Ethnic diversity fosters the social integration of refugee students
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Appendix A: Complete set of MRQAP results

Supplementary Table 1 shows how the estimated probabilities of receiving friendship and rejection nominations vary between ethnic majority adolescents (the reference category), first-generation immigrant adolescents, second-generation immigrant adolescents, and refugee adolescents after controlling for the adolescents’ gender, age, academic achievement, language skills, and length of stay in Germany. The results stem from two MRQAPs, one having the probability of receiving friendship nominations as the dependent variable and one having the probability of receiving rejection nominations as the dependent variable. The statistical procedure is described in Appendix D. The results demonstrate that refugee students, in comparison to ethnic majority students, have a lower probability of being nominated as friends ($\beta = -0.067$, $p < 0.001$) and a higher probability of being rejected as desk mates ($\beta = 0.041$, $p < 0.001$).

Supplementary Table 1 also shows that gender, age, length of stay in Germany, and academic achievement predict the probability of being nominated as a friend, while language skills matter for the probability of being rejected as desk mates by classmates. These results confirm that the findings presented in Fig 1 in the main text are robust to controlling for possible confounders.

**Supplementary Table 1.** Probabilities of receiving friendship and desk-mate rejection nominations estimated from multivariate MRQAPs.

|                        | Friendship | Rejection |
|------------------------|------------|-----------|
|                        | Estimate   | p         | Estimate | p       |
| Intercept (refugee receiver) | 0.394   | 0.000     | 0.251    | 0.000   |
| 1st-gen immigrant receiver | -0.003 | 0.053     | 0.009    | 0.452   |
| 2nd-gen immigrant receiver | 0.053  | 0.000     | -0.043   | 0.000   |
| Native receiver         | 0.038     | 0.000     | -0.015   | 0.000   |
| Gender of receiver      | -0.002    | 0.014     | -0.027   | 0.000   |
| Age of receiver         | -0.055    | 0.000     | 0.062    | 0.000   |
| Length of stay of receiver | 0.008   | 0.000     | -0.002   | 0.000   |
| Language skills of receiver | 0.003  | 0.137     | -0.009   | 0.000   |
| Academic achievement of receiver | 0.013 | 0.000     | -0.019   | 0.000   |

N students = 6,390. N classrooms = 304.

Supplementary Table 2 presents the full results from the MRQAPs underlying the results displayed in Fig 3 in the main text.
### Supplementary Table 2. Complete results of MRQAP models used to create Fig 3.

| Friendship Rejection | Estimate | p    | Estimate | p    |
|----------------------|----------|------|----------|------|
| Intercept (native → native) | 0.442 | 0.008 | 0.286 | 0.265 |
| Diversity | 0.012 | 0.012 | -0.087 | 0.499 |
| Native → refugee | -0.164 <0.001 | 0.110 | <0.001 |
| × diversity | 0.086 | 0.045 | -0.058 | 0.006 |
| Native → 1st-gen immigrant | 0.008 | 0.355 | -0.006 | 0.046 |
| × diversity | -0.085 | 0.085 | 0.046 | 0.304 |
| Native → 2nd-gen immigrant | 0.042 | 0.009 | -0.028 | 0.341 |
| × diversity | -0.092 | 0.001 | 0.028 | 0.359 |
| 1st-gen immigrant → native | 0.097 | 0.011 | -0.137 | 0.001 |
| × diversity | -0.144 | 0.003 | 0.174 | 0.004 |
| 1st-gen immigrant → refugee | 0.077 | 0.228 | -0.223 | 0.016 |
| × diversity | 0.018 | 0.446 | 0.318 | 0.010 |
| 1st-gen immigrant → 1st-gen immigrant | 0.008 | 0.245 | -0.119 | 0.142 |
| × diversity | 0.044 | 0.357 | 0.203 | 0.015 |
| 1st-gen immigrant → 2nd-gen immigrant | 0.043 | 0.070 | -0.212 | 0.004 |
| × diversity | 0.021 | 0.235 | 0.253 | 0.006 |
| 2nd-gen immigrant → native | 0.027 | 0.068 | -0.095 | 0.301 |
| × diversity | -0.076 | 0.003 | 0.126 | 0.001 |
| 2nd-gen immigrant → refugee | -0.061 | 0.020 | 0.015 | 0.230 |
| × diversity | 0.010 | 0.199 | -0.003 | 0.414 |
| 2nd-gen immigrant → 2nd-gen immigrant | 0.101 | 0.119 | -0.045 | 0.247 |
| × diversity | -0.131 | 0.229 | 0.035 | 0.224 |
| Refugee → native | -0.096 <0.001 | -0.110 | <0.001 |
| × diversity | 0.032 | 0.414 | 0.076 | 0.031 |
| Refugee → 1st-gen immigrant | -0.006 | 0.495 | -0.125 | 0.186 |
| × diversity | 0.003 | 0.411 | 0.104 | 0.369 |
| Refugee → 2nd-gen immigrant | 0.220 | 0.007 | -0.101 | 0.045 |
| × diversity | -0.219 | 0.056 | 0.094 | 0.092 |
| Refugee → refugee | 0.096 | 0.001 | -0.226 | 0.004 |
| × diversity | -0.152 <0.001 | 0.277 | 0.023 |

| Same country of origin (excl. Germany) | 0.191 | 0.262 | 0.149 | 0.167 |
| Gender of receiver | 0.017 <0.001 | -0.032 <0.001 |
| Gender of sender | -0.010 <0.001 | 0.010 <0.001 |
| Same gender | 0.248 <0.001 | -0.061 <0.001 |
| Age of receiver | -0.003 | 0.069 | 0.041 | 0.001 |
| Age of sender | 0.002 | 0.173 | -0.027 | <0.001 |
| Age similarity | 0.064 <0.001 | -0.020 | 0.015 |
| Length of stay of receiver | -0.001 | 0.331 | 0.009 | <0.001 |
| Length of stay of sender | 0.000 | 0.419 | 0.003 | 0.319 |
| Similarity in length of stay | 0.009 <0.001 | -0.002 | 0.458 |
| Language skills of receiver | -0.006 <0.001 | -0.002 <0.001 |
| Language skills of sender | 0.002 | 0.215 | -0.010 | 0.001 |
| Similarity in language skills | 0.013 <0.001 | -0.003 <0.001 |
| Academic achievement of receiver | 0.005 | 0.113 | -0.008 | 0.010 |
| Academic achievement of sender | 0.014 <0.001 | -0.020 <0.001 |
| Similarity in academic achievement | 0.021 <0.001 | -0.010 <0.001 |

N students = 6,390. N classrooms = 304.
Appendix B: Information on the analyzed samples and robustness checks of Fig 1 and Fig 2 results across the samples

A sample of 39,154 students from 1,807 classrooms was used to create Fig 1. Descriptive statistics of the analyzed variables by immigrant status are provided in Supplementary Table 3. To create Fig 3, we kept only classrooms in the sample that were attended by at least one refugee student. This sample comprised 6,390 students from 304 classrooms, and descriptive statistics of the analyzed variables by immigrant status can be found in Supplementary Table 4. A replication of Fig 1 using this subsample is provided in Supplementary Figure 1.

To create Fig 2, we further restricted our sample to classrooms in which at least 15 students participated in the sociometric part of the questionnaire (i.e., the part in which the students were asked about friendships and desk-mate rejections). This procedure followed the aim of avoiding bias in our results due to nonparticipating peers who would also have nominated refugee students if they had participated. Such selection bias could be severe since, in Fig 2, we report absolute values regarding peer nominations instead of averages. Another reason for our decision was that the average valid class sizes varied across the different diversity levels, with high-diversity settings having the smallest valid class sizes. Given that the number of friendship and desk-mate rejection nominations in the different diversity settings is among the most important messages of Fig 2, we wanted to avoid bias in our results due to the differential participation rates across the different diversity levels. The resulting sample consisted of 5,328 students from 237 classrooms. Descriptive statistics of the analyzed variables by immigrant status are provided in Supplementary Table 5. A replication of Fig 2 using the less restrictive sample that was used to create Fig 3 is provided in Supplementary Figure 2.

In addition, we replicate the findings of Fig 2 by defining “low”, “medium”, and “high” settings based on the whole sample instead of based on the subsample that includes refugee students. This means that the “low” setting now includes those classrooms that are among the third of the classrooms with the lowest levels of diversity in the overall sample, the “high” setting includes classrooms that are among the highest-diversity third of the overall sample, and the ”medium” setting includes the rest of the classrooms. This replication is provided in Supplementary Figure 3 and shows substantively similar tendencies to Fig 2.

We also replicate Fig 2 by using the diversity cut-offs of 0.33 and 0.66 between low- and medium-diversity settings and medium- and high-diversity settings, respectively. These results are shown in Supplementary Figure 4 and demonstrate similar tendencies to the main results.

Finally, we replicate Fig 2 by defining diversity based on the immigrant proportion in the classroom. Here, we defined the three subsamples as the third of all classrooms showing the lowest (up to 26%), the medium (between 26% and 50%), and the highest third of the immigrant proportion in the analysis sample (more than 50%). The replication is provided in Supplementary Figure 5 and shows similar results to those presented in Fig 2.
**Supplementary Table 3.** Characteristics of analyzed sample.

|                          | Sample (N =39,154) | Ethnic majority (N = 25,659) | Refugee (N = 487) | First-generation immigrant (N = 1,771) | Second-generation immigrant (N = 8,514) | Missing cases |
|--------------------------|--------------------|-------------------------------|-------------------|----------------------------------------|----------------------------------------|---------------|
| **Student characteristics** |                    |                               |                   |                                        |                                        |               |
| Language skills          | 0.1                | 1.8                           | 0.4*              | -2.9                                   | -1.4*                                  | -0.3*         | 0             |
| Mathematics achievement  | 2.9                | 1.1                           | 3.0*              | 2.6                                    | 2.8                                    | 2.8*          | 0             |
| Age                      | 15.6               | 0.6                           | 15.5*             | 16.6                                   | 16.1*                                  | 15.5*         | 361           |
| Length of stay in Germany (in years) | --                | --                            | 2.8               | 8.3*                                   | --                                     | --            | 0             |
| **Classroom characteristics** |                  |                               |                   |                                        |                                        |               |
| Classroom diversity      | 0.5                | 0.2                           | 0.4*              | 0.7                                    | 0.7*                                   | 0.7           | 0             |
| Size                     | 24.9               | 3.9                           | 24.8*             | 23.2                                   | 24.2                                   | 25.3*         | 0             |
| **Network characteristics** |                  |                               |                   |                                        |                                        |               |
| Density (friendships)    | 0.4                | 0.1                           | 0.4*              | 0.3                                    | 0.4                                    | 0.4           | 0             |
| Density (rejections)     | 0.2                | 0.1                           | 0.2               | 0.2                                    | 0.2                                    | 0.2*          | 0             |
| Indegrees (friendships)  | 8.5                | 3.9                           | 8.8*              | 5.2                                    | 7.7*                                   | 8.7*          | 0             |
| Indegrees (rejections)   | 4.0                | 3.0                           | 4.1*              | 5.4                                    | 4.1*                                   | 3.8*          | 0             |

Student characteristics, classroom characteristics, and network characteristics of the sample used to create Fig 1. Stars indicate significant differences among the given immigrant-status group in comparison to the refugee group (p < 0.01). Results from two-tailed analysis of variance (ANOVA) models.
Supplementary Table 4. Characteristics of subsample.

|                          | Sample (N = 6,390) | Ethnic majority (N = 3,571) | Refugee (N = 487) | First-generation immigrant (N = 472) | Second-generation immigrant (N = 1,374) | Missing cases |
|--------------------------|--------------------|-----------------------------|-------------------|-------------------------------------|----------------------------------------|---------------|
| Student characteristics  | mean (SD)          | mean (SD)                   | mean (SD)         | mean (SD)                           | mean (SD)                              | N             |
| Language skills          | -0.9 (1.8)         | -0.3* (1.8)                 | -2.9 (0.6)        | -2.0* (0.6)                        | -1.0* (0.6)                            | 0             |
| Mathematics achievement  | 2.7 (1.1)          | 2.8* (1.2)                  | 2.6 (0.5)         | 2.7 (0.5)                           | 2.7 (0.5)                              | 0             |
| Age                      | 15.8 (0.8)         | 15.7* (0.8)                 | 16.6 (0.5)        | 16.3* (0.5)                        | 15.6* (0.5)                            | 29            |
| Length of stay in Germany (in years) | -- (--)            | 2.8 (0.8)                   | 7.1* (1.2)        | -- (--)                             | -- (--)                                | 0             |
| Female                   | 45.5               | 46.5*                       | 35.9              | 46.0*                               | 47.5*                                  | 0             |
| Classroom characteristics | mean (SD)          | mean (SD)                   | mean (SD)         | mean (SD)                           | mean (SD)                              | N             |
| Classroom diversity      | 0.6 (0.2)          | 0.5* (0.2)                  | 0.7 (0.1)         | 0.8* (0.1)                         | 0.8* (0.1)                             | 0             |
| Size                     | 24.5 (3.7)         | 24.8* (3.7)                 | 23.2 (1.1)        | 23.5 (1.1)                         | 24.5* (1.1)                            | 0             |
| Network characteristics  | mean (SD)          | mean (SD)                   | mean (SD)         | mean (SD)                           | mean (SD)                              | N             |
| Density (friendships)    | 0.3 (0.1)          | 0.3                         | 0.3 (0.1)         | 0.3 (0.1)                           | 0.3 (0.1)                              | 0             |
| Density (rejections)     | 0.2 (0.1)          | 0.2                         | 0.2 (0.1)         | 0.2 (0.1)                           | 0.2 (0.1)                              | 0             |
| Indegrees (friendships)  | 7.9 (3.8)          | 8.4* (3.8)                  | 5.2 (1.2)         | 7.0* (1.2)                         | 8.3* (1.2)                             | 0             |
| Indegrees (rejections)   | 4.2 (3.0)          | 4.2* (3.0)                  | 5.4 (1.4)         | 4.1* (1.4)                         | 3.7* (1.4)                             | 0             |

Student characteristics, classroom characteristics, and network characteristics of the subsample used to create Fig 3. Stars indicate significant differences among the given immigrant-status group in comparison to the refugee group (p < 0.01). Results from two-tailed analysis of variance (ANOVA) models.
### Supplementary Table 5. Characteristics of subsample.

|                          | Sample (N = 5,328) | Ethnic majority (N = 3,119) | Refugee (N = 360) | First-generation immigrant (N = 367) | Second-generation immigrant (N = 1,151) | Missing cases |
|--------------------------|--------------------|-----------------------------|-------------------|--------------------------------------|----------------------------------------|---------------|
| **Student characteristics** |                    |                             |                   |                                      |                                        |               |
| Language skills          | mean -0.8          | SD 1.8                      | mean -0.2*        | mean -2.9                            | mean -2.0*                             | mean -1.0*    | N 0          |
| Mathematics achievement  | mean 2.8           | SD 1.1                      | mean 2.8*         | mean 2.6                             | mean 2.7                               | mean 2.7      | N 0          |
| Age                      | mean 15.8          | SD 0.7                      | mean 15.7*        | mean 16.6                            | mean 16.3*                             | mean 15.6*    | N 17         |
| Length of stay in Germany (in years) | --                | --                          | 2.8               | 7.1*                                 | --                                     | N 0           |
| Female                   | mean 45.6          | SD 46.6*                    | mean 36.9         | mean 45.0*                           | mean 46.8*                             | N 42          |
| **Classroom characteristics** |                    |                             |                   |                                      |                                        |               |
| Classroom diversity      | mean 0.6           | SD 0.2                      | mean 0.5*         | mean 0.6                             | mean 0.7*                             | mean 0.8*     | N 0          |
| Size                     | mean 25.1          | SD 3.1                      | mean 25.3         | mean 24.6                            | mean 24.4                             | mean 25.1     | N 0          |
| **Network characteristics** |                    |                             |                   |                                      |                                        |               |
| Density (friendships)    | mean 0.4           | SD 0.1                      | mean 0.4          | mean 0.3                             | mean 0.3                              | mean 0.4      | N 0          |
| Density (rejections)     | mean 0.2           | SD 0.1                      | mean 0.2          | mean 0.2                             | mean 0.2                              | mean 0.2*     | N 0          |
| Indegrees (friendships)  | mean 8.5           | SD 3.8                      | mean 8.9*         | mean 5.6                             | mean 7.6*                             | mean 8.8*     | N 0          |
| Indegrees (rejections)   | mean 4.5           | SD 4.5*                     | mean 6.1          | mean 4.6*                            | mean 4.0*                             |               | N 0          |

Student characteristics, classroom characteristics, and network characteristics of the subsample used to create Fig 2. Stars indicate significant differences among the given immigrant-status group in comparison to the refugee group (p < 0.01). Results from two-tailed analysis of variance (ANOVA) models.
Supplementary Figure 1. Friendships and desk-mate rejections based on immigration status.

Replication of Fig 1 based on the subsample including only classrooms attended by at least one refugee student. Panel a shows the density plot for friendship and panel b for desk-mate rejection nominations toward refugee adolescents. N students = 6,390. N classrooms = 304.
Supplementary Figure 2. Typical friendship and desk-mate rejection ego networks of refugee students.

Replication of Fig 2 based on the larger subsample also used to create Fig 3. The bar plots show the rounded average number of friendship (panels a, b, c) and rejection (panels d, e, f) nominations of refugee students by immigrant status group. The network plots map the average number of nominations (e.g., the total number of friends). In addition, the network plots are a proportionate representation of the ethnic composition of nominations of refugee students (e.g., the number of native friends). Note that not every bar can be represented in the network plots by the value of the closest integer to its actual mean due to our primary goal to represent the total number of nominations accurately. This sample includes classrooms in which fewer than 15 students participated in the sociometric questionnaire that included questions about friendships and rejections. N students = 6,390. N classrooms = 304.
Supplementary Figure 3. Typical friendship and desk-mate rejection ego networks of refugee students.

Replication of Fig 2 based on ethnic diversity settings ("low", "medium", "high") calculated from the distribution of diversity in whole sample instead of the subsample that includes refugees. The bar plots show the rounded average number of friendship (panels a, b, c) and rejection (panels d, e, f) nominations of refugee students by immigrant status group. The network plots map the average number of nominations (e.g., the total number of friends). In addition, the network plots are a proportionate representation of the ethnic composition of nominations of refugee students (e.g., the number of native friends). Note that not every bar can be represented in the network plots by the value of the closest integer to its actual mean due to our primary goal to represent the total number of nominations accurately. This sample includes classrooms in which fewer than 15 students participated in the sociometric questionnaire that included questions about friendships and rejections. N students = 5,328. N classrooms = 237.
Supplementary Figure 4. Typical friendship and desk-mate rejection ego networks of refugee students.

Replication of Fig 2 based using diversity cut-offs 0.33 and 0.66 to create the three diversity categories ("low", "medium", "high"). The bar plots show the rounded average number of friendship (panels a, b, c) and rejection (panels d, e, f) nominations of refugee students by immigrant status group. The network plots map the average number of nominations (e.g., the total number of friends). In addition, the network plots are a proportionate representation of the ethnic composition of nominations of refugee students (e.g., the number of native friends). Note that not every bar can be represented in the network plots by the value of the closest integer to its actual mean due to our primary goal to represent the total number of nominations accurately. This sample includes classrooms in which fewer than 15 students participated in the sociometric questionnaire that included questions about friendships and rejections. N students = 5,328. N classrooms = 237.
Supplementary Figure 5. Typical friendship and desk-mate rejection ego networks of refugee students.

Replication of Fig 2 based using the proportion of immigrants to create the three diversity categories (“low”, “medium”, “high”). The bar plots show the rounded average number of friendship (panels a, b, c) and rejection (panels d, e, f) nominations of refugee students by immigrant status group. The network plots map the average number of nominations (e.g., the total number of friends). In addition, the network plots are a proportionate representation of the ethnic composition of nominations of refugee students (e.g., the number of native friends). Note that not every bar can be represented in the network plots by the value of the closest integer to its actual mean due to our primary goal to represent the total number of nominations accurately. This sample includes classrooms in which fewer than 15 students participated in the sociometric questionnaire that included questions about friendships and rejections. N students = 5,328. N classrooms = 237.
Appendix C: Excerpt from student questionnaire.

Supplementary Figure 6. Questionnaire items used to collect sociometric information.

Next, we are interested in who you spend your time with. First, please take the list with the names of your classmates, which was handed to you by the test coordinator, and put it next to this sheet. The arrows should fit together. Then, please check each classmate for whom the statement matches. If the question does not fit any classmate, do not check any box. No one else will know your answers.

| Who are you friends with? | Who would you not want to sit next to? | ⋯ | ⋯ |
|--------------------------|---------------------------------------|---|---|
|                          |                                       |   |   |
|                          |                                       |   |   |
|                          |                                       |   |   |
|                          |                                       |   |   |
|                          |                                       |   |   |
|                          |                                       |   |   |
|                          |                                       |   |   |

Translated from German.
Appendix D: Description of the Multiple Regression Quadratic Assignment Procedure

Mathematically, the Multiple Regression Quadratic Assignment Procedure (MRQAP) is defined in a similar way to linear regression models, but the data are arranged in matrices instead of vectors:

\[ y_{ij} = \beta_0 + \sum_{k=1}^{m} \beta_k(x_{ij}^k) + e_{ij}. \]

Here, \( y \) stands for the dependent matrix (that is, friendships or desk-mate rejections), with indexes \( i \) and \( j \) representing two students from this matrix. Furthermore, \( m \) shows the number of independent matrices \( x^k \) (that is, the number of independent variables). Parameter \( \beta_k \) stands for a coefficient, and \( e_{ij} \) is an error term. When \( x^k \) represents a friendship (rejection) network, \( x_{ij}^k \) indicates that \( i \) names \( j \) as a friend (i rejects j). The parameters of MRQAPs can be interpreted as similar to the parameters of a linear regression model because they are estimated with ordinary least squares (OLS) estimators. However, the statistical significance of the estimates is calculated using permutations to take into account dependencies between the observations (1). For this, the OLS regression results are compared to a large number of OLS regression results conducted from “random” data: data for which the dependent matrix \( y \) has been permuted. The proportion of “random” regression coefficients that are at least as large as our actual coefficient directly translates to a p-value for the given parameter. We used Y-permuted MRQAPs because they represent the most conservative method to obtain statistical inference among MRQAP models. We conducted 1,000 permutations. Cases with missing information on friendship and/or rejection nominations as well as on any of the predictor variables were excluded from the analyses. To be able to jointly analyze all classrooms in our sample, we performed multigroup QAPs. We used a multigroup MRQAP function an implemented in R by Elmer and Stadtfeld (2).
Appendix E: Robustness check of Fig 3 results

Supplementary Tables 6-10 display several models that serve us to investigate the robustness of our main results. Supplementary Table 6 presents the results from MRQAPs that mimic those presented in Supplementary Table 2 but additionally include classroom fixed effects. Supplementary Table 7 presents the results from MRQAPs that mimic those presented in Supplementary Table 2 but use the proportion of immigrants in a classroom as a measure of diversity instead of the dissimilarity index. Supplementary Table 8 presents the results from MRQAPs that mimic those presented in Supplementary Table 2 but use the proportion of immigrants in a classroom as a measure of diversity instead of the dissimilarity index and additionally consider that diversity differs across the German federal states. Supplementary Table 9 presents the results from MRQAPs in which, in addition to the variables presented in Table 2, we take it into account that students of any immigrant background but with higher socio-economic status (SES; expressed by the parents’ highest occupational status) may be more likely to name refugee students as friends and less likely to reject them as desk-mates. Finally, Supplementary Table 10 presents results which extend the Table 2 results by variables accounting for students attending different school tracks to be potentially more or less likely to be friends with or reject refugee students (independent of their own immigrant background).

The diversity-related tendency of nominating refugee students in the robustness models is substantively similar to those in the main model. We see differences from the main results (Supplementary Table 2) in statistical significance regarding two effects: 1) the interaction between native → refugee friendship nominations and diversity in the classroom-dummy model, the immigrant-proportion model, and the classroom-and-federal-state models (p classroom-dummy model = 0.084, p immigrant-proportion model = 0.105, p classroom-and-federal-state model = 0.174, p main model = 0.045; see Supplementary Tables 6, 7, 8, and 2, respectively) and 2) the interaction between refugee → refugee rejections and diversity in the same models (p classroom dummy model = 0.095, p immigrant proportion model = 0.100, p classroom and federal state model = 0.115, p main mode= 0.023). These differences may be due to decreased statistical power (especially in case of the refugee → refugee nominations, since only few classrooms had been attended by more than two refugees). It is important to note, however, that the signs of all of these parameters are the same as the ones in the main models. Therefore, we conclude that the differences in the p-values do not affect our substantive conclusions.
Supplementary Table 6. Results of classroom-fixed-effect MRQAP models.

| Friendship/Rejection | Estimate | p | Estimate | p |
|----------------------|----------|---|----------|---|
| Intercept (native → native) | 0.659 | <0.001 | 0.184 | 0.327 |
| 302 class dummies | yes | yes |
| Native → refugee | -0.161 | <0.001 | 0.124 | <0.001 |
| × diversity | 0.054 | 0.084 | -0.076 | 0.009 |
| Native → 1st-gen immigrant | 0.000 | 0.488 | 0.038 | 0.107 |
| × diversity | -0.078 | 0.075 | -0.021 | 0.330 |
| Native → 2nd-gen immigrant | 0.056 | 0.002 | 0.000 | 0.481 |
| × diversity | -0.108 | <0.001 | 0.000 | 0.468 |
| 1st-gen immigrant → native | 0.085 | 0.012 | -0.109 | <0.001 |
| × diversity | -0.132 | 0.012 | 0.133 | 0.002 |
| 1st-gen immigrant → refugee | 0.077 | 0.226 | -0.205 | 0.007 |
| × diversity | 0.000 | 0.489 | 0.270 | 0.007 |
| 1st-gen immigrant → 1st-gen immigrant | 0.073 | 0.308 | -0.166 | 0.083 |
| × diversity | -0.043 | 0.403 | 0.207 | 0.065 |
| 1st-gen immigrant → 2nd-gen immigrant | 0.127 | 0.080 | -0.218 | 0.004 |
| × diversity | -0.073 | 0.232 | 0.250 | 0.004 |
| 2nd-gen immigrant → native | 0.044 | 0.028 | -0.072 | <0.001 |
| × diversity | -0.095 | 0.004 | 0.106 | <0.001 |
| 2nd-gen immigrant → refugee | -0.114 | 0.041 | 0.019 | 0.363 |
| × diversity | 0.064 | 0.219 | 0.005 | 0.459 |
| 2nd-gen immigrant → 2nd-gen immigrant | -0.035 | 0.255 | -0.003 | 0.497 |
| × diversity | 0.047 | 0.237 | 0.001 | 0.477 |
| Refugee → native | -0.083 | 0.001 | -0.085 | <0.001 |
| × diversity | -0.014 | 0.349 | 0.043 | 0.082 |
| Refugee → 1st-gen immigrant | 0.010 | 0.469 | -0.082 | 0.180 |
| × diversity | -0.031 | 0.401 | 0.024 | 0.413 |
| Refugee → 2nd-gen immigrant | 0.139 | 0.022 | -0.121 | 0.021 |
| × diversity | -0.100 | 0.139 | 0.133 | 0.044 |
| Refugee → refugee | 0.285 | 0.001 | -0.150 | 0.035 |
| × diversity | -0.429 | <0.001 | 0.145 | 0.095 |
| Same country of origin (excl. Germany) | 0.072 | 0.162 | 0.037 | 0.291 |
| × diversity | 0.037 | 0.349 | -0.066 | 0.203 |
| Gender of receiver | 0.011 | 0.001 | -0.034 | <0.001 |
| Gender of sender | -0.016 | <0.001 | 0.009 | <0.001 |
| Same gender | 0.251 | <0.001 | -0.061 | <0.001 |
| Age of receiver | -0.045 | <0.001 | 0.034 | <0.001 |
| Age of sender | -0.045 | <0.001 | -0.035 | <0.001 |
| Age similarity | 0.064 | <0.001 | -0.017 | 0.046 |
| Length of stay of receiver | 0.000 | 0.477 | 0.007 | <0.001 |
| Length of stay of sender | 0.000 | 0.385 | 0.001 | 0.223 |
| Similarity in length of stay | 0.007 | <0.001 | -0.001 | 0.281 |
| Language skills of receiver | -0.006 | <0.001 | 0.003 | 0.005 |
| Language skills of sender | 0.002 | 0.127 | -0.005 | <0.001 |
| Similarity in language skills | 0.012 | <0.001 | -0.003 | 0.002 |
| Academic achievement of receiver | 0.004 | 0.004 | -0.005 | <0.001 |
| Academic achievement of sender | 0.014 | <0.001 | -0.018 | <0.001 |
| Similarity in academic achievement | 0.022 | <0.001 | -0.012 | <0.001 |

N students = 6,390. N classrooms = 304. The diversity main effect is excluded to avoid multicollinearity.
**Supplementary Table 7.** Results of MRQAP models with immigrant proportion instead of diversity.

| Friendship Rejection | Estimate p  | Estimate p  |
|----------------------|-------------|-------------|
| Intercept (native → native) | 0.441 <0.001 | 0.256 0.050 |
| Immigrant proportion | 0.021 0.044 | -0.050 0.170 |
| Native → refugee | -0.144 <0.001 | 0.059 <0.001 |
| × immigrant proportion | 0.083 0.105 | -0.060 <0.001 |
| Native → 1st-gen immigrant | -0.015 0.087 | 0.013 <0.001 |
| × immigrant proportion | -0.076 0.095 | 0.027 0.080 |
| Native → 2nd-gen immigrant | 0.018 0.020 | -0.025 0.220 |
| × immigrant proportion | -0.087 <0.001 | 0.036 0.210 |
| 1st-gen immigrant → native | 0.061 0.039 | -0.106 <0.001 |
| × immigrant proportion | -0.136 0.007 | 0.191 <0.001 |
| 1st-gen immigrant → refugee | 0.112 0.036 | -0.146 0.010 |
| × immigrant proportion | -0.037 0.188 | 0.291 0.010 |
| 1st-gen immigrant → 1st-gen immigrant | 0.043 0.338 | -0.129 0.060 |
| × immigrant proportion | -0.018 0.460 | 0.249 0.030 |
| 1st-gen immigrant → 2nd-gen immigrant | 0.076 0.094 | -0.086 0.260 |
| × immigrant proportion | -0.041 0.351 | 0.114 0.330 |
| 2nd-gen immigrant → native | 0.011 0.080 | -0.071 <0.001 |
| × immigrant proportion | -0.079 <0.001 | 0.136 <0.001 |
| 2nd-gen immigrant → refugee | -0.084 0.006 | -0.009 0.120 |
| × immigrant proportion | 0.047 0.386 | 0.047 0.380 |
| 2nd-gen immigrant → 2nd-gen immigrant | -0.008 0.119 | -0.059 0.310 |
| × immigrant proportion | -0.001 0.013 | 0.076 0.220 |
| 2nd-gen immigrant → 1st-gen immigrant | 0.008 0.449 | 0.018 0.100 |
| × immigrant proportion | -0.034 0.410 | -0.031 0.050 |
| Refugee → native | -0.090 <0.001 | -0.095 <0.001 |
| × immigrant proportion | 0.035 0.452 | 0.079 0.090 |
| Refugee → 1st-gen immigrant | 0.054 0.344 | -0.105 0.010 |
| × immigrant proportion | -0.422 0.128 | 0.482 0.160 |
| Refugee → 2nd-gen immigrant | 0.076 0.044 | -0.062 0.250 |
| × immigrant proportion | -0.050 0.221 | 0.058 0.410 |
| Refugee → refugee | 0.080 0.023 | -0.061 0.060 |
| × immigrant proportion | -0.165 0.006 | 0.122 0.100 |
| Same country of origin (excl. Germany) | 0.138 <0.001 | -0.101 <0.001 |
| × immigrant proportion | -0.015 0.018 | 0.127 0.020 |
| Gender of receiver | 0.017 <0.001 | -0.032 <0.001 |
| Gender of sender | -0.010 <0.001 | 0.011 <0.001 |
| Same gender | 0.248 <0.001 | -0.061 <0.001 |
| Age of receiver | -0.003 0.047 | 0.042 <0.001 |
| Age of sender | 0.002 0.140 | -0.026 <0.001 |
| Age similarity | 0.063 <0.001 | -0.019 <0.001 |
| Length of stay of receiver | -0.001 0.358 | 0.009 <0.001 |
| Length of stay of sender | 0.000 0.332 | 0.003 0.270 |
| Similarity in length of stay | 0.009 <0.001 | -0.003 0.440 |
| Language skills of receiver | -0.006 <0.001 | -0.002 <0.001 |
| Language skills of sender | 0.002 0.303 | -0.010 <0.001 |
| Similarity in language skills | 0.012 <0.001 | -0.003 <0.001 |
| Academic achievement of receiver | 0.005 0.147 | -0.008 0.010 |
| Academic achievement of sender | 0.014 <0.001 | -0.020 <0.001 |
| Similarity in academic achievement | 0.021 <0.001 | -0.010 <0.001 |

N students = 6,390. N classrooms = 304.
### Supplementary Table 8. Results of MRQAP models with classroom- and state-level immigrant proportions.

| Friendship | Rejection |
|------------|-----------|
| **Estimate** | **p** | **Estimate** | **p** |
| Intercept (native → native) | 0.442 | <0.001 | 0.271 | <0.001 |
| Immigrant proportion of classroom | 0.024 | 0.003 | -0.067 | 0.475 |
| Immigrant proportion of federal state | -0.022 | 0.003 | -0.175 | 0.004 |
| Native → refugee | -0.145 | <0.001 | 0.115 | <0.001 |
| × immigrant proportion of classroom | 0.075 | 0.174 | -0.044 | 0.441 |
| × immigrant proportion of federal state | 0.069 | 0.229 | -0.190 | 0.013 |
| Native → 1st-gen immigrant | 0.032 | 0.493 | -0.005 | 0.006 |
| × immigrant proportion of classroom | -0.030 | 0.195 | 0.002 | 0.095 |
| × immigrant proportion of federal state | -0.504 | 0.012 | 0.215 | 0.429 |
| Native → 2nd-gen immigrant | 0.034 | 0.009 | -0.031 | 0.185 |
| × immigrant proportion of classroom | -0.069 | <0.001 | 0.024 | 0.229 |
| × immigrant proportion of federal state | -0.158 | 0.113 | 0.088 | 0.423 |
| 1st-gen immigrant → native | 0.065 | 0.111 | -0.104 | 0.015 |
| × immigrant proportion of classroom | -0.133 | 0.002 | 0.190 | 0.001 |
| × immigrant proportion of federal state | -0.029 | 0.145 | -0.015 | 0.043 |
| 1st-gen immigrant → refugee | 0.152 | 0.028 | -0.162 | 0.010 |
| × immigrant proportion of classroom | 0.009 | 0.259 | 0.236 | 0.014 |
| × immigrant proportion of federal state | -0.454 | 0.244 | 0.483 | 0.211 |
| 1st-gen immigrant → 1st-gen immigrant | 0.088 | 0.168 | -0.147 | 0.117 |
| × immigrant proportion of classroom | 0.067 | 0.257 | 0.212 | 0.109 |
| × immigrant proportion of federal state | -0.690 | 0.011 | 0.274 | 0.447 |
| 1st-gen immigrant → 2nd-gen immigrant | 0.123 | 0.027 | -0.088 | 0.352 |
| × immigrant proportion of classroom | -0.012 | 0.436 | 0.101 | 0.199 |
| × immigrant proportion of federal state | -0.405 | 0.084 | 0.062 | 0.195 |
| 2nd-gen immigrant → native | 0.022 | 0.039 | -0.069 | 0.031 |
| × immigrant proportion of classroom | -0.065 | <0.001 | 0.136 | <0.001 |
| × immigrant proportion of federal state | -0.111 | 0.271 | 0.004 | 0.082 |
| 2nd-gen immigrant → refugee | -0.069 | 0.018 | -0.009 | 0.074 |
| × immigrant proportion of classroom | 0.056 | 0.412 | 0.037 | 0.435 |
| × immigrant proportion of federal state | -0.106 | 0.464 | 0.046 | 0.205 |
| 2nd-gen immigrant → 2nd-gen immigrant | -0.013 | 0.098 | -0.104 | 0.280 |
| × immigrant proportion of classroom | -0.007 | 0.016 | 0.040 | 0.191 |
| × immigrant proportion of federal state | 0.050 | 0.321 | 0.397 | 0.117 |
| 2nd-gen immigrant → 1st-gen immigrant | 0.044 | 0.351 | -0.015 | 0.122 |
| × immigrant proportion of classroom | -0.012 | 0.464 | -0.067 | 0.018 |
| × immigrant proportion of federal state | -0.306 | 0.177 | 0.350 | 0.158 |
| Refugee → native | -0.118 | <0.001 | -0.076 | 0.003 |
| × immigrant proportion of classroom | -0.007 | 0.161 | 0.097 | 0.019 |
| × immigrant proportion of federal state | 0.383 | <0.001 | -0.200 | 0.014 |
| Refugee → 1st-gen immigrant | 0.065 | 0.223 | -0.159 | 0.025 |
| × immigrant proportion of classroom | -0.016 | 0.214 | 0.070 | 0.415 |
| × immigrant proportion of federal state | -0.400 | 0.257 | 0.545 | 0.183 |
| Refugee → 2nd-gen immigrant | 0.160 | 0.001 | -0.071 | 0.252 |
| × immigrant proportion of classroom | 0.053 | 0.298 | 0.041 | 0.413 |
| × immigrant proportion of federal state | -0.959 | 0.002 | 0.156 | 0.493 |
| Refugee → refugee | 0.096 | 0.022 | -0.072 | 0.110 |
| × immigrant proportion of classroom | -0.161 | 0.009 | 0.119 | 0.115 |
| × immigrant proportion of federal state | -0.083 | 0.404 | 0.035 | 0.357 |

| Same country of origin (excl. Germany) | 0.118 | <0.001 | -0.084 | 0.033 |
| × immigrant proportion of classroom | -0.029 | 0.024 | 0.141 | 0.007 |
| × immigrant proportion of federal state | 0.176 | 0.449 | -0.159 | 0.174 |

*continued*
Supplementary Table 8 continued.

|                                | r   | p    | r   | p    |
|--------------------------------|-----|------|-----|------|
| Gender of receiver             | 0.017 | 0.001 | -0.032 | <0.001 |
| Gender of sender               | -0.010 | <0.001 | 0.011 | <0.001 |
| Same gender                    | 0.248 | <0.001 | -0.061 | <0.001 |
| Age of receiver                | -0.009 | 0.012 | 0.037 | <0.001 |
| Age of sender                  | -0.004 | 0.032 | -0.031 | <0.001 |
| Age similarity                 | 0.063 | <0.001 | -0.022 | 0.019 |
| Length of stay of receiver     | -0.001 | 0.397 | 0.009 | <0.001 |
| Length of stay of sender       | 0.001 | 0.270 | 0.003 | 0.338 |
| Similarity in length of stay   | 0.009 | <0.001 | -0.002 | 0.440 |
| Language skills of receiver    | -0.006 | <0.001 | -0.002 | <0.001 |
| Language skills of sender      | 0.002 | 0.315 | -0.009 | <0.001 |
| Similarity in language skills  | 0.012 | <0.001 | -0.004 | 0.004 |
| Academic achievement of receiver | 0.005 | 0.108 | -0.008 | 0.006 |
| Academic achievement of sender | 0.014 | <0.001 | -0.019 | <0.001 |
| Similarity in academic achievement | 0.021 | <0.001 | -0.011 | <0.001 |

N students = 6,390. N classrooms = 304.
Supplementary Table 9. Results of MRQAP models controlling for student SES.

| Friendship Diff | Rejection Diff | Estimate | p   | Estimate | p   |
|-----------------|----------------|----------|-----|----------|-----|
| Intercept (native → native) |                 | 0.443    | 0.001 | 0.286    | 0.241 |
| Diversity       |                 | 0.012    | 0.013 | -0.087   | 0.500 |
| Native → refugee |                | -0.166   | 0.000 | 0.113    | 0.000 |
| × diversity     |                 | 0.089    | 0.034 | -0.062   | 0.008 |
| Native → 1st-gen immigrant |            | 0.010    | 0.365 | -0.006   | 0.500 |
| × diversity     |                 | -0.089   | 0.073 | 0.046    | 0.307 |
| Native → 2nd-gen immigrant |         | 0.045    | 0.012 | -0.028   | 0.385 |
| × diversity     |                 | -0.097   | 0.000 | 0.028    | 0.409 |
| 1st-gen immigrant → native |     | 0.102    | 0.016 | -0.137   | 0.001 |
| × diversity     |                 | -0.154   | 0.004 | 0.174    | 0.004 |
| 1st-gen immigrant → refugee |       | 0.072    | 0.205 | -0.214   | 0.020 |
| × diversity     |                 | 0.026    | 0.459 | 0.302    | 0.010 |
| 1st-gen immigrant → 1st-gen immigrant | | 0.020    | 0.231 | -0.118   | 0.145 |
| × diversity     |                 | 0.031    | 0.339 | 0.202    | 0.095 |
| 1st-gen immigrant → 2nd-gen immigrant |   | 0.047    | 0.076 | -0.212   | 0.004 |
| × diversity     |                 | 0.017    | 0.248 | 0.252    | 0.005 |
| 2nd-gen immigrant → native |         | 0.030    | 0.047 | -0.095   | 0.000 |
| × diversity     |                 | -0.068   | 0.002 | 0.127    | 0.000 |
| 2nd-gen immigrant → refugee |       | -0.066   | 0.010 | 0.021    | 0.195 |
| × diversity     |                 | 0.018    | 0.163 | -0.015   | 0.347 |
| 2nd-gen immigrant → 2nd-gen immigrant |   | 0.100    | 0.118 | -0.046   | 0.275 |
| × diversity     |                 | -0.134   | 0.252 | 0.036    | 0.260 |
| Refugee → native |                 | -0.098   | 0.000 | -0.110   | 0.000 |
| × diversity     |                 | 0.035    | 0.355 | 0.076    | 0.038 |
| Refugee → 1st-gen immigrant |     | 0.000    | 0.492 | -0.126   | 0.127 |
| × diversity     |                 | -0.004   | 0.406 | 0.104    | 0.328 |
| Refugee → 2nd-gen immigrant |   | 0.229    | 0.004 | -0.101   | 0.034 |
| × diversity     |                 | -0.232   | 0.043 | 0.094    | 0.085 |
| Refugee → refugee |               | 0.099    | 0.001 | -0.231   | 0.009 |
| × diversity     |                 | -0.150   | 0.000 | 0.282    | 0.022 |
| Same country of origin (excl. Germany) | | 0.191    | 0.254 | 0.151    | 0.198 |
| × diversity     |                 | -0.085   | 0.211 | -0.204   | 0.139 |
| Gender of receiver |            | 0.017    | 0.001 | -0.032   | 0.000 |
| Gender of sender |                 | -0.012   | 0.000 | 0.010    | 0.000 |
| Same gender     |                 | 0.248    | 0.000 | -0.061   | 0.000 |
| Age of receiver  |                 | -0.007   | 0.048 | 0.041    | 0.000 |
| Age of sender    |                 | -0.003   | 0.133 | -0.027   | 0.000 |
| Age similarity   |                 | 0.064    | 0.000 | -0.020   | 0.024 |
| Length of stay of receiver |         | -0.001   | 0.287 | 0.009    | 0.000 |
| Length of stay of sender |       | 0.000    | 0.433 | 0.003    | 0.321 |
| Similarity in length of stay |     | 0.009    | 0.000 | -0.003   | 0.417 |
| Language skills of receiver |        | -0.005   | 0.000 | -0.002   | 0.000 |
| Language skills of sender |           | 0.003    | 0.115 | -0.010   | 0.000 |
| Similarity in language skills |   | 0.012    | 0.000 | -0.004   | 0.000 |
| Academic achievement of receiver |   | 0.005    | 0.090 | -0.008   | 0.009 |
| Academic achievement of sender |         | 0.014    | 0.000 | -0.020   | 0.000 |
| Similarity in academic achievement | | 0.021    | 0.000 | -0.010   | 0.000 |
| SES of sender    |                 | -0.001   | 0.000 | 0.000    | 0.002 |
| SES of sender → refugee |   | 0.001    | 0.017 | -0.001   | 0.010 |

N students = 6,390. N classrooms = 304.
Supplementary Table 10. Results of MRQAP models controlling for school tracks.

|                         | Friendship |       | Rejection |       |
|-------------------------|------------|-------|-----------|-------|
|                         | Estimate   | p     | Estimate  | p     |
| Intercept (native → native) | 0.427      | 0.424 | 0.304     | 0.461 |
| Diversity               | 0.026      | <0.001 | -0.092    | 0.241 |
| Native → refugee        | -0.164     | <0.001 | 0.114     | <0.001|
| × diversity             | 0.082      | 0.044 | -0.060    | 0.008 |
| Native → 1st-gen immigrant | 0.007     | 0.404 | 0.012     | 0.009 |
| × diversity             | -0.090     | 0.033 | 0.025     | 0.139 |
| Native → 2nd-gen immigrant | 0.043     | <0.001 | -0.020    | 0.428 |
| × diversity             | -0.101     | <0.001 | 0.024     | 0.457 |
| 1st-gen immigrant → native | 0.076      | 0.019 | -0.112    | 0.002 |
| × diversity             | -0.122     | 0.006 | 0.154     | 0.011 |
| 1st-gen immigrant → refugee | 0.067     | 0.262 | -0.212    | 0.026 |
| × diversity             | 0.024      | 0.500 | 0.335     | 0.005 |
| 1st-gen immigrant → 1st-gen immigrant | -0.017    | 0.364 | -0.097    | 0.266 |
| × diversity             | 0.079      | 0.483 | 0.186     | 0.211 |
| 1st-gen immigrant → 2nd-gen immigrant | 0.016     | 0.105 | -0.226    | 0.001 |
| × diversity             | 0.058      | 0.381 | 0.282     | 0.002 |
| 2nd-gen immigrant → native | 0.029     | 0.024 | -0.063    | 0.002 |
| × diversity             | -0.083     | 0.001 | 0.093     | <0.001|
| 2nd-gen immigrant → refugee | -0.079    | 0.015 | 0.065     | 0.039 |
| × diversity             | 0.021      | 0.184 | -0.050    | 0.156 |
| 2nd-gen immigrant → 2nd-gen immigrant | 0.103     | 0.358 | -0.028    | 0.299 |
| × diversity             | -0.138     | 0.414 | 0.025     | 0.215 |
| Refugee → native        | -0.102     | <0.001 | -0.084    | <0.001|
| × diversity             | 0.049      | 0.279 | 0.042     | 0.188 |
| Refugee → 1st-gen immigrant | -0.004    | 0.491 | -0.110    | 0.152 |
| × diversity             | 0.004      | 0.394 | 0.097     | 0.415 |
| Refugee → 2nd-gen immigrant | 0.224     | 0.002 | -0.089    | 0.034 |
| × diversity             | -0.243     | 0.016 | 0.097     | 0.059 |
| Refugee → refugee       | 0.093      | 0.001 | -0.221    | 0.012 |
| × diversity             | -0.159     | <0.001 | 0.292     | 0.016 |
| Same country of origin (excl. Germany) | 0.166      | 0.309 | 0.148     | 0.232 |
| × diversity             | -0.054     | 0.128 | -0.211    | 0.147 |
| Gender of receiver      | 0.016      | <0.001 | -0.033    | <0.001|
| Gender of sender        | -0.011     | <0.001 | 0.010     | 0.001 |
| Same gender             | 0.248      | <0.001 | -0.061    | <0.001|
| Age of receiver         | -0.011     | 0.021 | 0.035     | <0.001|
| Age of sender           | -0.003     | 0.102 | -0.035    | <0.001|
| Age similarity          | 0.065      | <0.001 | -0.025    | 0.009 |
| Length of stay of receiver | -0.001    | 0.327 | 0.008     | <0.001|
| Length of stay of sender | 0.000      | 0.386 | 0.003     | 0.268 |
| Similarity in length of stay | 0.009    | <0.001 | -0.003    | 0.416 |
| Language skills of receiver | -0.005    | <0.001 | 0.001     | <0.001|
| Language skills of sender | 0.003      | 0.085 | -0.007    | <0.001|
| Similarity in language skills | 0.013      | <0.001 | -0.004    | <0.001|
| Academic achievement of receiver | 0.005      | 0.099 | -0.008    | 0.004 |
| Academic achievement of sender | 0.014     | <0.001 | -0.020    | <0.001|
| Similarity in academic achievement | 0.021     | <0.001 | -0.010    | <0.001|
| School track 2 ("Schule mit mehreren Bildungsgaengen") | 0.020 | <0.001 | -0.016    | 0.014 |

continued
**Supplementary Table 10 continued.**

| School track | refugee | 0.184 | 0.064 | 0.464 |
|--------------|---------|-------|-------|-------|
| School track 2 | -0.010 | 0.184 | 0.064 | 0.464 |
| School track 3 (“Realschule”) | 0.001 | 0.199 | 0.019 | 0.189 |
| School track 3 | 0.000 | 0.253 | 0.051 | 0.130 |
| School track 4 (“Integrierte Gesamtschule”) | -0.006 | 0.458 | 0.016 | 0.420 |
| School track 4 | 0.057 | 0.080 | -0.100 | <0.001 |
| School track 5 (“Gymnasium”) | 0.013 | 0.320 | -0.007 | 0.085 |
| School track 5 | 0.048 | 0.048 | -0.038 | 0.018 |

N students = 6,390. N classrooms = 304. “Hauptschule” is the reference category among the school tracks, preparing students for vocational training and attaining a lower secondary qualification; “Schule mit mehreren Bildungsgaengen” and “Realschule” are intermediate tracks in which student can attain lower and intermediate secondary qualifications; “Integrierte Gesamtschule” is an integrated track in which students can attain all types of qualifications. “Gymnasium” is the academic track, preparing students for a higher secondary qualification and ultimately tertiary education.
Appendix F: Additional information on the statistical significance of key variables

To show visually the significance level of each parameter plotted in Fig 3, we plot these parameter values together with the parameter values in the simulated (“random”) networks (see Supplementary Figure 7). In each subfigure, a dot represents the parameter value in the observed network, and a box plot represents the distribution of the values for the same parameter calculated from the simulated networks. This way, the boxes represent randomness: purely due to features of the network structure, we could expect to see parameter values shown by the box. The error bars represent 95% of the distribution: if the dot does not overlap with its respective box or error bar, it is statistically significant. The further the dot is from the box, the least likely that a parameter estimate of that value would be randomly observed.

Supplementary Figure 7 includes four subfigures. In each of them, we show the parameter values for nominating refugees based on the immigrant status of the sender. In subfigure A, we present the parameters for main effects of nominations of refugees in the friendship models. In subfigure B, we present the parameters for diversity interactions with nominations of refugees in the friendship models. In subfigure C, we present the parameters for main effects of nominations of refugees in the desk-mate-rejection models. In subfigure D, we present the parameters for diversity interactions with nominations of refugees in the desk-mate-rejection models.
Supplementary Figure 7. Statistical significance of parameters capturing nominations of refugees.

In the subplots of each subfigure, the dots show the parameter estimates for the observed network, whereas the box plots demonstrate features of the distribution of estimates for the simulated networks. Each box represents 50% of the distribution; each error bar represents 95% of the distribution; each vertical line represents the mean of the distribution.

N_{students} = 6,390. N_{classrooms} = 304.

Panel a. Parameters for main effects of nominations of refugees in the friendship models.
Panel b. Parameters for diversity interactions with nominations of refugees in the friendship models.
Panel c. Parameters for main effects of nominations of refugees in the desk-mate-rejection models.
Panel d. Parameters for diversity interactions with nominations of refugees in the desk-mate-rejection models.
Supplementary References

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