When Teachers Break the Rules:

Grading Misconduct, Student Cheating, and Community Structure[*]

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Abstract

We study how teachers' grading rule violations affect student ethical behavior, using administrative data that track teacher grading violations and subsequent student cheating on high-stakes exams. Exploiting within-student variation in exposure to different teachers, we find that students are significantly more likely to cheat when teachers break the rules to their detriment (giving exceptionally low internal grades). However, when teachers break the rules in their favor (inflating internal grades), the response varies by community context. In homogeneous communities, students respond to favorable teacher violations by cheating less, consistent with reciprocal norms. In heterogeneous communities, both types of teacher violations increase student cheating. This pattern holds across multiple measures of community homogeneity, including surname concentration and residential clustering. Survey measures of mutual support, trust, and reciprocity between students and teachers support this pattern.

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1. Introduction

Teachers play a central role in shaping students' academic and ethical development. As authority figures and role models, teacher behavior may influence not only student learning but also their ethical standards and integrity. Understanding how teachers' rule violations affect student behavior has important implications for educational outcomes and the broader transmission of ethical norms across generations. Beyond education, these dynamics may offer insights into how community characteristics shape the transmission of ethical behavior more broadly.

As role models, teachers shape their students' ethical standards and academic integrity, potentially affecting the long-term development of human capital beyond cognitive skills (Heckman and Rubinstein, 2001; Cunha and Heckman, 2007). While previous research has established that dishonesty in educational environments can have far-reaching consequences (Jacob and Levitt, 2003; Dee and Jacob, 2012; Figlio and Loeb, 2011; Angrist et al., 2017), and exposure to unethical behavior in authority figures can erode trust and encourage similar behavior among subordinates (Fisman and Miguel, 2007; d'Adda et al., 2017; Ajzenman, 2021), little is known about the dynamics of how teachers' violations of institutional norms influences student cheating, or how the community context shapes this relationship. In this paper, we exploit detailed administrative data that allows us to track teachers' violations of grading ethics rules and subsequent student cheating on high-stakes exams.

We distinguish two forms of teacher rule violations: one that is plausibly perceived as beneficial or showing good intentions towards the students, and the other seen as detrimental. We then ask whether and in what ways these violations affect the likelihood that the students themselves will cheat. Intuitively, these two forms of rule-breaking may have different implications. On the one hand, students may internalize standards of right and wrong by observing the behavior of authority figures, such as parents, teachers, or leaders (Bandura, 1977), or learn from them about norms of appropriate or moral behavior (Cialdini & Trost, 1998). Peer influences have been shown to significantly affect academic cheating behavior (Carrell et al., 2008), and teachers may similarly establish behavioral norms that students internalize. From this perspective, observing teachers break rules should lead students to break them as well.

On the other hand, if a student is caught cheating, this can have adverse consequences for the student, the teacher, the school community, and the school's reputation. Thus, it may matter whether the teacher's rule violations show good or bad intentions toward the student (Rabin, 1993; Falk and Fischbacher, 2006; Dufwenberg and Kirchsteiger, 2004). If bad, this would reinforce the first effect (the student might want to "take revenge"). However, if the teacher's behavior, while breaking the rules, shows good intentions towards the student, the student might reciprocate by cheating less. This could mitigate, or even reverse, the first effect. We expect such reciprocal behavior to be more prevalent in tight-knit communities, where social bonds are stronger, and expectations of reciprocity are clearer (Bowles and Gintis, 2002; Enke, 2019).

We measure teachers' grading rule violations by systematically large deviations between the "internal" matriculation grades, which teachers submit to the Ministry of Education, and students' "external" scores in the national matriculation exam administered by the Ministry. Such deviations are considered improper by the Ministry, which uses an apparatus designed to detect them. When large gaps are observed between the average internal and external grades in a given test/subject, the Ministry imposes significant sanctions on teachers and schools. The rationale for these sanctions is widely understood. Accurate and unbiased internal school grades are considered crucial to the system's integrity, as they affect the comparability of the final matriculation grades across schools and students. Given the high stakes of matriculation grades, which often determine a student's career trajectory (Angrist and Lavy, 2009; Ebenstein et al., 2016), violations can have severe distributional consequences, unfairly advantaging some students over others. We follow the Ministry's policy and treat these violations of the grading protocol as improper teacher behavior that violates institutional norms.

Our main analysis exploits within-student variation in exposure to different teachers. This helps overcome any potential correlations between the student (or the class, school, and locality) characteristics and the likelihood of cheating or of being caught. Importantly, student fixed effects address a concern that students of different genders, abilities, or ethnicities are monitored for cheating differentially. Furthermore, we use variation in teachers' grading rule violations in the

preceding year, thus alleviating concerns about the potential effects of the class's expected performance on the teacher's grading policy.

Our findings suggest that when teachers break the rules by giving students exceptionally low internal grades—behavior that is plausibly perceived as detrimental to the students—students are more likely to break the rules themselves by cheating on the respective external exam.

However, when teachers break rules in ways that *benefit* their students, our analysis reveals a nuanced response that varies with community structure. Recall that two mechanisms may be at work: imitation, which should lead to more cheating when teachers are break rules regardless of direction, and reciprocity, which should lead to less cheating when teachers break rules favorably. The relative strength of these mechanisms should depend on community structure. Indeed, we find that in homogeneous communities, students exposed to teachers who break rules in their favor tend to cheat less, suggesting that reciprocity dominates imitation in these settings. This reciprocal response to favorable rule-breaking by teachers is robust across multiple measures of school homogeneity, including the prevalence of specific surnames, residential clustering, and the concentration of feeder elementary schools. In contrast, in heterogeneous communities, the effect of favorable rule-breaking resembles that of detrimental rule-breaking: both types increase the likelihood of student cheating, suggesting that imitation is a dominant factor in these settings. However, the effect of detrimental rule-breaking remains quantitatively larger.

We further explore these patterns by analyzing students' responses to survey questions about teacher-student relationships. We focus on questions that capture reciprocity and support between teachers and students. We use four survey items measuring whether teachers encourage struggling students, provide help when needed, maintain good relationships with students, and show mutual respect. Using these measures separately or as a summary index shows the same pattern as our homogeneity indices. Specifically, communities characterized by stronger mutual support and respect between teachers and students are associated with students cheating less when teachers break rules in ways that favor students. In contrast, in communities with weaker teacher-student relationships, favorable rule-breaking by teachers does not reduce student

cheating, which is consistent with our findings that community structure influences the ethical transmission.

We consider several alternative explanations for these findings. One possibility is that homogeneous schools, where favorable rule-breaking by teachers tends to be associated with reduced student cheating, face a higher risk of sanctions. These sanctions might deter student cheating directly. However, while we find that the likelihood of cheating decreases when schools have been sanctioned in the preceding year, the response to teachers' rule violations remains robust even after controlling for prior sanctions. Another potential mechanism is that students receiving favorably inflated grades have less incentive to risk these grades by cheating. Indeed, we find that higher internal grades are correlated with a lower likelihood of cheating, yet controlling for internal grades does not alter the observed pattern of responses to teachers' rule violations.

The paper contributes to three main strands of the literature. First, our study contributes to the economics of education literature, particularly in the context of the human capital perspective. It highlights how teacher behavior and the integrity of educational environments can affect the development of students' academic skills and ethical standards, which are critical components of human capital formation. This builds on work examining how educational environments shape non-cognitive skills (Heckman and Kautz, 2012; Deming, 2017) and the importance of these skills for long-term outcomes (Chetty et al., 2014; Jackson, 2018). Our work complements studies on teacher quality that focus primarily on academic achievement (Rockoff, 2004; Rothstein, 2010; Chetty et al., 2014) by examining how teachers may influence ethical behavior and social norms. It also relates to recent work showing how teachers' biased grading behavior can affect students' academic outcomes and choices (Lavy and Megalokonomou, 2024; Alesina et al., 2024).

Second, a large body of literature examines dishonest and unethical behavior. Given the difficulty of observing dishonest behavior in naturally occurring data, let alone identifying its determinants, researchers have largely turned to lab experiments (Fischbacher and Föllmi-Heusi, 2013; Gneezy, 2005; Abeler et al., 2019) as well as lab-in-the-field experiments (Gächter and Schulz, 2016; Cohn et al., 2014; Cohn et al., 2015). These studies have revealed several factors that

influence the likelihood of dishonest behavior, including group norms (Bicchieri and Xiao, 2009; Lefebvre et al., 2015), competitive environments (Charness et al., 2014), and cultural influences (Barr and Serra, 2010). However, the transmission of dishonest behavior from authority figures to subordinates remains understudied in real-world contexts. While d'Adda et al. (2017) have shown that leaders can influence ethical conduct in short-term lab interactions, evidence on how this influence operates over time with meaningful stakes is limited. Our paper addresses this gap by examining the causal impact of teachers' grading rule violations on student cheating in high-stakes educational contexts. We exploit administrative data tracking teachers' improper grading behavior and subsequent student cheating, distinguishing between different types of teacher rule violations—beneficial versus detrimental to students—and examining how these interact with community characteristics, thereby revealing nuanced mechanisms underlying the transmission of ethical standards.

Third, we contribute to the literature on the role of community structure in shaping moral behavior. Cultural economics research has demonstrated that social structures influence ethical and cooperative behavior (Guiso et al., 2008; Tabellini, 2008; Raz, 2025). Particularly relevant is work showing that kinship-based societies often develop different moral standards than those found in more individualistic contexts (Enke, 2019; Henrich, 2020). We find that in homogeneous communities—including kinship-based communities as measured by the prevalence of specific surnames—students are less inclined to cheat in response to teachers breaking rules in their favor. This is consistent with research showing that homogeneous societies with strong kinship ties often develop and enforce cooperation norms that rely heavily on reciprocity (Bowles and Gintis, 2002; Leung and Bond, 1984).

In contrast, in heterogeneous communities, both types of teacher rule-breaking lead to more student cheating, suggesting that role modeling dominates reciprocity in these contexts. These findings align with evidence that more diverse societies often rely on different enforcement mechanisms for cooperative behavior (Henrich et al., 2010; Greif, 1994). Our study thus provides novel evidence on how community structure mediates the transmission of ethical behavior across

generations, with implications for understanding moral contagion in educational settings and potentially other institutional contexts.

2. Institutional Background

Israeli high school students are enrolled either in an academic track leading to a matriculation certificate (Bagrut) or an alternative track leading only to a high school diploma.[1] The Bagrut is completed by passing a series of national exams administered to students between 10th and 12th grade. Thus, Bagrut certificates are typically obtained at the end of the senior year (twelfth grade) or later. Students take courses (and respective tests) at various proficiency levels, with each test awarding one to five credit units per subject, depending on proficiency level. Some subjects are mandatory and must be taken for a minimum of three credits. A minimum of 21 credits is required to qualify for a Bagrut certificate. The final matriculation score in a given subject is the mean of the test scores in a school-level ("internal") exam and a national ("external") exam. The latter is graded independently by two external examiners. About 60 percent of all high school seniors received a matriculation certificate in the 2023 cohort (Israel Ministry of Education 2024).

The Bagrut matriculation certificate is a prerequisite for university admission, and receiving it is one of the most economically important educational milestones. It is similar to high school matriculation exams such as the French Baccalaureate, the German Abitur, the Italian Diploma di Maturità, and the New York State Regents examinations. The Bagrut can be understood as a "college-bound" indicator in the American vernacular. Most Israeli students who fail to complete a Bagrut still finish their secondary schooling. Nevertheless, post-secondary schooling options for high school graduates without a Bagrut are limited, and very few will pursue further education. Even institutions that are not otherwise very selective, such as teachers' colleges and

[1] This study focuses on the two main sectors of the Israeli education system. In the first the language of instruction is Hebrew, and most students are Jewish. In the second, the language of instruction is Arabic, and all students are Arab. We exclude from the study a third sector, which includes the Jewish ultraorthodox population in Israel. Most schools in this sector do not follow the national curriculum and do not participate in the Bagrut matriculation system. Within the first sector, schools can belong to two distinct segments according to the level of religiosity. "State schools" are secular and serve the secular Jewish population. "State-religious schools" serve mainly the religious Jewish population and in some subjects follow a different curriculum.

two-year professional programs for nursing, optometry, and computer programming, favor applicants with a Bagrut certificate. Accordingly, evidence from the Israeli census suggests that holding a Bagrut yields high economic returns (Angrist and Lavy 2009).

2.1 Exam Integrity: Student Cheating and Consequences

During the external exam, proctors note suspected violations of exam integrity or cheating. These can include the possession of unauthorized materials, collaboration between examinees, receiving assistance, disruption of exam conditions, theft of a questionnaire or failure to report a stolen exam, and possession of electronic devices.

There are three additional stages where suspicion of cheating can be raised. First, Ministry inspection teams that randomly visit schools during the exams can raise charges against an examinee or a member of the administrative or educational staff of the school, involving the violation of exam integrity. Second, if identical answers, parallel mistakes, or lack of detail are found while scanning all notebooks, these notebooks will be marked as suspect. Third, during the marking by the two external examiners, the latter receive the seating arrangements in the exam classroom and, therefore, can detect similar exam papers and signs of cheating. Suspicion of not maintaining exam integrity in a matriculation exam can lead to the disqualification of the exam.

Handling Suspect Cases: If a proctor observes inappropriate behavior, either the proctor, the supervision coordinator, the inspector, or the head of the examination center fills out a detailed report on the incident during the exam or immediately after its conclusion. This report serves as evidence when making future disciplinary decisions. The course of action---whether to stop the exam or allow it to continue---depends on the nature of the suspicion, as detailed in section 4.4 of the Ministry reference (Director General's Circular – Exam Integrity).[2]

Generally, every student has the right to appeal. If, at the end of the investigation and the appeal review process, the student is held to have violated exam integrity, the exam for that period is disqualified. One or more disciplinary actions will be taken against the student, such as

[2] https://apps.education.gov.il/mankal/horaa.aspx?siduri=512h

disqualifying the exam and suspending their eligibility for a matriculation certificate until they retake the exam in the same subject or questionnaire in which they were disqualified, depending on the nature and severity of the offense. If the suspicion concerns technological means, such as using a mobile phone, the student is prevented from taking the exam in that subject for at least one year. Suspension can carry forward to several future exam periods - meaning the student will not have the opportunity to take this exam for several future periods (varies by subject).

A student who violated the exam protocol in more than one subject is not permitted to retake the subjects for which they were disqualified for three years from the date of disqualification. Cases of severe and exceptional incidents of exam integrity violations by examinees can lead to suspension of the examinee from taking exams in all remaining subjects for up to three years, disqualification of exams that the examinee has taken so far, suspension of eligibility for a matriculation certificate or completion certificate for up to three years, and to filing a complaint with the police.

School-level consequences when breaching exam integrity code: The Ministry classifies schools into three tracks – red, yellow, and green – each with specific examination management procedures. Red Track: Schools are classified in the Red Track if 3% or more of their exam papers were disqualified over the past two of the last three years or if significant and severe violations of examination integrity were identified. Such schools are prohibited from independently managing matriculation exams. In exceptional cases, exams are held outside school premises at an external examination center. Schools in this track must undertake significant corrective measures to ensure compliance with regulations and improve their integrity to achieve green status. Yellow Track: Schools with unsatisfactory adherence to examination integrity. Schools are classified in this track if, over the past two or three years, 1.1% to 2.9% of their exam papers were disqualified, or if there were significant procedural violations. Schools in this track should view their classification as a warning sign and intensify efforts to uphold examination integrity to

achieve green status. Green Track: Schools that had no breaches of examination integrity or exhibited minimal violations.[3]

2.2 Grading Code: Teacher Rule Violations and Their Consequences

The Ministry of Education rules determine that the gap within a given exam is exceptionally high if either (i) the school's average internal grade exceeds the average external exam score by more than 20 points (an overly "lenient" school), or (ii) if the external exam score average exceeds the school's average internal grade by more than 12 points (an overly "strict" school).[4] In such cases, the sanction is that the final grade in this exam (in the same year) for all students is recalculated according to new weighting: 90% for the external exam score and 10% for the internal school score. Suppose a violation of the grading code is repeated in consecutive years or several exams. In that case, the sanction is that the school 'loses' the privilege to issue internal school grades in all exams for two years. Therefore, the final matriculation grade is based solely on the national external exam during this period.

School-Level Consequences: Beyond limiting the school's input in determining the final matriculation grade, the Ministry also announces these sanctions publicly, which affects the school's reputation. The sanction may further affect school enrollment because the students lose a significant privilege in determining final matriculation diploma grades, which can significantly impact their future post-secondary schooling options.

Measuring Teachers' Rule Violations: We measure violations using the average difference between school and national scores for each combination of school, year, and exam code. Note that some subjects have more than one teacher teaching the courses leading to a specific exam. This is particularly likely in the compulsory math and English subjects. In this case, the measure we use does not uniquely identify the rule violations of one specific teacher. Thus, we consider this difference as a proxy for the ethical climate induced by the teaching faculty of the specific subject. We view the average difference between the external and the school test scores as potentially endogenous to student behavior. Therefore, we use the lagged teacher violations at

[3] https://apps.education.gov.il/mankal/horaa.aspx?siduri=512#_Toc256000051
[4] https://mosdot.education.gov.il/students/matriculation/shaked/

year *t-1*, instead of the contemporary measure at year t of the exam. We return to this point in the methodology section below.

3. Data

We start by combining data at the student level from two main administrative data files obtained from the Israeli Ministry of Education. The first dataset includes matriculation exam scores and an indicator for disqualified exam scores due to cheating for five consecutive 12th-grade cohorts (1998-2002). The final matriculation grade in each subject is typically the average of the external and internal exam scores. The school score is based on an exam similar to the national one administered in the weeks preceding the national exams. The second dataset includes students' demographic and socio-economic information, such as gender, parental education levels, number of siblings, year of immigration (if applicable), and ethnicity.

We merge the student-level datasets with administrative information at the school level, including indicators of co-ed or single-sex schools, sector of study programs (Jewish or Arab), and school communities.

Next, we utilize a Ministry dataset that documents sanctions imposed on schools during these years due to violations of the grading code, specifically, unusually high differences between the average national exam score and the average school score.

As noted above, we use the lagged teacher violations at *t-1* instead of the contemporary measure at year *t* to avoid concerns about reverse causality. However, in 1997 (the year before our detailed exam data started), three subjects were excluded from the national external matriculation exams and, therefore, were missing external scores.[5] For these subjects, we use the 1996 measure of the teacher violations instead of the 1997 measure. Since, in most cases, the teachers in 1996 were the same as those in 1997, this imputation is unlikely to generate a critical measurement error.

[5] This resulted from a policy during 1995-1997, where exams in some compulsory subjects were canceled in order to reduce the number of exams taken at the end of 12 grade. The Ministry of Education used a lottery to determine which three of the seven compulsory subjects were canceled every year. In 1997, the national exams in History, Civic Studies, and Hebrew were canceled.

3.1 Community Homogeneity and Student-Teacher Relations

We use several measures of community ties and school or locality homogeneity. Start with homogeneity. Let p_{ij} be the proportion of students in a given school j (or the population of the population in locality j) who have some attribute i. For example, the proportion of students in a school j who have the same family name i, where $\sum_i p_{ij} = 1$. We employ two types of indices.

1. A Herfindahl-Hirschman Index (HHI): the probability that two randomly drawn students from a school or locality j share the same attribute: $HHI_j = \sum_i p_{ij}^2$.

2. Concentration Ratio: the share $CR_j(N)$ of the population in the school or locality j that has one of the N most common attribute values.[6] For example, the Central Bureau of Statistics (CBS) publishes a measure of surname homogeneity of the population within localities. For each locality, the CBS computes the share of the population covered by the top 4 surnames.

Both indices take values from 0 to 1, with higher values representing more homogenous populations.

We start with simple indices measuring the geographical concentration of students in a school by computing both an HHI and an $CR_j(1)$ index based on the zip code of the student's home address, obtained from the Ministry of Education. Next, to proxy for kinship ties, we follow the CBS measure and compute an $CR_j(4)$ name homogeneity index at the school level, using surname data obtained from the Ministry of Education. We use both our and the CBS index to examine whether the relationship between teachers' and students' ethics is associated with kinship ties within the community and the school. Finally, we compute an HHI index based on the primary schools that feed each secondary school. Primary schools typically serve a specific neighborhood. A high school that serves a population from a smaller set of feeding primary schools is, in this sense, socially and geographically more homogeneous.[7]

[6] Specifically, for each school or locality j, sort the attributes from highest to lowest p_{ij}. Then calculate for every school (or locality) j the share $CR_j(N) = \sum_{i=1}^{N} p_{ij}$.

[7] This is a coarser measure of sheer geographical homogeneity than the Home address HHI, which is based on (finer) zip codes, but it may potentially capture other dimensions of homogeneity.

One limitation of these measures of homogeneity is that they are based purely on student characteristics. As such, they are imperfect proxies for the tightness and cohesiveness of the school community. To complement them, we employ survey-based measures of student-teacher relations within schools. Specifically, we use information from the GEMS (Growth and Effectiveness Measures for Schools—Meizav in Hebrew) student survey for the years 2002-2005. The GEMS includes student questionnaires administered by the Division of Evaluation and Measurement of the Ministry of Education, and covers various aspects of the school and learning environment.[8] While these survey questions are not available at the high school level, we can employ the middle school GEMS to gauge the overall teacher-student relationship within the locality.

For each of the two statements below, middle-school students are asked to indicate "what share of the teachers that teach you fit" the statement, on a scale from 1 (almost none of the teachers) to 5 (a large share of teachers) and 6 (almost all teachers). We report the overall share of students choosing either 5 or 6 in parentheses.

- [Q25] When a student fails, the teachers encourage them to try again. (Share 5/6 =.31)
- [Q26] Teachers always help me when I need assistance in my studies. (Share 5/6 =.40)

Students are further asked to rate the following statements about their school on a scale from 1 (not at all true) to 5 (true) and 6 (very true):

- [Q43] There are good relations between teachers and students. (Share 5/6 =.34)
- [Q44] There is mutual respect between teachers and students. (Share 5/6 =.36)
- [Q40] Sometimes teachers treat me in an offensive and hurtful way. (Share 1/2 =.44)
- [Q41] I feel good in class socially. (Share 5/6 =.75)
- [Q42] The students in the class help each other. (Share 5/6 =.45)
- [Q45] When I have a problem, I have someone to turn to at school (teachers, counselor). (Share 5/6 =.56)

[8] The GEMS is administered at the midterm of each school year to a representative 1-in-2 sample of all elementary and middle schools in Israel, so that each school participates in GEMS once every two years.

For each of these items, we compute the share of students in the locality who answer 5 or 6, except for item Q40, where we use the share answering 1 or 2 (i.e., not at all true or not true). The first four of these items (25, 26, 43, 44) seem especially pertinent for capturing possible teacher-student norms of reciprocity, but we also report results using a summary index of all eight items.

3.2 Descriptive Statistics

Table 1 presents the means and standard deviations of student and school characteristics for the full sample and by gender. Girls constitute a more significant portion due to higher dropout rates among boys during high school.

Panel A reports the means of student characteristics. Parental years of schooling are about 11.2 for fathers and 11.0 for mothers. Students, on average, take approximately 10 matriculation exams (over their 10th-12th grade years), with slightly more exams for girls. Interestingly, girls perform better in both internal school exams and external national exams. On average, girls achieve higher school scores by approximately 3.5 points and higher national exam scores by about 2.6 points (both scores range from 0 to 100).

Panel B shows the means of two student cheating indicators. The share of disqualified exams is 0.5 percent, with no substantial differences across genders. Approximately 4.3 percent of students are disqualified due to cheating at least once during their high school years.

Panel C presents indicators for teacher rule violations. The average difference between the (internal) school score and the (external) national score is about 4.7 points. Thus, teachers tend to be somewhat lenient. The mean *absolute* difference in scores is 6.9 points. Turning to the more severe violations, we present the proportion of exams graded ten points or more higher than the national score ("positive 10-point difference" in subsequent tables) and those graded ten points or more lower than the national score ("negative 10-point difference"). We also show proportions using the 20-point and 12-point cutoffs used by the Ministry of Education for sanctioning. Approximately 21 percent of exams are 'positively 10-graded'. The discrepancy is considerably smaller using the 20-point cutoffs, 3 percent. Negative (overly harsh) grading is far less prevalent: 2.5 percent are 'negatively 10-graded' and 1.6 percent are 'negatively 12-graded'.

Panel D reports statistics regarding Ministry of Education sanctions imposed on schools for teacher violations of the grading code. For approximately 1.5 percent of the exams, the school was sanctioned last year for this specific exam code. Additionally, in about 75 percent of the cases, schools were sanctioned at least once in the preceding five years. There are no significant differences in student gender across Panels C and D.

Panel E reports the descriptive statistics of the community and school homogeneity measures. The mean homogeneity of locality family names indicates that, on average, 9.4% of the locality population is covered by the top 4 surnames, with a standard deviation of 13%. When measured at the school level, this means is 10.3 percent. The community- and school-level measures of surname commonality are highly correlated, with a Pearson correlation coefficient of 0.95. The school-level zip code homogeneity index (HHI) mean is 0.135, and the share of the most common zip code is 19.5% on average. The feeding elementary school homogeneity index mean is 0.607. In the online appendix Table A1, we demonstrate that the various homogeneity measures described above are highly correlated. For example, the Spearman correlation coefficient estimate of the school-level zip codes' HHI with the average share of the school's 4 most common family names is 0.778. The correlation between the school-level zip codes' HHI and the number of elementary schools that feed into the secondary school is 0.496.

Finally, Panel F presents the means of each of the eight questions that characterized various aspects of the teacher-student reciprocity relationship. It also presents the mean of two indices in the bottom two rows, the first based on the first four questions and the second based on all eight questions.

4. Empirical Model

Our primary analysis leverages the within-student variation in exposure to different teachers across various subjects. This strategy addresses any potential correlations between the student's (or the class or school's) characteristics and the likelihood of cheating or being caught. Importantly, including student fixed effects addresses a concern that students of different genders, abilities, or ethnicities may be monitored for cheating differentially. Since students may switch schools, school fixed effects further address other school-level confounding factors. For

example, some schools may have a lax culture around grading rules or may be subject to stricter enforcement. We also include fixed effects for exam codes — i.e., the subject, specific sub-materials, and levels — as certain subjects may be more susceptible to grading rule violations, student cheating, or inadequate monitoring.

We measure teachers' grading rule violations by calculating the average difference between the internal and external exam scores in a given exam code. Note that at the time of filing the internal grade, teachers do not know what the precise average external grade is going to be. Hence, small deviations from the external grade are to be expected and should probably not be counted as breaking the rules. Indeed, as noted in Section 2.2, the Ministry formally considers the gap to be a violation worthy of sanctions only when it is exceptionally large. Accordingly, in our main specifications we measure these violations using simple dummy indicators based on a +10 difference (indicating overly lenient grading that risks violating the rules) and a -10 difference (indicating overly strict grading) as thresholds. Nonetheless, we also report all the results using the simple continuous difference.

Throughout, we use the gap between internal and external scores in the preceding year. This is designed to overcome endogenous feedback mechanisms from students to teachers. For example, teachers may give low grades to students who are likely to cheat. Since the same teachers typically continue to teach the same subject over many years, measures of grading rule violations are indeed strongly correlated within exam code and school over time (See evidence in online appendix Table A2).

Our baseline regression takes the following form:

$$Y_{ijet} = \beta_0 + \beta_1 UP_{je,t-1} + \beta_2 DOWN_{je,t-1} + X_i' \delta + FE + \gamma_1 SLY_{je,t-1} + \gamma_2 ISS_{ijet} + u_{ijet} \qquad (1)$$

where Y_{ijet} is an indicator for exam disqualification of student i, in school j, in exam code (i.e., subject and level) e, in year t. $UP_{je,t-1}$ is our measure of upward (overly lenient) grading violation in school j and exam code e in year t-1. Similarly, $DOWN_{je,t-1}$ is a measure of downward (overly strict) grading violation. X_i is a vector of student characteristics. FE is shorthand for a set of fixed effects which, in the complete specification, includes cohort, exam period, exam code, school, and

student fixed effects.[9] We also include an indicator SLYje,t-1 to indicate whether the school was sanctioned last year (i.e., in *t-1*) for teacher violation of the grading code in the same exam code. Finally, ISS_{ijet}, is the internal school score for student *i* in school *j* in exam *e* in year t. This score is known to the student at the time of the exam and may potentially affect their likelihood of cheating in it. u_{ijet} is an unobserved error term, clustered at the school-by-exam-code level.

In the full specification, β_1 and β_2 thus capture the within-individual difference in the likelihood of having one's exam disqualified across different subjects, according to the teacher's grading violations in the preceding year in those subjects, and controlling for subject fixed effects. β_1 captures the difference (relative to an unbiased teacher) when the teacher violated the grading code in favor of the students, whereas β_2 captures the difference if the teacher's violation is detrimental to the students.

It is important to emphasize that we use the variation in the *average* grading behavior of teachers and that our estimate of the effect of the teacher's teacher's grading rule violations is not confounded by how the teacher treats the specific student. This measure of the teachers' grading violations is likely correlated with other aspects of teachers' ethical conduct that students observe, such as their actions, words, respect, and fairness in their classroom conduct. Thus, our estimates reflect the effect of the general `image' or `impression' that overly lenient or overly strict teachers create, rather than the effect of how the teacher specifically treated the student. Indeed, we control for the grade the student received from the teacher.

To explore the role of community structure, we augment Equation 1 with interactions of the UP and DOWN indicators with the measures of homogeneity and community ties, described in the data section above.

[9] The school fixed effects are largely redundant once we include student fixed effects, as few students switch schools. Nonetheless, it will be instructive to see results that include only the former.

5. Results

We start with a look at the raw data. Figure 1 shows the proportion of disqualified exams by teacher rule violations in the same exam code and school in the preceding year. The different panels further break the sample using different measures of homogeneity. Start with the left panel, which uses the CBS measure of surname homogeneity of the locality where the school is located. The right three bars show disqualification rates in relatively homogeneous communities: localities where more than half the families have one of the four most common surnames in the locality. The left set of bars shows all other communities. Overall, homogeneous communities tend to have more cheating than heterogeneous communities. The more interesting pattern, however, is the relationship with teachers' grading rule violations *within* communities. In relatively heterogeneous communities, we observe that disqualification rates are lowest where there is no evidence of teacher improper behavior. Disqualification rates are higher on average in subjects where the teacher violated the rules, especially when the teacher was overly harsh (i.e., systematically gave lower internal grades than external grades). Turning to homogeneous communities, however, we observe a strikingly different pattern. Disqualification is again highest when the teacher is excessively harsh, but it is in fact lowest when the teacher is excessively lenient. This is consistent with the idea that, at least in tight-knit, kinship-based communities, imitation is not the only channel underlying the transmission of ethical behavior.

A similar pattern is observed across other measures of school homogeneity. For example, the right panel splits schools by the homogeneity of their student body in terms of their home address. Heterogeneous schools experience more cheating in subjects where teachers exhibit rule violations. However, while more homogeneous schools do show an increase in cheating when teachers are overly strict, they present a decrease in cheating when teachers are overly lenient.

This section examines these patterns in detail, starting with the overall pattern of transmission and then focusing on the role of community homogeneity. The next section examines the role of student-teacher relations within the community more directly.

5.1 When Teachers Break the Rules: The Overall Pattern

From Figure 1, it is unclear how much of the observed patterns are due to systematic differences across localities, schools, subjects, and students – differences that may be correlated with both teacher and student behavior. Different monitoring and sanctioning policies across communities or subjects may also affect the observed patterns. To address these issues, we start in Table 2 by estimating Equation (1) for the entire sample. In panel A we use our preferred (binary) measure of rule violation, based on greater than 10 points differences between the internal and external average grades. Panel B reports results using the simple (continuous) difference. The first column controls only for cohort and exam period fixed effects, Column 2 adds student demographic characteristics, and Column 3 adds exam-code fixed effects. The estimates show a positive and statistically significant association between the likelihood of exam disqualification and both positive and negative teacher rule violations. Consistent with Figure 1, the association is much stronger for the negative violations (the difference is statistically significant).

Column 4 further includes school-fixed effects. This erodes both treatment estimates. In fact, the association of disqualification with positive teacher violations is now zero, regardless of how we measure violations. This suggests that an important part of the correlation observed in Figure 1 may be due to differences across schools (or communities). In particular, some schools appear to be more likely to both upwardly bias students' internal grades and to have students caught cheating in exams. Using within-school variation, only the effect of negative teacher violations remains significant.

Column 5 adds student-fixed effects, thereby relying on within-student variation in exposure to different teachers. This provides our first result. Students are, on average, more likely to be caught cheating in those exams where the teacher has been overly harsh. Note that including the student fixed effect suggests that this is unlikely to be due to differential or selective enforcement of the rules, for example, based on gender or ethnicity. This supports the interpretation that students are more likely to cheat when exposed to excessively harsh teachers. At the same time, on average, students are not more likely to cheat if the teacher is perceived as willing to break rules in their favor. In Appendix Table A3 we present results by student gender, following the same format as

Table 2. The positive effect on student cheating when the teachers are overly harsh in marking (column 5 in Table 2) seems to come mainly from boys' reaction to such teachers. Later in the paper we will show that this seemingly gender difference has a nuanced pattern when we allow for heterogeneity in the treatment effect by the community or school homogeneity.

There are two main concerns regarding the above interpretation of a causal effect of teacher marking behavior on student cheating. First, the Ministry of Education may have sanctioned schools where teachers violated the grading code in the preceding year. Such sanctions may directly affect student behavior in those subjects where the violation occurred.[10] In column 6 of Table 2, we control for whether the school was sanctioned in the previous year for ethical violations in the same exam code. The estimates suggest that being sanctioned last year may possibly be negatively associated with exam disqualification, though the association is noisy. However, this does not meaningfully affect the estimated coefficients on the two teacher violation indicators.

A second, and more important, concern is that the student's decision whether or not to cheat in the exam may be affected by their internal grade, which is made known prior to the exam. One possibility is that a student may hesitate to risk being caught and losing a good internal grade. Conversely, if the internal grade is low, the student might decide that they have little to lose: they may as well take the risk and cheat in the exam. This would generate a positive association between having a harsh teacher and cheating. In Column 7 of Table 2, we include the student's internal school score in the regression. As expected, the likelihood of exam disqualification is indeed significantly lower (within a student) the higher the internal score. However, the estimated effects of teacher violations remain essentially unaffected. This is also true in the last specification, where we include both controls.

Controlling for the student's internal school score also accounts for a second possibility. A student who received an internal score higher than they deserved may conceivably be incentivized to

[10] The sanctions may also affect teacher behavior in the current year, thereby indirectly affecting student behavior. Indeed, as we show in online appendix Table A4, within school and exam code, being sanctioned last year is negatively associated with being sanctioned this year.

cheat in an attempt to narrow the gap with their external score, thereby reducing the likelihood of a sanction (which would imply a lower weight on the internal score). Conversely, suppose they received a lower school grade than they deserved; this can create an incentive to cheat in order to increase the gap between the average school and the external scores, thereby increasing the likelihood of a sanction that would reduce the weight of the internal score. Both of these channels are controlled for by including the internal school score in the regression.

Appendix Tables B1-B5 repeat these analyses using the continuos measure of rule violations. Results are qualitatively very similar.

5.2 Potential Mechanisms

The results in Table 2 reveal a nuanced relationship between teacher rule violations and student cheating behavior. When teachers exhibit negative violations (systematically giving lower internal than external scores), students are significantly more likely to cheat. This is consistent with two potential mechanisms. First, students may imitate their teachers, who serve as role models for ethical behavior, integrity, and professionalism.[11] When teachers break rules, students may follow suit. Second, students may engage in reciprocal or retaliatory behavior that could adversely affect both the teacher and the school's reputation, potentially increasing the likelihood that the school might sanction a teacher who violated the grading code. In the case of negative violations, both effects work in the same direction.

However, in the case of positive teacher violations (giving systematically higher internal grades than warranted), the two mechanisms work in opposite directions. While the role model effect (students imitate teachers who break the rules) tends to increase cheating, the reciprocity effect now operates in the opposite direction, with students responding to favorable treatment by cheating less. Indeed, Table 2 suggests that in the population as a whole, the two effects may

[11] Bandura (1977) emphasizes the role of observational learning and imitation, explaining how students learn behaviors and ethical standards by observing and emulating significant figures, including teachers. See also Bueno and Apperson (2023), Pinho et. al. (2025), and Dee et. al. (2019).

cancel each other out: the estimated coefficient is an order of magnitude smaller in the case of positive violations, and is not statistically different from zero.

5.3 The Role of Community Homogeneity

To investigate these mechanisms, we leverage the idea that norms of reciprocity are more prevalent in tightly-knit, homogeneous communities. These communities often exhibit stronger reciprocal norms and place greater emphasis on within-group cooperation (Bowles and Gintis, 2004; Enke, 2019; Henrich et al., 2010). We utilize several complementary measures of school or community homogeneity for this analysis (see details in the data section above).

We begin in Table 3 with the homogeneity of the school by student home address, specifically the zip code. This captures school homogeneity in terms of students residing in close geographical proximity, within the same neighborhood. Table 3, columns 1-3, presents the estimates when we interact the two treatment variables with the school zip code HHI. In columns 4-6, we interact the two treatments with the share of students in the school who reside in the most common zip-code in the school. All regressions include the full set of cohort, period, exam code, school, and student fixed effects. In all six columns, the estimates of the ten-point difference, whether positive or negative, are positive and statistically significant. These estimates are not sensitive to the controls added in columns 2-3 and 5-6. These results imply that, for zero-homogeneity schools, the effect of teachers' violations, whether favorable or unfavorable to students, is to increase students' cheating on exams. However, the interaction term estimate of the positive ten-point difference with the homogeneity index is negative and precise. The implication is that the effect becomes smaller as the homogeneity index increases, and at some point, it becomes negative. For example, it levels off at zero when the share of the most common zip code equals 0.3 (recall that its mean is 0.196) and remains negative thereafter. When the share is one-half, the estimated effect is -0.001.

In Table 4, we present the results obtained using two additional dimensions of homogeneity. The first is the commonality in family names within the community and the school. This measure is meant to capture the strength of familial ties and of clan culture. Clan culture typically refers to the social structure and traditions of a group of people united by kinship and often residing in proximity. Clan culture emphasizes strong familial ties and a sense of belonging based on shared

ancestry. Members often feel a sense of loyalty and responsibility towards their clan, and there are strong norms of reciprocity and mutual aid within the clan. In Israel, despite modernization and urbanization, clan traditions and customs persist in many communities. The evidence in the first two columns in Table 4 is consistent with this. As with geographical homogeneity, the more homogeneous the school or community in terms of family names, the more negative is the effect of teachers' 'positive' rule violations on students' likelihood of cheating in matriculation exams.

Finally, the last column in Table 4 examines the homogeneity of the high school in terms of the number of elementary schools that feed it. The results are qualitatively similar, but weaker.

To see these results more clearly, Table 5 presents separate estimates for relatively non-homogeneous and homogeneous localities, using three of the above measures. The results reveal striking differences between these community types. In non-homogeneous communities (columns 1, 3, 5), both positive and negative teacher violations increase student cheating, with the effect of negative violations more than twice as large as that of positive violations. These effects are robust to controls for school sanctions and internal grades (results not shown in the table). In contrast, homogeneous communities (columns 2, 4, 6) show qualitatively different patterns. Positive teacher violations significantly *reduces* student cheating, with coefficients of -0.0079, -0.0101, and -0.0043, respectively. Negative teacher violations increases cheating, with coefficients of 0.0240, 0.0279, and 0.0076. These opposing effects are both statistically significant and substantial in magnitude. Interestingly, the effects of *negative* teacher violations also tend to be larger in homogeneous communities. This is again consistent with stronger norms of reciprocity – in this case, negative reciprocity – in these communities.

An additional interesting finding in Tables 2-4 is that sanctioning the school in a particular exam code last year is associated with reduced cheating (in that school and exam code) in the following year; however, this effect is not precisely measured. When further stratifying the sample by community homogeneity, we find that the homogenous communities largely drive this effect. The estimate in the homogeneous sample, as shown in column 2 of Table 5, is -0.0198 (SE = 0.092), whereas in the non-homogeneous sample, it is much smaller, at -0.0011 (SE = 0.0011). The same pattern is seen in columns 3-4. Can this pattern also be explained by the strong norms of

reciprocity in homogeneous communities? The community reciprocity norms can induce students to cheat less in such circumstances, as they may want to avoid being sanctioned again.[12]

5.4 Heterogeneity by Gender

Table 6 examines gender differences in these patterns. We present estimates from separate samples of boys and girls, based on the model with interaction terms for homogeneity. We present evidence using three measures of homogeneity: school zip codes HHI (columns 1-2), schools' most common zip codes (columns 3-4), and school family name index (columns 5-6). The results with all three measures yield the same consistent results: there are no gender differences in the effect of teachers' ethics on students' cheating. Boys and girls are equally affected by teachers' violations, whether it favors or harms students. The sensitivity of these effects to the homogeneous nature of the school is also the same for boys and girls. Note that the likelihood of cheating also does not vary much by gender (Table 1, panel B).

We note that the similarity in treatment effects by gender, when accounting for community homogeneity, contrasts with the seemingly gender difference observed in Table 2. This striking difference highlights the importance of accounting for community and school homogeneity when studying the transmission of ethical norms from adults to children.

6. Tight-Knit Communities: Relationship between Teachers and Students

The evidence so far suggests that reciprocity---both positive and negative---is especially important in homogeneous localities. This pattern is likely to reflect tight social ties within the community. We therefore hypothesize that it should also be reflected in the relationship between teachers and students in schools within the community.

[12] In Tables A4 in the online appendix, we present results from regressions where the dependent variable is 'sanctions in year t' and the regressor is 'sanctions in year t-1'. The unit of observation is the (Exam Code X Year). The estimates show that in homogenous and non-homogeneous localities, sanctions at year t lower the likelihood of sanctions at year t by about 20 percent. These estimates are quite the same across all samples and regressions. The interpretation is that teachers do respond to sanctions and comply with grading rules more closely once caught violating the grading rules. This is even the case in homogenous communities with strong reciprocity norms. The interpretation is that among adults (the teachers), the 'deterring' effect of sanctions once caught violating the marking ethical code somewhat lowers the reciprocity commitment in a homogenous community.

To that end, we use the data from the GEMS student surveys on the teacher-student relationship (see the data section for details and exact wording). We first focus on the four items that mostly reflect mutual respect and support between teachers and students. Therefore, they are likely good proxies for the reciprocity between teachers and students. The items ask whether teachers encourage students to try again when they fail; whether they always help when you need assistance; whether there are good relationships between teachers and students in the school; and whether there is mutual respect between them. We use the proportion of students in 7th-9th grade who agree with these statements (those who answered 5 or 6 on a 6-point Likert scale) as a measure of the closeness between teachers and students. We then estimated a model by interacting the two teachers' violation indicators with each of the measures for each of the four questions, as well as with a summary measure of all four questions.

We start again with an analysis of the raw data. Figure 2 illustrates the proportion of disqualified exams due to teacher rule violations in the same exam code and school in the preceding year. The different panels further break the sample using the two indices of the students-teachers reciprocity relationship. The left panel utilizes the four-question index, while the right panel employs the eight-question index. The contrast in means of the samples above and below the 50 percent threshold of the two indices shows the same pattern as in Figure 1, based on the homogeneity indices: in communities with higher reciprocity between students and teachers, students cheat relatively less when teachers are willing to break rules in their favor.

Table 7 reports the respective regression results.[13] In columns 1-4, we present the estimated model, with each column corresponding to one of the four questions about the teacher-student relationship. In column 5, we use the summary measure of the four GEMS questions. The results are consistent and align with the findings from the homogeneity measures. Communities with closer and more reciprocal teacher-student relations, as captured by each of the GEMS questions,

[13] Since we do not have GEMS survey data for a few communities, the sample is somewhat smaller compared to the sample used for the homogeneity measures in Tables 3-4 (85% of the original sample). The results in the smaller sample with respect to the homogeneity measures, which are presented in online appendix Tables A5 andA6, are, however, very similar to those obtained from the full sample in Table 4, suggesting that there is no sample selection difference.

also show a smaller (possibly negative) effect of positive teacher violations on the likelihood of students cheating.

In addition to the above four questions, we identified four other questions in the GEMS questionnaire that are somewhat related to the teacher-student relationship (see data section for details). We computed a summary index that includes these four items, as well as the other four listed in columns 1-4 in Table 7. The Pearson correlation coefficient between the two indices is 0.958 (see column 10 in online appendix, Table A1); therefore, we expect a similar result with this expanded index. Column 6 in Table 7 presents the results based on the eight-item summary index, and indeed, the results are very similar to those presented in Column 7.

The evidence in Table 7 aligns with the results regarding the interaction between teachers' rule violations and students' cheating in exams, as presented in Tables 3-5. This is an expected result, given the large positive correlation between each of the homogeneity measures and each of the GEMS questions or their summary indices. We report these correlations in the online appendix Table A1. For example, the correlation between the summary index of the four items and the zip code HHI is 0.557. The correlation coefficients with each of the four items range from 0.426 to 0.552. The respective correlation with the summary index of the eight items is 0.519. The correlations of the two GEMS items' summary indices and the school family name HHI are 0.546 and 0.537, respectively. These high correlations suggest that the homogeneity measures and the GEMS items share sources of influence on the extent of teachers-students reciprocity. Whether one is a mechanism for the effect of the other is a link that we cannot disentangle with the data we have.

7. Conclusions

This paper examines the transmission of rule-breaking from teachers to students in educational settings, revealing nuanced patterns that depend on both the nature of teacher rule violations and community context. Exploiting within-student variation in exposure to different teachers, we find robust evidence that teachers' grading improprieties significantly affect student ethical behavior, but in ways that challenge simple models of moral contagion.

When teachers break the rules in ways that harm students—specifically, giving systematically lower internal grades than warranted—students consistently respond by cheating more in high-stakes matriculation exams. This finding holds across different community structures, supporting behavioral models where individuals either imitate the unethical conduct of authority figures or retaliate against perceived unfairness.

However, when teachers break rules in ways that benefit students by inflating internal grades, student responses vary systematically with community structure. In heterogeneous communities, such favorable rule violations still increase student cheating, though to a lesser extent than violations that harm students. In contrast, in homogeneous, tight-knit communities and schools, students respond to teacher leniency by cheating significantly less. We measure community homogeneity by localities with high surname concentration. We measure school homogeneity also by high surname concentration and by two additional measures: the geographical home concentration of students, measured by an HHI index of area zip codes, and by an HHI index of the number of elementary schools that feed a secondary school. This pattern suggests that in close-knit social structures, reciprocal norms can dominate simple imitation effects, leading students to respond to favorable treatment with increased ethical conduct.

Our data allows us to rule out several alternative explanations for these patterns. The results are robust to controlling for prior sanctions imposed on schools and for students' internal grades, suggesting that the observed effects operate through the ethical environment established by teachers rather than through strategic responses to expected sanctions or grade incentives. Moreover, the distinct pattern observed in homogeneous communities persists within both Jewish and Arab sectors, indicating that community structure—not ethnic identity per se—drives the differential response to teachers breaking rules.

6. References

Abeler, J., Nosenzo, D., & Raymond, C. (2019). Preferences for truth-telling. *Econometrica*, 87(4), 1115-1153.

Acemoglu, D., & Jackson, M. O. (2015). History, expectations, and leadership in the evolution of social norms. *The Review of Economic Studies*, 82(2), 423-456.

Ajzenman, N. (2021). The power of example: Corruption spurs corruption. *American Economic Journal: Applied Economics*, 13(3), 230-57.

Akers, R., & Jennings, W. (2009). The social learning theory of crime and deviance. In M. Krohn, A. Lizotte, & G. Hall (Eds.), *Handbook on Crime and Deviance*.

Alesina A., M. Carlana, E. La Ferrara, P. Pinotti. (2024) Revealing Stereotypes: Evidence from Immigrants in Schools. American Economic Review, vol. 114, no. 7, July (pp. 1916–48).

Angrist, J. D., & Lavy, V. (2009). The effects of high stakes high school achievement awards: Evidence from a randomized trial. *American Economic Review*, 99(4), 1384-1414.

Angrist Joshua D. , Erich Battistin, Daniela Vuri. (2017). In a Small Moment: Class Size and Moral Hazard in the Italian Mezzogiorno. *American Economic Journal: Applied Economics*, October 9(4), 216-249.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.

Barr, A., & Serra, D. (2010). Corruption and culture: An experimental analysis. *Journal of Public Economics*, 94(11-12), 862-869.

Bicchieri, C., & Xiao, E. (2009). Do the right thing: but only if others do so. *Journal of Behavioral Decision Making*, 22(2), 191-208.

Bowles, S., & Gintis, H. (2002). Social capital and community governance. *The Economic Journal*, 112(483), F419-F436.

Bowles, S., & Gintis, H. (2004). The evolution of strong reciprocity: Cooperation in heterogeneous populations. *Theoretical Population Biology*, 65(1), 17-28.

Bueno Carycruz and Jarod Apperson. Teacher cheating: Are students affected by teachers who cheat? Evidence from a predominantly Black district. The Review of Black Political Economy,Volume 50 Issue 1, March 2023.

Bursztyn, L., Egorov, G., & Fiorin, S. (2020). From extreme to mainstream: The erosion of social norms. *American Economic Review*, 110(11), 352 2-3548.

Carrell, S. E., Malmstrom, F. V., & West, J. E. (2008). Peer effects in academic cheating. *The Journal of Human Resources*, 43(1), 173-207.

Charness, G., Masclet, D., & Villeval, M. C. (2014). The dark side of competition for status. *Management Science*, 60(1), 38-55.

Chetty, R., Friedman, J. N., & Rockoff, J. E. (2014). Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood. *American Economic Review*, 104(9), 2633-2679.

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. *The Handbook of Social Psychology* (4th ed., Vol. 2, pp. 151-192).

Cohn, A., Fehr, E., & Maréchal, M. A. (2014). Business culture and dishonesty in the banking industry. *Nature*, 516(7529), 86-89.

Cohn, A., Maréchal, M. A., & Noll, T. (2015). Bad boys: How criminal identity salience affects rule violation. *The Review of Economic Studies*, 82(4), 1289-1308.

Cunha, F., & Heckman, J. J. (2007). The technology of skill formation. *American Economic Review*, 97(2), 31-47.

d'Adda, G., Darai, D., Pavanini, N., & Weber, R. A. (2017). Do leaders affect ethical conduct? *Journal of the European Economic Association*, 15(6), 1177-1213.

Dee, T. S., & Jacob, B. A. (2012). Rational ignorance in education: A field experiment in student plagiarism. *Journal of Human Resources*, 47(2), 397-434.

Deming, D. J. (2017). The growing importance of social skills in the labor market. *Quarterly Journal of Economics*, 132(4), 1593-1640.

Dimant, E. (2019). Contagion of pro-and anti-social behavior among peers and the role of social proximity. *Journal of Economic Psychology*, 73, 66-88.

Dee T. S., Dobbie W., Jacob B. A., Rockoff J. (2019). The Causes and Consequences of Test Score Manipulation: Evidence From New York Regents Examinations. *American Economic Journal: Applied Economics*, 11(3), 382–423.

Dufwenberg, M., & Kirchsteiger, G. (2004). A theory of sequential reciprocity. *Games and Economic Behavior*, 47(2), 268-298.

Enke, B. (2019). Kinship, cooperation, and the evolution of moral systems. *The Quarterly Journal of Economics*, 134(2), 953-1019.

Ebenstein, A., Lavy V., and S. Roth. (2016). The Long Run Economic Consequences of High-Stakes Examinations: Evidence from Transitory Variation in Pollution. *American Economic Journal: Applied Economics*, 8(4): 36–65.

Falk, A., & Fischbacher, U. (2006). A theory of reciprocity. *Games and Economic Behavior*, 54(2), 293-315.

Ferraz, C., Finan, F., & Moreira, D. B. (2012). Corrupting learning: Evidence from missing federal education funds in Brazil. *Journal of Public Economics*, 96(9-10), 712-726.

Figlio, D. N., & Loeb, S. (2011). School accountability. *Handbook of the Economics of Education*, 3, 383-421.

Fischbacher, U., & Föllmi-Heusi, F. (2013). Lies in disguise—an experimental study on cheating. *Journal of the European Economic Association*, 11(3), 525-547.

Fisman, R., & Miguel, E. (2007). Corruption, norms, and legal enforcement: Evidence from diplomatic parking tickets. *Journal of Political Economy*, 115(6), 1020-1048.

Gächter, S., & Schulz, J. F. (2016). Intrinsic honesty and the prevalence of rule violations across societies. *Nature*, 531(7595), 496-505.

Gelfand, M. J., Nishii, L. H., & Raver, J. L. (2006). On the nature and importance of cultural tightness-looseness. *Journal of Applied Psychology*, 91, 1225-1244.

Gneezy, U. (2005). Deception: The role of consequences. *American Economic Review*, 95(1), 384-394.

Greif, A. (1994). Cultural beliefs and the organization of society: A historical and theoretical reflection on collectivist and individualist societies. *Journal of Political Economy*, 102(5), 912-950.

Guiso, L., Sapienza, P., & Zingales, L. (2008). Alfred Marshall lecture: Social capital as good culture. *Journal of the European Economic Association*, 6(2-3), 295-320.

Gulino, G., & Masera, F. (2023). Contagious dishonesty: Corruption scandals and supermarket theft. *American Economic Journal: Applied Economics*, 15(4), 218-251.

Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics*, 19(4), 451-464.

Heckman, J. J., & Rubinstein, Y. (2001). The importance of noncognitive skills: Lessons from the GED testing program. *American Economic Review*, 91(2), 145-149.

Henrich, J. (2020). *The WEIRDest people in the world: How the West became psychologically peculiar and particularly prosperous*. Farrar, Straus and Giroux.

Henrich, J., Ensminger, J., McElreath, R., Barr, A., Barrett, C., Bolyanatz, A., ... & Ziker, J. (2010). Markets, religion, community size, and the evolution of fairness and punishment. *Science*, 327(5972), 1480-1484.

Jackson, C. K. (2018). What do test scores miss? The importance of teacher effects on non-test score outcomes. *Journal of Political Economy*, 126(5), 2072-2107.

Jacob, B. A., & Levitt, S. D. (2003). Rotten apples: An investigation of the prevalence and predictors of teacher cheating. *Quarterly Journal of Economics*, 118(3), 843-877.

Lavy, V. (2009). Performance pay and teachers' effort, productivity, and grading ethics. *American Economic Review*, 99(5), 1979-2011.

Lavy, V. and R. Megalokonomou. (2024). The Short- and the Long-Run Impact of Gender-Biased Teachers. *American Economic Journal: Applied Economics*, April.

Lefebvre, M., Pestieau, P., Riedl, A., & Villeval, M. C. (2015). Tax evasion and social information: An experiment in Belgium, France, and the Netherlands. *International Tax and , Public Finance*, 22(3), 401-425.

Leung, K., & Bond, M. H. (1984). The impact of cultural collectivism on reward allocation. *Journal of Personality and Social Psychology*, 47(4), 793-804.

Pinho Ana da Silva, Scarlett Slagter, Andrea Gradassi, Lucas Molleman, Barbara R Braams, and Wouter van den Bos. Teacher knows best? The social influence of teachers and peers in high school. Journal of Research on Adolescence, August 2025, 35(3).

Rabin, M. (1993). Incorporating fairness into game theory and economics. *American Economic Review*, 83(5), 1281-1302.

Raz, I. T. (2025). Soil Heterogeneity, Social Learning, and the Formation of Close-knit Communities. *Journal of Political Economy*, forthcoming.

Rockoff, J. E. (2004). The impact of individual teachers on student achievement: Evidence from panel data. *American Economic Review*, 94(2), 247-252.

Rothstein, J. (2010). Teacher quality in educational production: Tracking, decay, and student achievement. *Quarterly Journal of Economics*, 125(1), 175-214.

Sims, R. L. (1993). The relationship between academic dishonesty and unethical business practices. *Journal of Education for Business*, 68(4), 207-213.

Sterngold, A. (2004). Confronting plagiarism: How conventional teaching invites cyber-cheating. *Change: The Magazine of Higher Learning*, 36, 16-21.

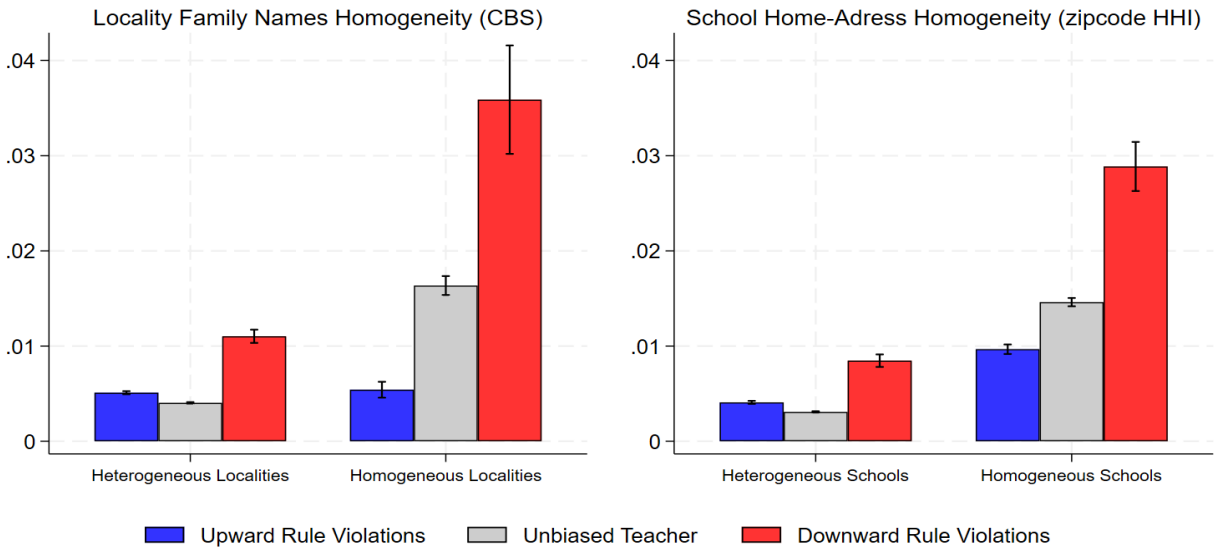
Strike, K. A., & Soltis, J. F. (2015). *The ethics of teaching* (5th ed.). Teachers College Press.

Tabellini, G. (2008). Institutions and culture. *Journal of the European Economic Association*, 6(2-3), 255-294.

Whitley, B. E. (1998). Factors associated with cheating among college students: A review. *Research in Higher Education*, 39, 235-274.

Figure 1

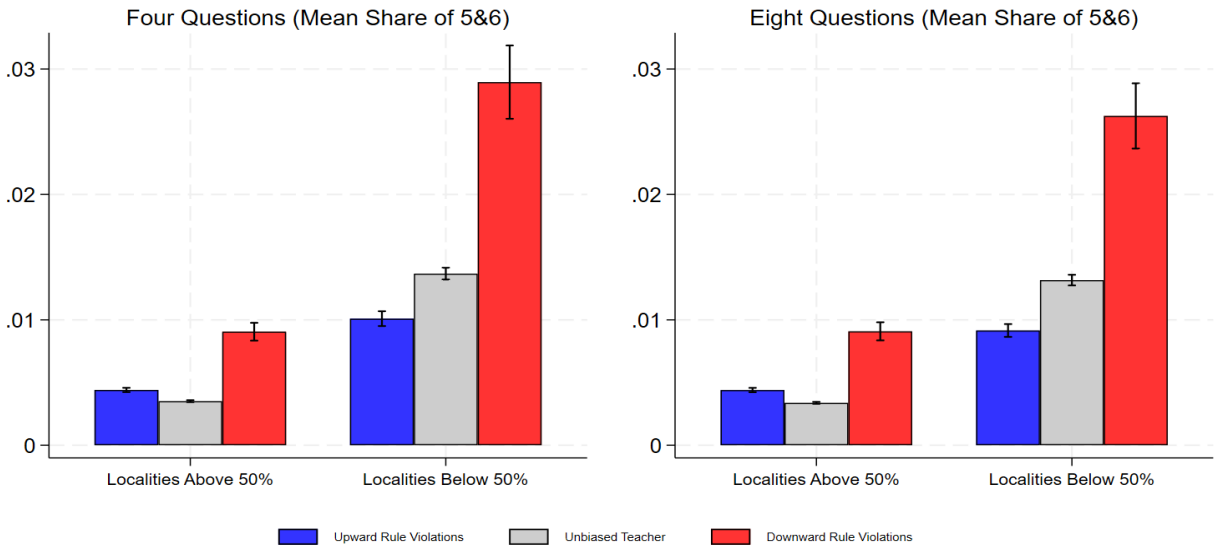
Proportion of Disqualified Exams by Teacher Rule Violations and Community Homogeneity



Upward rule violations: teachers with a positive difference of at least 10 points; Downward rule violations: teachers with a negative difference of at least 10 points; Unbiased teacher: neither upward nor downward rule violations. 95% confidence intervals.

Figure 2

Proportion of Disqualified Exams by Answers to GEMS Questionnaire



Upward rule violations: teachers with a positive difference of at least 10 points; Downward rule violations: teachers with a negative difference of at least 10 points; Unbiased teacher: neither upward nor downward rule violations. 95% confidence intervals.

Table 1: Descriptive Statistics

	All	Boys	Girls
A. Student Characteristics			
Father's Years of Schooling	11.178	11.240	11.124
	(4.801)	(4.881)	(4.730)
Mother's Years of Schooling	11.027	11.075	10.986
	(4.722)	(4.810)	(4.645)
Number of Matriculation Exams in High School	10.145	9.909	10.345
	(3.738)	(3.817)	(3.657)
Average School Exams' Score	76.246	74.412	77.810
	(11.864)	(11.958)	(11.555)
Average National Exams' Score	71.442	69.983	72.688
	(13.303)	(13.540)	(12.967)
B. Student Dishonesty Indicators			
Proportion of Disqualified Exam	0.005	0.005	0.004
	(0.068)	(0.070)	(0.067)
Proportion of Students at Least Once Disqualified Exam	0.043	0.044	0.042
	(0.202)	(0.205)	(0.200)
C. Teacher Rule Violation			
Difference Between School and National Exam's Score	4.709	4.796	4.639
	(7.685)	(7.878)	(7.523)
Absolute DBSNES	6.929	7.064	6.819
	(5.764)	(5.929)	(5.622)
Proportion of Exams with Positive DBSNES >= 10	0.212	0.218	0.208
	(0.409)	(0.413)	(0.406)
Proportion of Exams with Negative DBSNES >= 10	0.025	0.026	0.024
	(0.155)	(0.159)	(0.152)
Proportion of Exams with Positive DBSNES > 20	0.029	0.033	0.026
	(0.168)	(0.178)	(0.160)
Proportion of Exams with Negative DBSNES > 12	0.016	0.016	0.015
	(0.124)	(0.127)	(0.121)

Notes: The table presents the means and standard deviations (in parentheses) of student characteristics and rule violations indicators stratified by the gender of the student. In panel C, the teacher's rule violations is the average difference between school and exam scores last year at the school and exam code level. Similarly, the indication for a school being sanctioned last year is also at the school and exam code level. The means in Panel A, as well as the proportion of students disqualified at least once, are calculated at the student level. All other means are calculated at the exam level (multiple exams for each student).

Table 1: Descriptive Tests Statistics *(Continued)*

	All	Boys	Girls
D. Ministry Sanctions			
The School Was Sanctioned Last Year	0.015	0.016	0.014
	(0.121)	(0.124)	(0.119)
The School Has Been Sanctioned at Least Once in the Last Five Years	0.750	0.757	0.744
	(0.433)	(0.429)	(0.436)
E. Homogeneity			
Locality Share of Four Most Common Family Names	0.094	0.092	0.096
	(0.128)	(0.124)	(0.131)
School Share of Four Most Common Family Names	0.103	0.099	0.106
	(0.123)	(0.119)	(0.126)
School Zip Codes Homogeneity Index (HHI)	0.135	0.128	0.142
	(0.272)	(0.265)	(0.278)
School Most Common Zip Code Share	0.196	0.187	0.203
	(0.280)	(0.274)	(0.286)
Feeding Elementary Schools Homogeneity Index (HHI)	0.178	0.168	0.186
	(0.140)	(0.139)	(0.140)
Share of Students from the Most Common Feeding Elementary School	0.279	0.266	0.290
	(0.163)	(0.162)	(0.164)
Proportion of Disqualified Exam Papers in Non-Homogeneous Localities	0.003	0.004	0.003
	(0.057)	(0.060)	(0.055)
Proportion of Disqualified Exam Papers in Homogeneous Localities	0.010	0.011	0.010
	(0.102)	(0.104)	(0.100)
Number of Observations	3676969	1653690	2023279
Number of Students	362489	166897	195592

Notes: The table presents the means and standard deviations (in parentheses) for ministry sanctions (at the exam level) and the homogeneity indices (at the student level), along with measures associating homogeneity with dishonesty. All indicators are stratified by school sector and student gender.

Table 1: Descriptive Tests Statistics *(Continued)*

	All	Boys	Girls
F. GEMS Questionnarie			
25. When a Student Fails, the Teachers Encourage Them to Try Again	0.348	-	-
	(0.122)	-	-
26. Teachers Always Help Me When I Need Assistance in My Studies	0.439	-	-
	(0.115)	-	-
41. I Feel Good in Class Socially	0.745	-	-
	(0.089)	-	-
42. The Students in The Class Help Each Other	0.486	-	-
	(0.108)	-	-
43. There are Good Relations Between Teachers and Students	0.375	-	-
	(0.136)	-	-
44. There is Mutual Respect Between Teachers and Students	0.389	-	-
	(0.143)	-	-
45. When I Have a Problem, I Have Someone to Turn to at School (Teachers, Counselor)	0.568	-	-
	(0.097)	-	-
40. Sometimes Teachers Treat me in an offensive and hurtful way	0.362	-	-
	(0.160)	-	-
Mean Share of 5/6 Answers (1/2 in Question 40) in All Questions Above	0.464	-	-
	(0.087)	-	-
Mean Share of 5/6 Answers In Questions 25, 26, 43 and 44	0.388	-	-
	(0.121)	-	-
Number of Observations (localities)	301	-	-

Notes: The table presents the means and standard deviations (in parentheses) for the share of 5/6 (true/Very true) answers in the GEMS questionnaire, except for question 40 there the share is for 1/2 (Not True at All/Not true) answers. The Observations Calculated in the locality level (301 Localities).

Table 2: The Effect of Teacher Rule Violations on Students Cheating; Exam Disqualification

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A. Binary Rule Violations Measure							
Teacher Rule Violations								
Positive Ten-Point Difference	0.0012***	0.0008***	0.0014***	-0.0000	0.0002	0.0003	0.0002	0.0003
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Negative Ten-Point Difference	0.0080***	0.0072***	0.0059***	0.0027***	0.0025**	0.0026**	0.0023**	0.0023**
	(0.0012)	(0.0012)	(0.0011)	(0.0010)	(0.0010)	(0.0010)	(0.0010)	(0.0010)
Sanctioned Last Year						-0.0018		-0.0020*
						(0.0012)		(0.0012)
Internal School Score							-0.0001***	-0.0001***
							(0.0000)	(0.0000)
Positive = Negative p-value	0.0000	0.0000	0.0001	0.0108	0.0318	0.0341	0.0571	0.0618
Number of Observations	3677289							
Number of Students	362488							
	B. Continuous Rule Violations Measure							
Teacher Rule Violations								
Positive Difference	0.0001***	0.0001***	0.0002***	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Negative Difference	0.0006***	0.0005***	0.0004***	0.0001**	0.0001**	0.0001**	0.0001*	0.0001*
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Sanctioned Last Year						-0.0019		-0.0022*
						(0.0012)		(0.0012)
Internal School Score							-0.0001***	-0.0001***
							(0.0000)	(0.0000)
Positive = Negative p-value	0.0000	0.0000	0.0008	0.0264	0.0838	0.0979	0.1577	0.1856
Number of Observations	3677289							
Number of Students	362488							
Cohort and Exam Period FE	✓	✓	✓	✓	✓	✓	✓	✓
Student Characteristics		✓	✓	✓	✓	✓	✓	✓
Exam Code FE			✓	✓	✓	✓	✓	✓
School FE				✓	✓	✓	✓	✓
Student FE					✓	✓	✓	✓

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level) on the students cheating, measured as exam disqualification. In column 1 the model includes cohort and exam period fixed effect. In column 2, the model also includes student's gender and father's and mother's education. In column 3, the model also includes a dummy indicator for the exam's code (an exam fixed effect). In column 4, the model also includes a school fixed effect. In column 5, the model also includes a student fixed effect. In column 6, the model also includes a dummy for the school being sanctioned last year at the school and exam code level. In columns 7, the model also includes the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses)

Table 3: Teacher Rule Violations, Students Cheating, and School Geographic Homogeneity

	School Zip Codes HHI			School Most Common Zip Code Share		
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Ten-Point Difference	0.0011***	0.0011***	0.0011***	0.0014***	0.0014***	0.0014***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Negative Ten-Point Difference	0.0034***	0.0035***	0.0033***	0.0038***	0.0039***	0.0037***
	(0.0009)	(0.0009)	(0.0009)	(0.0010)	(0.0010)	(0.0010)
Positive Ten-Point Difference X Homogeneity Index	-0.0049***	-0.0048***	-0.0046***	-0.0048***	-0.0048***	-0.0046***
	(0.0017)	(0.0017)	(0.0017)	(0.0016)	(0.0016)	(0.0016)
Negative Ten-Point Difference X Homogeneity Index	-0.0051	-0.0051	-0.0053	-0.0054	-0.0055	-0.0056
	(0.0056)	(0.0056)	(0.0056)	(0.0052)	(0.0052)	(0.0052)
Sanctioned Last Year		-0.0015	-0.0018		-0.0015	-0.0018
		(0.0012)	(0.0012)		(0.0012)	(0.0012)
Internal School Score			-0.0001***			-0.0001***
			(0.0000)			(0.0000)
Positive = Negative *p-value*	0.0084	0.0086	0.0163	0.0146	0.0146	0.0243
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.9689	0.9520	0.9028	0.9138	0.8961	0.8508
Number of Observations		3677289			3677289	
Number of Students		362488			362488	

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of the teacher's rule violations interactions with two homogeneity measures based on the zip codes of the students in the school, on the student's cheating measured as exam disqualification. All regressions include the full set of cohort, period, exam code, school, and student fixed effects. The first homogeneity measure, HHI, is the probability that two randomly drawn students from the same school share a zip code. The second measure is the share of the most common zip code in the school. Both measures were calculated based on the students in the sample. In columns 1 and 4, the model includes the control variables from column 5 of Table 2. In columns 2 and 5, the model also includes a dummy variable for schools that were sanctioned last year at the school and exam code levels. In columns 3 and 6, the model also includes the internal school score for the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table 4: Surname and Feeding-School Homogeneity

	Locality Family Name Homogeneity	School Family Name Homogeneity	Homogeneity by Feeding Schools (HHI)
	(1)	(2)	(3)
Teacher Rule Violations			
Positive Ten-Point Difference	0.0018***	0.0020***	0.0014***
	(0.0005)	(0.0005)	(0.0005)
Negative Ten-Point Difference	0.0031***	0.0029**	0.0039***
	(0.0012)	(0.0013)	(0.0013)
Positive Ten-Point Difference X Homogeneity Index	-0.0129***	-0.0134***	-0.0059**
	(0.0045)	(0.0049)	(0.0028)
Negative Ten-Point Difference X Homogeneity Index	-0.0064	-0.0045	-0.0084
	(0.0117)	(0.0122)	(0.0073)
Sanctioned Last Year	-0.0016	-0.0016	-0.0019
	(0.0012)	(0.0012)	(0.0012)
Internal School Score	-0.0001***	-0.0001***	-0.0001***
	(0.0000)	(0.0000)	(0.0000)
Positive = Negative *p-value*	0.2847	0.5027	0.0746
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.5779	0.4655	0.7451
Number of Observations	3658048	3677289	3664619
Number of Students	360616	362488	360894

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of its interactions with three homogeneity measures, on the student's cheating measured as exam disqualification. The measure in Column (1) provided by the Israeli CBS is the aggregated share of the four most common family names in the locality of the school. The measure in column (2) was calculated the same way, but at the school level, based on the names of the students in the Ministry of Education data used by the authors. The measure in column (3) is the HHI measure of the elementary school that the students in every high school studied in, i.e, the probability that two students from the same high school studied in the same elementary school, calculated based on the students in the sample. All regressions include the full set of cohort, period, exam code, school, and student fixed effects, as well as the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table 5: The Effect of Teacher Rule Vilolations on Students Dishonesty within Homogeneity Groups

	Share of Locality Four Most Commom Family Names (CBS		Share of School Four Most Commom Family Names (MOE Data)		HHI by Feeding Elementary Schools	
	Non-Homogeneous Localities (<	Homogeneous Localities (> 50%)	Non-Homogeneous Schools (< 50%)	Homogeneous Schools (> 50%)	Non-Homogeneous Elementary Schools (HHI <50%)	Homogeneous Elementary Schools (HHI > 50%)
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Ten-Point Difference	0.0006*	-0.0079**	0.0006**	-0.0101**	0.0005*	-0.0043*
	(0.0003)	(0.0035)	(0.0003)	(0.0042)	(0.0003)	(0.0022)
Negative Ten-Point Difference	0.0015*	0.0240**	0.0016*	0.0279**	0.0018*	0.0076
	(0.0009)	(0.0120)	(0.0009)	(0.0135)	(0.0010)	(0.0079)
Sanctioned Last Year	-0.0011	-0.0198**	-0.0011	-0.0201**	-0.0020	-0.0020
	(0.0011)	(0.0092)	(0.0011)	(0.0101)	(0.0012)	(0.0059)
Internal School Score	-0.0001***	0.0000	-0.0001***	0.0001	-0.0001***	-0.0001*
	(0.0000)	(0.0001)	(0.0000)	(0.0001)	(0.0000)	(0.0001)
Positive = Negative p-value	0.3091	0.0124	0.2888	0.0086	0.1999	0.1483
Number of Observations	3561200	96812	3599630	77643	3501573	162870
Number of Students	351666	8972	355443	7055	345926	15033

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level) on the student's cheating measured as exam disqualification, by two subsamples: homogeneous and heterogeneous. The division was done by the three different measures that appeared in Table 4. In columns (1) and (2), the measure is based on the locality family names, as in column (1) of Table 5. In columns (3) and (4), the measure is based on the school family names as in column (2) of Table 5. In columns (5)-(6), the measure is the HHI of the elementary school that the students in every high school studied in, as in columns (3) of Table 5. In all columns, the cut-off is 0.5 of the homogeneity measure (all of them on a 0 to 1 scale). All regressions include the full set of cohort, period, exam code, school, and student fixed effects, as well as the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table 6: Teacher Rule Violations, Students Dishonesty, and School Homogeneity by Gender

	School Zip Codes HHI		School Most Common Zip Code Share		School Family Name Homogeneity	
	Boys	Girls	Boys	Girls	Boys	Girls
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Ten-Point Difference	0.0013***	0.0011***	0.0016***	0.0013***	0.0023***	0.0018***
	(0.0003)	(0.0003)	(0.0004)	(0.0003)	(0.0006)	(0.0005)
Negative Ten-Point Difference	0.0044***	0.0023**	0.0048***	0.0026**	0.0045***	0.0013
	(0.0009)	(0.0013)	(0.0011)	(0.0012)	(0.0012)	(0.0017)
Positive Ten-Point Difference X Homogeneity Index	-0.0048**	-0.0046***	-0.0049**	-0.0045***	-0.0150**	-0.0122***
	(0.0020)	(0.0018)	(0.0019)	(0.0017)	(0.0059)	(0.0046)
Negative Ten-Point Difference X Homogeneity Index	-0.0071	-0.0037	-0.0072	-0.0041	-0.0107	0.0013
	(0.0064)	(0.0061)	(0.0060)	(0.0057)	(0.0121)	(0.0144)
Sanctioned Last Year	-0.0023*	-0.0013	-0.0023*	-0.0013	-0.0021*	(0.0014)
	(0.0013)	(0.0014)	(0.0013)	(0.0014)	(0.0013)	-0.0011
Internal School Score	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Positive = Negative *p-value*	0.0016	0.2830	0.0036	0.3040	0.0734	0.7863
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.7187	0.8850	0.7007	0.9423	0.7122	0.3526
Number of Observations	1653825	2023453	1653825	2023453	1653825	2023453
Number of Students	166896	195591	166896	195591	166896	195591

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of it's interactions with three homogeneity measures based on the zip codes of the students in the school, on the student's cheating measured as exam disqualification, by subsamples of gender. The first measure - HHI - is the probability of two students in the same school sharing a zipcode, the second measure is the share of the most common zipcode in the school, and the third measure is the aggregated share of the four most common family names of the school students. All measures were calculated based on the students in the sample. All regressions include the full set of cohort, period, exam code, school, and student fixed effects as well as the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table 7: Teacher Rule Violations and Students Dishonesty by Student-Teacher Relations in the Locality

	Locality Q25 Share of 5/6 Answers	Locality Q26 Share of 5/6 Answers	Locality Q43 Share of 5/6 Answers	Locality Q44 Share of 5/6 Answers	Locality Mean Share of 5/6 Answers - Four Questions	Locality Mean Share of 5/6 Answers - Eight Questions
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Ten-Point Difference	0.0038***	0.0040**	0.0037***	0.0036***	0.0040***	0.0059**
	(0.0012)	(0.0017)	(0.0013)	(0.0012)	(0.0014)	(0.0024)
Negative Ten-Point Difference	0.0044	0.0030	0.0052	0.0056	0.0050	0.0083
	(0.0055)	(0.0072)	(0.0052)	(0.0051)	(0.0060)	(0.0108)
Positive Ten-Point Difference X Student-Teacher Relations	-0.0109**	-0.0092**	-0.0099**	-0.0090**	-0.0104**	-0.0133**
	(0.0043)	(0.0046)	(0.0041)	(0.0038)	(0.0044)	(0.0061)
Negative Ten-Point Difference X Student-Teacher Relations	-0.0063	-0.0015	-0.0080	-0.0087	-0.0072	-0.0140
	(0.0194)	(0.0195)	(0.0169)	(0.0160)	(0.0186)	(0.0272)
Sanctioned Last Year	-0.0020	-0.0020*	-0.0020	-0.0020	-0.0020	-0.0020
	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)
Internal School Score	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Positive = Negative *p-value*	0.9119	0.8892	0.7896	0.7064	0.8804	0.8283
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.8168	0.7002	0.9116	0.9853	0.8643	0.9784
Number of Observations	3265465	3265465	3265465	3265465	3265465	3265465
Number of Students	321989	321989	321989	321989	321989	321989

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of its interactions with GEMS survey responses on student teacher interactions, on students cheating. The measure in Column (1) provided by the Israeli CBS, and is the aggregated share of the four most common family names in the locality of the school. The measures in columns (2) to (5) are the mean share of anwers 5 and 6 (the answers is on 1-6 scale) in the locality level of four questions in the GEMS tests in 2002-2005. The full questions is in the text. The measure in column (6) is the mean share of 5/6 answers in the locality level for the four questions of colums (2)-(5), and the measure in column (7) is as (6) but with four additional questions. In each column, the model includes the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table A1: The Correlation Betweem Homogeneity Measures Used In the Paper

	Zip Codes HHI	Most Common Zip	Locality Family	School Family Names	Feeding Elementary Schools	GEMS Question 25	GEMS Question 26	GEMS Question 43	GEMS Question 44	Gems 4 Q's Mean	Gems 8 Q's Mean
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
School Zip Codes HHI	#REF!										
School Share Of Most Common Zip Code	0.988	1									
Locality Share of Four Most Common Family	0.741	0.731	1								
School Share of Four Most Common Family Name	0.778	0.762	0.934	1							
School "Feeding" Elementary Schools HHI	0.496	0.516	0.398	0.450	1						
Locality GEMS Questionnaire Answers:											
Question 25 Share of 5/6 Answers	0.499	0.507	0.481	0.511	0.312	1					
Question 26 Share of 5/6 Answers	0.426	0.430	0.413	0.430	0.241	0.906	1				
Question 43 Share of 5/6 Answers	0.523	0.526	0.527	0.554	0.287	0.926	0.910	1			
Question 44 Share of 5/6 Answers	0.552	0.555	0.545	0.571	0.316	0.936	0.896	0.984	1		
Mean Of the Above Four Questions	0.557	0.568	0.535	0.546	0.328	0.925	0.910	0.947	0.943	1	
Mean Of Eight Questions	0.519	0.524	0.511	0.537	0.300	0.968	0.949	0.985	0.985	0.958	1

Notes: The table presents the Pearson Correlation Coefficient between all the homogeneity measures used in the paper. The details about "School Zip Codes HHI" and "School Share Of Most Common Zip Code" appear in Table 3 notes, the details about "Locality Share of Four Most Common Family Name", "School Share of Four Most Common Family Name", and "School 'Feeding' Elementary Schools HHI" appear in Table 4 notes. The details about the rest of the measures (the measures based on the GEMS tests questionnaire) appear in Table 7 notes.

Table A2: The Correlation between Teacher Rule Violation in Years *t* and *t-1*

	Teacher Rule Violation in *t-1*			
	(1)	(2)	(3)	N
Teacher Rule Violation in *t*				
All	0.411	0.3089***	0.2457***	82176
		(0.0065)	(0.0059)	
Mathematics	0.418	0.2855***	0.0978***	12561
		(0.0159)	(0.0122)	
English	0.311	0.2903***	0.0848***	9131
		(0.0148)	(0.0137)	
Humanities	0.431	0.3286***	0.1885***	19673
		(0.0122)	(0.0105)	
STEM	0.364	0.2729***	0.1524***	17793
		(0.0115)	(0.0109)	
Exam Code FE		✓	✓	
School FE			✓	

Notes: In Column 1 The table presents Pearson correlation coefficiet between the teacher's rule violations (the average difference between school and exam scores last year at the school and exam code level) in year t, and the same variable in t-1. In columns 2 and 3, the table presents the estimated coefficients of these variables from a linear regression. In column 2, the model includes exam code fixed effects. In column 3, the model includes exam code and school fixed effects. Column 4 shows the number of observations that are in the exam code-school-year level. Note that the rows are different sub-samples according to academic subjects. Standard errors are clustered by the school X exam's code (in parentheses)

Table A3: The Effect of Teacher Rule Violations on Students Dishonesty; Exam Disqualification, By Gender

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Boys				
Teacher Rule Violations								
Positive Ten-Point Difference	0.0014***	0.0010***	0.0015***	0.0000	0.0003	0.0004	0.0003	0.0005
	(0.0003)	(0.0003)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Negative Ten-Point Difference	0.0084***	0.0075***	0.0061***	0.0032***	0.0034***	0.0034***	0.0031***	0.0032***
	(0.0013)	(0.0013)	(0.0012)	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Sanctioned Last Year						-0.0023*		-0.0025**
						(0.0013)		(0.0013)
Internal School Score							-0.0001***	-0.0001***
							(0.0000)	(0.0000)
Positive = Negative p-value	0.0000	0.0000	0.0003	0.0064	0.0108	0.0125	0.0211	0.0245
Number of Observations				1653825				
Number of Students				166896				
				Girls				
Teacher Rule Violations								
Positive Ten-Point Difference	0.0010***	0.0006**	0.0013***	-0.0000	0.0001	0.0002	0.0001	0.0002
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Negative Ten-Point Difference	0.0077***	0.0070***	0.0056***	0.0023*	0.0017	0.0018	0.0015	0.0016
	(0.0013)	(0.0013)	(0.0013)	(0.0012)	(0.0013)	(0.0013)	(0.0013)	(0.0013)
Sanctioned Last Year						-0.0013		-0.0015
						(0.0015)		(0.0015)
Internal School Score							-0.0001***	-0.0001***
							(0.0000)	(0.0000)
Positive = Negative p-value	0.0000	0.0000	0.0015	0.0622	0.1988	0.2033	0.2757	0.2831
Number of Observations				2023453				
Number of Students				195591				
Cohort and Exam Period FE	✓	✓	✓	✓	✓	✓	✓	✓
Student Characteristics		✓	✓	✓	✓	✓	✓	✓
Exam Code FE			✓	✓	✓	✓	✓	✓
School FE				✓	✓	✓	✓	✓
Student FE					✓	✓	✓	✓

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level) on the student's cheating measured as exam disqualification, by two subsamples according to gender. In column 1, the model includes cohort and exam period fixed effects. In column 2, the model also includes the student's gender and the father's and mother's education. In column 3, the model also includes a dummy indicator for the exam's code (an exam fixed effect). In column 4, the model also includes a school fixed effect. In column 5, the model also includes a student fixed effect. In column 6, the model also includes a dummy for the school being sanctioned last year at the school and exam code level. In column 7, the model also includes the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table A4: Effect of Previous School Sanctions on Current Sanctions By Schools Homogeneity

	(1)	(2)	(3)	(4)
	School Was Sanctioned This Year			
	Homogeneous Schools		Non-Homogeneous Schools	
Sanctioned Last Year	0.0479***	-0.2034***	-0.0052	-0.2112***
	(0.0075)	(0.0080)	(0.0248)	(0.0311)
Number of Observations	102832	96748	2665	2525
	School Was Sanctioned This Year With Positive 20-Point Difference			
	Homogeneous Schools		Non-Homogeneous Schools	
Sanctioned Last Year	0.0425***	-0.2261***	-0.0186	-0.2276***
	(0.0079)	(0.0088)	(0.0217)	(0.0290)
Number of Observations	102756	96669	2664	2525
Cohort & Exam Period FE	✓	✓	✓	✓
Exam Code FE	✓	✓	✓	✓
School FE	✓	✓	✓	✓
SchoolXYear FE	✓	✓	✓	✓
SchoolXExam Code FE		✓		✓

Notes: The table presents the estimated coefficient of last year's sanction on the probability of the school being sanctioned this year, divided into two subsamples of homogeneity, according to a cut-off of 50% of the aggregated share of the four most common family names on the school, calculated on the Ministry of Education data that the authors use. In odd columns, the model includes cohort, exam period FE, a dummy indicator for the exam's code (an exam fixed effect), school-fixed effects, and school-year fixed effects. In even columns, the model also includes school-exam code fixed effects. The observation level is at the school-exam code-year level. Standard errors are clustered by the school-exam code (in parentheses).

Table A5: Teacher Rule Violations, Students Dishonesty, and School Geographic Homogeneity

Resticted to GEMS Questionnaire Sample

	School Zip Codes HHI			School Most Common Zip Code Share		
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Ten-Point Difference	0.0011***	0.0012***	0.0012***	0.0014***	0.0014***	0.0014***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Negative Ten-Point Difference	0.0039***	0.0039***	0.0037***	0.0042***	0.0043***	0.0041***
	(0.0009)	(0.0009)	(0.0009)	(0.0010)	(0.0010)	(0.0010)
Positive Ten-Point Difference X Homogeneity Index	-0.0049***	-0.0048***	-0.0046***	-0.0049***	-0.0048***	-0.0046***
	(0.0018)	(0.0018)	(0.0018)	(0.0017)	(0.0017)	(0.0017)
Negative Ten-Point Difference X Homogeneity Index	-0.0070	-0.0070	-0.0073	-0.0069	-0.0069	-0.0071
	(0.0058)	(0.0058)	(0.0058)	(0.0055)	(0.0055)	(0.0055)
Sanctioned Last Year		-0.0017	-0.0019		-0.0017	-0.0019
		(0.0012)	(0.0012)		(0.0012)	(0.0012)
Internal School Score			-0.0001***			-0.0001***
			(0.0000)			(0.0000)
Positive = Negative *p-value*	0.0036	0.0037	0.0071	0.0065	0.0066	0.0111
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.7178	0.7017	0.6523	0.7117	0.6949	0.6486
Number of Observations		3265465			3265465	
Number of Students		321989			321989	

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of the teacher's rule violations interactions with two homogeneity measures based on the zip codes of the students in the school, on the student's cheating measured as exam disqualification. All regressions include the full set of cohort, period, exam code, school, and student fixed effects. The first homogeneity measure, HHI, is the probability that two randomly drawn students from the same school share a zip code. The second measure is the percentage of students from the most common zip code in the school. Both measures were calculated based on the students in the sample. In columns 1 and 4, the model includes the control variables from column 5 of Table 2. In columns 2 and 5, the model also includes a dummy variable for schools that were sanctioned last year at the school and exam code levels. In columns 3 and 6, the model also includes the internal school score for the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table A6: Surname and Feeding-School Homogeneity

Resticted to GEMS Questionnaire Sample

	Locality Family Name Homogeneity	School Family Name Homogeneity	Homogeneity by Feeding Schools (HHI)
	(1)	(2)	(3)
Teacher Rule Violations			
Positive Ten-Point Difference	0.0020***	0.0022***	0.0016***
	(0.0005)	(0.0006)	(0.0006)
Negative Ten-Point Difference	0.0031**	0.0030**	0.0039***
	(0.0013)	(0.0015)	(0.0014)
Positive Ten-Point Difference X Homogeneity Index	-0.0144***	-0.0143***	-0.0068**
	(0.0049)	(0.0052)	(0.0032)
Negative Ten-Point Difference X Homogeneity Index	-0.0064	-0.0054	-0.0083
	(0.0139)	(0.0138)	(0.0081)
Sanctioned Last Year	-0.0018	-0.0018	-0.0021*
	(0.0012)	(0.0012)	(0.0013)
Internal School Score	-0.0001***	-0.0001***	-0.0001***
	(0.0000)	(0.0000)	(0.0000)
Positive = Negative *p-value*	0.3968	0.0065	0.1202
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.5572	0.7117	0.8584
Number of Observations	3261701	3265465	3254278
Number of Students	321602	321989	320513

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of its interactions with three homogeneity measures, on the student's cheating measured as exam disqualification. The Israeli CBS provides the measure in Column (1) and is the aggregated share of the four most common family names in the locality of the school. The measure in column (2) was calculated the same way, but at the school level, based on the names of the students in the Ministry of Education data used by the authors. The measure in column (3) is the HHI measure of the elementary school that the students in every high school studied in, i.e, the probability that two students from the same high school studied in the same elementary school, calculated based on the students in the sample. All regressions include the full set of cohort, period, exam code, school, and student fixed effects, as well as the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table B1: Teacher Rule Violations, Students Cheating, and School Geographic Homogeneity - Continuous Measure

	School Zip Codes HHI			School Most Common Zip Code Share		
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Difference	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Negative Difference	0.0002***	0.0002***	0.0002***	0.0002***	0.0002***	0.0002***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Positive Difference X Homogeneity Index	-0.0004***	-0.0004***	-0.0004***	-0.0004***	-0.0004***	-0.0004***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Negative Difference X Homogeneity Index	-0.0004	-0.0004	-0.0005	-0.0005	-0.0005	-0.0005
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Sanctioned Last Year		-0.0015	-0.0018		-0.0015	-0.0018
		(0.0012)	(0.0012)		(0.0012)	(0.0012)
Internal School Score			-0.0001***			-0.0001***
			(0.0000)			(0.0000)
Positive = Negative *p-value*	0.0216	0.0244	0.0533	0.0292	0.0321	0.0612
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.8598	0.8419	0.7847	0.8149	0.7965	0.7415
Number of Observations		3677289			3677289	
Number of Students		362488			362488	

Notes: The table presents the estimated coefficients of teacher's rule violations (positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of the teacher's rule violations interactions with two homogeneity measures based on the zip codes of the students in the school, on the student's cheating measured as exam disqualification. All regressions include the full set of cohort, period, exam code, school, and student fixed effects. The first homogeneity measure, HHI, is the probability that two randomly drawn students from the same school share a zip code. The second measure is the share of the most common zip code in the school. Both measures were calculated based on the students in the sample. In columns 1 and 4, the model includes the control variables from column 5 of Table 2. In columns 2 and 5, the model also includes a dummy variable for schools that were sanctioned last year at the school and exam code levels. In columns 3 and 6, the model also includes the internal school score for the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table B2: Surname and Feeding-School Homogeneity - Continuous Measure

	Locality Family Name Homogeneity	School Family Name Homogeneity	Homogeneity by Feeding Schools (HHI)
	(1)	(2)	(3)
Teacher Rule Violations			
Positive Difference	0.0001***	0.0002***	0.0001**
	(0.0000)	(0.0000)	(0.0000)
Negative Difference	0.0002**	0.0002**	0.0003***
	(0.0001)	(0.0001)	(0.0001)
Positive Difference X Homogeneity Index	-0.0010**	-0.0011**	-0.0003
	(0.0004)	(0.0004)	(0.0002)
Negative Difference X Homogeneity Index	-0.0006	-0.0006	-0.0007*
	(0.0008)	(0.0009)	(0.0004)
Sanctioned Last Year	-0.0015	-0.0015	-0.0021*
	(0.0012)	(0.0012)	(0.0012)
Internal School Score	-0.0001***	-0.0001***	-0.0001***
	(0.0000)	(0.0000)	(0.0000)
Positive = Negative *p-value*	0.5846	0.7884	0.0731
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.6348	0.5748	0.3735
Number of Observations	3658048	3677289	3664619
Number of Students	360616	362488	360894

Notes: The table presents the estimated coefficients of teacher's rule violations (positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of its interactions with three homogeneity measures, on the student's cheating measured as exam disqualification. The measure in Column (1) provided by the Israeli CBS is the aggregated share of the four most common family names in the locality of the school. The measure in column (2) was calculated the same way, but at the school level, based on the names of the students in the Ministry of Education data used by the authors. The measure in column (3) is the HHI measure of the elementary school that the students in every high school studied in, i.e, the probability that two students from the same high school studied in the same elementary school, calculated based on the students in the sample. All regressions include the full set of cohort, period, exam code, school, and student fixed effects, as well as the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table B3: The Effect of Teacher Rule Vilolations on Students Dishonesty within Homogeneity Groups - Continuous Measure

	Share of Locality Four Most Commom Family Names (CBS		Share of School Four Most Commom Family Names (MOE Data)		HHI by Feeding Elementary Schools	
	Non-Homogeneous Localities (<	Homogeneous Localities (> 50%)	Non-Homogeneous Schools (< 50%)	Homogeneous Schools (> 50%)	Non-Homogeneous Elementary Schools (HHI <50%)	Homogeneous Elementary Schools (HHI > 50%)
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Difference	0.0000*	-0.0006	0.0001**	-0.0008*	0.0000*	-0.0002
	(0.0000)	(0.0004)	(0.0000)	(0.0004)	(0.0000)	(0.0002)
Negative Difference	0.0001	0.0017*	0.0001	0.0020*	0.0001	0.0002
	(0.0001)	(0.0009)	(0.0001)	(0.0010)	(0.0001)	(0.0004)
Sanctioned Last Year	-0.0013	-0.0156*	-0.0014	-0.0139	-0.0022*	-0.0020
	(0.0012)	(0.0094)	(0.0011)	(0.0106)	(0.0012)	(0.0063)
Internal School Score	-0.0001***	0.0000	-0.0001***	0.0001	-0.0001***	-0.0001*
	(0.0000)	(0.0001)	(0.0000)	(0.0001)	(0.0000)	(0.0001)
Positive = Negative p-value	0.8717	0.0120	0.8846	0.0073	0.3756	0.3359
Number of Observations	3561200	96812	3599630	77643	3501573	162870
Number of Students	351666	8972	355443	7055	345926	15033

Notes: The table presents the estimated coefficients of teacher's rule violations (positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level) on the student's cheating measured as exam disqualification, by two subsamples: homogeneous and heterogeneous. The division was done by the three different measures that appeared in Table 4. In columns (1) and (2), the measure is based on the locality family names, as in column (1) of Table 5. In columns (3) and (4), the measure is based on the school family names as in column (2) of Table 5. In columns (5)-(6), the measure is the HHI of the elementary school that the students in every high school studied in, as in columns (3) of Table 5. In all columns, the cut-off is 0.5 of the homogeneity measure (all of them on a 0 to 1 scale). All regressions include the full set of cohort, period, exam code, school, and student fixed effects, as well as the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table B4: Teacher Rule Violations, Students Dishonesty, and School Homogeneity by Gender - Continuous Measure

	School Zip Codes HHI		School Most Common Zip Code Share		School Family Name Homogeneity	
	Boys	Girls	Boys	Girls	Boys	Girls
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Difference	0.0001***	0.0001***	0.0001***	0.0001***	0.0002***	0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0000)
Negative Difference	0.0003***	0.0001**	0.0003***	0.0002**	0.0003***	0.0001
	(0.0001)	(0.0013)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Positive Difference X Homogeneity Index	-0.0004***	-0.0003**	-0.0004***	-0.0003***	-0.0013**	-0.0009**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0005)	(0.0004)
Negative Difference X Homogeneity Index	-0.0004	-0.0005	-0.0004	-0.0005	-0.0007	-0.0005
	(0.0004)	(0.0004)	(0.0003)	(0.0003)	(0.0009)	(0.0010)
Sanctioned Last Year	-0.0023*	-0.0013	-0.0023*	-0.0013	-0.0019	(0.0015)
	(0.0014)	(0.0015)	(0.0014)	(0.0015)	(0.0014)	-0.0011
Internal School Score	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Positive = Negative *p-value*	0.0180	0.3522	0.0270	0.3308	0.4804	0.8535
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.9977	0.6977	0.9639	0.6687	0.5026	0.6781
Number of Observations	1653825	2023453	1653825	2023453	1653825	2023453
Number of Students	166896	195591	166896	195591	166896	195591

Notes: The table presents the estimated coefficients of teacher's rule violations (ten points positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of it's interactions with three homogeneity measures based on the zip codes of the students in the school, on the student's cheating measured as exam disqualification, by subsamples of gender. The first measure - HHI - is the probability of two students in the same school sharing a zipcode, the second measure is the share of the most common zipcode in the school, and the third measure is the aggregated share of the four most common family names of the school students. All measures were calculated based on the students in the sample. All regressions include the full set of cohort, period, exam code, school, and student fixed effects as well as the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).

Table B5: Teacher Rule Violations and Students Dishonesty by Student-Teacher Relations in the Locality

	Locality Q25 Share of 5/6 Answers	Locality Q26 Share of 5/6 Answers	Locality Q43 Share of 5/6 Answers	Locality Q44 Share of 5/6 Answers	Locality Mean Share of 5/6 Answers - Four Questions	Locality Mean Share of 5/6 Answers - Eight Questions
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher Rule Violations						
Positive Difference	0.0003***	0.0004***	0.0003***	0.0003***	0.0003***	0.0005***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Negative Difference	0.0006**	0.0007*	0.0006**	0.0006**	0.0006**	0.0010*
	(0.0003)	(0.0004)	(0.0003)	(0.0003)	(0.0003)	(0.0006)
Positive Difference X Student-Teacher Relations	-0.0009***	-0.0009***	-0.0008**	-0.0007***	-0.0009***	-0.0011**
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0004)
Negative Difference X Student-Teacher Relations	-0.0015	-0.0014	-0.0013	-0.0013	-0.0015	-0.0021
	(0.0010)	(0.0010)	(0.0009)	(0.0009)	(0.0010)	(0.0015)
Sanctioned Last Year	-0.0021	-0.0021*	-0.0021	-0.0021	-0.0021	-0.0021
	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0013)
Internal School Score	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Positive = Negative *p-value*	0.3020	0.4131	0.2946	0.2554	0.3175	0.3504
PositiveXHomogeneity = NegativeXHomogeneity p-value	0.5334	0.5996	0.5281	0.4826	0.5287	0.4691
Number of Observations	3265465	3265465	3265465	3265465	3265465	3265465
Number of Students	321989	321989	321989	321989	321989	321989

Notes: The table presents the estimated coefficients of teacher's rule violations (positive and negative deviation of the average difference between school and exam scores last year at the school and exam code level), as well as the coefficients of its interactions with GEMS survey responses on student teacher interactions, on students cheating. The measure in Column (1) provided by the Israeli CBS, and is the aggregated share of the four most common family names in the locality of the school. The measures in columns (2) to (5) are the mean share of anwers 5 and 6 (the answers is on 1-6 scale) in the locality level of four questions in the GEMS tests in 2002-2005. The full questions is in the text. The measure in column (6) is the mean share of 5/6 answers in the locality level for the four questions of colums (2)-(5), and the measure in column (7) is as (6) but with four additional questions. In each column, the model includes the internal school score at the specific exam. Standard errors are clustered by the school X exam's code (in parentheses).