dummy that takes value of one if the teachers has a high school degree, and zero if she has a higher level of education (e.g., a Bachelor or a Master degree).

Appendix Figure A.2 and Appendix Table A.2 report similar results for teachers. Sixty-six percent of teachers selected an equal split in the dictator game, and the average number of tokens given was 2.55. The majority of teachers contributed in the public goods game (82%) and cooperated in the prisoner's dilemma (74%). Correlations across teachers' behaviors are all statistically significant and in the expected directions, mirroring the patterns observed among students.

3 Empirical Strategy

To study the transmission of social preferences from teachers to students, we follow the common approach in the literature and regress the social preferences of the younger generation on those of the older generation (e.g., Chowdhury, Sutter, and Zimmermann (2022); Dohmen et al. (2012)). Specifically, we estimate the following Ordinary Least Squares (OLS) regression:

$$y^S_{i,c,j} = \alpha + \beta y^T_c + \gamma X_{i,c} + \lambda_j + \epsilon_{i,c,j} \tag{1}$$

where $y^S_{i,c,j}$ is the outcome of student i, in classroom c and school j; y^T_c captures the social preferences of the teacher(s) assigned to classroom c, $X_{i,c}$ is a set of child and class-level controls, and λ_j is a school fixed effects. Because students may be taught by multiple teachers (as described in Section

2.1), we construct y_c^T as the average level of social preferences among the main teachers who teach classroom c (below we show that our results are robust to including *all* teachers). In the analyses, we cluster standard errors at the classroom level, which corresponds to the level of treatment assignment.

Studies on the intergenerational transmission of social preferences focus on the correlation between parents' and children's economic preferences (e.g., Alan, Baydar, et al. (2017); Ben-Ner et al. (2017); Chowdhury, Sutter, and Zimmermann (2022); Dohmen et al. (2012)). By leveraging an assignment rule of teachers to students that is *as-good-as-random*, we aim to move beyond simple correlations and give a causal interpretation to the coefficient β in equation (1). This interpretation requires that students with higher social preferences are not systematically assigned to teachers with higher social preferences.

A potential threat arises if more pro-social teachers systematically sort into "better" schools or schools with less challenging social environments (Barbieri, Rossetti, and Sestito (2011)). Our identification strategy addresses this by exploiting within-school variation in teachers' social preferences, controlling for school-level characteristics and accounting for the potential sorting of students and teachers across schools.

Our identification therefore relies on the assumption that, within a school, more pro-social teachers are not systematically assigned to more pro-social students (for example, students with more pro-social parents). This assumption could be violated if parents were able to identify teachers with higher social preferences and influence class assignments. While this seems unlikely - since social preferences are not directly observable by parents at the time of enrollment and teachers' assignment to classes are not determined by parental preferences (as described in Section 2.1) - parents might still informally attempt to influence assignment based on teachers' characteristics correlated with social preferences, such as gender or experience. As in Carlana (2019), we show below that, on average, student characteristics, including family backgrounds, are not systematically associated with teachers' social preferences, lending credibility to our identification strategy. Moreover, we show below that the influence of teachers' on students materialize in later grades, suggesting that initial teacher assignment is not systematically related to students' baseline traits. This dynamic of impacts lends further credibility to our identification strategy.

4 Results

4.1 Assignment of Students to Teachers

We examine whether teachers with different levels of social preferences are systematically assigned to particular groups of students. If more prosocial parents are able to recognize and influence assignment toward more prosocial teachers, any observed relationship between teachers' and students' social preferences could instead reflect unobserved parental preferences. Table 3 presents correlations between teachers' social preferences - measured with the social preferences index - and students' average characteristics (each column reports results from a separate regression for the outcome indicated in the column header). Across all observable characteristics, we find no evidence that more prosocial

Table 3: Assignment of Students to Teachers with Different Social Preferences

	% Italian	% boys	% disability	% parents secondary or higher	Class size	Average Age
	(1)	(2)	(3)	(4)	(5)	(6)
Social preferences teacher	0.035	-0.017	0.006	-0.021	-0.087	-0.066
	(0.023)	(0.015)	(0.007)	(0.020)	(0.291)	(0.090)
Mean outcome	0.897	0.511	0.046	0.636	16.730	8.400
Observations	124	186	186	113	186	170
	Raven	Big Five				
		Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
	(7)	(8)	(9)	(10)	(11)	(12)
Social preferences teacher	0.150	-0.016	0.007	-0.021	0.025	-0.016
	(0.144)	(0.023)	(0.029)	(0.033)	(0.024)	(0.029)
Mean outcome	7.742	4.130	3.430	3.849	2.926	3.684
Observations	186	186	186	186	186	186

Notes: Notes: This table report the coefficients of a regression of average class characteristics on teachers' social preferences. Each column corresponds to a separate outcome reported in the column header. Teacher's social preferences are measured with the "Social Preferences Index" described in Section 2.3.1. All regressions include school fixed effects. Standard errors are clustered at the class level. * indicates 10% significance ** 0.05 indicates 5% significance and *** 0.01 indicates 1% significance.

teachers are systematically assigned to classes with different student compositions. The point estimates are consistently small in magnitude and never statistically significant at conventional levels, suggesting that teachers' social preferences appear to be randomly assigned to students within schools and lending credibility to our empirical strategy.

4.2 Relation between Students' and Teachers' Preferences

We report the relation between students' and teachers' social preferences in Table 4. Columns 1-3 present results for the overall social preference index (as defined in Section 2.3.1); columns 4-6 show effects on behavior in the dictator game; columns 7-9 report results for the public goods game; columns 10-12 display students' reports in the dice-cheating game; and columns 13-15 present students' behavior in the prisoner's dilemma.

There is a positive effect of teachers' social preference on students' social preferences. The coefficient in column 1 implies that a one-standard-deviation increase in teachers' social preferences is associated with an increase in students' social preferences of 0.089 of a standard deviation (SD). Quantitatively, this corresponds to assigning a student to a teacher whose prosociality lies at the 75th rather than the 15th percentile. The coefficient is very similar once we include child demographic controls (columns 2), and when further including cognitive ability and personality traits (column 3).

We report several robustness checks to these results in Appendix Figure A.3. Specifically, we begin by reproducing the estimates from columns 1-3 of Table 4 (models M1-M3 in the figure). We then show that the results remain stable when controlling for teachers' experience and education (M4), and when computing average teacher social preferences using *all* teachers in a class rather than only the two main ones, as in our baseline specification (M5). The findings are also robust to restricting the estimation sample to students who participated in all four experimental games (approximately 75% of the sample). We further verify that the results are not sensitive to the construction of the

social preference index: using the aggregation method proposed by Anderson (2008) yields very similar effects (M7 in the figure).

In Appendix Figure A.4, we explore the distribution of students' social preferences by classifying teachers as having "low" or "high" social preferences, based on whether their score falls below or above the sample median. We then plot the estimated cumulative distribution function (CDF) of students' social preferences separately by teacher type. The CDF for students taught by high social preference teachers stochastically dominates that of students taught by low social preference ones across the entire outcome distribution. A Kolmogorov-Smirnov (K-S) test rejects the null hypothesis of equality (p-value=0.03), confirming that the distributions of the two groups are statistically distinct from one another.

In the remaining columns of Table 4, we unpack these results across the individual components of the social preference index. Students taught by more generous teachers in the dictator game also tend to give more themselves: each additional token given by the teacher is associated with an increase of 0.087 tokens in students' giving behavior. Given that students in our sample give an average of 1.67 tokens, this effect corresponds to roughly a 5% increase in generosity. These results are stable to controlling for child characteristics, including cognitive skills (Raven) and personality traits (Big Five inventory).

Appendix Table A.3 further shows that the increase in students' giving is driven by a higher likelihood of making positive transfers at several thresholds: students of more prosocial teachers are more likely to give more than one, two, or four tokens, and are 2 percentage points more likely to choose an equal split, a 7% increase relative to the mean. Following Cappelen et al. (2020), we compute the implied inequality in outcomes, measured as the absolute difference in tokens divided by the total number of tokens. Students of more prosocial teachers generate more equal outcomes, suggesting that exposure to prosocial teachers not only raises generosity but also reduces inequality in resource allocation.

We also find that teachers' behavior in the public goods game positively affects students' own willingness to contribute (columns 7-9). The estimated coefficients suggest that a more cooperative teacher increases the probability that her students contribute to the public good by about 9-12 percentage points, depending on the specification, corresponding to a 27-37% increase relative to the sample mean.

Turning to dishonest behavior, we observe a negative and statistically significant relationship between teachers' social preferences (measured by their contribution in the dictator game) and students' reported outcomes in the die-cheating task (columns 10-12). As discussed above, we do not observe individual-level cheating in this game, since the actual dice outcomes are unobserved. Instead, we rely on students' self-reported rolls, which may reflect either truthful reporting or dishonest behavior. We find that students taught by more prosocial teachers report, on average, lower numbers in the dice task. The estimated coefficients range from -0.09 to -0.11; given an average report of 4.6 - well above the fair benchmark of 3.5 - this effect represents a meaningful reduction of about 10% of the gap between fair and observed reports. These results suggest that teachers with stronger social preferences

foster greater honesty among their students.

Because individual-level cheating cannot be directly observed, Appendix Table A.4 reports results at the class level. If children were truthfully reporting, the expected average report from a fair die is 3.5, whereas in our data the mean class-level report is 4.6, indicating that cheating is paramount in this setting. Importantly, we find that classes taught by more prosocial teachers report significantly lower averages than those taught by less prosocial ones (columns 1-2 of Appendix Table A.4). The estimated effect on the probability of cheating, defined as having an average class-level report above 3.5, is small and statistically insignificant, against a high average probability of cheating of 98%.

Finally, columns 13-15, report results for the prisoner's dilemma game. The estimated coefficients are positive but smaller in magnitude and statistically insignificant for this outcome, suggesting no detectable relationship between teachers' and students' cooperative behavior measured in this game.

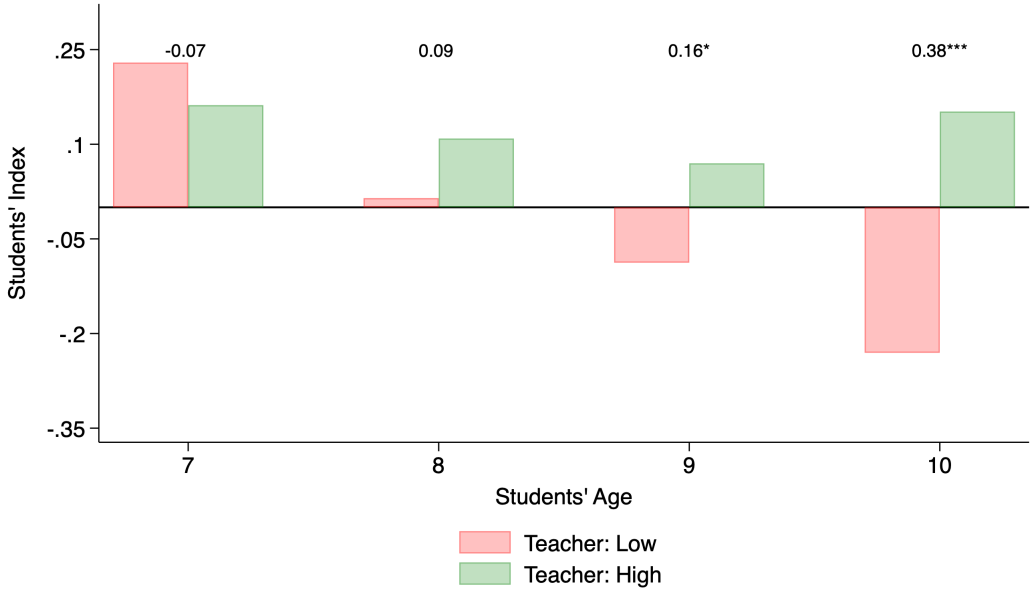
Overall, these results in this section consistently point to a meaningful transmission of prosocial behavior from teachers to students, particularly in domains involving generosity, cooperation, and honesty.

Table 4: Relation between Students' and Teachers' Social Preferences

	Child:														
	Index			Dictator			Public			Cheating			Prisoner		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Teacher:															
Index	0.089**	0.082**	0.083**												
	(0.040)	(0.041)	(0.040)												
Dictator				0.087**	0.083**	0.093**				-0.093***	-0.110***	-0.113***			
				(0.039)	(0.039)	(0.040)				(0.035)	(0.035)	(0.035)			
Public							0.093*	0.106**	0.116**						
							(0.050)	(0.050)	(0.050)						
Prisoner													0.048	0.030	0.019
													(0.038)	(0.037)	(0.036)
Mean outcome		0			1.667			0.326			4.610			0.302	
Observations	2854	2514	2494	2779	2486	2486	2322	2032	2016	2717	2452	2442	2787	2494	2494
Controls	N	Y	N	N	Y	N	N	Y	N	N	Y	N	N	Y	N
Extended controls	N	Y	Y	N	Y	Y	N	Y	Y	N	Y	Y	N	Y	Y

Notes: Notes: This table report the relation of students' social preferences with their teachers' social preferences. Index in an index derived aggregating the the outcomes of the individual games (as described in section 2.3.1). Dictator is children's behavior in the dictator game, corresponding the number of tokens assigned to the recipient (this variables ranges from 0 to 6). Public is children's behavior in the public good game (1 contributing or 0 not contributing). Cheating corresponds to the number reported in the dice game (this variable ranges from 1 to 6). Prisoner is children's behavior in the prisoner dilemma (1 or 0). All regressions include school fixed effects. Controls include child gender, age, grade and number of class teachers. Extended controls further include Raven scores and Big Five personality traits. Standard errors are clustered at the class level. * indicates 10% significance, ** 0.05 indicates 5% significance and *** 0.01 indicates 1% significance.

Figure 1: Relation between Students' and Teachers' Preferences By Age



Notes: This figure plots the students' social preferences by age, separately for students taught by teachers with "low" versus "high" social preferences. Social preferences are measured with the index described in Section 2.3.1. Teachers are classified based on whether their score falls below or above the median. For each age, the figure shows: (i) the average level of social preferences for the two groups (red for students of low social preference teachers, green for students of high social preference teachers); (ii) the difference in means between the groups; and (iii) the statistical significance of the difference. * indicates 10% significance, ** 0.05 indicates 5% significance and *** 0.01 indicates 1% significance.

4.3 Dynamics

Having established that students' social preferences are influenced by those of their teachers, we now turn to the timing of these effects. It is reasonable to expect that a teacher's influence does not emerge instantly but rather strengthens with continued exposure over time. To examine this, we study how the relationship between teachers' and students' social preferences evolves with students' age and thus by the length of time they have been taught by the same teacher. This analysis provides a direct test of the transmission mechanism, allowing us to evaluate whether teachers' influence on students' social preferences builds over time.

For this analysis, as above we classify teachers as either "high" or "low" in social preferences, depending on whether their index value falls above or below the sample median. We then estimate a model that allows the effect of teachers' social preferences to vary with students' age.

Figure 1 plots the evolution of students' social preferences by teacher's social preferences ("high" vs "low") and age. Students taught by teachers with low social preference scores exhibit a decline in their own social preference as they age, whereas this patter is not observed for students taught by high social-preference teachers. The difference between the two groups is not statistically significant at age 7 (if anything students assigned to "high" teachers have lower social preferences at this age). By age 8, students of high-preference teachers begin to outperform their peers, though the difference

remains not significant. At age 9, the gap widens, with the difference reaching 0.16 SD (this difference is significant at the 10% level). By age 10, the difference increases to 0.38 SD and is highly significant ($p<0.01$). These patterns suggest that teachers' social preferences exert a cumulative influence on students, with the effect becoming more pronounced as children age. The fact that students with higher levels of social preferences are not systematically assigned to more prosocial teachers at school enrollment lend further support to our identifying assumption.

4.4 Mechanisms

Teachers' social preferences could affect students' own preferences through several channels. First, teachers may shape the classroom social environment, influencing how children interact with one another. In this case, teachers' prosociality could propagate indirectly: more prosocial teachers foster more cooperative and trusting peer dynamics, which in turn reinforce prosocial behavior among individual students. This would generate a potential amplification mechanism, whereby teachers' influence extends beyond direct interactions to the broader peer network, producing a "snowball" effect within the classroom.

Second, teachers may influence students' beliefs about the social behavior of others. If more prosocial teachers foster expectations that peers are fair, honest, or cooperative, students may adjust their own behavior accordingly, aligning their choices with these more optimistic social beliefs. In this view, teachers shape students' preferences indirectly through the formation of beliefs about others' trustworthiness and reciprocity.

We empirically examine both channels. First, we test for peer-mediated effects by estimating whether teachers' social preferences predict the average level of prosocial behavior among a student's classmates. Second, we study the role of beliefs by examining how teachers' prosociality affects students' expectations about their peers' behavior in the experimental games. Specifically, we estimate models analogous to equation (1), where the dependent variable is either the average level of social preferences among a student's peers or an index of prosocial beliefs constructed from the following two survey questions: "Now I ask you to guess how many classmates decided to put 2 tokens in the magic box? If your guess is right you gain 1 extra coin." and "Now I'd like you to think about how many children in this class chose to divide the coins like this: 6 for themselves and 0 for the other player."[10]

Panel A of Figure 2 presents the results. A one-standard-deviation increase in teachers' social preferences is associated with a 0.076 SD increase in peers' average pro-sociality (p-value=0.06) and a 0.111 SD increase in students' pro-social beliefs (p-value=0.03). Thus, students assigned to more prosocial teachers are surrounded by peers who are themselves more prosocial - reflecting the teacher's influence on the group - and they also develop more optimistic beliefs about others' behavior. These

[10]The first question relates to the public good game, and the second one to the prisoner dilemma. We rescore the answers to these questions so that higher values mean more pro-social beliefs. To construct an index we follow Kling, Liebman, and Katz (2007), and standardize each variable by subtracting the sample mean zero and dividing by the sample standard deviation. We then take an average the Z-scores and re-standardize it to have a mean zero and standard deviation one in the sample.

results point to two reinforcing channels through which teachers' shape students' own social preferences: by cultivating more cooperative peer environments and by fostering more positive expectations about others.

Having estimated teachers' influences on these mediators, we next decompose the total effect of teachers' social preferences on students' own preferences (reported in Table 4) into components operating through classroom dynamics and students' beliefs about others, alongside residual channels. Our approach is conceptually related to Heckman, Pinto, and Savelyev (2013), though adapted here to a continuous treatment setting. Panel B of Figure 2 presents the results of this decomposition. We find that 31% of the effect of teachers can be explained by peer dynamics within the classroom, and 10% by the development of more optimistic beliefs about others, while the remaining 59% is attributed to other unmeasured channels, including direct socialization.

5 Conclusions

This paper provides evidence on the institutional transmission of social preferences. Using *paradigmatic economic experiments* (Fehr and Charness (2025)) with 2,854 primary school students and 238 teachers in Italy, combined with the quasi-random assignment of students to teachers within schools, we show that teachers' prosociality shapes the development of generosity, cooperation, and honesty in childhood. Consistent with the idea that children internalize social preferences through longer-term socialization processes within the classroom, we find that these effects grow with years of exposure to the same teacher. We further document two mechanisms - peer dynamics and beliefs about others' behavior - through which teachers shape students' preferences, together accounting for 40% of the overall effect.

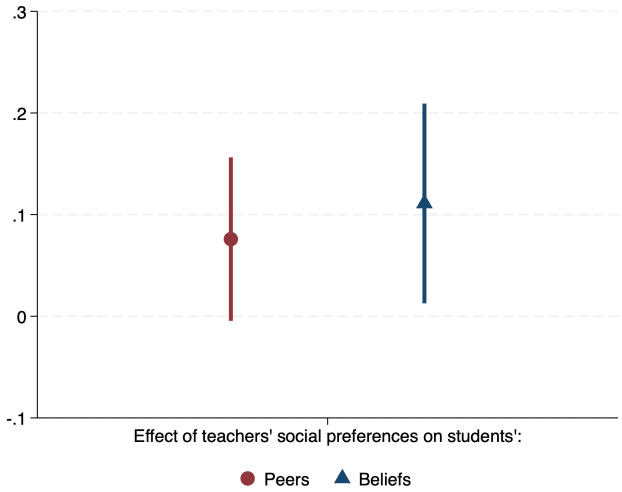
These findings highlight the importance of teachers as socializing agents in childhood. They show that teachers influence not only cognitive development and academic outcomes, as emphasized in prior work (e.g., Araujo et al. (2016); Raj Chetty, Friedman, and Rockoff (2014)), but also the formation of core social preferences that underpin economic and societal functioning. More broadly, our results speak to the long-standing view, dating back to Dewey (1930) and echoed in modern nation-building research, that educational systems play a central role in shaping citizens' values and behaviors (e.g., Bandiera et al. (2019); Cantoni, Chen, et al. (2017)). Our findings complement this work by showing that the everyday behavior of teachers, not only formal curricula or institutional reforms, constitutes a powerful channel through which social preferences are transmitted in childhood, pointing to an overlooked but consequential dimension of educational quality with implications that extend far beyond the classroom.

The results also speak directly to the design of school-based interventions. Recent work demonstrates that targeted programs can successfully foster prosocial behavior and social cohesion in classrooms (Alan, Baysan, et al. (2021) Alan, Carlana, and Leone (Forthcoming)). Our evidence complements these studies by showing that the preferences of teachers themselves constitute a powerful channel through which social preferences are shaped. This underscores the potential of policies that

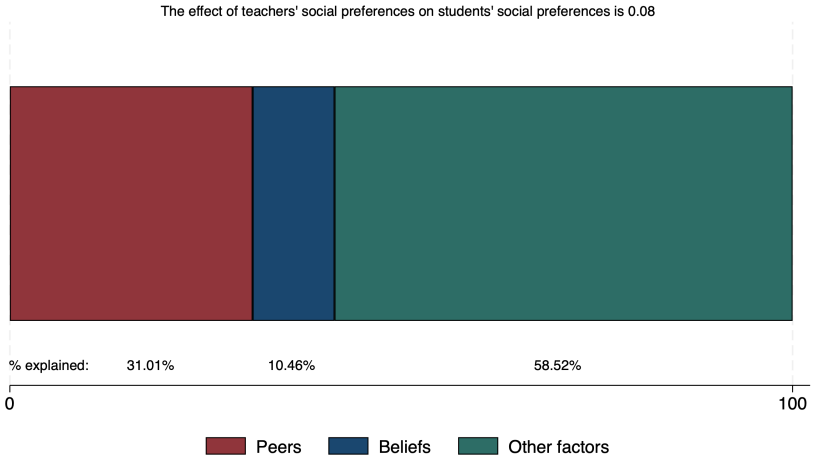
invest in teachers' social and relational skills, or that structure classroom environments to reinforce cooperative norms, as tools for cultivating prosociality at scale.

Finally, the evidence raises new questions about the specific features of teachers that drive these effects. Understanding whether prosocial teachers are more effective because of their interactions with students, the norms they establish, or the pedagogical styles they employ would deepen our understanding of how institutional environments shape prosocial development. In particular, recent work on teaching styles and classroom organization suggests promising avenues: cooperative, participatory, and trust-based pedagogies may amplify teachers' influence on students' social preferences (Algan, Cahuc, and Shleifer (2013)). Future work examining these channels directly, or evaluating interventions that reshape classroom practices or support teacher training, could provide a richer picture of how schools can effectively foster students' prosocial development.

Figure 2: Decomposing the Effect of Teachers' Social Preferences on Students' Social Preferences



(a) Effect of Teachers' Social Preferences on Mediators



(b) Share of Effect Explained by Mediators

Notes: This figure decomposes the total effect of teachers' social preferences on students' social preferences into the effect operating through peer dynamics, the effect operating through student beliefs and the effect operating through other unmeasured factors. Social preferences are measured with the index described in Section 2.3.1. Panel A reports the estimated effect of teachers' social preferences on (i) the average level of prosocial behavior among students' peers (i.e., the classroom average excluding the student; labeled "Peers") and (ii) an index of prosocial beliefs constructed from responses to the following two survey questions: "Now I ask you to guess how many classmates decided to put 2 coins in the magic box tokens? If your guess is right you gain 1 extra coin." and "Now I'd like you to think about how many children in this class chose to divide the coins like this: 6 for themselves and 0 for the other player." (labeled "Beliefs"). Coefficients correspond to regressions analogous to equation (1) and include the following controls: school fixed effects, child gender, age, grade, number of class teachers, Raven scores and Big Five personality traits. Panel B decomposes the effect reported in column 3 of Table 4 into components operating through peer dynamics (labeled "Peers"), students' beliefs about their classmates (labeled "Beliefs"), and unmeasured channels (labeled "Other factors"). The effect of a one standard deviation increase in teachers' social preferences on students' preferences (0.083) is normalized to 100%. The red area represents the share explained by changes in peers' prosociality, the dark blue area the share explained by students' beliefs, and the green area the share operating through unobserved mechanisms. Details of the decomposition are reported in Heckman, Pinto, and Savelyev (2013).

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APPENDIX

A Appendix Tables and Figures

Table A.1: Correlations of Students' Behavior Across Games

	Dictator	Public good	Cheating	Prisoner
Dictator	1			
Public good	0.13***	1		
Cheating	-0.072***	-0.048**	1	
Prisoner	0.319***	0.186***	-0.057***	1

Notes: The table reports pairwise correlation coefficients. * indicates 10% significance, ** 0.05 indicates 5% significance and *** 0.01 indicates 1% significance.

Table A.2: Correlations of Teachers' Behavior Across Games

	Dictator	Public good	Prisoner
Dictator	1		
Public good	0.333***	1	
Prisoner	0.297***	0.379***	1

Notes: The table reports pairwise correlation coefficients. * indicates 10% significance, ** 0.05 indicates 5% significance and *** 0.01 indicates 1% significance.

Table A.3: Dictator Game

	Dictator	Equal split	Kept all	Gave all	Inequality
	(1)	(2)	(3)	(4)	(5)
Teachers' dictator	0.093**	0.019*	-0.018	0.002	-0.017*
	(0.040)	(0.010)	(0.013)	(0.004)	(0.010)
Mean outcome	1.667	0.264	0.378	0.037	0.580
Observations	2486	2486	2486	2486	2486
			Gave		
	>0	>1	>2	>3	>4
	(6)	(7)	(8)	(9)	(10)
Teachers' dictator	0.018	0.026**	0.029***	0.010	0.009*
	(0.013)	(0.012)	(0.011)	(0.008)	(0.005)
Mean outcome	0.622	0.475	0.367	0.103	0.064
Observations	2486	2486	2486	2486	2486

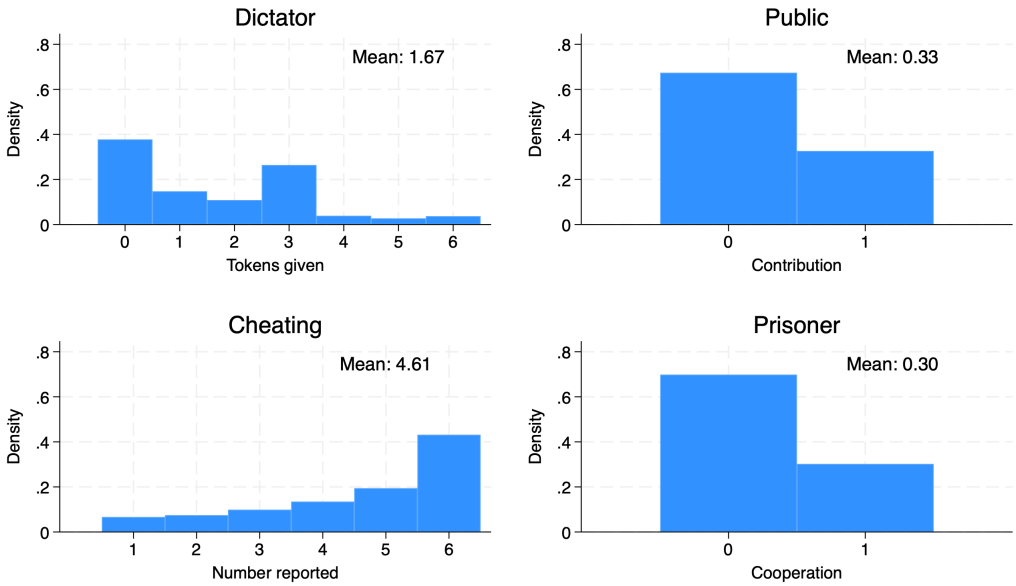
Notes: This table report the relation of students' behavir in the dictator game. Column 1 corresponds to column 6 of Table 4. Equal split is a dummy for whether the student chose a 50/50 distribution. Kept all is a dummy for whether the student decided to keep all token for themselves. Gave all is a dummy for whether the student decided to give all tokens to the receiver. Inequality measures inequality in outcomes implied by students' allocations and is computed as the absolute difference in tokens received by the sender and the receiver divided by the total number of tokens, as in Cappelen et al. (2020). Gave $> X$ is a dummy for whether the child decided to give more than X tokens. All regressions include school fixed effects and controls for child gender, age, grade, number of class teachers, Raven scores and Big Five personality traits. Standard errors are clustered at the class level. * indicates 10% significance, ** 0.05 indicates 5% significance and *** 0.01 indicates 1% significance.

Table A.4: Relation between Students' and Teachers' Social Preferences: Class-level Cheating

	Average class report		Class cheating	
	(1)	(2)	(3)	(4)
Teachers' dictator	-0.117***	-0.113***	-0.012	-0.009
	(0.041)	(0.040)	(0.010)	(0.010)
Mean outcome	4.635		0.983	
Observations	186	186	186	186

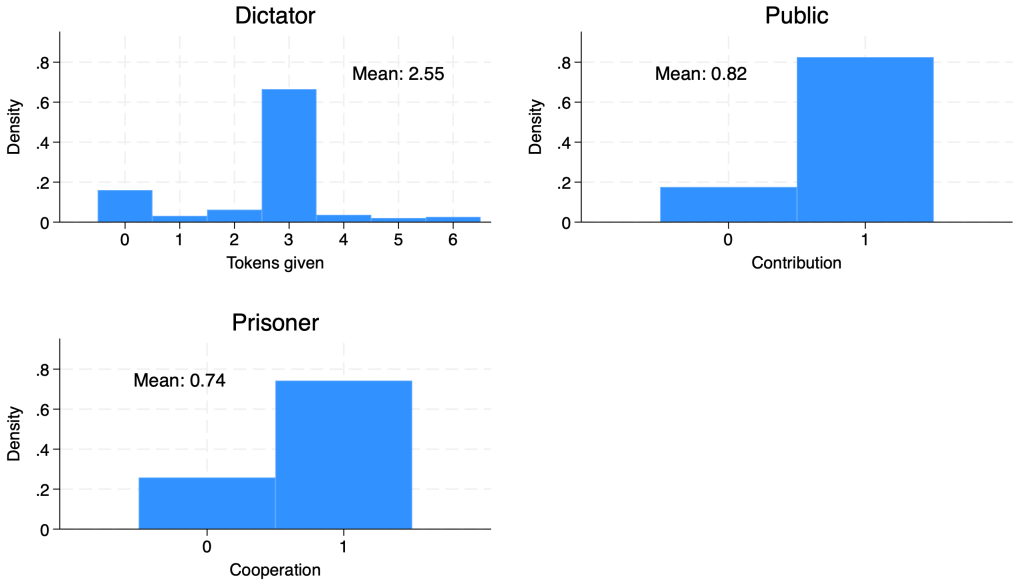
Notes: The Table reports... The outcome variables are ... Controls grade and number of class teachers. All regressions include school fixed effects. * indicates 10% significance, ** 0.05 indicates 5% significance and *** 0.01 indicates 1% significance.

Figure A.1: Students' Behavior



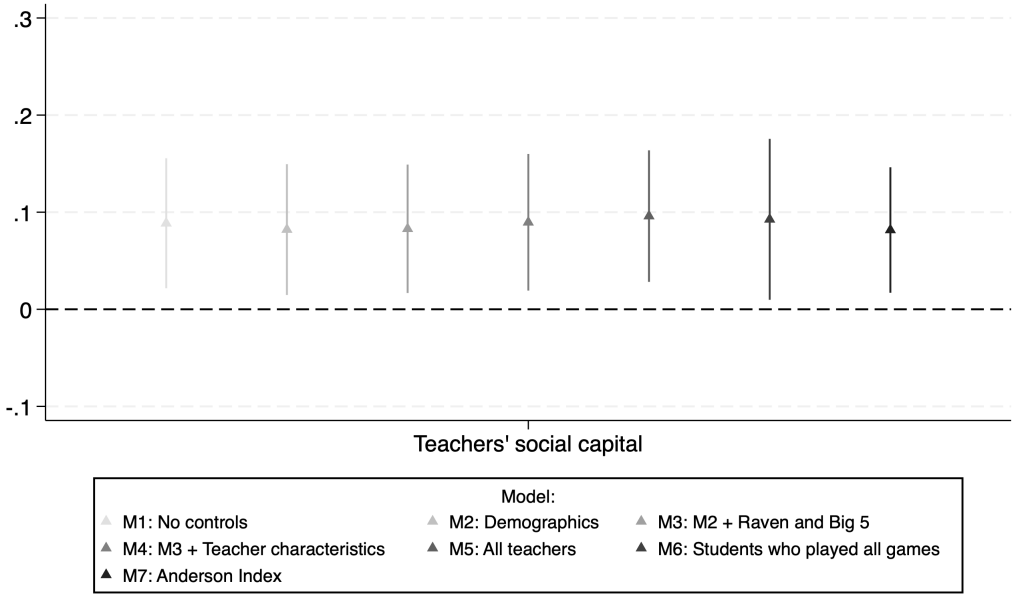
Notes: This figure plots the distribution of students' behavior in the incentivized experiments.

Figure A.2: Teachers' Behavior



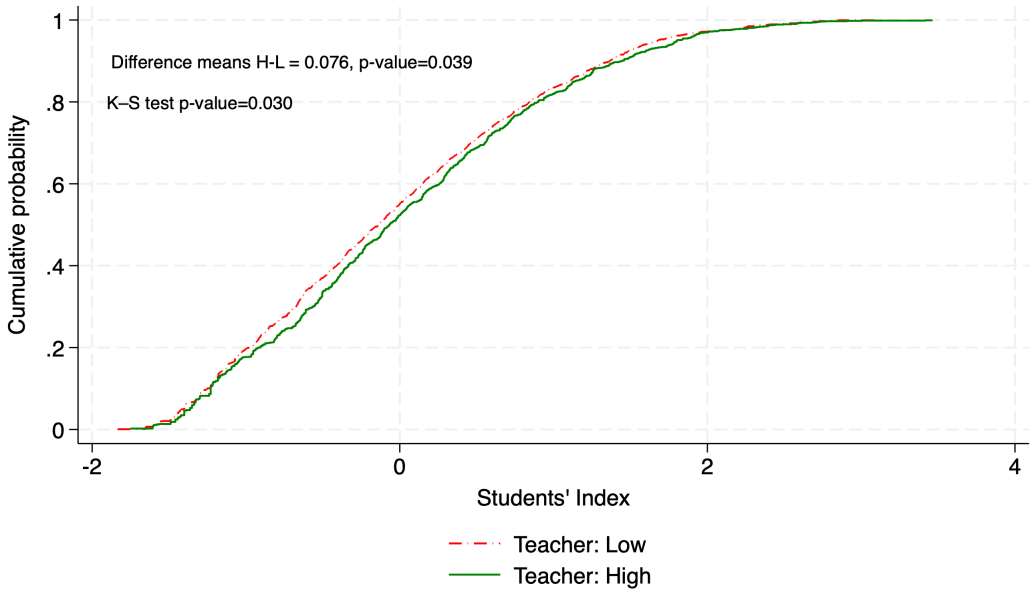
Notes: This figure plots the distribution of teachers' behavior in the incentivized experiments.

Figure A.3: Relation between Students' and Teachers' Preferences Social Preferences - Robustness



Notes: This figure plots the relation between students' and teachers' social preferences. The outcome variable is an index of children's social preferences (as defined in Section 2.3.1). M1 to M3 correspond to the point estimates reported in columns 1-3 of Table 4. M1 corresponds to a model that only controls for school fixed effects. M2 also includes the following control variables: child gender, age, grade and number of class teachers. M3 also controls for children's Raven scores and Big Five personality traits and M4 includes controls for teachers' experience and education. In M5, we include the social preferences of all teachers assigned to a particular class (instead of including only the main teachers). M6 restrict the estimation sample to students that played all four games. In M7 the index of social preferences in constructed using the procedure described in Anderson (2008).

Figure A.4: CDF of Students' Preferences by Teacher's Type



Notes: This figure plots the cumulative density function (CDF) of students' social preferences index by teachers' social preferences. We classify teachers as having "low" or "high" social preferences based on whether their score falls below or above the median. We test the equality of means across the two groups and report the difference in means and its associated p-value. We also perform the two-sample Kolmogorov-Smirnov (KS) two-tailed test for equality of distributions and report its associated p-value.