# Online Appendix for: Revealing Stereotypes: Evidence from Immigrants in Schools 

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## A Appendix tables and figures

Figure A.1: Teacher-assigned grades in the online experiment vs. original grades


Notes: This graph shows the correlation between teacher-assigned grades in the online experiment and the original grades of the exams assigned by the teachers who prepared the answers in the online experiment.

Figure A.2: Correlation between Bias in Grading and IAT


Notes: This graph shows the correlation between Immigrant-Native IAT score of the teacher and the bias in grading. In the left graph shows the IAT score of the teacher and naive estimate of bias in grading: the coefficient of the correlation is 0.08 ( p -value: 0.163 ). The right graph shows the IAT score of the teacher and the Bayesian estimate of bias in grading: the coefficient of the correlation is 0.34 ( p -value: 0.025 ). The description on how the measure is constructed is available in Appendix C.

Figure A.3: Distribution of grades


Notes: These graphs show the distribution of teacher-assigned grades (Panel A) and standardized test scores INVALSI (Panel B) in math and literature across native (blue line) and immigrant (red line) students. Students in this sample completed grade 8 between school years 2011-2012 and 2015-2016.

Figure A.4: Teacher-assigned grades vs. blindly graded, standardized test scores by subject


Notes: This graph shows teacher-assigned grades (non-blindly graded) on the vertical axis and quintiles of the standardized test score INVALSI (blindly graded) on the horizontal axis at the end of grade 8. Teacherassigned grades are on a scale of 3 to 10 , with 6 as the pass grade. The green squares and lines are for native students, while the red circles and lines are for immigrant students. Students in this sample completed grade 8 between school years 2011-2012 and 2015-2016.

Figure A.5: Field experiment: The impact of revealing stereotypes to teachers on grading


Notes: This graph shows the distribution of grades given to native and immigrant children by teachers eligible (light blue bars) and non-eligible (white bars) for receiving feedback about their own IAT scores before end-of-semester grading.

Figure A.6: Permutation test
Kernel density estimate

kernel $=$ epanechnikov, bandwidth $=0.0271$
Notes: This figure plots the distribution of the interaction term's coefficient "IAT Feedback*Immigrant" derived from a permutation test that runs the regression in Table ?? 1,000 times, randomly assigning the treatment variable "IAT Feedback" to teachers, considering school-level clusters. The red line represents the observed coefficient from the main regression in column 1 of Table ??. In 6 out of 1,000 cases we find a coefficient higher than the one observed in Table ??. To perform the permutation test and plot the graph, we used the Stata package ritest (?), which allows us to specify permutation structures generated by clustered treatment assignments.

Table A.1: Country of birth of immigrant students from most represented nationalities (school year 2016-2017)

| Place of Birth | Number of Students | Share among Immigrant Students |
| :--- | :---: | :---: |
| Romania | 158,428 | $19.2 \%$ |
| Albania | 112,171 | $13.6 \%$ |
| Morocco | 102,121 | $12.4 \%$ |
| China | 49,514 | $6.0 \%$ |
| Philippines | 26,962 | $3.3 \%$ |
| India | 25,851 | $3.1 \%$ |
| Moldavia | 25,308 | $3.1 \%$ |
| Ukraine | 19,956 | $2.4 \%$ |
| Pakistan | 19,934 | $2.4 \%$ |
| Egypt | 19,925 | $2.4 \%$ |
| Tunisia | 18,613 | $2.3 \%$ |
| Peru | 18,018 | $2.2 \%$ |
| Ecuador | 16,153 | $2.0 \%$ |
| Macedonia | 15,193 | $1.8 \%$ |
| Nigeria | 14,853 | $1.8 \%$ |

Source: Italian Ministry of Education. This table reports the total number of students by country of birth for the 15 most represented nationalities and their share among all immigrant students in the school year 2016-17.

Table A.2: Balance between schools in field experiment and out of the sample

|  | (1) | (2) | (3) | (4) | (5) |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | All students in Italy | Students in 5 provinces in Northern Italy |  | $\begin{aligned} & \text { p-value } \\ & \text { (3)-(2) } \end{aligned}$ | Std. Diff.(3)-(2) |
|  |  | Not in sample | Exp. sample |  |  |
| Female | 0.494 | 0.493 | 0.496 | 0.616 | 0.004 |
|  | (0.500) | (0.500) | (0.500) |  |  |
| Immigrant | 0.098 | 0.141 | 0.177 | 0.000 | 0.070 |
|  | (0.297) | (0.348) | (0.382) |  |  |
| Immigrant (1st Gen) | 0.051 | 0.075 | 0.066 | 0.011 | -0.025 |
|  | (0.220) | (0.263) | (0.248) |  |  |
| Immigrant (2nd Gen) | 0.047 | 0.066 | 0.112 | 0.000 | 0.115 |
|  | (0.212) | (0.249) | (0.315) |  |  |
| Test score grade 8 | 56.622 | 56.487 | 55.213 | 0.000 | -0.045 |
|  | (19.046) | (19.081) | (20.534) |  |  |
| Mother: Less than Diploma | 0.364 | 0.290 | 0.265 | 0.000 | -0.039 |
|  | (0.481) | (0.454) | (0.441) |  |  |
| Mother: Diploma | 0.493 | 0.534 | 0.515 | 0.008 | -0.027 |
|  | (0.500) | (0.499) | (0.500) |  |  |
| Mother: More than Diploma | 0.143 | 0.176 | 0.220 | 0.000 | 0.078 |
|  | (0.350) | (0.381) | (0.414) |  |  |
| Father: Less than Diploma | 0.429 | 0.360 | 0.330 | 0.000 | -0.045 |
|  | (0.495) | (0.480) | (0.470) |  |  |
| Father: Diploma | 0.443 | 0.477 | 0.474 | 0.665 | -0.004 |
|  | (0.497) | (0.499) | (0.499) |  |  |
| Father: More than Diploma | 0.128 | 0.162 | 0.196 | 0.000 | 0.063 |
|  | (0.334) | (0.369) | (0.397) |  |  |
| Mother: Low Occupation | 0.565 | 0.463 | 0.460 | 0.657 | -0.004 |
|  | (0.496) | (0.499) | (0.498) |  |  |
| Mother: Intermediate Occupation | 0.329 | 0.399 | 0.401 | 0.813 | 0.003 |
|  | (0.470) | (0.490) | (0.490) |  |  |
| Mother: High Occupation | 0.107 | 0.138 | 0.139 | 0.759 | 0.002 |
|  | (0.309) | (0.345) | (0.346) |  |  |
| Father: Low Occupation | 0.369 | 0.336 | 0.351 | 0.021 | 0.022 |
|  | (0.482) | (0.472) | (0.477) |  |  |
| Father: Intermediate Occupation | 0.410 | 0.412 | 0.411 | 0.882 | -0.001 |
|  | (0.492) | (0.492) | (0.492) |  |  |
| Father: High Occupation | 0.222 | 0.252 | 0.237 | 0.019 | -0.025 |
|  | (0.415) | (0.434) | (0.425) |  |  |
| Class size | 22.089 | 22.489 | 22.193 | 0.000 | -0.072 |
|  | (3.816) | (3.115) | (2.681) |  |  |
| Observations | 3,134,894 | 453,088 | 6,042 |  |  |

The table shows the mean of the characteristics of all students in Italy (column 1) of students in schools from the five provinces of Milan, Turin, Genoa, and Padua, which were not included in the experiment (column 2) and schools included in the experiment (column 3). Column 4 shows the $p$-value of the mean difference and column 5 the normalized difference. In the experimental sample (column 3), the anonymized code for eight students do not match with the anonymized codes in the publicly available dataset. Hence, the number of observations in column 3 is 6,042 instead of 6,050. "Immigrant-Native IAT" is the d-score of the Implicit Association Test.

Table A.3: Balance table: Teacher characteristics (field experiment)

|  | (1) <br> Full sample | (2) <br> Not in the Sample | (3) <br> Final Sample | (4) p -value | (5) <br> Std. Diff. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Immigrant-Native IAT | $\begin{gathered} 0.469 \\ (0.262) \end{gathered}$ | $\begin{gathered} 0.450 \\ (0.264) \end{gathered}$ | $\begin{gathered} 0.477 \\ (0.261) \end{gathered}$ | 0.202 | 0.073 |
| Female | $\begin{gathered} 0.858 \\ (0.349) \end{gathered}$ | $\begin{gathered} 0.838 \\ (0.369) \end{gathered}$ | $\begin{gathered} 0.867 \\ (0.340) \end{gathered}$ | 0.384 | 0.058 |
| Teaching Math | $\begin{gathered} 0.484 \\ (0.500) \end{gathered}$ | $\begin{gathered} 0.459 \\ (0.499) \end{gathered}$ | $\begin{gathered} 0.494 \\ (0.500) \end{gathered}$ | 0.154 | 0.050 |
| Born in the North | $\begin{gathered} 0.646 \\ (0.479) \end{gathered}$ | $\begin{gathered} 0.599 \\ (0.491) \end{gathered}$ | $\begin{gathered} 0.665 \\ (0.473) \end{gathered}$ | 0.150 | 0.097 |
| Age | $\begin{gathered} 47.233 \\ (13.033) \end{gathered}$ | $\begin{gathered} 46.698 \\ (13.569) \end{gathered}$ | $\begin{gathered} 47.455 \\ (12.809) \end{gathered}$ | 0.610 | 0.041 |
| Full time contract | $\begin{gathered} 0.832 \\ (0.374) \end{gathered}$ | $\begin{gathered} 0.847 \\ (0.361) \end{gathered}$ | $\begin{gathered} 0.826 \\ (0.380) \end{gathered}$ | 0.531 | -0.040 |
| Experience/10 years | $\begin{gathered} 1.942 \\ (1.182) \end{gathered}$ | $\begin{gathered} 1.911 \\ (1.164) \end{gathered}$ | $\begin{gathered} 1.955 \\ (1.191) \end{gathered}$ | 0.702 | 0.026 |
| Children | $\begin{gathered} 0.681 \\ (0.466) \end{gathered}$ | $\begin{gathered} 0.631 \\ (0.484) \end{gathered}$ | $\begin{gathered} 0.702 \\ (0.458) \end{gathered}$ | 0.116 | 0.107 |
| Low edu Mother | $\begin{gathered} 0.462 \\ (0.499) \end{gathered}$ | $\begin{gathered} 0.495 \\ (0.501) \end{gathered}$ | $\begin{gathered} 0.448 \\ (0.498) \end{gathered}$ | 0.267 | -0.067 |
| Middle edu Mother | $\begin{gathered} 0.307 \\ (0.462) \end{gathered}$ | $\begin{gathered} 0.320 \\ (0.467) \end{gathered}$ | $\begin{gathered} 0.301 \\ (0.459) \end{gathered}$ | 0.657 | -0.029 |
| High edu Mother | $\begin{gathered} 0.135 \\ (0.342) \end{gathered}$ | $\begin{gathered} 0.099 \\ (0.299) \end{gathered}$ | $\begin{gathered} 0.150 \\ (0.357) \end{gathered}$ | 0.074 | 0.110 |
| Degree Laude | $\begin{gathered} 0.230 \\ (0.421) \end{gathered}$ | $\begin{gathered} 0.198 \\ (0.400) \end{gathered}$ | $\begin{gathered} 0.243 \\ (0.430) \end{gathered}$ | 0.132 | 0.077 |
| WVS Immigrants' Rights to Job | $\begin{gathered} 0.585 \\ (0.493) \end{gathered}$ | $\begin{gathered} 0.563 \\ (0.497) \end{gathered}$ | $\begin{gathered} 0.594 \\ (0.492) \end{gathered}$ | 0.477 | 0.044 |
| Reason Gap: Prejudice | $\begin{gathered} 0.221 \\ (0.415) \end{gathered}$ | $\begin{gathered} 0.203 \\ (0.403) \end{gathered}$ | $\begin{gathered} 0.228 \\ (0.420) \end{gathered}$ | 0.418 | 0.043 |
| Reason Gap: Economic | $\begin{gathered} 0.640 \\ (0.480) \end{gathered}$ | $\begin{gathered} 0.595 \\ (0.492) \end{gathered}$ | $\begin{gathered} 0.659 \\ (0.474) \end{gathered}$ | 0.042 | 0.094 |
| Reason Gap: Behavior | $\begin{gathered} 0.192 \\ (0.394) \end{gathered}$ | $\begin{gathered} 0.171 \\ (0.378) \end{gathered}$ | $\begin{gathered} 0.200 \\ (0.401) \end{gathered}$ | 0.293 | 0.053 |
| Reason Gap: Ability | $\begin{gathered} 0.201 \\ (0.401) \end{gathered}$ | $\begin{gathered} 0.234 \\ (0.424) \end{gathered}$ | $\begin{gathered} 0.187 \\ (0.390) \end{gathered}$ | 0.152 | -0.082 |
| Reason Gap: Language | $\begin{gathered} 0.493 \\ (0.500) \end{gathered}$ | $\begin{gathered} 0.523 \\ (0.501) \end{gathered}$ | $\begin{gathered} 0.481 \\ (0.500) \end{gathered}$ | 0.312 | -0.059 |
| Reason Gap: Information | $\begin{gathered} 0.238 \\ (0.426) \end{gathered}$ | $\begin{gathered} 0.221 \\ (0.416) \end{gathered}$ | $\begin{gathered} 0.245 \\ (0.431) \end{gathered}$ | 0.508 | 0.040 |
| Observations | 756 | $222$ | 534 |  |  |

Notes: The table shows the mean of the characteristics of the full sample of teachers for the field experiment (column 1 ), teachers not in the final sample (column 2), and teachers who are in the final sample of the experiment, i.e., the sample of teachers in schools that participated in the field experiment and taught 9th graders in 2017-18 (column 3 ). Standard deviations are in parentheses in columns 1,2 , and 3 , and the $p$-value of the difference is in column 4. Standard errors are clustered at the school level. "Immigrant-Native IAT" is the d-score of the Implicit Association Test. "WVS Immigrants' Rights to Job" equals 1 for teachers believing that immigrants should have the same right to jobs as natives. "Reason Gap" represents a list of potential reasons for the immigrant-native gap in high-school track choice.

Table A.4: Balance table: Students' characteristics (field experiment)

|  | (1) | $(2)$ <br> Not in the Sample | $(3)$ <br> Final Sample | $(4)$ <br> p-value | $(5)$ <br> Std. Diff. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Female sample | 0.491 | 0.480 | 0.495 | 0.214 | 0.021 |
|  | $(0.500)$ | $(0.500)$ | $(0.500)$ |  |  |
| Immigrant | 0.206 | 0.255 | 0.184 | 0.002 | -0.122 |
|  | $(0.404)$ | $(0.436)$ | $(0.388)$ |  |  |
| High education Mother | 0.176 | 0.139 | 0.192 | 0.130 | 0.101 |
|  | $(0.381)$ | $(0.346)$ | $(0.394)$ |  |  |
| High-wage occupation Mother | 0.115 | 0.103 | 0.120 | 0.563 | 0.038 |
|  | $(0.319)$ | $(0.304)$ | $(0.325)$ |  |  |
| Medium-wage occupation Mother | 0.331 | 0.290 | 0.348 | 0.017 | 0.088 |
|  | $(0.470)$ | $(0.454)$ | $(0.476)$ |  |  |
| High education Father | 0.156 | 0.131 | 0.166 | 0.313 | 0.070 |
|  | $(0.363)$ | $(0.338)$ | $(0.372)$ |  |  |
| High-wage occupation Father | 0.193 | 0.178 | 0.199 | 0.608 | 0.038 |
|  | $(0.395)$ | $(0.383)$ | $(0.400)$ |  |  |
| High-wage occupation Father | 0.338 | 0.310 | 0.351 | 0.084 | 0.062 |
|  | $(0.473)$ | $(0.463)$ | $(0.477)$ |  |  |
| Grade Math June '16, | 7.182 | 7.225 | 7.163 | 0.242 | -0.034 |
|  | $(1.259)$ | $(1.307)$ | $(1.238)$ |  |  |
| Grade Ita June '16 | 7.131 | 7.139 | 7.127 | 0.799 | -0.008 |
|  | $(1.054)$ | $(1.068)$ | $(1.049)$ |  |  |
| Observations | 8472 | 2,630 | 6,050 |  |  |

Notes: The table shows the mean of the characteristics of the full sample of students for the field experiment (column 1), students not in the final sample (column 2), and students who are in the final sample of the experiment, i.e., students in schools that participated in the field experiment and were in the 9th grade in 2017-18 (column 3). Standard deviations are in parentheses in columns 1,2 , and 3 , and the $p$-value of the difference is in column 4 . Standard errors are clustered at the school level.

Table A.5: Correlation between teacher characteristics and willingness to receive feedback
Dependent variable: Dummy for whether the teacher wants to receive the feedback

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Immigrant-Native IAT | $\begin{gathered} 0.004 \\ (0.032) \end{gathered}$ |  |  |  |  | $\begin{gathered} 0.000 \\ (0.033) \end{gathered}$ | $\begin{gathered} 0.031 \\ (0.032) \end{gathered}$ |
| Teaching Math |  | $\begin{gathered} 0.026 \\ (0.022) \end{gathered}$ |  |  |  | $\begin{gathered} 0.021 \\ (0.022) \end{gathered}$ | $\begin{gathered} 0.029 \\ (0.023) \end{gathered}$ |
| Female |  |  | $\begin{gathered} 0.003 \\ (0.031) \end{gathered}$ |  |  | $\begin{gathered} 0.004 \\ (0.031) \end{gathered}$ | $\begin{gathered} 0.020 \\ (0.028) \end{gathered}$ |
| WVS Immigrants' Rights to Job |  |  |  | $\begin{aligned} & -0.036 \\ & (0.029) \end{aligned}$ |  | $\begin{aligned} & -0.034 \\ & (0.030) \end{aligned}$ | $\begin{aligned} & -0.002 \\ & (0.029) \end{aligned}$ |
| Time Survey: slow |  |  |  |  | $\begin{gathered} 0.053 \\ (0.031) \end{gathered}$ | $\begin{gathered} 0.053 \\ (0.031) \end{gathered}$ | $\begin{gathered} 0.014 \\ (0.032) \end{gathered}$ |
| Time Survey: fast |  |  |  |  | $\begin{aligned} & -0.017 \\ & (0.053) \end{aligned}$ | $\begin{aligned} & -0.015 \\ & (0.054) \end{aligned}$ | $\begin{gathered} 0.004 \\ (0.047) \end{gathered}$ |
| Time Survey: missing |  |  |  |  | $\begin{aligned} & -0.096 \\ & (0.046) \end{aligned}$ | $\begin{aligned} & -0.093 \\ & (0.046) \end{aligned}$ | $\begin{gathered} -0.032 \\ (0.050) \end{gathered}$ |
| FE school | No | No | No | No | No | No | Yes |
| Mean dependent variable | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Obs. | 1384 | 1384 | 1384 | 1384 | 1384 | 1384 | 1384 |
| $R^{2}$ | 0.000 | 0.001 | 0.000 | 0.001 | 0.004 | 0.006 | 0.247 |

Notes: The table shows the correlations between whether the teacher decided to receive the feedback on their own IAT score and teacher characteristics. Robust standard errors clustered at the school level are in parentheses. All columns include dummy variables for missing characteristics (if any). "Immigrant-Native IAT" is the d-score of the Implicit Association Test. "Time Survey: Fast" equals 1 for teachers who took fewer than 11 minutes to complete the survey. "Time Survey: Slow" equals 1 for teachers who took more than 20 minutes to complete the survey. The average completion time is around 15.5 minutes. "Time Survey: Missing" indicates that a teacher did not complete the survey with the tablet and only did the IAT. "WVS Immigrants' Rights to Job" equals 1 for teachers believing that immigrants should have the same right to jobs as natives.

Table A.6: Correlation between teacher characteristics and IAT

| Dependent Variable.: IAT score (stereotypes against immigrants) in Field Experiment |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) |
| Children | $\begin{aligned} & -0.006 \\ & (0.014) \end{aligned}$ |  |  | $\begin{gathered} 0.004 \\ (0.016) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.017) \end{gathered}$ |
| Middle edu Mother |  | $\begin{gathered} 0.027 \\ (0.017) \end{gathered}$ |  | $\begin{gathered} 0.027 \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.030 \\ (0.019) \end{gathered}$ |
| High edu Mother |  | $\begin{aligned} & -0.022 \\ & (0.021) \end{aligned}$ |  | $\begin{aligned} & -0.025 \\ & (0.022) \end{aligned}$ | $\begin{aligned} & -0.032 \\ & (0.023) \end{aligned}$ |
| Reason Gap: Economic |  |  | $\begin{aligned} & -0.008 \\ & (0.015) \end{aligned}$ | $\begin{aligned} & -0.000 \\ & (0.016) \end{aligned}$ | $\begin{gathered} 0.003 \\ (0.017) \end{gathered}$ |
| Reason Gap: Behavior |  |  | $\begin{aligned} & -0.002 \\ & (0.018) \end{aligned}$ | $\begin{aligned} & -0.003 \\ & (0.019) \end{aligned}$ | $\begin{aligned} & -0.006 \\ & (0.020) \end{aligned}$ |
| Reason Gap: Ability |  |  | $\begin{gathered} 0.023 \\ (0.020) \end{gathered}$ | $\begin{gathered} 0.019 \\ (0.020) \end{gathered}$ | $\begin{gathered} 0.035 \\ (0.022) \end{gathered}$ |
| Reason Gap: Language |  |  | $\begin{gathered} 0.017 \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.022 \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.014 \\ (0.017) \end{gathered}$ |
| Reason Gap: Information |  |  | $\begin{aligned} & -0.009 \\ & (0.016) \end{aligned}$ | $\begin{aligned} & -0.009 \\ & (0.017) \end{aligned}$ | $\begin{gathered} -0.013 \\ (0.018) \end{gathered}$ |
| Reason Gap: Prejudice |  |  | $\begin{gathered} 0.032 \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.033 \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.031 \\ (0.020) \end{gathered}$ |
| Experience/10 years |  |  |  | $\begin{gathered} 0.000 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.007) \end{gathered}$ |
| Female |  |  |  | $\begin{aligned} & -0.040 \\ & (0.020) \end{aligned}$ | $\begin{aligned} & -0.045 \\ & (0.021) \end{aligned}$ |
| Born in the North |  |  |  | $\begin{aligned} & -0.024 \\ & (0.015) \end{aligned}$ | $\begin{aligned} & -0.020 \\ & (0.016) \end{aligned}$ |
| WVS Immigrants' Rights to Job |  |  |  | $\begin{aligned} & -0.054 \\ & (0.016) \end{aligned}$ | $\begin{aligned} & -0.047 \\ & (0.019) \end{aligned}$ |
| IAT order controls | Yes | Yes | Yes | Yes | Yes |
| Obs. | 1384 | 1384 | 1384 | 1384 | 1384 |
| $R^{2}$ | 0.060 | 0.065 | 0.065 | 0.085 | 0.152 |

Notes: This table reports OLS estimates, where the dependent variable is the Immigrant-Native IAT score of teachers and the unit of observation is teacher $t$ in school $s$. We include controls for the order of IATs and for whether the blocks were presented in an order-compatible or order-incompatible way (which was randomized at the individual level). The variable "WVS Immigrants' Rights to Job" equals 1 for teachers believing that immigrants should have the same right to jobs as natives.

Table A.7: Balance table: Student characteristics (field experiment)

|  | (1) <br> Full sample | (2) <br> Control | (3) <br> Treated | (4) <br> p -value | (5) <br> Norm. Diff. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Female | $\begin{gathered} 0.495 \\ (0.500) \end{gathered}$ | $\begin{gathered} 0.502 \\ (0.500) \end{gathered}$ | $\begin{gathered} 0.490 \\ (0.500) \end{gathered}$ | 0.408 | -0.017 |
| Immigrant | $\begin{gathered} 0.184 \\ (0.388) \end{gathered}$ | $\begin{gathered} 0.174 \\ (0.379) \end{gathered}$ | $\begin{gathered} 0.193 \\ (0.395) \end{gathered}$ | 0.497 | 0.035 |
| First Gen Imm | $\begin{gathered} 0.084 \\ (0.277) \end{gathered}$ | $\begin{gathered} 0.079 \\ (0.270) \end{gathered}$ | $\begin{gathered} 0.088 \\ (0.283) \end{gathered}$ | 0.568 | 0.023 |
| Grade Ita June '16 | $\begin{gathered} 7.127 \\ (1.049) \end{gathered}$ | $\begin{gathered} 7.141 \\ (1.052) \end{gathered}$ | $\begin{gathered} 7.116 \\ (1.046) \end{gathered}$ | 0.724 | -0.017 |
| Grade Math June '16 | $\begin{gathered} 7.163 \\ (1.238) \end{gathered}$ | $\begin{gathered} 7.198 \\ (1.248) \end{gathered}$ | $\begin{gathered} 7.134 \\ (1.228) \end{gathered}$ | 0.393 | -0.037 |
| Grade Ita June '15 | $\begin{gathered} 7.203 \\ (1.053) \end{gathered}$ | $\begin{gathered} 7.231 \\ (1.052) \end{gathered}$ | $\begin{gathered} 7.180 \\ (1.054) \end{gathered}$ | 0.427 | -0.034 |
| Grade Math June '15 | $\begin{gathered} 7.337 \\ (1.287) \end{gathered}$ | $\begin{gathered} 7.369 \\ (1.287) \end{gathered}$ | $\begin{gathered} 7.309 \\ (1.287) \end{gathered}$ | 0.380 | -0.033 |
| Low education mother | $\begin{gathered} 0.231 \\ (0.422) \end{gathered}$ | $\begin{gathered} 0.205 \\ (0.404) \end{gathered}$ | $\begin{gathered} 0.254 \\ (0.435) \end{gathered}$ | 0.207 | 0.083 |
| High education mother | $\begin{gathered} 0.192 \\ (0.394) \end{gathered}$ | $\begin{gathered} 0.166 \\ (0.372) \end{gathered}$ | $\begin{gathered} 0.213 \\ (0.410) \end{gathered}$ | 0.271 | 0.085 |
| Mother Low-skill | $\begin{gathered} 0.160 \\ (0.366) \end{gathered}$ | $\begin{gathered} 0.143 \\ (0.350) \end{gathered}$ | $\begin{gathered} 0.174 \\ (0.379) \end{gathered}$ | 0.161 | 0.060 |
| Mother Mid-Skill | $\begin{gathered} 0.348 \\ (0.476) \end{gathered}$ | $\begin{gathered} 0.342 \\ (0.475) \end{gathered}$ | $\begin{gathered} 0.353 \\ (0.478) \end{gathered}$ | 0.754 | 0.016 |
| Mother High-skill | $\begin{gathered} 0.120 \\ (0.325) \end{gathered}$ | $\begin{gathered} 0.100 \\ (0.300) \end{gathered}$ | $\begin{gathered} 0.137 \\ (0.344) \end{gathered}$ | 0.257 | 0.081 |
| Low education father | $\begin{gathered} 0.281 \\ (0.449) \end{gathered}$ | $\begin{gathered} 0.255 \\ (0.436) \end{gathered}$ | $\begin{gathered} 0.302 \\ (0.459) \end{gathered}$ | 0.288 | 0.074 |
| High education father | $\begin{gathered} 0.166 \\ (0.372) \end{gathered}$ | $\begin{gathered} 0.152 \\ (0.360) \end{gathered}$ | $\begin{gathered} 0.178 \\ (0.383) \end{gathered}$ | 0.556 | 0.049 |
| Low Occupation Father | $\begin{gathered} 0.258 \\ (0.438) \end{gathered}$ | $\begin{gathered} 0.244 \\ (0.429) \end{gathered}$ | $\begin{gathered} 0.271 \\ (0.444) \end{gathered}$ | 0.467 | 0.044 |
| Medium Occupation Father | $\begin{gathered} 0.351 \\ (0.477) \end{gathered}$ | $\begin{gathered} 0.341 \\ (0.474) \end{gathered}$ | $\begin{gathered} 0.359 \\ (0.480) \end{gathered}$ | 0.615 | 0.027 |
| High Occupation Father | $\begin{gathered} 0.199 \\ (0.400) \end{gathered}$ | $\begin{gathered} 0.178 \\ (0.383) \end{gathered}$ | $\begin{gathered} 0.217 \\ (0.412) \end{gathered}$ | 0.442 | 0.069 |
| Observations | 6050 | 2,775 | 3,275 |  |  |

Notes: The table shows the mean of the characteristics of the full sample of students for the field experiment (column 1 ), students in the control group (column 2), and students in the treatment group (column 3). Standard deviations are in parentheses in columns 1,2 , and 3 , and the $p$-value of the difference is in column 4 . The last column reports the normalized difference between group averages. If both the math and literature teacher participate in the experiment, there is only one student-level observation used for this table. Standard errors are clustered at the school level.

Table A.8: Bias in grading and teachers' IAT scores

| Outcome: First Difference, Std Grade-Std Test Score |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All |  |  | High Ability |  |  | Low Ability |  |  |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Immigrant | $\begin{aligned} & -0.079 \\ & (0.010) \end{aligned}$ | $\begin{aligned} & -0.050 \\ & (0.023) \end{aligned}$ | $\begin{gathered} 0.405 \\ (0.402) \end{gathered}$ | $\begin{aligned} & -0.154 \\ & (0.017) \end{aligned}$ | $\begin{aligned} & -0.100 \\ & (0.036) \end{aligned}$ | $\begin{gathered} 1.395 \\ (0.644) \end{gathered}$ | $\begin{aligned} & -0.048 \\ & (0.011) \end{aligned}$ | $\begin{aligned} & -0.035 \\ & (0.025) \end{aligned}$ | $\begin{gathered} 0.493 \\ (0.498) \end{gathered}$ |
| IAT* Immigrant |  | $\begin{aligned} & -0.063 \\ & (0.043) \end{aligned}$ | $\begin{aligned} & -0.054 \\ & (0.043) \end{aligned}$ |  | $\begin{aligned} & -0.116 \\ & (0.068) \end{aligned}$ | $\begin{gathered} -0.119 \\ (0.067) \end{gathered}$ |  | $\begin{aligned} & -0.026 \\ & (0.051) \end{aligned}$ | $\begin{aligned} & -0.026 \\ & (0.049) \end{aligned}$ |
| Obs. | 42302 | 42302 | 42302 | 25415 | 25415 | 25415 | 16867 | 16867 | 16867 |
| $R^{2}$ | 0.357 | 0.357 | 0.391 | 0.213 | 0.213 | 0.264 | 0.447 | 0.447 | 0.473 |
| Teacher FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| INVALSI cubic | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Student Controls | No | No | Yes | No | No | Yes | No | No | Yes |
| Student Controls*Imm | No | No | Yes | No | No | Yes | No | No | Yes |
| Teacher Controls*Imm | No | No | Yes | No | No | Yes | No | No | Yes |

Notes: This table reports OLS estimates, where the dependent variable is the standardized difference between teacherassigned grades and test scores (INVALSI). The unit of observation is student $i$ taught by teacher $t$ in school $s$. "Immigrant" indicates whether the student is not Italian citizen. "IAT" indicated the Immigrant-Native IAT (d-score). Student controls include gender, generation of immigration, mother education, and province. Columns 1-3 provides the estimates for the full sample, 4-6 for high-ability students, and 7-9 for low-ability students, with a sample split based on the standardized test score INVALSI. Teacher controls include gender, place of birth, age, and age squared. Students in this sample completed grade 8 between school years 2011-2012 and 2015-2016. Standard errors are robust and clustered at the teacher level.

Table A.9: Estimation of the impact of revealing stereotypes to teachers on student grades

| Dependent Variable: Teacher-Assigned Grade (Transformed) |  |  |  |
| :--- | :---: | :---: | :---: |
|  | $(1)$ | $(2)$ | $(3)$ |
| IAT Feedback*Immigrant | 0.226 | 0.236 | 0.232 |
|  | $(0.069)$ | $(0.059)$ | $(0.060)$ |
| Immigrant | -0.629 | -0.640 | -0.177 |
|  | $(0.040)$ | $(0.088)$ | $(0.631)$ |
| IAT Feedback | -0.112 | -0.126 | -0.118 |
|  | $(0.057)$ | $(0.051)$ | $(0.053)$ |
| Student Controls | No | Yes | Yes |
| Teacher Controls | No | No | Yes |
| Obs. | 10279 | 10279 | 10279 |
| $R^{2}$ | 0.053 | 0.151 | 0.155 |

Notes: This table reports OLS estimates for teacher-assigned grades, transformed to map the grades for the end of the first semester to the grades of the end of the second semester. Robust standard errors clustered at the school level are in parentheses. "Immigrant" is a dummy variable that assumes value 1 if the student is from an immigrant background. "IAT Feedback" is a dummy variable indicating whether the teacher was eligible for receiving the feedback before end-of-semester grading (January) or after end-of-semester grading (February). Student controls (also interacted with immigrant controls) include gender, generation of immigration, year birth, mother education, and province. Teacher controls (also interacted with immigrant controls) include gender, born north, age, and age squared.

Table A.10: Estimation of the impact of revealing stereotypes to teachers on student grades in the field experiment

| Dependent Variable: Teacher Assigned Grades |  |  |  |
| :--- | :---: | :---: | :---: |
|  | $(1)$ | $(2)$ | $(3)$ |
|  | 0.367 | -0.051 | 0.289 |
| IAT Feedback*Immigrant | $(0.096)$ | $(0.158)$ | $(0.096)$ |
| Immigrant | 0.294 | 0.178 | 0.247 |
|  | $(0.940)$ | $(0.880)$ | $(0.964)$ |
| IAT Feedback | -0.153 | -0.061 | -0.122 |
|  | $(0.079)$ | $(0.098)$ | $(0.084)$ |
| IAT Feedback*WVS*Immigrant |  | 0.581 |  |
|  |  | $(0.177)$ |  |
| IAT Feedback*WVS |  | -0.155 |  |
|  |  | $(0.086)$ |  |
| IAT Feedback*Reason Gap Prejudice*Immigrant |  |  | 0.325 |
|  |  |  | $(0.179)$ |
| IAT Feedback*Reason Gap Prejudice |  |  | -0.116 |
|  |  |  | $(0.099)$ |
| Obs. | 10279 | 10279 | 10279 |
| $R^{2}$ | 0.131 | 0.133 | 0.134 |
| Mean Control Natives | 6.57 | 6.57 | 6.57 |
| Mean Control Immigrants | 5.86 | 5.86 | 5.86 |
| Student Controls | Yes | Yes | Yes |
| Student Controls*Imm | Yes | Yes | Yes |
| Teacher Controls | Yes | Yes | Yes |
| Teacher Controls*Imm | Yes | Yes |  |

Notes: This table reports OLS estimates, where the dependent variable is the grade at the end of the first semester of grade 8 (January). The unit of observation is student $i$ in class $c$ taught by teacher $t$ in grade 8 of school $s$. Standard errors are robust and clustered at the school level. "Immigrant" is a dummy variable that assumes value 1 if the student is from an immigrant background. "IAT Feedback" is a dummy variable indicating whether the teacher was eligible for receiving the feedback before end-of-semester grading (January) or after end-of-semester grading (February). "WVS" equals 1 for teachers who agree with the statement that "immigrants and natives should have equal opportunities to access available jobs. "Reason Gap Prejudice" equals 1 for teachers who agree that prejudice is one of the factors explaning the differences in high-school track choice of natives and immigrants. Student controls include gender, generation of immigration, and education of the mother, all interacted with whether the student is an immigrant. Teacher controls include gender, place of birth, age, and age squared, interacted with whether the student is an immigrant.

Table A.11: Beliefs Updating in the Online Experiment

| Dep. Var: Teacher-Assigned Grade |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) |
| IAT Feedback | $\begin{gathered} 0.005 \\ (0.173) \end{gathered}$ | $\begin{aligned} & -0.044 \\ & (0.166) \end{aligned}$ | $\begin{aligned} & -0.073 \\ & (0.166) \end{aligned}$ | $\begin{aligned} & -0.018 \\ & (0.178) \end{aligned}$ |
| Immigrant | $\begin{gathered} 0.420 \\ (0.141) \end{gathered}$ | $\begin{gathered} 0.352 \\ (0.144) \end{gathered}$ | $\begin{gathered} 0.389 \\ (0.149) \end{gathered}$ | $\begin{gathered} 0.426 \\ (0.159) \end{gathered}$ |
| IAT Feedback $\times$ Immigrant | $\begin{aligned} & -0.580 \\ & (0.196) \end{aligned}$ | $\begin{aligned} & -0.458 \\ & (0.188) \end{aligned}$ | $\begin{aligned} & -0.471 \\ & (0.185) \end{aligned}$ | $\begin{aligned} & -0.546 \\ & (0.202) \end{aligned}$ |
| IAT Score | $\begin{aligned} & -0.068 \\ & (0.130) \end{aligned}$ |  | $\begin{aligned} & -0.332 \\ & (0.207) \end{aligned}$ | $\begin{aligned} & -0.232 \\ & (0.236) \end{aligned}$ |
| IAT Feedback $\times$ IAT Score | $\begin{aligned} & -0.329 \\ & (0.171) \end{aligned}$ |  |  | $\begin{aligned} & -0.261 \\ & (0.465) \end{aligned}$ |
| Immigrant $\times$ IAT Score | $\begin{aligned} & -0.426 \\ & (0.157) \end{aligned}$ |  | $\begin{aligned} & -0.137 \\ & (0.287) \end{aligned}$ | $\begin{aligned} & -0.272 \\ & (0.414) \end{aligned}$ |
| IAT Feedback $\times$ Immigrant $\times$ IAT Score | $\begin{gathered} 0.849 \\ (0.241) \end{gathered}$ |  |  | $\begin{gathered} 0.350 \\ (0.559) \end{gathered}$ |
| (IAT-Expected IAT) |  | $\begin{gathered} -0.034 \\ (0.123) \end{gathered}$ | $\begin{gathered} 0.201 \\ (0.206) \end{gathered}$ | $\begin{gathered} 0.132 \\ (0.229) \end{gathered}$ |
| IAT Feedback $\times($ IAT-Expected IAT) |  | $\begin{aligned} & -0.270 \\ & (0.161) \end{aligned}$ | $\begin{aligned} & -0.243 \\ & (0.160) \end{aligned}$ | $\begin{aligned} & -0.043 \\ & (0.420) \end{aligned}$ |
| Immigrant $\times$ (IAT-Expected IAT) |  | $\begin{aligned} & -0.356 \\ & (0.156) \end{aligned}$ | $\begin{aligned} & -0.261 \\ & (0.280) \end{aligned}$ | $\begin{aligned} & -0.167 \\ & (0.361) \end{aligned}$ |
| IAT Feedback $\times$ Immigrant $\times($ IAT-Expected IAT) |  | $\begin{gathered} 0.738 \\ (0.226) \end{gathered}$ | $\begin{gathered} 0.753 \\ (0.223) \end{gathered}$ | $\begin{gathered} 0.486 \\ (0.514) \end{gathered}$ |
| Constant | $\begin{gathered} 5.851 \\ (0.324) \end{gathered}$ | $\begin{gathered} 5.814 \\ (0.303) \end{gathered}$ | $\begin{gathered} 5.979 \\ (0.325) \end{gathered}$ | $\begin{gathered} 5.954 \\ (0.325) \end{gathered}$ |
| Control Mean | 7.134 | 7.134 | 7.134 | 7.134 |
| Obs. $R^{2}$ | $1460$ | $1460$ | $1460$ | $1460$ |
|  | 0.450 | 0.453 | 0.455 | 0.455 |
| Subject, Order, Original Grade FE | Yes | Yes | Yes | Yes |
| Student Controls | Yes | Yes | Yes | Yes |
| Teacher Controls | Yes | Yes | Yes | Yes |

Notes: This table reports OLS estimates, where the dependent variable is the grade assigned by teachers in the online experiment. The unit of observation is student $i$ by teacher $t$. Standard errors are robust and clustered at the school level (the unit of randomization). "Immigrant" is a dummy variable that assumes value 1 if the student is from an immigrant background. "IAT Feedback" is a dummy variable indicating whether the teacher was eligible for receiving the IAT feedback versus the active control message. "IAT Score" is a continuous variable indicating the standard dscore of the IAT test (more details available on Apendix B.1). "IAT-Expected IAT" is a continuous variable calculated as the difference between IAT score and the expected scpre. The expected score is the average of the score in each IAT category. For the "expected severely biased category" we imputed the average IAT score of the teachers with $I A T>0.6$. Student controls include gender and class. Teacher controls include gender, place of birth, and a dummy for whether the teacher completed the IAT before the first reminder.

## B Online Appendix

## B. 1 Description of the IAT

The IAT that we developed for this study associates immigrant/native names with positive/negative adjectives in the specific schooling context. As usual in the IATs, it presents two sets of stimuli. The first set includes typical Italian names (e.g., Francesca or Luca) and common names among immigrant children in Italy (e.g., Fatima or Mohamed), respectively. The second set consists of positive adjectives (e.g., smart) and negative ones (e.g., lazy).

One word at a time (either a name or an adjective) appeared at the center of the screen, and individuals were instructed to categorize it to the left or to the right according to different labels displayed on the top of the screen. For instance, the right label might have said "Immigrant," and the left one might have said "Italian." Names and adjectives randomly appeared at the center of the screen, and subjects were asked to categorize the words as quickly as possible. In one type of round, subjects were asked to categorize native-sounding names and negative adjectives to the same side of the screen, whereas in another, they were asked to categorize immigrant-sounding names and negative adjectives to the same side. The order of the two types of rounds was randomly selected at the individual level. Each teacher in our survey completed two immigrant-native IATs, one using male names and one using female names, and the order of the IAT with male and female names was randomized at individual level.

The IAT comprises seven blocks. Half of the teachers randomly selected at the individual level and completed the IAT in the order as presented in Table B. 1 ("order-compatible" task first), while the other half completed the IAT with the blocks in the following order: $1,5,6,7,2,3$, and 4 ("order-incompatible" task first). Figure B. 1 presents a sample screenshot of the latter task, while all the words presented to teachers are shown in the box below (with the original in Italian in parentheses). On average, there is a small difference in the IAT score between individuals who performed the order-compatible task first versus the order-incompatible task first. Hence, in all regressions where there are no teacher fixed effects, we control for whether the first task was order compatible.

The blocks used to calculate the IAT score are blocks $3,4,6$, and 7 . The number of words that need to be categorized is 20 in blocks 3 and 6 and 40 in blocks 4 and 7, as in the standard IAT with 7 blocks. The scoring procedure follows the guidelines of the improved scoring algorithm defined by?.

| Table B.1: | Schematic overview of the immigrant IAT |  |
| :---: | :---: | :---: |
| Blocks | Left Categories | Right Categories |
| $\mathbf{1}$ | Italian | Immigrant |
| $\mathbf{2}$ | Good | Bad |
| $\mathbf{3}$ | Italian | Immigrant |
|  | Good | Bad |
| $\mathbf{4}$ | Italian | Immigrant |
|  | Good | Bad |
| $\mathbf{5}$ | Bad | Good |
| $\mathbf{6}$ | Italian | Immigrant |
|  | Bad | Good |
| $\mathbf{7}$ | Italian | Immigrant |
|  | Bad | Goood |

Figure B.1: Example of the screenshot of the tablet in the "order-incompatible" task


## - IAT with male names of immigrants and natives

1. Immigrant (Immigrato): Youssef, Mohamed, Gheorghe, Alejandro, Li Yi, Pascual
2. Italian (Italiano): Marco, Simone, Daniele, Francesco, Lorenzo, Mattia
3. Good (Bravo): Prepared (Preparato), Intelligent (Intelligente), Capable (Capace), Studious (Studioso), Able (Abile), Precise (Attento), Willing (Volenteroso), Respectful (Rispettoso)
4. Bad (Impreparato): Disrespectful (Irrispettoso), Slow (Tardo), Incapable (Incapace), Boisterous (Irrequieto), Lazy (Pigro), Distracted (Distratto), Demotivated (Demotivato), Insufficient (Scarso)

- IAT with female names of immigrants and natives

1. Immigrant (Immigrata): Fatima, Naila, Adina, Iryna, Jiaxin, Beatriz
2. Italian (Italiana): Valentina, Sara, Giorgia, Francesca, Elisa, Alice
3. Good (Brava): Prepared (Preparata), Intelligent (Intelligente), Capable (Capace), Studious (Studiosa), Able (Abile), Precise (Attenta), Willing (Volenterosa), Respectful (Rispettosa)
4. Bad (Impreparata): Disrespectful (Irrispettosa), Slow (Tarda), Incapable (Incapace), Boisterous (Irrequieta), Lazy (Pigra), Distracted (Distratta), Demotivated (Demotivata), Insufficient (Scarsa)

- Online experiment: IAT immigrant-native (both male and female names)

1. Immigrant (Immigrato): Fatima, Mohamed, Adina, Alejandro, Jiaxin, Pascual
2. Italian (Italiano): Valentina, Simone, Giorgia, Francesco, Elisa, Mattia
3. Good (Bravo): Prepared (Preparato), Intelligent (Intelligente), Capable (Capace), Studious (Studioso), Able (Abile), Precise (Attento), Willing (Volenteroso), Respectful (Rispettoso)
4. Bad (Impreparato): Disrespectful (Irrispettoso), Slow (Tardo), Incapable (Incapace), Boisterous (Irrequieto), Lazy (Pigro), Distracted (Distratto), Demotivated (Demotivato), Insufficient (Scarso)

## B. 2 Teacher questionnaire

## B.2.1 Field experiment

1) Immigrant children, with the same grades of natives, are more likely to choose a vocational track. According to your experience, how much do you think these factors affect the choice of immigrants? Answers on a scale of 1 to 5.
1. Economic reasons
2. Bad behavior at school
3. Insufficient abilities for more demanding schools
4. Knowledge of the language
5. No information about educational and occupational careers
6. Perception of prejudices in school or at work
2) Do you agree or disagree with the following statements? When jobs are scarce, employers should give priority to Italian people over immigrants. Possible answers: Agree, Neither agree nor disagree, Disagree, Don't know

## B.2.2 Online experiment: Baseline

## SECTION 0: Introduction

Note: The survey is sent as a unique link to the contact information on teachers. We do not need to ask the school name.

Dear Teacher,
Thank you so much for agreeing to participate in this research study. We ask you to complete this first survey by (DATE1). It will take less than 15 minutes. Later, we will ask you to help us grade some questions in the subject you teach between (DATE2) and (DATE3). This will take no longer than 45 minutes. To thank you for your time, you will receive an Amazon gift card of 40 euros after you complete both parts of the research study.
Thank you in advance for your collaboration.
Best regards,
Michela Carlana, Eliana La Ferrara, and Paolo Pinotti
0.0 Consent form to teachers
0.1 GDPR

| 0.2 | You are: |  |
| :--- | :--- | :--- |
| $\mathbf{0 . 3}$ | Where were you born? Male |  |
|  |  | Female |

### 0.4 How many years have you been teaching? Dropdown menu from 0 to 40, "More than 40 years"

Table B. 2 - Continued on next page

Table B. 2 - Continued from previous page

| 0.5 | In which subject have you obtained a university degree? | - I did not obtain a university degree <br> - Math <br> - Biology/natural sciences <br> - Physics/chemistry/ astronomy <br> - Languages <br> - Literature <br> - Psychology <br> - Engineering <br> - Education <br> - Philosophy <br> - History <br> - Geography/geology <br> - Other degree: |
| :---: | :---: | :---: |

Table B. 2 - Continued on next page

Table B. 2 - Continued from previous page

| 0.6 | Do you have special responsibilities within the school? | - Vice principal <br> - Math area chair <br> - Literature area chair <br> - English area chair <br> - Math games <br> - Responsible for career counseling |
| :---: | :---: | :---: |
| 0.7 In which classes have you taught during the school year 2020-21? Add list of classes$(1 \mathrm{~A}, 2 \mathrm{~A})$ |  |  |
| SECTION 1: IAT (immigrant-native, bad-good IAT) |  |  |
| SECTION 2: Self-perception: Now we would like to ask you some questions about your general opinions and about your perceptions of the task you just performed. |  |  |
| 0.4 How many years have you been teaching? Dropdown menu from 0 to 40, "More than 40 years" |  |  |
| 2.1 | When jobs are scarce, employers should give priority to people of this country over immigrants. | - Strongly agree <br> - Agree <br> - Disagree <br> - Strongly disagree |

Table B. 2 - Continued on next page

Table B. 2 - Continued from previous page

| 2.2 | There are innate difference in the math skills of men and women. |  | - Strongly agree <br> - Agree <br> - Disagree <br> - Strongly disagree |
| :---: | :---: | :---: | :---: |
|  | ng names of immigrants with good ves with bad) has been | Sorting names of immigrants with bad (and natives with good) has been |  |
| - A lot easier • Moderately easier • Slightly easier • The same • Slightly easier • Moderately easier • A lot easier |  |  |  |
| 2.4 Sorting names of females with scientific subjects (and males with humanistic subjects) has been |  | Sorting names of females with humanistic (and males with scientific) has been |  |
| - A lot easier • Moderately easier • Slightly easier $\bullet$ The same • Slightly easier • Moderately easier $\bullet$ A lot easier |  |  |  |
| SECTION 3: Grading questions |  |  |  |

Table B. 2 - Continued on next page

Table B. 2 - Continued from previous page

| 3.1 | Immigrant students are more likely to choose a vocational track in high school compared to natives even when they do equally well in middle school. Based on your experience, how much can these factors influence the choice of immigrants? <br> 1. Economic reasons <br> 2. Problems related to behavior at school <br> 3. Ability not sufficient for more difficult high schools <br> 4. Knowledge of Italian language <br> 5. Absence of information on education or occupation opportunities <br> 6. Perception of prejudices in school/work | - Very much <br> - Much <br> - Sufficiently <br> - A bit <br> - Not at all |
| :---: | :---: | :---: |
| 3.2 | When you grade your students at the end of the semester, how much weight do you assign to the following aspects? (Choose the weights to sum to 100 . There are no right or wrong answers; it depends on your teaching style.) <br> 1. Grades in written exams in class $\qquad$ <br> 2. Grades in oral exams in class $\qquad$ <br> 3. Attention and behavior in class $\qquad$ <br> 4. Diligence in doing the homework $\qquad$ |  |
| Thank you very much for your participation! |  |  |

## B.2.3 Online experiment: Endline

## SECTION 0: Introduction

Note: The survey is sent as a unique link to the contact information for teachers.
Dear Teacher,
Thank you so much for agreeing to participate in this research study. We will ask you to help us grading some questions in the subject you teach. Please complete the task by February 28. To thank you for your time, after the grading, you will receive an Amazon gift card of 40 euros.
Thank you in advance for your collaboration.
Best regards,
Michela Carlana, Eliana La Ferrara, and Paolo Pinotti
SECTION 1. Each teacher will see the answer on one question from 10 students (4 with immigrant names, 6 with native names).
They will need to grade each question on a scale from 3 to 10 (as usual in the Italian schooling system).

SECTION 2: Explicit bias questions
Table B. 3 - Continued on next page

Table B. 3 - Continued from previous page

| 2.1 | Immigrant students are more likely to choose a vocational track in high school compared to natives even when they do equally well in middle school. Based on your experience, how much can these factors influence the choice of immigrants? <br> 1. Economic reasons <br> 2. Problems related to behavior at school <br> 3. Ability not sufficient for more difficult high schools <br> 4. Knowledge of Italian language <br> 5. Absence of information on education or occupation opportunities <br> 6. Perception of prejudices in school/work | - Very much <br> - Much <br> - Sufficiently <br> - A bit <br> - Not at all |
| :---: | :---: | :---: |
| 2.2 | When jobs are scarce, employers should prioritize people from their own country over immigrants. | - Totally agree <br> - Agree <br> - Disagree <br> - Totally disagree |

## B. 3 Email with the feedback

## B.3.1 Field experiment

The exact wording of the email with the feedback about one's own implicit bias is reported in this appendix translated in English. Instead of the XXX, teachers saw the precise score (e.g., 0.25). We followed the standard categorization of IAT scores (?): no association if the score is between -0.15 and 0.15 , slight association for values between $|0.15|$ and $|0.35|$, moderate association between $|0.35|$ and $|0.60|$, and strong association for scores higher than $|0.60|$.

## Subject: Result of the Implicit Association Test - Research Project of Bocconi University

Dear teacher,

As per your request, we are writing you to let you know your result of the Implicit Association Test that you completed during the questionnaire administered by Bocconi University and related to the research titled "The role of teachers in high school track choice." You did this test using a tablet in the school building where you work. The Implicit Association Test was administered to teachers in middle school to measure and increase the awareness of potential unconscious preferences or associations.

Implicit Association Test: this test investigates the automatic associations between immigrant and Italian names with positive associations (e.g., good) and negative associations (e.g., bad). You completed this test separately with male and female names.
Your immigrant-native Implicit Association Test score using male names of natives and immigrants is XXX, which suggests a (slight/moderate/strong) association between positive attributes and Italian/immigrant names, and between negative attributes and immigrant/Italian names (or no automatic associations between positive attributes and Italian or immigrant names).
Your immigrant-native Implicit Association Test score using female names of natives and immigrants is XXX, which suggests a (slight/moderate/strong) association between positive attributes and Italian/immigrant names, and between negative attributes and immigrant/Italian names (or no automatic associations between positive attributes and Italian or immigrant names).

We want to underscore that this test reveals implicit attitudes and not behaviors. Our attitudes may derive from the cultural and social context where we live, and it is not obvious that explicit and implicit behaviors coincide. All of your responses will be held in confidence: only the researchers involved in this study will have access to the information you provide. Your responses will not be shared with other people. Data collected will be published in aggregate form, and it will not be possible to link them with the teacher or the school. We hope that you found this test useful. Thank you for the time you dedicated to our research.

The Research Team

## B.3.2 Online experiment

TREATMENT 1: Active control group
Subject: Research Project of Bocconi and Harvard University

Dear teacher,

A few weeks ago, you completed an online questionnaire administered by researchers at Bocconi and Harvard University. We are writing you to confirm that we received the first part of the questionnaire to share some additional information.

An enormous body of literature confirms that we all have biases-some explicit, many implicit. However, it is important to avoid our implicit biases or stereotypes related to a specific group from systematically influencing our behavior toward students, thus influencing a child's self-image or burdening him/her with low expectations that will make the child feel lacking or inadequate. Acknowledging and understanding our biases and those of our colleagues can help minimize the influence they have on our daily interaction with students, including our encouragements and disciplinary procedures, teachers' track recommendations, and grades.

Thank you for the time you dedicated to our research. In about a month we will send you the last part of the questionnaire. To thank you for your time, you will receive a 40 euro Amazon gift card after completing the last part of the research study as well.

Many thanks,
The Research Team

## TREATMENT 2: Reveal own bias treatment

## Subject: Research Project of Bocconi and Harvard University

Dear teacher,
A few weeks ago, you completed an online questionnaire administered by researchers at Bocconi and Harvard University. We are writing you to confirm that we received the first part of the questionnaire and to share some additional information.
The survey included an Implicit Association Test, a tool used in social psychology to measure and increase the awareness of potential preferences or unconscious associations.
We are reporting below the result of the Implicit Association Test that you completed.
This test was aimed at investigating the automatic associations between immigrant and Italian names with positive associations (e.g., good) and negative associations (e.g., bad).
Your immigrant-native Implicit Association Test score using names of Italians and immigrants is XXX, which suggests a (slight/moderate/strong) automatic association between positive attributes and Italian/immigrant and negative attributes and immigrant/Italian (or no automatic associations between positive attributes and Italian or immigrant).
We want to iterate that this test reveals implicit attitudes and not behaviors. Our attitudes may derive from the cultural and social context where we live, and it is not obvious that explicit and implicit attitudes coincide. We remind you that all of your responses will be held in confidence: only the researchers involved in this study will have access to the information you provide. Your responses will not be shared with other people. Data collected will be published in aggregate form, and it will not be possible to link them with the teacher or the school. We hope that you found this test to be useful.

An enormous body of literature confirms that we all have biases-some explicit, many implicit. However, it is important to avoid our implicit biases or stereotypes related to a specific group from systematically influencing our behavior toward students, thus influencing a child's self-image or burdening him with low expectations that will make the child feel lacking or inadequate. Acknowledging and understanding our biases and those of our colleagues can help minimize the influence they have on our daily interaction with students, including our encouragements and disciplinary procedures, teachers' track recommendations, and grades.

Thank you for the time you dedicated to our research. In about a month we will send you the last part of the questionnaire. To thank you for your time, you will receive a 40 euro Amazon gift card after completing the last part of the research study as well.

## B. 4 Examples of grading task in math, Italian, and English

Figure B.2: Grading task in math

```
Una fabbrica di cioccolato produce cioccolatini a forma di piramide con le seguenti dimensioni:
base quadrata di lato \(2,7 \mathrm{~cm}\); altezza di 3 cm ;
peso specifico di \(0,48 \mathrm{~g} / \mathrm{cm} 3\).
Ogni kilogrammo di cioccolato, quanti cioccolatini produrrà?
```

Risposta 3
Nome:
Classe:

## Dati

$1=2,7 \mathrm{~cm}$
$\mathrm{h}=3 \mathrm{~cm}$
$\mathrm{P}_{\mathrm{s}}=0,48 \mathrm{~g} / \mathrm{cm}^{3}$

Richiesta
numero di cioccolatini


Svolgimento
Calcolo il volume della piramide
$V=\frac{A_{b} \times h}{3}=\frac{3 \times 3 \times 2,7}{3} \mathrm{~cm}^{3}=8,1 \mathrm{~cm}^{3}$
Calcolo il peso della piramide :
$\mathrm{P}=\mathrm{P}_{\mathrm{s}} \times \mathrm{V}=0,48 \times 8,1=3,888 \mathrm{~g}=4 \mathrm{~g}$
$1 \mathrm{~kg}=1000 \mathrm{~g}$
Calcolo il numero dei cioccolatini:
$1000: 4=250$

Risposta
Si possono produrre 250 cioccolatini

Figure B.3: Grading task in Italian

## Scrivi in un testo di una quindicina di righe un episodio della tua infanzia che ti sembra avere un significato particolarmente importante e spiega il motivo della tua scelta. Il destinatario è un adulto con cui hai rapporti familiari.

## Risposta 4: <br> Nome: <br> Classe:

Questo episodio della mia infanzia credo sia importante in quanto quando è avvenuto aveva come unico scopo il divertimento, ma credo che in realtà abbia trovato il modo di contribuire ai comportamenti che assumo crescendo, insegnandomi alcune cose che solo ora saprei di aver imparato quel giorno.
Era un weekend estivo ed io e la mia famiglia ci eravamo incontrati con il nostro solito gruppo per goderci la giornata soleggiata. Eravamo sei bambine, di tre diverse fascie di età, io e le mie sorelle e le nostre amiche, anche loro tre sorelle, come noi. Nel pomeriggio ci stavamo annoiando e non sapevamo cosa fare. Eravamo circondate da un bosco conosciuto dalla nascita e così ci venne un'idea; avremmo usato il pomeriggio per un'escursione. Entusiaste della pensata, ci preparammo, e decidemmo di legarci in vita una funicella, per rendere l'avventura più realistica. Fatto ciò, ci incamminammo lungo il sentiero, che presto però abbandonammo, camminando tra gli alberi in fila indiana, una dopo l'altra. Una tra le cose bella fu che in alcuni pezzi ci aiutammo a vicenda in base a quello che riuscivamo a fare, chi più, chi meno. Di per sé non fu molto faticoso, ma si sa, i bambini tendono ad accrescere tutte le emozioni.

Figure B.4: Grading task in English

## Write a short text of about 100-150 words that describes one or more past days using past simple, affirmative or negative form, regular and irregular verbs.

## Risposta 1

Nome:
Classe:

My classmates and I went to a chocolate factory last year. It was a 2-hour ride, so we all fell asleep on the bus. In the factory, we made chocolate. First, we poured the coconut milk in a bowl. The coconut milk was without taste, so we chose the flavour we liked. For example, I liked strawberry, so I poured strawberry milk into the bowl. After that, we put the mixed milk into a special freezer, which can freeze the milk into chocolate in three minutes. Magic! Finally, we used the models to make different shapes of the chocolate. Luckily, we could eat the scrumps. It was so much fun. I can't wait to go there again!

## C Bayesian estimate of bias in grading

To avoid estimation error arising from sample variation, we calculated empirical Bayes estimates of teacher bias. ${ }^{1}$ This method has been suggested by ? and is followed by several studies to estimate teacher value added (??) and teacher bias (?). We follow the method of ? to make sure that less reliable estimates are shrunk to the mean:

1. First, we calculate the teachers' bias in grading by subtracting the standardized score in the blind test to the standardized grade assigned by the teacher.
2. Second, for each teacher, we measure the bias toward immigrant students in a regression by regressing a dummy equal to 1 if the student is an immigrant student on the bias in teachers' previous grades for that student. We then save the coefficient and standard error for each teacher.
3. Third, we calculate the mean error variance (MEV) by taking the mean of the squared standard errors (noise) and storing the variance of the observed bias (variance of the regression coefficient).
4. We then obtain the true variance by subtracting from the variance of the observed bias the mean error variance (MEV).
5. The reliability ratio is then calculated by dividing the true variance by the total variance (true variance plus noise).
6. Finally, we obtain the empirical Bayes estimator by multiplying the coefficient of the bias by the reliability ratio.
[^0]
## D Additional Results using Gender Specific IAT

Table D.1: Bias in grading and teachers' IAT scores

| Panel A- Outcome: Teacher Grade |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All |  |  | High Ability |  |  | Low Ability |  |  |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Immigrant | $\begin{aligned} & -0.097 \\ & (0.012) \end{aligned}$ | $\begin{aligned} & \hline-0.072 \\ & (0.022) \end{aligned}$ | $\begin{gathered} 0.497 \\ (0.479) \end{gathered}$ | $\begin{aligned} & -0.179 \\ & (0.020) \end{aligned}$ | $\begin{aligned} & \hline-0.127 \\ & (0.036) \end{aligned}$ | $\begin{gathered} 1.559 \\ (0.773) \end{gathered}$ | $\begin{aligned} & -0.056 \\ & (0.013) \end{aligned}$ | $\begin{aligned} & -0.049 \\ & (0.022) \end{aligned}$ | $\begin{gathered} 0.568 \\ (0.583) \end{gathered}$ |
| IAT Gender Specific * Immigrant |  | $\begin{gathered} -0.052 \\ (0.037) \end{gathered}$ | $\begin{gathered} -0.038 \\ (0.035) \end{gathered}$ |  | $\begin{gathered} -0.113 \\ (0.065) \end{gathered}$ | $\begin{gathered} -0.098 \\ (0.059) \end{gathered}$ |  | $\begin{aligned} & -0.014 \\ & (0.040) \end{aligned}$ | $\begin{aligned} & -0.007 \\ & (0.038) \end{aligned}$ |
| Obs. | 42302 | 42302 | 42302 | 25415 | 25415 | 25415 | 16867 | 16867 | 16867 |
| $R^{2}$ | 0.481 | 0.481 | 0.509 | 0.403 | 0.403 | 0.442 | 0.222 | 0.222 | 0.258 |
| Teacher FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| INVALSI cubic | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Student Controls | No | No | Yes | No | No | Yes | No | No | Yes |
| Student Controls*Imm | No | No | Yes | No | No | Yes | No | No | Yes |
| Teacher Controls*Imm | No | No | Yes | No | No | Yes | No | No | Yes |

Panel B- Outcome: First Difference, Std Grade-Std Test Score

|  | All |  |  | High Ability |  |  | Low Ability |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Immigrant | $\begin{aligned} & -0.079 \\ & (0.010) \end{aligned}$ | $\begin{gathered} -0.058 \\ (0.018) \end{gathered}$ | $\begin{gathered} \hline 0.373 \\ (0.401) \end{gathered}$ | $\begin{aligned} & -0.154 \\ & (0.017) \end{aligned}$ | $\begin{gathered} \hline-0.109 \\ (0.030) \end{gathered}$ | $\begin{gathered} \hline 1.333 \\ (0.645) \end{gathered}$ | $\begin{gathered} -0.048 \\ (0.011) \end{gathered}$ | $\begin{aligned} & -0.042 \\ & (0.019) \end{aligned}$ | $\begin{gathered} 0.468 \\ (0.491) \end{gathered}$ |
| IAT Gender Specific * Immigrant |  | $\begin{aligned} & -0.045 \\ & (0.032) \end{aligned}$ | $\begin{gathered} -0.032 \\ (0.030) \end{gathered}$ |  | $\begin{aligned} & -0.096 \\ & (0.055) \end{aligned}$ | $\begin{gathered} -0.083 \\ (0.050) \end{gathered}$ |  | $\begin{gathered} -0.012 \\ (0.034) \end{gathered}$ | $\begin{aligned} & -0.006 \\ & (0.032) \end{aligned}$ |
| Obs. | 42302 | 42302 | 42302 | 25415 | 25415 | 25415 | 16867 | 16867 | 16867 |
| $R^{2}$ | 0.357 | 0.357 | 0.391 | 0.213 | 0.213 | 0.264 | 0.447 | 0.447 | 0.473 |
| Teacher FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| INVALSI cubic | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Student Controls | No | No | Yes | No | No | Yes | No | No | Yes |
| Student Controls*Imm | No | No | Yes | No | No | Yes | No | No | Yes |
| Teacher Controls*Imm | No | No | Yes | No | No | Yes | No | No | Yes |

Notes: This table reports OLS estimates, where the dependent variable is the teacher-assigned grade in Panel A and the standardized difference between teacher-assigned grades and test scores (INVALSI) in Panel B. The unit of observation is student $i$ taught by teacher $t$ in school $s$. "IAT Gender Specific" is a continuous variable indicating the standard dscore of the IAT test, using the Native-Immigrant IAT with female names for female students and the Native-Immigrant IAT with male names for male students (more details available on Appendix B.1). Student controls include gender, generation of immigration, mother education, and province. Teacher controls include gender, place of birth, age, and age squared. Standard errors are clustered at the teacher level.

Table D.2: The impact of revealing stereotypes in the field and online experiment, by teacher IAT score

| Dependent Variable: Teacher-Assigned Grade |  |  |
| :--- | :---: | :---: |
|  | Field Experiment |  |
| $(1)$ | $(2)$ |  |
| Feedback $\times$ Immigrant | 0.367 | 0.242 |
|  | $(0.096)$ | $(0.141)$ |
| Immigrant | 0.294 | 0.486 |
|  | $(0.940)$ | $(0.941)$ |
| Feedback | -0.153 | -0.148 |
|  | $(0.079)$ | $(0.101)$ |
| Feedback $\times$ Immigrant $\times$ IAT Gender Specific |  | 0.268 |
|  |  | $(0.212)$ |
| IAT Gender Specific |  | 0.008 |
|  |  | $(0.085)$ |
| Immigrant $\times$ IAT Gender Specific |  | -0.086 |
|  |  | $(0.162)$ |
| Feedback $\times$ IAT Gender Specific |  | -0.011 |
|  |  | $(0.114)$ |
| Constant | 6.997 | 7.019 |
|  | $(0.759)$ | $(0.750)$ |
| Control Mean | 6.944 | 6.944 |
| Obs. | 10279 | 10230 |
| $R^{2}$ | 0.131 | 0.132 |
| Student Controls | Yes | Yes |
| Teacher Controls | Yes |  |

Notes: This table reports OLS estimates, where the dependent variable is the grade assigned by teachers in the field experiment. The unit of observation is student $i$ by teacher $t$. Standard errors are robust and clustered at the school level (the unit of randomization). "IAT Feedback" is a dummy variable indicating whether the teacher was eligible for receiving the IAT feedback versus the active control message. "IAT Gender Specific" is a continuous variable indicating the standard d-score of the IAT test, using the Native-Immigrant IAT with female names for female students and the Native-Immigrant IAT with male names for male students (more details available on Appendix B.1). Student controls include gender, generation of immigration, and education of the mother, all interacted with whether the student is an immigrant. Teacher controls include gender, place of birth, age, and age squared, interacted with whether the student is an immigrant.


[^0]:    ${ }^{1}$ We restrict the sample to teachers that have at least 3 immigrants students in their classes and overall at least 10 students in our dataset. We lose less than $1 \%$ of the observation due to this selection and the results are not substantially changed when we include them in the analysis.

