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Abstract

We investigate how adolescents' social status in their peers' eyes shapes the way they view their social climate in secondary schools. Utilizing novel data on over 10,000 students, we construct comprehensive measures of social status and perceived social climate for each student, including a sense of belonging, perceived behavioral norms, and bullying experience. We show that while central and well-connected students are positive about their social environment, less central and socially isolated students view it as hostile. Our results highlight the importance of improving the relational dynamics of adolescents in disadvantaged schools to create better learning environments for all.

JEL-Codes: A140, I200, I240.

Keywords: social status, student networks, classroom climate.

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1 Introduction

The ability to form productive social relationships is instrumental to individual success in almost all domains of life. Yet, individuals are remarkably different in their ability to form and maintain social relationships. This heterogeneity implies differences in social status, i.e., power to influence group dynamics, norms, preferences, and individual as well as group outcomes. Humans strive to achieve high social status within their reference groups, and a failure in this regard is likely to be detrimental to their economic and psychological well-being (Duesenberry, 1949; Easterlin, 1974, 1995; Blanchflower and Oswald, 2004; Bandiera et al., 2009). It has been extensively documented that low-status individuals, indicated by their socioeconomic ranking, tend to be more sensitive to their social environments and have a higher tendency to interpret social cues as threats. Those who manage to position themselves higher within their reference group, however, are more likely to enjoy their social environment and harness it to achieve their individual goals (Henry, 2009; Kraus et al., 2011, 2012).

Schools are perhaps the first social spaces in which one faces the challenge of establishing some form of social status. Upon joining a school, students begin forming friendship groups, striving to secure peer support in various domains, and establishing their standing in the emerging social order. Their outcome in this regard, i.e., the status they achieve, likely shapes the way they perceive their social environment. Those who manage to have a large circle of supportive friends are likely to be more attached to their schools and view their social environment more positively than those who do not fare as well. Additionally, those who attract admirers and followers are better positioned to influence behavioral norms in their favor and make the environment conducive to asserting their preferences. Failure to achieve a desired social status in school can be mentally and emotionally exhausting for adolescents and lead them to view their school as a hostile environment. Students' perceptions of school climate and relational dynamics have been shown to be important in determining their academic outcomes in the short-run, and economic and social outcomes in the long run

(Conti et al., 2013; Lleras-Muney et al., 2020).[1]

In this paper, we investigate how a student's social status in the eyes of their peers shapes the way they perceive their social environment in their schools. To do this, we collected data in an educational setting where students were randomly assigned to their classrooms, conditional on their school choice. Our sample covers 66 secondary (middle) schools in Turkey that were flagged by their respective provincial authorities as abysmal social environments for students. Besides academically underachieving, these schools are characterized by unusually high peer violence, rampant antisocial behavior, acts of social exclusion, and high teacher turnover, all of which are prominent markers of hostile school climate and unhealthy peer relationships. We collected data from over 10,000 grade 5 and 6 students (the first two years of secondary schooling in Turkey) by visiting in-person 378 classrooms and spending two lecture hours in each classroom in October 2019. The timing of our data collection implies that the newcomers (grade 5 students) had only had a few weeks for socialization as the academic year begins in mid-September in Turkey. Our visit involved eliciting classroom friendship networks, implementing cognitive and socio-cognitive tests, and administering surveys to measure noncognitive skills and perceptions of the social climate.

To elicit students' friendship networks, we asked them to list their three best friends within their classroom by exercising extreme discretion. Using these nominations, we construct a rich set of social status measures utilizing the tools developed by social networks literature (Jackson, 2010; Jackson et al., 2017; Jackson, 2019). Our measures are metrics that quantify the prominence of a node (student) within the classroom network. We use the following measures of network centrality and connectedness: (i) in-degree centrality, which is the total number of nominations one receives, (ii) eigenvector centrality, (iii) godfather index, and (iv) closeness centrality. We also consider reciprocal and supported ties, which indicate more cooperative relationships than the measures listed above. Finally, we consider the most extreme case of low social status: complete social isolation, i.e., having received no

[1]Poor school climate is shown to worsen students' mental health and exacerbate depression symptoms. It is also shown to be associated with low academic achievement, high dropout rates, and high teacher turnover (Ingersoll, 2001; Loukas and Murphy, 2007; Lynch et al., 2013).

friendship nomination.

After eliciting friendship networks, we assessed students' key cognitive and noncognitive skills using tests and survey instruments. For each student, we constructed a fluid intelligence score, using Raven's Progressive Matrices (Raven and Court, 2004), and a cognitive empathy score, using the Reading the Mind in the Eyes test (Baron-Cohen et al., 1997). We also measured students' academic ability using mathematics and Turkish language tests, prepared for each grade level based on the national curricula. Evidence on the relationship between noncognitive skills and social status is scarce. Very little is known on which skills are instrumental for one to climb the social ladder. While social skills, such as empathy, may be important for attracting friends and admirers during adolescence, achieving high social status may require skills that reflect independence, autonomy, and self-confidence. We conjectured that internal locus of control and growth mindset, both of which underline these alluring characteristics in an individual, are likely essential in achieving higher social status. We measure students' internal locus of control and growth mindset using survey questions. Finally, we construct several classroom climate measures as perceived by students. For this, we focus on feelings of belonging, perceived peer and teacher support, and descriptive behavioral norms. These measures are constructed as standardized indices using a battery of survey questions. We also collected information about students' experience of peer violence.

We first document that the cross-sectional distribution of social status is highly skewed with a long right tail, meaning that a select few enjoy a very high social status in student networks. The right tail is no less prominent for the grade 5 sample, suggesting that social status is established only after a few weeks of socialization. We show that both cognitive and noncognitive characteristics of students are highly predictive of their social status. Students with higher academic standing, higher cognitive empathy, and higher internal locus of control hold significantly higher social status within their peer group.[2] Our descriptive analysis

[2]Using the big-five inventory, Bucciol et al. (2015) find that openness, conscientiousness, and extraversion predict a higher perceived social status, whereas agreeableness and neuroticism predict lower status. Similarly, Girard et al. (2015) find that agreeableness and conscientiousness predict more central positions in networks of university students. Banerjee et al. (2011) show a positive association between higher theory of mind abilities and peer acceptance among children. Adams (1983) finds that locus of control predicts peer popularity among male adolescences. Elsner et al. (2021) show that higher academic standing in a small group significantly increases academic performance through shaping students' beliefs about their ability.

also reveals interesting gender patterns regarding the nature of friendship networks in early adolescent years. We document that male students have significantly fewer reciprocal and supported ties than females. High status for male students seems to be associated with connecting otherwise disconnected individuals and groups rather than forming reciprocal friendships.[3] We also detect a significant gender difference in being socially isolated, with boys being 2 percentage points more likely to be socially isolated than girls.

We then turn to our primary analyses and provide evidence that social status in student networks is strongly associated with the perception of the social environment. Controlling for individual characteristics and classroom level leave-out means of ability, perceived climate variables, and school fixed effects, we show that higher social status in secondary schools is associated with a higher sense of belonging, better perceived behavioral norms, higher reported peer and teacher support. These results are robust, both in terms of size and precision, across all our social status measures and a wide range of specification checks. A one standard deviation increase in in-degree centrality, implying about two extra friendship nominations received, is associated with about 0.1 standard deviations higher sense of belonging, 0.05 standard deviations better perceived behavioral norms, and 1.1 percentage points lower likelihood of being bullied by peers. The results are similar for boys and girls, with the exception of the reported bullying experience. For bullying experience, social status matters significantly more for boys than it does for girls. Specifically, a one standard deviation increase in boys' social status, measured by in-degree or eigenvector centrality, eliminates the existing 4 percentage points gender difference in bullying experience. Moreover, social isolation increases boys' probability of being victimized by about 8 percentage points, whereas it has no effect on girls.

Our contribution is twofold. First, our data allows us to construct an objective measure

[3]There are several studies that show gender differences in network types in various contexts. Ductor et al. (2021) show that coauthors of male economists vary significantly, whereas female economists tend to collaborate with the same set of coauthors. Friebel and Seabright (2011) show that women form smaller social circles but invest more in relationships than men. Benenson (1993) shows that while males enjoy large group interaction, females enjoy small groups and dyadic interactions. Lindenlaub and Prummer (2020) introduce a theoretical framework that links individuals' network structure to their productivity and earnings. They then use Add Health data to document that men have large and loose networks while women have smaller but tighter networks.

of social status for each student from the perspective of their peers. Our elicited network ties enable us to document the relationship between key individual characteristics and achieved social status after a few weeks of socialization as well as after a year-long socialization. As part of this exercise, we also reveal significant gender differences in the structure of friendship networks in secondary schools. Second, to the best of our knowledge, our study provides the first piece of evidence on the relationship between social status, measured by network centrality, and perceived social environment for adolescents. While not causal, documented relationships are highly suggestive of the importance of peer relationships and social hierarchy in determining adolescents' attachment to their school. This attachment is critical not only for the individuals concerned but also for society at large. Recognizing the role of schools in building social capital urges interventions to improve the dangerously poor social environments we observe in socioeconomically disadvantaged schools in both developed and developing countries.

Our study fits into the growing literature on the importance of school climate for students' outcomes. There is now ample evidence showing that classroom climate is a significant predictor of various important educational outcomes such as academic achievement (Connell and Wellborn, 1991; Goodenow, 1993). Lee and Burkam (2003) show that students who build positive social ties with their teachers at school are less likely to drop out of school. Lavy and Sand (2019) find that friendship ties in school generate better educational and behavioral outcomes. Allcott et al. (2007) document that high interconnectedness in friendship networks mitigate the negative effect of network size on achievement outcomes in middle schools. We complement these studies by documenting the robust relationship between social status and perceived social climate, controlling for academic achievement, cognitive and noncognitive skills. Our study also relates to the literature on the role of skills and personality traits in success. This literature documents the importance of cognitive and noncognitive skills in explaining individual differences in outcomes related to health, education, labor market, and in social outcomes (Heckman et al., 2006; Borghans et al., 2008; Kautz et al., 2014; Alan and Ertac, 2018; Alan et al., 2019). With respect to social skills, recent work by Alan et al. (2021) shows that an intervention on perspective taking, i.e., cognitive empathy, increases friendship

and support ties in classroom networks. We complement this literature by focusing on the role of socialization in shaping students' perception of their social environment.

The rest of the paper has the following structure. Section 2 describes the details of our data and the context in which they were collected. Section 3 presents the results. Section 4 concludes.

2 Data and Context

Over the last few decades, the Turkish education system has become socioeconomically segregated. Currently, even lower-middle-income parents try to find a way to place their children in private schools, which are significantly better resourced than public schools. This trend has led the public system to serve almost exclusively the lower socioeconomic segment of the country. The choice of school in the public system is limited. Schools are mandated to take students based on their registered addresses, conditional on space constraints, which rarely bind. Parents can opt to register their children in public schools other than those in their catchment areas, but this choice often implies costly transportation arrangements for them, which is not easily affordable for this socioeconomic group.

Upon registration, public schools are mandated to assign students to classrooms randomly by minding the gender composition. Once classrooms are formed, students tend to remain together in the same classroom until the end of their schooling. This implies having the same peers from grades 1 to 4 in primary schools, from grades 5 to 8 in secondary schools, and grades 9 to 12 in high school. Contrary to primary schools, each subject is taught by different branch teachers specialized in their field in middle and high schools. Because of random assignment to classrooms, conditional on being registered in a particular school, there is no reason to expect any sorting based on ability or other characteristics or differential teacher influence on academic and socialization outcomes of children. The latter is because, in most cases, a given teacher teaches her subject to all classrooms. For example, a 5th-grade science teacher teaches to all 5th grades in the school. We observe more than one teacher teaching a subject for very large schools, but the number of branch teachers usually does

not exceed two or three.

We collected our data in October 2019 after enlisting 66 secondary schools located in socioeconomically disadvantaged neighborhoods of Istanbul, Ankara, and Sakarya, three large provinces in Turkey. These schools are large and were flagged by their respective provincial authorities as low achievement schools with high levels of peer violence relative to the country average within the public system. We collected our data by visiting multiple 5th and 6th-grade classrooms in-person and spending about two lecture hours in each classroom. Our sample contains over 10,000 5th and 6th graders from 378 classrooms and 66 secondary schools. Because these schools are large, with an average of 15 classrooms per school for a given grade, we randomly selected only 2 or 3 classrooms per school to include in the study.[4] The academic year in Turkey starts around mid-September and ends in mid-June. Therefore, at the time of our data collection, grade 5 students were relatively new to each other as they had had only a few weeks to socialize. Grade 6 students, on the other hand, had known each other for about a year.

Non-adherence to random assignment is likely in schools in advantaged neighborhoods where parents are more involved in their children's education. In these schools, parental influence may lead to ability sorting, although it is strictly against the Ministry of Education's mandate. However, non-random assignment is very unlikely in secondary schools, even in affluent areas, because there is no obvious benefit for being assigned to a particular classroom as all classrooms have the same set of branch teachers. Nevertheless, we conduct a test to check the balance across classrooms, conditional on school for fluid IQ and cognitive empathy. These two skills are generally considered as innate cognitive abilities. Note that random assignment occurs in grade 5, and students remain in the same classroom throughout middle school.

To check the random assignment, we perform Pearson chi-square tests within cohorts in each school, separately for fluid IQ and cognitive empathy. The test assesses whether

[4]While we also collected friendship information from a select 7 and 8 graders in each school, we did not collect cognitive and noncognitive skills and perceived school climate information from them. This choice was due to our initial plan to run an RCT, which focused only on junior students. We were unable to execute this RCT due to the school closures related to the COVID-19 pandemic.

students' abilities are systematically similar across classrooms in a given cohort. In order to use Pearson chi-square tests, we need to convert our test scores into categorical variables. To do this, we sort pupils in a cohort into generated categorical variables (as many as the number of classrooms) based on their Raven and Eyes Test scores. For example, suppose that there are 90 students and 3 classrooms in a cohort. We construct 3 ability categories in which the best-performing 30 students are assigned to the 1st category, and the worst-performing 30 are to the 3rd category.[5] We conduct Pearson chi-square tests using the categorical variables for students' skill and their classroom. We reject the random assignment of students if students' ability group and their classrooms are significantly correlated. We had only a single grade 5 (grade 6) classroom in two (three) of our schools. Therefore, we could not perform this test for those schools. Out of 254 tests (64 (63) schools for two characteristics for grade 5 (grade 6)), we reject the random assignment in two schools with respect to both Raven and Eyes test scores which is a tiny number given the number of tests conducted. Note that random assignment does not enable us to give our estimates a causal interpretation. It only ensures that our estimated relationship is a common feature of the population our sample represents. We will revisit this issue in Section 3.1. In what follows, we provide the details of our data and how we construct our key variables.

2.1 Social Networks and Social Status

Our primary interest in this paper is to understand how social status in student networks shapes students' perception of their social environment. Our first step is to utilize the tools of social network theory and construct various social status variables. This involves eliciting students' friendship networks and constructing social status indicators for each student from the perspective of their peers. Therefore, our social status indicators do not refer to perceived social status, and as such, they are objective measures. To elicit friendship networks, we asked students to nominate up to three classmates as their best friends in their classroom.

[5]The number of students in categories can differ by ± 2 if the total number of students over the number of classrooms is not an integer.

They were given the option of nominating no one at all, only one or only two.[6] Using these nominations, we construct the following measures of social status for each student. We provide respective mathematical expositions for these measures in Appendix A.3.

In-Degree Centrality. In-degree centrality refers to the number of friendship nominations (in-degree ties) an individual receives. It is the most basic social status measure considered capturing a notion of "popularity" in a network. Students with higher in-degree centrality are likely to be popular individuals with a large number of followers and admirers. Popularity is an important concept in secondary schools as there is evidence that students, early teens, in particular, observe and often emulate the behavior of "popular" students (see, for example, Paluck et al. (2016)). Students who can attract followers and admirers are better positioned to assert their will and utilize social relationships in their favor. The average number of in-degree ties in our sample is 2.65, with a minimum of zero and a maximum of 14 ties.

Our next three measures of social status assume that two students are friends or connected if one nominates the other as a friend, regardless of whether this nomination is reciprocated or not. In that sense, rather than popularity, these measures capture well-connectedness, which is an essential component of social status.

Eigenvector Centrality. Eigenvector centrality of an individual takes into account the status of individuals who are connected to the individual. Specifically, the centrality of an individual is calculated by taking the sum of the centrality of the connected individuals and multiplying it by a scalar. For example, a student who is nominated as a friend by three students with relatively more ties has a higher eigenvector centrality than those who are nominated by three less connected students. Put simply, eigenvector centrality is a measure of connectedness to other well-connected individuals (Bonacich and Lloyd, 2001; Golub and Jackson, 2010). The measure is scaled to lie between zero and 1, with the higher number

[6] Our pilot sessions revealed that limiting the number of nominations to 3 is logistically optimal in terms of not crowding out valuable teaching time and keeping students alert for the upcoming cognitive tests.

indicating higher eigenvector centrality.[7]

Godfather Index. This measure of centrality was introduced by Jackson (2019). It counts the number of pairs of a student's friends who are not directly friends with each other. A student with a high godfather index is the one who connects otherwise unconnected students. A student needs to be connected to at least one student in order to have a godfather index measure. We have this measure defined for 95% of our sample. The average of this index in the sample is 5.74 with a minimum value of 0 and a maximum of 74.

Closeness Centrality. Closeness centrality is the average distance between a student and their classmates. The distance is defined as the minimum number of ties that connects two students. For example, the distance to a directly connected friend is one since a direct friend is reachable via one tie. If the target person is a friend of a friend, then the student should first walk to the direct friend (one tie) and then to the target person (one more tie); thus, the distance is two for a friend of a friend. Students with high closeness centrality are more likely to be located in the "middle" of a network. Following Friedkin (1991), we can consider students with high closeness centrality to be more "independent" since they can reach their classmates without much reliance on other students than "peripheral" students can. The closeness centrality measure takes values between zero and 1, and our sample average is 0.35.[8]

In addition to the above measures of social status, we consider measures that also inform us about the reciprocal nature of social relationships. We are particularly interested in relational dynamics that indicate cooperation and prosociality. For this, we use two additional network measures.

Reciprocal Ties. Reciprocal ties refer to the nominations of a student, which the nominees

[7]If there are at least two disconnected groups in a classroom, eigenvector centrality can be calculated only for one group. In this case, following the standard practice in the literature (see, for example, Girard et al. (2015)), we construct the eigenvector centrality measure only for the members of the largest group in the classroom. This procedure leads us to lose about 8% of our sample when using this measure.

[8]It is not possible to count the distance between two students if they are members of two disconnected groups in a class. Therefore, as in eigenvector centrality, we calculate this measure only for the members of the largest group if there are at least two disconnected groups in the network. This amounts to dropping 8% of our sample when using this measure.

reciprocate. In a sense, reciprocal ties may highlight "real friendship", which is often characterized by cooperation and companionship; see Gifford-Smith and Brownell (2003), and Lavy and Sand (2019). The average number of reciprocal ties in our sample is 1.36, with a minimum of zero and a maximum of 3 ties. The latter is imposed by the fact that the maximum number of friendship nominations was set to 3.

Supported Ties. The concept of "support" was introduced in Jackson et al. (2012). According to their definition, the link between two nodes is "supported" if they have at least one friend in common, i.e., two connected individuals are also the members of a clique. The clique-like pattern is generally associated with in-group prosociality, and less deviant behavior as the latter is likely to be punished in close-knit groups.[9] The average number of supported ties is 2.83 in our sample, with a minimum of zero and a maximum of 13 ties.

To facilitate consistent interpretation across all social status measures, we standardize them to have a mean zero and a standard deviation of 1. Table 1 presents the pairwise correlations of our social status measures. It is not surprising that all measures are significantly pairwise correlated. Note, for example, that in-degree centrality is highly correlated with the godfather index as well as supported and reciprocal ties.

Figure 1 plots the kernel densities of six social status measures for grades 5 and 6, controlling for classroom fixed effects. We observe substantial variation in all social status measures. Except for reciprocal ties and closeness centrality measures, a striking feature of these distributions is their marked skewness to the right, indicating the presence of a small number of very high-status students. While we reject the equality of distributions across grades 5 and 6, it is clear that even after a few weeks of socialization, social order emerges; a select few quickly achieve high social status in grade 5. Unconditional distributions (histograms) for the full sample are given in Appendix Figure A1.

Social Isolation. Our final measure captures the simplest possible notion of low social status, which is "social isolation". We define "socially isolated" students as those who did not receive any nomination from their classmates. This is a binary variable indicating zero

[9]Note that in order to construct this measure, we assume that the network is undirected, i.e., we define a link between two students if one nominates the other as a friend regardless of the direction of the nomination.

in-degree centrality. Note that socially isolated students might make friendship nominations, which we do not consider as "friendship" as it is not reciprocated. About 10% of the students in our sample are socially isolated.

2.2 Cognitive and Noncognitive Skills

The ability to form and maintain social relationships in a group setting requires one to possess a specific skill set. Recent research shows that such ability may constitute an essential component of human capital and therefore likely to be rewarded in today's labor market (Deming, 2017). The ability to connect with others constructively and establish a good social standing in life is likely to be associated with cognitive and noncognitive skills. To document this, we collected rich data on students' skills using cognitive tests and surveys. To measure cognitive skills, we administered a fluid intelligence test and a theory of mind test. For the former, we use "Raven's Progressive Matrices" (Raven and Court, 2004), and for the latter, we used the "Reading the Mind in the Eyes" test (Baron-Cohen et al., 1997). To measure crystallized intelligence (academic standing), we implemented verbal and mathematical ability tests, the former referring to the ability in the Turkish language. Both tests were prepared based on the Turkish national curricula and piloted extensively by the research team before implementation.

For noncognitive skills, we aimed to capture the degree of autonomy, independence, and emotional maturity in students. For this, we asked questions that elicit students' internal locus of control and the degree of optimism regarding the role of effort in success, i.e., growth mindset. Individuals with a strong internal locus of control have a strong sense of "self" in that they believe they have control over what happens to them. In contrast, people with a strong external locus of control tend to blame external factors when they experience bad outcomes. Research shows that people with an internal locus of control are less conforming (unlikely to be blind followers), less obedient (stand up for themselves and others when necessary), and better at resisting social pressure (Crowne and Liverant, 1963; Spector, 1982). While there is not much evidence showing that locus of control helps one climb the social ladder, there is strong evidence that happy, successful, and responsible people attract

a larger circle of friends and admirers (Khalil, 1996; Oldehinkel et al., 2007; Morelli et al., 2017).

Similarly, it has been shown that people with an optimistic mindset regarding the role of effort in success become more successful and lead happier lives (Vainio and Daukantaitė, 2016) and thus attract more friends and admirers. However, recent research on the connection between growth mindset and prosocial attitudes yields results that may go against this conjecture. For example, Alan and Ertac (2017) show that an increase in growth mindset may lower ones' sympathy toward people who experience failure. They explain their finding as individuals who strongly believe that success stems from hard work, not from luck, may lose sympathy for those who fail. If prosociality and growth mindset are negatively correlated, to the extent that prosocial attributes are important to achieve a higher social status in a group, we might observe growth mindset to be negatively associated with social status. To measure internal locus of control and growth mindset, we adopted "Multidimensional Multiattributional Causality Scale" by Lefcourt et al. (1979) and the survey questions proposed by Dweck (2006). To the best of our knowledge, there is no other study that links internal locus of control and growth mindset to social status, controlling for key cognitive and noncognitive skills.

Again, we standardize all our cognitive and noncognitive measures for easier interpretations. The distributions of these standardized scores are depicted in Figure 2. All measures exhibit substantial variation, suggesting a very heterogeneous student population.

2.3 Measuring Perceived Social Climate

We construct various indicators of the perceived social climate in classrooms using detailed survey questions. Our social climate indicators include (i) sense of belonging, (ii) perceived behavioral norms, (iii) perceived support from classmates, (iv) perceived support from teachers, and (v) reported experiences of physical and verbal abuse by peers (bullying experience). For (i) to (iv), we construct indices using survey questions.

According to PISA 2015 results, 27% of students reported that they do not feel they

belong to their school and classroom (OECD, 2017). Turkey is a country where the reported sense of belonging to school is one of the lowest amongst the OECD countries. The sense of belonging to school community has a strong positive relationship with academic outcomes in schools serving the socioeconomically disadvantaged segment of the society (Dodge et al., 1994; Battistich et al., 1995). To construct an index of sense of belonging, we used item response questions such as "I see myself as an important part of my school and classroom". To construct an index for perceived behavioral norms, we utilized seven item-response questions adapted from Paluck et al. (2016). These include questions such as "My classmates talk behind each other" and "My classmates hit each other and get into fights." We used questions, such as "My classmates always support me" to construct a measure of perceived peer support. Similarly, for teacher support, we asked questions such as "My teachers care about me." Our full inventory is given in Appendix A.4.

The prevalence of peer violence is one of the most salient indicators of a poor school climate. Peer violence is a global phenomenon with detrimental consequences for both perpetrators and victims. To elicit the prevalence of peer violence, students were asked to indicate the number of classmates who physically and verbally bully them on a regular basis, without naming the perpetrators. For this, students were given the options to state (i) zero, (ii) one, (iii) two, and (iv) three or more bullies. We construct our binary indicator of bullying experience such that it takes the value of 1 if the student reports non-zero numbers of regular bullies. About 54% of students reported being bullied regularly by their classmates. This number is substantially higher than the OECD average of 7% - 11% and likely reflects the fact that our sampled schools are indeed extremely disadvantaged in terms of their social climate as indicated by the Turkish education authorities (OECD, 2017).

The distributions of all four social climate indicators are given in Figure 3. We observe substantial variation in students' perception of their classrooms' climate. Incidentally, we also observe significant gender differences in these perceptions as depicted in Figure 4. As shown in this figure, male students paint a significantly darker picture of their social environment than female students. For example, males report 8 percentage points higher bullying experience than female students. We will re-visit these interesting gender differences after

exploring how much of the variation we observe in these climate perceptions is explained by the social status in the classroom.

3 Results

Before discussing the relationship between social status and perceived classroom climate, we document the correlates of our social status measures. This analysis provides a predictive validity to the social status measures we use and sets the stage for our analyses of the perceived social climate.

Table 2 presents the predictive power of cognitive and noncognitive skills on our social status measures, controlling for classroom characteristics and school fixed effects. Several interesting messages emerge from this table. First, male students seem to enjoy higher social status than female students by some social status metrics but not others. To see the gender differences clearly, we plot the coefficient estimates of the male dummy in Figure 5. Considering the differences across our status measures described in Section 2.1, these results imply significant gender differences in the way the friendship ties are formed in secondary schools. Overall, we observe that male students are significantly more isolated and have fewer reciprocal ties than female students. It appears that for boys, social status comes as being a connector of otherwise disconnected students and groups. This is particularly evident in results using the godfather index and closeness centrality. Moreover, based on the eigenvector centrality, boys are also more likely to be connected to well-connected individuals than girls. We observe no statistically significant gender difference with respect to in-degree centrality.

Turning back to Table 2, besides gender, academic standing emerges as a significant predictor of social status. Students with higher math and verbal ability enjoy higher social status across all our social status metrics. For example, a one standard deviation increase in math score implies 0.12 standard deviations higher (0.23 extra in-degree ties) in-degree centrality on average. The respective value for verbal score is similar. Observe also that higher academic standing lowers the probability of being socially isolated. A one standard

deviation increase in math scores is associated with about 3 percentage point decline in the probability of total social isolation. Cognitive empathy seems to be another significant predictor of one's social status in the classroom. This result is intuitive as students with higher cognitive empathy are more likely to be prosocial (see Batson et al., 1997; Galinsky and Moskowitz, 2000; Galinsky and Ku, 2004). For example, Morelli et al. (2017) show that empathetic and prosocial individuals are more centrally located in networks characterized by trust. We find similar results: A one standard deviation increase in cognitive empathy (eyes test score) is associated with about 0.06 standard deviation increase in in-degree centrality, implying about 0.12 extra in-degree ties.

Internal locus of control stands out as important as academic standing in predicting social status. Controlling for cognitive outcomes, a one standard deviation increase in internal locus of control is associated with 0.06 standard deviations higher in-degree centrality. Estimated magnitudes are remarkably similar across social status measures. Contrary to the locus of control, we find that growth mindset is predictive only for social isolation, with more optimistic students being less likely to be socially isolated. Note that fluid IQ, often considered as innate ability, does not predict social status after controlling for other cognitive and noncognitive skills, except for reciprocal ties and social isolation measures. Overall, these results imply that people who appear as intelligent based on their academic achievement, empathetic, autonomous, and emotionally mature enjoy a higher social status in the eyes of their peers.

Note that what we document here is a set of correlates of social status in student networks. This analysis can not rule out the possible reverse directions in these relationships. It is entirely plausible that both cognitive and noncognitive skills may be shaped, at least partially, by peer relationships. For example, while individuals with a high locus of control may attract more friends, those who manage to attract friends may develop a higher internal locus of control. Golsteyn et al. (2021) recently showed that peer personality has a significant impact on a student's own personality. Such circular causality may be at work also for academic achievement (see, e.g., Calvo-Armengol et al. (2009)). However, it is harder to imagine this reverse causality for abilities that are less malleable after certain ages, such

as fluid IQ and cognitive empathy. Note also that it is improbable that one's personality (and academic standing) changes in a few weeks of socialization with a particular type of peers. While social status may be quickly established, personality changes and behavioral adaptations likely to take a longer time. When we re-run the regressions in Table 2 for grade 5 students only, we find very similar results, both in terms of estimated sizes and precision; see Table A1. This suggests that estimated relationships mainly reflect the predictive power of personal characteristics in determining social status, not the other way round. We now turn to investigating how social status is associated with perceived social climate.

3.1 Empirical Specification

To estimate the relationship between students' social status and their perceived social climate, we use the following empirical model:

$$PC_{icj} = \alpha Status_{icj} + \beta X'_{icj} + \theta \overline{PC}'_{(i)cj} + \gamma \overline{Z}'_{(i)cj} + \delta_j + \epsilon_{icj}, \tag{1}$$

where $Status_{icj}$ is a measure of social status of student i, in classroom c, school j and PC_{icj} is a measure of her perceived classroom climate, such as her reported sense of belonging. Vector X contains all individual-level covariates such as fluid IQ, cognitive empathy, math, and verbal test scores, locus of control, and growth mindset. The cross-sectional distribution of social status is likely to be correlated with peer characteristics. For example, there may be more social isolation or less connectedness in classrooms with lower cognitive empathy or classrooms with bad behavioral norms. Therefore, we add to our empirical model vector $\overline{PC}'_{(i)cj}$, which contains classroom averages of all climate indicators, calculated by leaving out student i. Similarly, vector $\overline{Z}'_{(i)cj}$ contains classroom averages of cognitive and noncognitive abilities (fluid IQ, cognitive empathy, math, verbal, locus of control, and growth mindset), calculated by leaving out student i. δ_j is school fixed effects. Regressions also control for gender, classroom size, the proportion of absent pupils on the day of the data collection, grade dummy, and the proportion of male students in the classroom.

Note that the estimated coefficients of classroom averages are not of direct interest here.

We utilize them only to control for overall peer characteristics to isolate as much as possible the variation in social status. An alternative and more conservative specification would be to use classroom fixed effects instead. We experiment with this specification as well when we check the robustness of our estimates. Even if one controls for these characteristics, the causal interpretation of estimated α requires a strong conditional exogeneity assumption, that is, controlling for observed individual and peer characteristics, a student's social status is exogenous to her unmeasured characteristics that may be correlated with her climate perceptions. While we control for rich individual characteristics, we cannot rule out the presence of omitted variables.

Giving α a causal interpretation also assumes away the possibility that students' climate perception might affect their social status. It is plausible that students who view their environment as hostile may act in a particularly unfriendly way that may make it harder for them to attract friends. They may even draw violent attention toward themselves. This may generate a vicious cycle of going from low-status to negative perceptions and to even lower status and isolation eventually. Unfortunately, our data do not allow us to address this circular causality. Given these identification issues, we interpret our estimates of α as the size of the association between social status and perceived social climate. The random assignment of students to classrooms is useful only to ensure that the estimated associations are not driven by selection into a particular classroom climate, but rather, they are robust relationships present in the underlying population our sample represents.

3.2 Social Status and Perceived Classroom Climate

Table 3 presents the relationship between social status, measured by in-degree centrality, and perceived social climate measures. The estimated relationships are remarkably consistent across all climate measures. Students who enjoy higher social status (higher in-degree centrality) are significantly more positive about their social environment than those with lower social status. They report a higher sense of belonging, higher peer and teacher support, and perceive better behavioral norms. A one standard deviation increase in in-degree centrality (about two extra nominations) is associated with about 0.1 standard deviations higher

sense of belonging, 0.17 standard deviations higher perceived peer support, 0.05 standard deviations higher perceived teacher support. Similarly, a one standard deviation increase in in-degree centrality is associated with 0.05 standard deviation better perceived behavioral norms. Not surprisingly, students with higher social status are less likely to experience peer violence. A one standard deviation increase in in-degree centrality is associated with a one percentage point lower probability of being bullied by peers.

The predictive power of individual characteristics presented in Table 3 is noteworthy. Both individual-level cognitive and noncognitive skills are significant predictors of perceived social climate, with the latter consistently significant across all climate measures. For the sense of belonging measure, in addition to internal locus of control and growth mindset, academic standing appears as a significant predictor. Students with a higher internal locus of control and those who maintain more optimistic views about effort and success seem to enjoy their social environment more, even after controlling for their academic achievement. One standard deviation higher locus of control is associated with a 0.15 standard deviation increase in students' sense of belonging to their classroom. Notice also that internal locus of control is negatively associated with bullying experience, with a one standard deviation increase in students' internal locus of control being associated with 4 percentage points lower likelihood of peer violence. Estimates of growth mindset are strikingly similar to those of locus of control.

Considering other predictors of perceived social climate, while we observe that overall classroom social climate indicators (leave-out means) appear significantly predictive of individual perception, we do not see the same predictive power for classroom-level cognitive and noncognitive skills. Of all classroom-level climate indicators, bullying is the one that is predictive of individual climate perceptions consistently across all indicators.

Our findings concerning other social status measures are very similar to the estimates presented in Table 3. Table 4 presents the results for eigenvector centrality, godfather index, closeness centrality, reciprocal and supported ties, as well as our binary social isolation measure. For the sake of space, we only report the estimated coefficients on our variable of interest, i.e., social status, and suppress other coefficients. Tables with all estimated

coefficients can be found in Appendix A.1.2. Results for eigenvector centrality, godfather index, closeness centrality, reciprocal and supported ties all paint the same picture: Higher the social status, more positive the perceived social climate. Results on social isolation are worth noting. Table 4 shows that socially isolated students report significantly less peer support (0.28 standard deviations), lower sense of belonging (0.14 standard deviations), and significantly worse behavioral norms than students who receive at least one friendship nomination. Perhaps not surprisingly, socially isolated students are about 4 percentage points more likely to report peer violence.

Overall, we document a strong association between social status in student networks and students' perception of the social climate in classrooms. While we are cautious about interpreting these estimated relationships causally, we believe that they are strongly suggestive of the potential impact of peer relationships on the students' perception of their social environment. We do perform a number of checks to establish the robustness of our estimates. Firstly, our analyses provide strikingly similar results, both in estimated sizes and precision, when we do not control for leave-out means (see Table A9 in the Appendix). This is another strong indication of random assignment to classrooms so that these classroom characteristics are independent of students' social status. Relatedly, when we use classroom fixed effects instead of classroom characteristics and leave-out means, we obtain very similar estimates. Table A10 presents these results. Notice that the coefficient estimates are almost identical for all perceived climate and social status measures.

Second, we revisit the way we construct our social status measures. Social network data contain measurement error if some ties are not observed (Chandrasekhar and Lewis, 2016). We inevitably lost a small portion of our sample due to absentees in classrooms at the time of our visits. We were not able to elicit complete ties between an absentee and the participant. The average absenteeism rate in our sample is 12%, with a minimum rate of zero percent and a maximum of 56%. We perform two robustness checks to see if our coefficient estimates are stable when we (i) change how we treat incomplete ties in constructing our social status measures and (ii) drop classrooms with very high absenteeism. For the former, we re-construct our status measures except for in-degree centrality and social isolation, using

"induced subgraphs." Induced subgraphs ignore the ties directed to absentees. Tables A11 and A12 reproduce our main analysis using these modified social status measures. Estimates using the sample after dropping the classrooms with a share of absentees higher than 95th percentiles (18 classrooms in the sample) are presented in Tables A13 and A14. Our results survive both robustness checks.

3.3 Gender Heterogeneity in the Relationship Between Social Status and Perceived Classroom Climate

Given significant gender differences in the way students form friendship ties (Figure 5) and their perceptions of social climate (Figure 4), a natural question is whether there is any gender difference in the relationship between social status and perceived social climate. To investigate this, we re-run the regressions described in Section 3.1 by interacting the respective social status variable with the male dummy. For easier interpretation, we plot linear predictions obtained from these regressions. For all continuous measures of perceived social climate indicators, the direction of effects of social status on perceived climate is similar across boys and girls: the higher the social status, the better the perceived social climate (see Appendix Figures A2 - A5). However, we have some interesting gender heterogeneity with respect to bullying experience for all our social status measures (Figure 6).

Table 5 zooms further into these results. Recall that the unconditional gender difference in the probability of bullying experience is 8 percentage points (Figure 4). Notice also that higher social status lowers the probability of being bullied, as seen by the negative coefficients on interaction terms. For example, a one standard deviation increase in boys' social status, measured by in-degree ties or eigenvector centrality, entirely eliminates the gender difference in bullying experience. Consistent with this result, males who are socially isolated are significantly more likely to be bullied. Social isolation increases the probability of being bullied by 8 percentage points for boys, whereas it has no significant effect on girls. These results suggest that social status matters more for boys than girls in terms of exposure to peer violence (Bertrand and Pan, 2013).

4 Concluding Remarks

We document the relationship between social status and the perceived social climate in secondary schools. For this, we use rich data we collected from over 10,000 secondary school students in Turkey. By leveraging our rich data on student friendship networks, cognitive and noncognitive skills as well as self-reports of perceived classroom climate, we show that (i) students with higher cognitive and noncognitive skills enjoy higher social status among their classmates, and (ii) students' social status is highly predictive of the way they perceive their social environment in their school. Higher social status in secondary schools is associated with a higher sense of belonging, better perceived behavioral norms, higher reported peer and teacher support, and a lower likelihood of experiencing peer violence.

What do our findings imply for education policy and research? Extensive research shows that school climate is an important factor in achieving better learning outcomes. A critical component of a healthy school climate is healthy peer relationships. Students who are able to connect with their peers, form friendships, and receive support from them are more likely to be attached to their schools and perform better academically. While we refrain from making causal arguments, we believe that the documented relationships are strongly suggestive of the importance of peer relationships in general, social status in particular in determining adolescents' attachment to their school. This attachment may be critical not only for their academic achievement but also for their psychological well-being in the long run. Our results invite further research on identifying and testing educational actions that can turn schools into cohesive communities characterized by healthy relational dynamics. Providing evidence in this regard is imperative to build the desired learning environment for all, crucially for socioeconomically disadvantaged adolescents.

Our study uses data on socioeconomically disadvantaged adolescents in a specific country. Therefore, we refrain from generalizing our estimated relationships beyond this context. Nevertheless, we view our study as a step forward to advance our understanding of the importance of peer relationships in socioeconomically disadvantaged schools. Such schools, often characterized by peer violence and anti-social behavior, are observed in many parts of

the world and likely to face challenges similar to those in our sample.

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5 Tables

Table 1: Pairwise Pearson Correlations of Network Measures

	In-Degree Centrality	Eigenvector Centrality	Godfather Index	Closeness Centrality	Reciprocal Ties	Supported Ties
In-Degree Centrality	1					
Eigenvector Centrality	0.489***	1				
Godfather Index	0.781***	0.513***	1			
Closeness Centrality	0.305***	0.523***	0.379***	1		
Reciprocal Ties	0.711***	0.137***	0.216***	0.0562***	1	
Supported Ties	0.734***	0.565***	0.607***	0.273***	0.391***	1

Note: All variables are standardized to have mean zero and standard deviation one. Asterisks indicate that the correlation coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 2: What Predicts Social Status in Student Networks?

	In-Degree	Eigenvector	Godfather	Closeness	Reciprocal Ties	Supported Ties	Isolation
Male Student	0.002	0.130**	0.111***	0.145***	-0.076***	-0.024	0.018***
	(0.012)	(0.059)	(0.018)	(0.040)	(0.023)	(0.024)	(0.006)
Math Score	0.122***	0.092***	0.081***	0.059***	0.103***	0.107***	-0.028***
	(0.012)	(0.014)	(0.012)	(0.014)	(0.013)	(0.013)	(0.004)
Verbal Score	0.117***	0.062***	0.092***	0.035**	0.085***	0.087***	-0.015***
	(0.014)	(0.014)	(0.014)	(0.015)	(0.014)	(0.012)	(0.004)
Raven Score	0.018	-0.018	-0.004	0.006	0.034***	0.002	-0.007*
	(0.012)	(0.013)	(0.011)	(0.011)	(0.011)	(0.015)	(0.004)
Eyes Test Score	0.061***	0.036***	0.026**	0.030***	0.073***	0.058***	-0.020***
	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)	(0.011)	(0.003)
Locus of Control	0.065***	0.042***	0.051***	0.032***	0.035***	0.045***	-0.009**
	(0.012)	(0.014)	(0.013)	(0.011)	(0.012)	(0.012)	(0.004)
Growth Mindset	0.010	0.001	-0.000	0.004	0.020*	0.006	-0.011**
	(0.011)	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	(0.004)
Classroom Size	0.002	-0.024***	0.005*	-0.056***	0.002	-0.005	-0.001
	(0.002)	(0.006)	(0.003)	(0.011)	(0.003)	(0.005)	(0.001)
Share of Males	0.117***	-0.043	0.135**	0.050	0.051	0.103	-0.021
	(0.041)	(0.102)	(0.064)	(0.192)	(0.058)	(0.075)	(0.021)
Obs	10756	9916	10312	9916	10756	10677	10756
R-Squared	0.084	0.075	0.055	0.245	0.086	0.071	0.051

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Isolation is a binary variable that takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All dependent variables and covariates (except isolation, male student, classroom size and share of males) are standardized. The regressions control for a dummy for students with learning difficulties, grade dummy, share of absentees in classroom in survey date and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 3: Social Status and Perceived Classroom Climate: In-Degree Centrality

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
In-Degree Centrality	0.098***	0.051***	0.169***	0.055***	-0.011**
	(0.010)	(0.009)	(0.009)	(0.009)	(0.005)
Student Characteristics:					
Male Student	-0.088***	0.051***	-0.096***	-0.060***	0.043***
	(0.021)	(0.017)	(0.022)	(0.017)	(0.012)
Math Score	0.073***	0.007	0.021	0.018	0.003
	(0.014)	(0.012)	(0.014)	(0.014)	(0.006)
Verbal Score	0.074***	0.000	0.015	0.025*	-0.003
	(0.016)	(0.014)	(0.011)	(0.014)	(0.006)
Raven Score	-0.005	-0.008	-0.014	-0.077***	0.013**
	(0.010)	(0.013)	(0.015)	(0.012)	(0.006)
Eyes Test Score	0.010	0.040***	0.004	0.002	-0.010
	(0.009)	(0.009)	(0.011)	(0.010)	(0.006)
Locus of Control	0.151***	0.124***	0.070***	0.030**	-0.039***
	(0.011)	(0.014)	(0.014)	(0.013)	(0.005)
Growth Mindset	0.138***	0.062***	0.041***	0.039***	-0.014**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.006)
Leave-out Means:					
Mean Math Score	-0.053	0.009	-0.038	-0.040	0.019
	(0.073)	(0.050)	(0.069)	(0.079)	(0.032)
Mean Verbal Score	0.039	0.015	0.056	-0.008	0.023
	(0.071)	(0.047)	(0.080)	(0.076)	(0.032)
Mean Raven Score	-0.006	0.112**	-0.028	0.025	-0.070**
	(0.072)	(0.050)	(0.062)	(0.074)	(0.027)
Mean Eyes Test Score	0.047	0.082*	-0.002	0.075	-0.008
	(0.054)	(0.043)	(0.070)	(0.064)	(0.029)
Mean Locus of Control	0.023	-0.045	-0.057	0.010	-0.005
	(0.065)	(0.045)	(0.084)	(0.060)	(0.025)
Mean Growth Mindset	0.022	0.038	0.174***	0.039	0.070***
	(0.061)	(0.044)	(0.065)	(0.058)	(0.026)
Mean Sense of Belonging	-0.060	-0.016	0.027	0.088	-0.048
	(0.083)	(0.041)	(0.062)	(0.054)	(0.031)
Mean Behavioral Norms	0.025	0.494***	0.110***	-0.024	-0.128***
	(0.049)	(0.051)	(0.041)	(0.040)	(0.019)
Mean Peer Support	0.010	-0.012	-0.068	0.072	0.015
	(0.064)	(0.048)	(0.113)	(0.059)	(0.026)
Mean Teacher Support	0.119**	-0.032	0.118*	0.110	-0.013
	(0.051)	(0.041)	(0.064)	(0.074)	(0.023)
Mean Bullying Experience	-0.312**	-0.404***	-0.174*	-0.166*	0.263***
	(0.118)	(0.070)	(0.098)	(0.098)	(0.060)
Obs	10756	10756	10756	10756	10756
R-Squared	0.158	0.148	0.079	0.032	0.072

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All dependent variables and student level covariates (except bullying experience and male student) are standardized. Leave-out means are the classroom averages of the respective (standardized) variable, which is calculated for each student in classroom separately by leaving out the student herself. The regressions control for a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 4: Social Status and Perceived Classroom Climate

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Panel A: Eigenvector Centrality					
Eigenvector	0.065***	0.052***	0.113***	0.055***	-0.004
	(0.011)	(0.009)	(0.011)	(0.010)	(0.005)
Obs	9916	9916	9916	9916	9916
R-Squared	0.152	0.148	0.065	0.033	0.071
Panel B: Godfather Index					
Godfather Index	0.061***	0.033***	0.100***	0.045***	-0.009*
	(0.010)	(0.009)	(0.010)	(0.010)	(0.005)
Obs	10312	10312	10312	10312	10312
R-Squared	0.147	0.146	0.063	0.032	0.073
Panel C: Closeness Centrality					
Closeness Centrality	0.033**	0.021**	0.065***	0.031***	0.006
	(0.013)	(0.009)	(0.014)	(0.011)	(0.005)
Obs	9916	9916	9916	9916	9916
R-Squared	0.149	0.146	0.057	0.031	0.071
Panel D: Reciprocal Ties					
Reciprocal Ties	0.078***	0.038***	0.147***	0.024**	-0.006
	(0.010)	(0.011)	(0.010)	(0.010)	(0.005)
Obs	10756	10756	10756	10756	10756
R-Squared	0.155	0.147	0.073	0.029	0.071
Panel E: Supported Ties					
Supported Ties	0.095***	0.058***	0.161***	0.056***	-0.012**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.005)
Obs	10677	10677	10677	10677	10677
R-Squared	0.157	0.147	0.078	0.032	0.071
Panel F: Social Isolation					
Isolation	-0.138***	-0.134***	-0.278***	-0.041	0.041***
	(0.031)	(0.036)	(0.040)	(0.036)	(0.014)
Obs	10756	10756	10756	10756	10756
R-Squared	0.151	0.147	0.061	0.029	0.072

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. Isolation is a binary variable that takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All variables (except bullying experience and isolation) are standardized. The regressions control for the gender, math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, peer and teacher support, behavioral norms and bullying experience). Leave-out means are classroom average of the respective variables, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 5: Gender Heterogeneity in Social Status and Bullying Experience

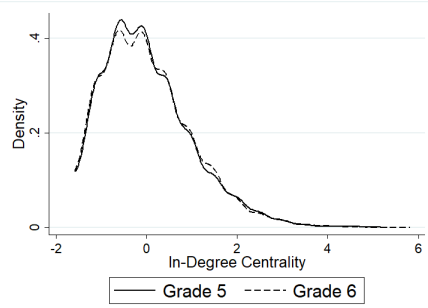
	Bullying Experience
Panel A: In-Degree Centraliy	
Male	0.043***
	(0.012)
In-Degree	0.004
	(0.008)
Male*In-Degree	-0.029***
	(0.010)
Obs	10756
R-Squared	0.072
Panel B: Eigenvector Centrality	
Male	0.035***
	(0.012)
Eigenvector Centrality	0.008
	(0.007)
Male*Eigenvector Centrality	-0.025***
	(0.008)
Obs	9916
R-Squared	0.072
Panel C: Godfather Index	
Male	0.040***
	(0.012)
Godfather Index	0.000
	(0.009)
Male*Godfather Index	-0.017
	(0.011)
Obs	10312
R-Squared	0.073
Panel D: Closeness Centrality	
Male	0.034***
	(0.012)
Closeness Centrality	0.011
	(0.008)
Male*Closeness Centrality	-0.009
	(0.010)
Obs	9916
R-Squared	0.071
Panel E: Social Isolation	
Male	0.033***
	(0.012)
Isolation	-0.005
	(0.022)
Male*Isolation	0.079***
	(0.029)
Obs	10756
R-Squared	0.072

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. Isolation is a binary variable that takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All other status variables are standardized. The regressions control for math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, peer and teacher support, behavioral norms and bullying experience). Leave-out means are the classroom average of the respective variables, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

6 Figures

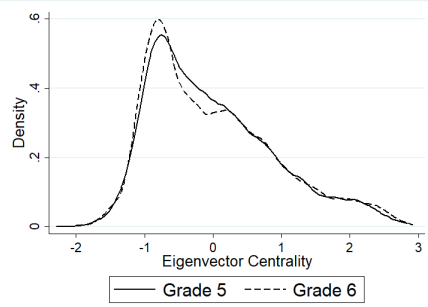
Figure 1: Kernel Density Functions of Status Measures by Grade

Panel 1: In-Degree Centrality



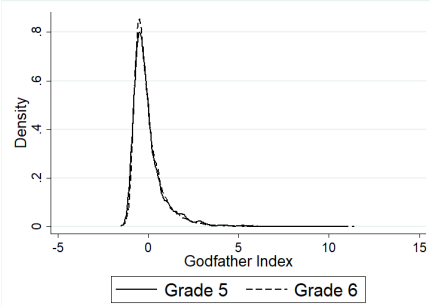
Kolmogorov-Smirnov Test: p-value=0.047

Panel 2: Eigenvector Centrality



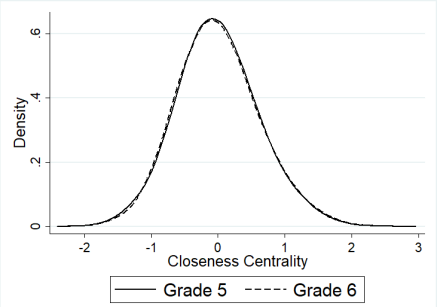
Kolmogorov-Smirnov Test: p-value=0.012

Panel 3: Godfather Index



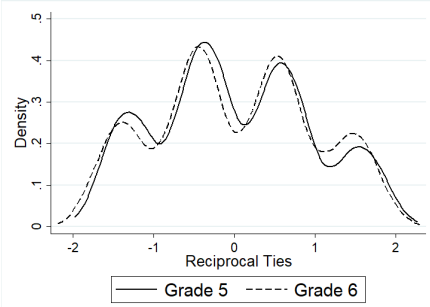
Kolmogorov-Smirnov Test: p-value=0.005

Panel 4: Closeness Centrality



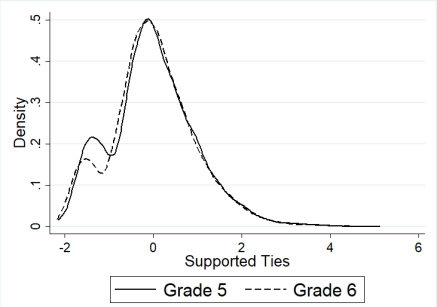
Kolmogorov-Smirnov Test: p-value=0.618

Panel 5: Reciprocal Ties



Kolmogorov-Smirnov Test: p-value=0.000

Panel 6: Supported Ties



Kolmogorov-Smirnov Test: p-value=0.001

Note: Each panel depicts the distribution of residuals after regressing standardized status measures on classroom fixed effects. P-values for the two-sided Kolmogorov-Smirnov Test of equality of distributions are given at the bottom of the figures.

Figure 2: Distributions of Cognitive and Noncognitive Skills

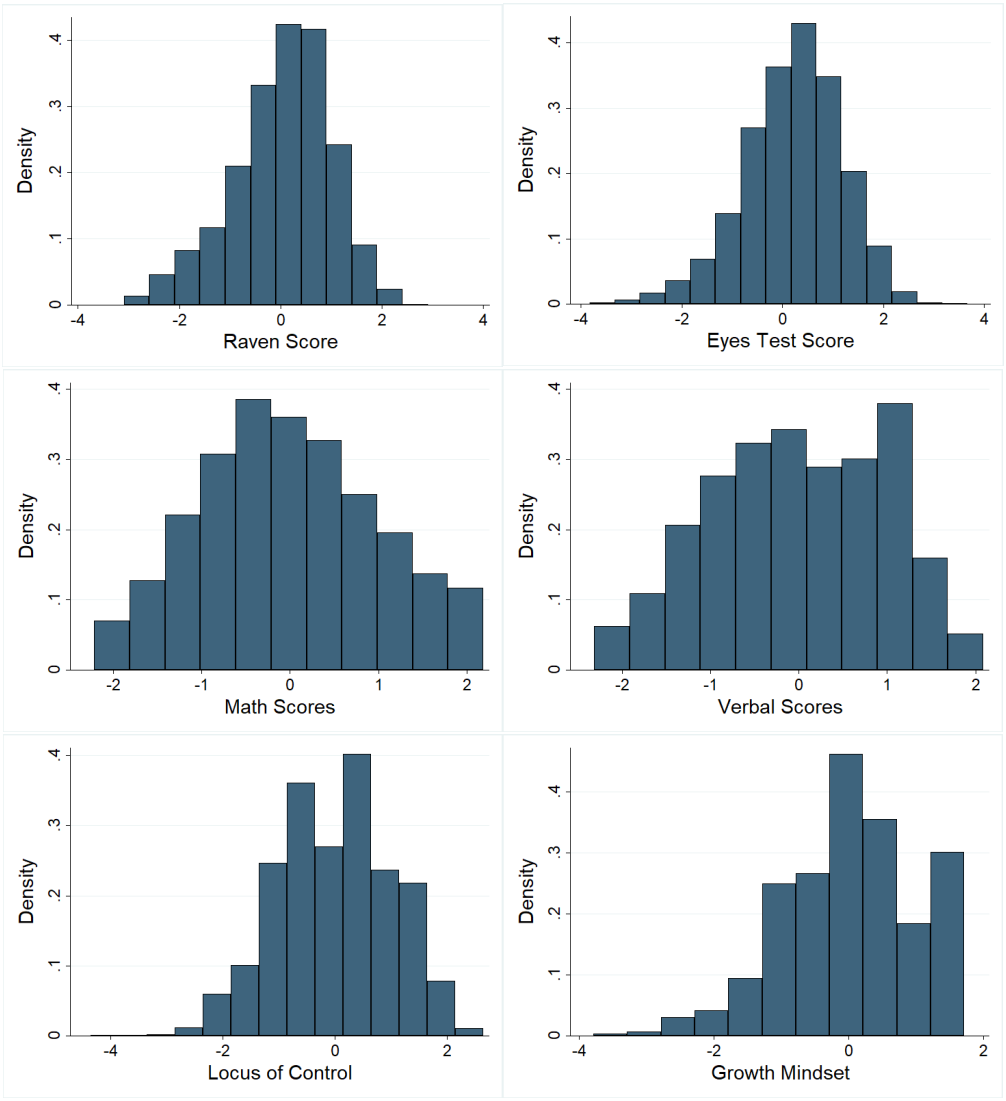


Figure 3: Distributions of Perceived Classroom Climate

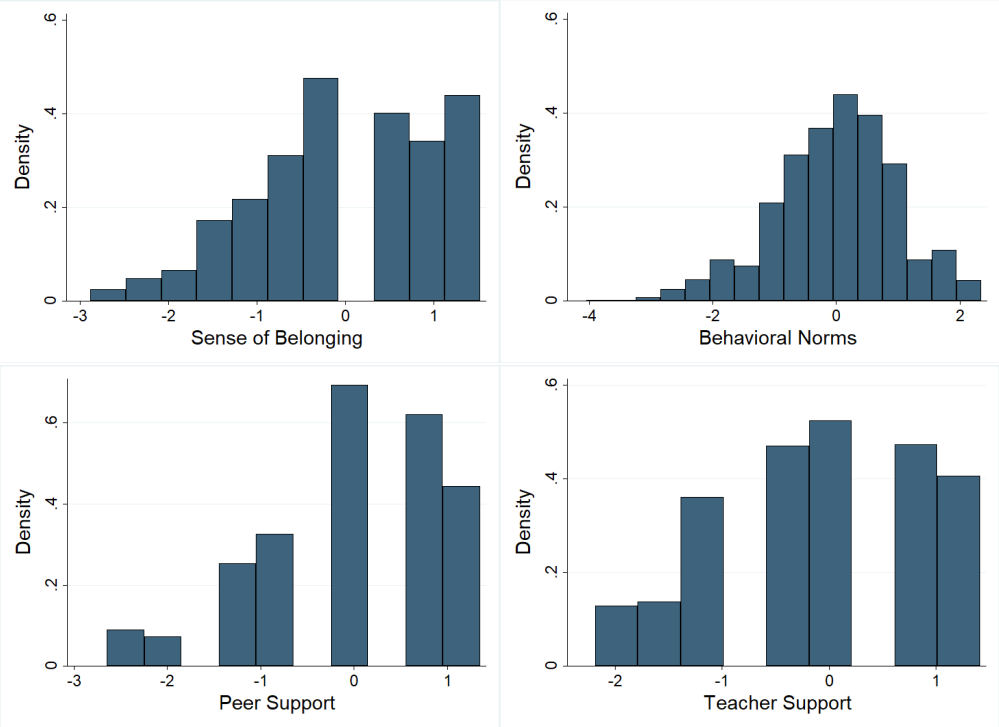
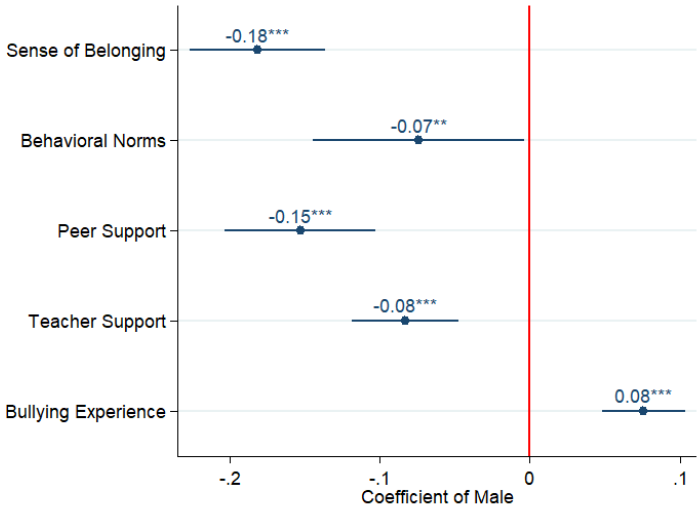
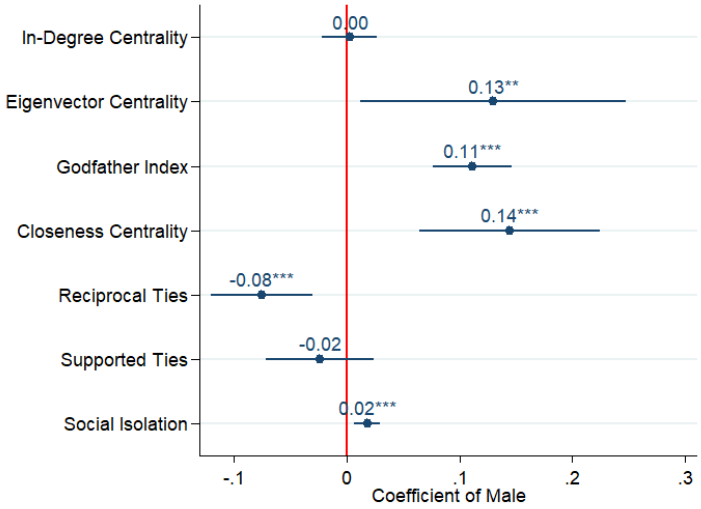


Figure 4: Gender Difference in Perceived Classroom Climate



Note: We report the estimated coefficients of dummy variable male from OLS estimation. 95% confidence intervals are based on standard errors clustered at school level. The dependent variables are sense of belonging, behavioral norms, peer support, teacher support, and bullying experience. The bullying experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All other dependent variables are standardized. The regressions control for school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

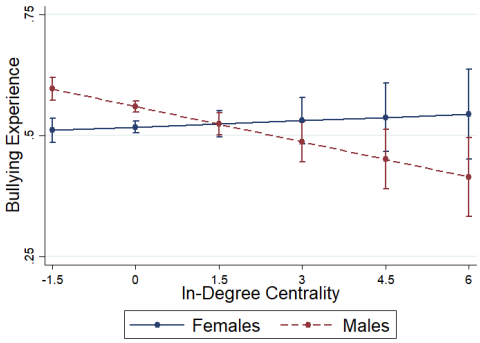
Figure 5: Gender Difference in Social Status



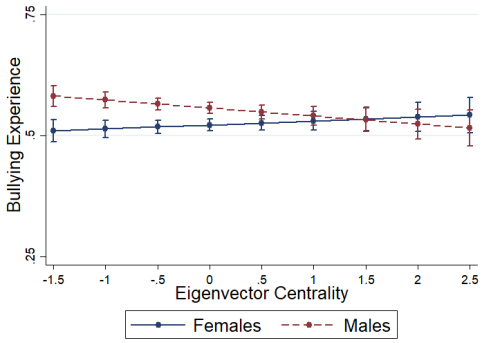
Note: We report the estimated coefficients of dummy variable male from OLS estimation. 95% confidence intervals are based on standard errors clustered at school level. The dependent variables are in-degree centrality, eigenvector centrality, godfather index, closeness centrality, reciprocal ties, supported ties and social isolation. Social Isolation is a binary variable which takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All other dependent variables are standardized. The regressions control for math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, a dummy for students with learning difficulties, share of absentees in classroom in survey date, share of males in classroom, and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Figure 6: Social Status and Bullying Experience: Gender Heterogeneity

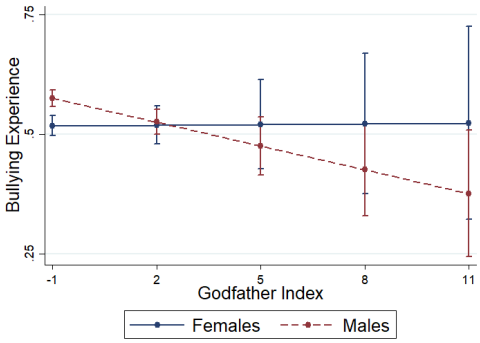
Panel 1: In-Degree Centrality



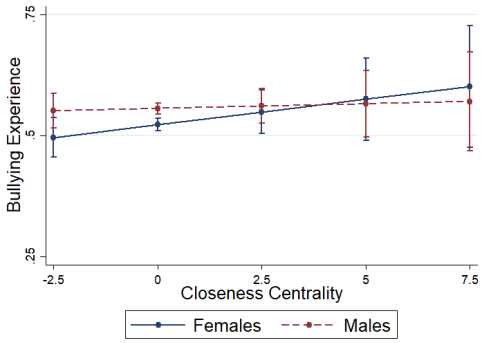
Panel 2: Eigenvector Centrality



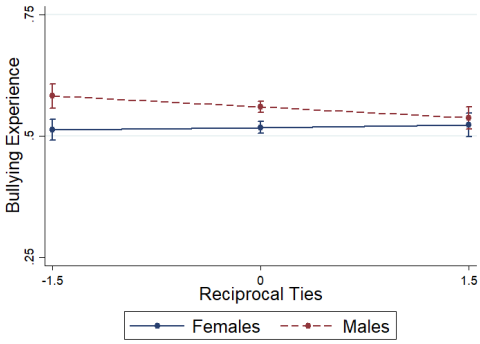
Panel 3: Godfather Index



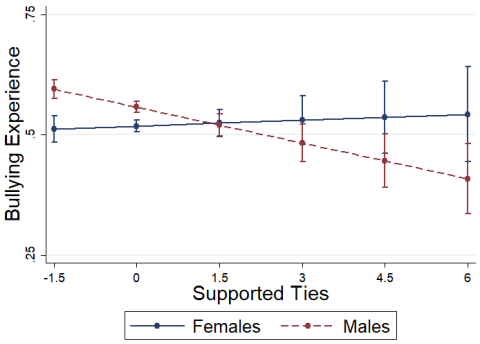
Panel 4: Closeness Centrality



Panel 5: Reciprocal Ties



Panel 6: Supported Ties



Note: Panels 1-6 show the predicted margins from OLS regressions. 95% confidence intervals are based on standard errors clustered at school level. The dependent variable is bullying experience which that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All status measures are standardized. All regressions control for math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, behavioral norms, peer and teacher support, and bullying experience). Leave-out means are classroom averages of the respective variable, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in the survey date, share of males in classroom and school fixed effects.

A Online Appendix

A.1 Tables

A.1.1 Determinants of Social Status by Grade Level

Table A1: What Predicts Social Status?: Grade 5

	In-Degree	Eigenvector	Godfather	Closeness	Reciprocal Ties	Supported Ties	Isolation
Male Student	-0.015	-0.044	0.076***	0.100***	-0.037	-0.093**	0.005
	(0.019)	(0.084)	(0.024)	(0.035)	(0.035)	(0.038)	(0.009)
Math Score	0.101***	0.086***	0.066***	0.061***	0.080***	0.098***	-0.029***
	(0.019)	(0.017)	(0.019)	(0.017)	(0.017)	(0.018)	(0.006)
Verbal Score	0.124***	0.048**	0.090***	0.044***	0.113***	0.089***	-0.019***
	(0.021)	(0.023)	(0.021)	(0.014)	(0.021)	(0.020)	(0.007)
Raven Score	-0.008	-0.010	-0.022	-0.005	0.003	-0.017	-0.004
	(0.017)	(0.019)	(0.016)	(0.014)	(0.015)	(0.017)	(0.006)
Eyes Test Score	0.056***	0.043***	0.019	0.021*	0.076***	0.056***	-0.016***
	(0.017)	(0.014)	(0.018)	(0.012)	(0.015)	(0.017)	(0.005)
Locus of Control	0.065***	0.037*	0.053***	0.036***	0.044***	0.034*	-0.007
	(0.016)	(0.019)	(0.019)	(0.012)	(0.015)	(0.018)	(0.005)
Growth Mindset	0.010	0.023	0.016	0.020*	0.003	0.008	-0.011**
	(0.016)	(0.017)	(0.014)	(0.012)	(0.017)	(0.015)	(0.005)
Classroom Size	0.006	-0.021	0.009	-0.038**	0.015*	-0.001	-0.001
	(0.007)	(0.014)	(0.007)	(0.019)	(0.008)	(0.014)	(0.002)
Share of Males	0.084	0.114	0.093	0.026	0.007	0.128	0.008
	(0.062)	(0.181)	(0.147)	(0.294)	(0.103)	(0.124)	(0.021)
Obs	5311	5035	5052	5035	5311	5267	5311
R-Squared	0.077	0.099	0.051	0.345	0.088	0.070	0.054

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Isolation is a binary variable that takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All dependent variables and covariates (except isolation, male student, classroom size and share of males) are standardized. The regressions control for a dummy for students with learning difficulties, share of absentees in classroom in survey date and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A2: What Predicts Social Status?: Grade 6

	In-Degree	Eigenvector	Godfather	Closeness	Reciprocal Ties	Supported Ties	Isolation
Male Student	0.021	0.336***	0.147***	0.181**	-0.116***	0.050	0.031***
	(0.019)	(0.107)	(0.026)	(0.068)	(0.037)	(0.035)	(0.009)
Math Score	0.142***	0.089***	0.094***	0.053***	0.128***	0.112***	-0.027***
	(0.016)	(0.020)	(0.015)	(0.017)	(0.017)	(0.018)	(0.006)
Verbal Score	0.121***	0.080***	0.101***	0.015	0.061***	0.099***	-0.011*
	(0.018)	(0.021)	(0.018)	(0.022)	(0.019)	(0.016)	(0.006)
Raven Score	0.042***	-0.020	0.014	0.021	0.058***	0.021	-0.010*
	(0.016)	(0.016)	(0.013)	(0.013)	(0.016)	(0.019)	(0.006)
Eyes Test Score	0.068***	0.033**	0.031**	0.034**	0.073***	0.064***	-0.024***
	(0.012)	(0.015)	(0.013)	(0.016)	(0.016)	(0.012)	(0.005)
Locus of Control	0.068***	0.059***	0.054***	0.039**	0.028	0.060***	-0.011*
	(0.017)	(0.019)	(0.017)	(0.019)	(0.018)	(0.016)	(0.006)
Growth Mindset	0.011	-0.016	-0.013	0.003	0.034**	0.002	-0.010
	(0.017)	(0.015)	(0.017)	(0.014)	(0.016)	(0.015)	(0.006)
Classroom Size	-0.004	-0.032***	-0.007	-0.060**	0.000	-0.007	0.001
	(0.004)	(0.010)	(0.007)	(0.026)	(0.006)	(0.009)	(0.002)
Share of Males	0.051	-0.365***	0.143**	0.076	-0.025	-0.048	-0.018
	(0.043)	(0.136)	(0.069)	(0.238)	(0.099)	(0.103)	(0.023)
Obs	5445	4881	5260	4881	5445	5410	5445
R-Squared	0.098	0.107	0.070	0.286	0.095	0.085	0.060

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Isolation is a binary variable that takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All dependent variables and covariates (except isolation, male student, classroom size and share of males) are standardized. The regressions control for a dummy for students with learning difficulties, share of absentees in classroom in survey date and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

A.1.2 Social Status and Perceived Classroom Climate: Full Tables

Table A3: Eigenvector Centrality and Perceived Classroom Climate

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Eigenvector Centrality	0.065***	0.052***	0.113***	0.055***	-0.004
	(0.011)	(0.009)	(0.011)	(0.010)	(0.005)
Student Characteristics:					
Male Student	-0.097***	0.060***	-0.101***	-0.065***	0.036***
	(0.023)	(0.018)	(0.025)	(0.019)	(0.012)
Math Score	0.080***	0.008	0.031**	0.021	0.004
	(0.014)	(0.013)	(0.015)	(0.014)	(0.006)
Verbal Score	0.078***	0.006	0.030**	0.033**	-0.007
	(0.016)	(0.013)	(0.012)	(0.013)	(0.006)
Raven Score	-0.003	-0.010	-0.013	-0.081***	0.012*
	(0.010)	(0.014)	(0.016)	(0.013)	(0.006)
Eyes Test Score	0.010	0.036***	0.013	-0.001	-0.009
	(0.009)	(0.010)	(0.011)	(0.011)	(0.006)
Locus of Control	0.159***	0.127***	0.074***	0.035***	-0.039***
	(0.012)	(0.014)	(0.014)	(0.012)	(0.006)
Growth Mindset	0.137***	0.061***	0.045***	0.035***	-0.014**
	(0.013)	(0.012)	(0.012)	(0.013)	(0.006)
Leave-out Means:					
Mean Math Score	-0.023	0.020	-0.009	0.003	0.020
	(0.078)	(0.057)	(0.070)	(0.078)	(0.035)
Mean Verbal Score	0.016	0.000	0.033	-0.011	0.030
	(0.074)	(0.054)	(0.090)	(0.083)	(0.036)
Mean Raven Score	-0.042	0.130**	-0.038	-0.008	-0.074**
	(0.076)	(0.054)	(0.061)	(0.073)	(0.030)
Mean Eyes Test Score	0.041	0.085*	0.024	0.054	-0.003
	(0.056)	(0.043)	(0.072)	(0.063)	(0.030)
Mean Locus of Control	0.002	-0.075	-0.098	0.012	-0.002
	(0.071)	(0.047)	(0.086)	(0.065)	(0.027)
Mean Growth Mindset	0.068	0.077	0.208***	0.065	0.066**
	(0.065)	(0.052)	(0.072)	(0.068)	(0.029)
Mean Sense of Belonging	-0.070	0.008	0.047	0.093	-0.063*
	(0.082)	(0.043)	(0.070)	(0.057)	(0.036)
Mean Behavioral Norms	0.034	0.482***	0.112**	-0.016	-0.128***
	(0.050)	(0.059)	(0.045)	(0.046)	(0.020)
Mean Peer Support	0.025	0.004	-0.083	0.070	0.015
	(0.065)	(0.054)	(0.121)	(0.065)	(0.029)
Mean Teacher Support	0.130**	-0.052	0.132**	0.086	-0.018
	(0.051)	(0.046)	(0.066)	(0.070)	(0.024)
Mean Bullying Experience	-0.367***	-0.404***	-0.145	-0.150	0.226***
	(0.124)	(0.082)	(0.116)	(0.100)	(0.065)
Obs	9916	9916	9916	9916	9916
R-Squared	0.152	0.148	0.065	0.033	0.071

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All dependent variables and student level covariates (except bullying experience and male student) are standardized. Leave-out means are the classroom average of the respective (standardized) variables, which is calculated for each student in classroom separately by leaving out the student herself. The regressions control for a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A4: Godfather Index and Perceived Classroom Climate

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Godfather Index	0.061***	0.033***	0.100***	0.045***	-0.009*
	(0.010)	(0.009)	(0.010)	(0.010)	(0.005)
Student Characteristics:					
Male Student	-0.096***	0.059***	-0.097***	-0.059***	0.041***
	(0.022)	(0.017)	(0.022)	(0.017)	(0.012)
Math Score	0.083***	0.011	0.033**	0.025*	0.003
	(0.014)	(0.013)	(0.014)	(0.014)	(0.006)
Verbal Score	0.079***	0.001	0.026**	0.028**	-0.004
	(0.016)	(0.014)	(0.011)	(0.013)	(0.006)
Raven Score	-0.006	-0.013	-0.013	-0.077***	0.011*
	(0.010)	(0.014)	(0.015)	(0.013)	(0.006)
Eyes Test Score	0.009	0.030***	0.012	0.001	-0.008
	(0.008)	(0.009)	(0.011)	(0.010)	(0.006)
Locus of Control	0.157***	0.126***	0.075***	0.036***	-0.040***
	(0.012)	(0.014)	(0.014)	(0.013)	(0.005)
Growth Mindset	0.134***	0.062***	0.045***	0.037***	-0.013**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.006)
Leave-out Means:					
Mean Math Score	-0.054	0.000	-0.064	-0.057	0.021
	(0.070)	(0.052)	(0.068)	(0.079)	(0.034)
Mean Verbal Score	0.029	0.015	0.062	0.006	0.028
	(0.073)	(0.049)	(0.081)	(0.075)	(0.031)
Mean Raven Score	-0.008	0.125**	-0.017	0.025	-0.081***
	(0.072)	(0.050)	(0.067)	(0.076)	(0.028)
Mean Eyes Test Score	0.064	0.072	-0.004	0.073	-0.009
	(0.058)	(0.043)	(0.071)	(0.068)	(0.030)
Mean Locus of Control	-0.001	-0.077	-0.080	-0.003	0.000
	(0.063)	(0.049)	(0.085)	(0.060)	(0.026)
Mean Growth Mindset	0.020	0.065	0.176***	0.031	0.067**
	(0.062)	(0.048)	(0.065)	(0.058)	(0.027)
Mean Sense of Belonging	-0.033	-0.011	0.018	0.103*	-0.046
	(0.084)	(0.042)	(0.066)	(0.055)	(0.033)
Mean Behavioral Norms	0.018	0.496***	0.114**	-0.036	-0.128***
	(0.049)	(0.051)	(0.044)	(0.042)	(0.020)
Mean Peer Support	0.005	-0.011	-0.062	0.080	0.024
	(0.062)	(0.049)	(0.108)	(0.059)	(0.027)
Mean Teacher Support	0.128**	-0.020	0.130**	0.094	-0.019
	(0.049)	(0.043)	(0.062)	(0.077)	(0.025)
Mean Bullying Experience	-0.316**	-0.434***	-0.151	-0.177*	0.273***
	(0.122)	(0.071)	(0.105)	(0.101)	(0.061)
Obs	10312	10312	10312	10312	10312
R-Squared	0.147	0.146	0.063	0.032	0.073

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All dependent variables and student level covariates (except bullying experience and male student) are standardized. Leave-out means are the classroom average of the respective (standardized) variables, which is calculated for each student in classroom separately by leaving out the student herself. The regressions control for a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A5: Closeness Centrality and Perceived Classroom Climate

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Closeness Centrality	0.033**	0.021**	0.065***	0.031***	0.006
	(0.013)	(0.009)	(0.014)	(0.011)	(0.005)
Student Characteristics:					
Male Student	-0.093***	0.064***	-0.095***	-0.062***	0.034***
	(0.023)	(0.019)	(0.024)	(0.020)	(0.012)
Math Score	0.084***	0.012	0.038**	0.024*	0.003
	(0.014)	(0.013)	(0.015)	(0.014)	(0.006)
Verbal Score	0.081***	0.009	0.035***	0.036***	-0.007
	(0.016)	(0.013)	(0.012)	(0.013)	(0.006)
Raven Score	-0.004	-0.011	-0.015	-0.082***	0.012*
	(0.011)	(0.014)	(0.016)	(0.013)	(0.006)
Eyes Test Score	0.011	0.038***	0.016	-0.000	-0.010
	(0.009)	(0.010)	(0.011)	(0.011)	(0.006)
Locus of Control	0.161***	0.128***	0.077***	0.036***	-0.040***
	(0.012)	(0.014)	(0.014)	(0.013)	(0.006)
Growth Mindset	0.137***	0.061***	0.045***	0.035***	-0.014**
	(0.013)	(0.012)	(0.012)	(0.013)	(0.006)
Leave-out Means:					
Mean Math Score	-0.030	0.015	-0.022	-0.003	0.020
	(0.078)	(0.058)	(0.072)	(0.078)	(0.035)
Mean Verbal Score	0.012	-0.004	0.026	-0.015	0.031
	(0.075)	(0.055)	(0.095)	(0.083)	(0.036)
Mean Raven Score	-0.039	0.133**	-0.033	-0.006	-0.075**
	(0.076)	(0.054)	(0.062)	(0.074)	(0.030)
Mean Eyes Test Score	0.034	0.080*	0.011	0.048	-0.003
	(0.057)	(0.044)	(0.073)	(0.062)	(0.030)
Mean Locus of Control	0.005	-0.074	-0.094	0.014	-0.002
	(0.071)	(0.047)	(0.086)	(0.066)	(0.027)
Mean Growth Mindset	0.068	0.076	0.207***	0.064	0.067**
	(0.066)	(0.052)	(0.073)	(0.070)	(0.029)
Mean Sense of Belonging	-0.068	0.009	0.050	0.095	-0.063*
	(0.082)	(0.043)	(0.070)	(0.058)	(0.036)
Mean Behavioral Norms	0.032	0.480***	0.108**	-0.018	-0.128***
	(0.049)	(0.059)	(0.046)	(0.048)	(0.020)
Mean Peer Support	0.022	-0.000	-0.086	0.068	0.017
	(0.064)	(0.055)	(0.121)	(0.064)	(0.028)
Mean Teacher Support	0.130**	-0.052	0.132**	0.087	-0.017
	(0.051)	(0.046)	(0.065)	(0.069)	(0.024)
Mean Bullying Experience	-0.361***	-0.400***	-0.132	-0.144	0.228***
	(0.126)	(0.081)	(0.121)	(0.102)	(0.065)
Obs	9916	9916	9916	9916	9916
R-Squared	0.149	0.146	0.057	0.031	0.071

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All dependent variables and student level covariates (except bullying experience and male student) are standardized. Leave-out means are the classroom average of the respective (standardized) variables, which is calculated for each student in classroom separately by leaving out the student herself. The regressions control for a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A6: Reciprocal Ties and Perceived Classroom Climate

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Reciprocal Ties	0.078***	0.038***	0.147***	0.024**	-0.006
	(0.010)	(0.011)	(0.010)	(0.010)	(0.005)
Student Characteristics:					
Male Student	-0.082***	0.054***	-0.084***	-0.058***	0.042***
	(0.021)	(0.018)	(0.023)	(0.017)	(0.012)
Math Score	0.078***	0.010	0.027*	0.022	0.002
	(0.014)	(0.012)	(0.014)	(0.014)	(0.006)
Verbal Score	0.079***	0.003	0.022*	0.029**	-0.004
	(0.016)	(0.014)	(0.011)	(0.014)	(0.006)
Raven Score	-0.006	-0.008	-0.016	-0.077***	0.013**
	(0.010)	(0.013)	(0.015)	(0.012)	(0.006)
Eyes Test Score	0.011	0.040***	0.004	0.003	-0.010*
	(0.009)	(0.009)	(0.011)	(0.010)	(0.006)
Locus of Control	0.154***	0.126***	0.076***	0.033**	-0.039***
	(0.012)	(0.014)	(0.013)	(0.013)	(0.005)
Growth Mindset	0.137***	0.062***	0.040***	0.039***	-0.014**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.006)
Leave-out Means:					
Mean Math Score	-0.062	0.004	-0.054	-0.046	0.020
	(0.072)	(0.050)	(0.071)	(0.079)	(0.032)
Mean Verbal Score	0.030	0.011	0.041	-0.013	0.024
	(0.072)	(0.046)	(0.084)	(0.077)	(0.031)
Mean Raven Score	-0.001	0.114**	-0.019	0.027	-0.070**
	(0.072)	(0.051)	(0.065)	(0.075)	(0.027)
Mean Eyes Test Score	0.046	0.082*	-0.004	0.074	-0.008
	(0.055)	(0.043)	(0.070)	(0.064)	(0.028)
Mean Locus of Control	0.023	-0.046	-0.058	0.008	-0.004
	(0.066)	(0.046)	(0.086)	(0.060)	(0.025)
Mean Growth Mindset	0.025	0.040	0.179***	0.042	0.069***
	(0.061)	(0.044)	(0.065)	(0.059)	(0.026)
Mean Sense of Belonging	-0.059	-0.016	0.030	0.086	-0.048
	(0.083)	(0.041)	(0.063)	(0.054)	(0.032)
Mean Behavioral Norms	0.029	0.495***	0.116***	-0.023	-0.129***
	(0.050)	(0.051)	(0.041)	(0.040)	(0.019)
Mean Peer Support	-0.003	-0.018	-0.090	0.065	0.017
	(0.064)	(0.048)	(0.116)	(0.058)	(0.026)
Mean Teacher Support	0.119**	-0.032	0.118*	0.111	-0.013
	(0.050)	(0.042)	(0.065)	(0.074)	(0.023)
Mean Bullying Experience	-0.311**	-0.403***	-0.171*	-0.166*	0.262***
	(0.119)	(0.070)	(0.098)	(0.098)	(0.059)
Obs	10756	10756	10756	10756	10756
R-Squared	0.155	0.147	0.073	0.029	0.071

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All dependent variables and student level covariates (except bullying experience and male student) are standardized. Leave-out means are the classroom average of the respective (standardized) variables, which is calculated for each student in classroom separately by leaving out the student herself. The regressions control for a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A7: Supported Ties and Perceived Classroom Climate

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Supported Ties	0.095***	0.058***	0.161***	0.056***	-0.012**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.005)
Student Characteristics:					
Male Student	-0.085***	0.057***	-0.087***	-0.057***	0.039***
	(0.021)	(0.017)	(0.022)	(0.018)	(0.012)
Math Score	0.074***	0.005	0.025*	0.019	0.003
	(0.014)	(0.013)	(0.014)	(0.014)	(0.006)
Verbal Score	0.080***	0.002	0.020*	0.026*	-0.003
	(0.016)	(0.014)	(0.011)	(0.013)	(0.006)
Raven Score	-0.003	-0.009	-0.013	-0.079***	0.013**
	(0.010)	(0.013)	(0.015)	(0.012)	(0.006)
Eyes Test Score	0.011	0.036***	0.008	0.001	-0.010
	(0.009)	(0.009)	(0.011)	(0.010)	(0.006)
Locus of Control	0.154***	0.127***	0.074***	0.033**	-0.039***
	(0.012)	(0.014)	(0.014)	(0.012)	(0.005)
Growth Mindset	0.136***	0.059***	0.042***	0.037***	-0.014**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.006)
Leave-out Means:					
Mean Math Score	-0.043	0.022	-0.026	-0.043	0.015
	(0.071)	(0.053)	(0.070)	(0.080)	(0.032)
Mean Verbal Score	0.026	0.007	0.042	-0.007	0.023
	(0.070)	(0.049)	(0.082)	(0.074)	(0.032)
Mean Raven Score	-0.007	0.097*	-0.038	0.024	-0.068**
	(0.073)	(0.051)	(0.061)	(0.075)	(0.027)
Mean Eyes Test Score	0.045	0.082*	-0.006	0.072	-0.006
	(0.053)	(0.043)	(0.069)	(0.064)	(0.029)
Mean Locus of Control	0.025	-0.041	-0.053	0.016	-0.006
	(0.065)	(0.045)	(0.088)	(0.061)	(0.025)
Mean Growth Mindset	0.013	0.037	0.186***	0.046	0.071***
	(0.062)	(0.046)	(0.066)	(0.060)	(0.026)
Mean Sense of Belonging	-0.065	-0.021	0.009	0.088	-0.045
	(0.083)	(0.042)	(0.064)	(0.055)	(0.032)
Mean Behavioral Norms	0.033	0.496***	0.123***	-0.018	-0.130***
	(0.049)	(0.053)	(0.044)	(0.040)	(0.019)
Mean Peer Support	0.011	0.002	-0.066	0.079	0.013
	(0.064)	(0.048)	(0.110)	(0.060)	(0.026)
Mean Teacher Support	0.132***	-0.035	0.129**	0.099	-0.011
	(0.049)	(0.042)	(0.062)	(0.074)	(0.023)
Mean Bullying Experience	-0.315***	-0.401***	-0.148	-0.158	0.260***
	(0.117)	(0.071)	(0.108)	(0.100)	(0.061)
Obs	10677	10677	10677	10677	10677
R-Squared	0.157	0.147	0.078	0.032	0.071

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All dependent variables and student level covariates (except bullying experience and male student) are standardized. Leave-out means are the classroom average of the respective (standardized) variables, which is calculated for each student in classroom separately by leaving out the student herself. The regressions control for a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A8: Social Isolation and Perceived Classroom Climate

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Isolation	-0.138***	-0.134***	-0.278***	-0.041	0.041***
	(0.031)	(0.036)	(0.040)	(0.036)	(0.014)
Student Characteristics:					
Male Student	-0.085***	0.053***	-0.090***	-0.059***	0.042***
	(0.021)	(0.017)	(0.023)	(0.017)	(0.012)
Math Score	0.082***	0.010	0.035**	0.023*	0.003
	(0.014)	(0.012)	(0.014)	(0.014)	(0.006)
Verbal Score	0.084***	0.005	0.031***	0.031**	-0.004
	(0.016)	(0.014)	(0.011)	(0.014)	(0.006)
Raven Score	-0.004	-0.008	-0.013	-0.076***	0.013**
	(0.010)	(0.013)	(0.015)	(0.012)	(0.006)
Eyes Test Score	0.014	0.041***	0.009	0.004	-0.010
	(0.009)	(0.009)	(0.011)	(0.010)	(0.006)
Locus of Control	0.156***	0.127***	0.079***	0.033**	-0.039***
	(0.012)	(0.014)	(0.013)	(0.013)	(0.005)
Growth Mindset	0.138***	0.062***	0.040***	0.039***	-0.013**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.006)
Leave-out Means:					
Mean Math Score	-0.069	-0.001	-0.068	-0.048	0.021
	(0.073)	(0.050)	(0.070)	(0.079)	(0.032)
Mean Verbal Score	0.033	0.013	0.046	-0.012	0.023
	(0.072)	(0.047)	(0.081)	(0.076)	(0.031)
Mean Raven Score	0.002	0.118**	-0.012	0.028	-0.072***
	(0.073)	(0.051)	(0.065)	(0.075)	(0.027)
Mean Eyes Test Score	0.046	0.083*	-0.003	0.074	-0.008
	(0.055)	(0.042)	(0.072)	(0.064)	(0.028)
Mean Locus of Control	0.016	-0.049	-0.071	0.006	-0.004
	(0.066)	(0.046)	(0.085)	(0.059)	(0.025)
Mean Growth Mindset	0.029	0.042	0.186***	0.043	0.069**
	(0.061)	(0.044)	(0.065)	(0.058)	(0.026)
Mean Sense of Belonging	-0.066	-0.018	0.018	0.084	-0.048
	(0.083)	(0.040)	(0.063)	(0.054)	(0.032)
Mean Behavioral Norms	0.025	0.493***	0.109**	-0.024	-0.128***
	(0.050)	(0.051)	(0.043)	(0.040)	(0.019)
Mean Peer Support	0.007	-0.009	-0.070	0.068	0.014
	(0.064)	(0.049)	(0.117)	(0.058)	(0.026)
Mean Teacher Support	0.122**	-0.032	0.122*	0.112	-0.013
	(0.051)	(0.042)	(0.066)	(0.074)	(0.023)
Mean Bullying Experience	-0.307**	-0.398***	-0.163	-0.165*	0.261***
	(0.118)	(0.070)	(0.101)	(0.098)	(0.059)
Obs	10756	10756	10756	10756	10756
R-Squared	0.151	0.147	0.061	0.029	0.072

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses.. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. Isolation is a binary variable that takes the value of 1 if the student receive no friendship nomination, and zero otherwise. All dependent variables and student level covariates (except bullying experience, isolation and male student) are standardized. Leave-out means are the classroom average of the respective (standardized) variables, which is calculated for each student in classroom separately by leaving out the student herself. The regressions control for a dummy for students with learning difficulties, grade dummy, classroom size, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

A.1.3 Robustness Checks: Replication of the Main Tables

Table A9: Social Status and Perceived Classroom Climate without Leave-out Means

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Panel B: In-Degree Centrality					
In-Degree	0.096***	0.043***	0.166***	0.052***	-0.009*
	(0.010)	(0.009)	(0.009)	(0.009)	(0.005)
Obs	10756	10756	10756	10756	10756
R-Squared	0.155	0.106	0.074	0.028	0.051
Panel B: Eigenvector Centrality					
Eigenvector	0.062***	0.043***	0.110***	0.052***	-0.002
	(0.011)	(0.010)	(0.011)	(0.010)	(0.005)
Obs	9916	9916	9916	9916	9916
R-Squared	0.148	0.106	0.060	0.029	0.053
Panel C: Godfather Index					
Godfather Index	0.060***	0.028***	0.099***	0.043***	-0.008
	(0.010)	(0.009)	(0.010)	(0.010)	(0.005)
Obs	10312	10312	10312	10312	10312
R-Squared	0.144	0.102	0.058	0.029	0.052
Panel D: Closeness Centrality					
Closeness Centrality	0.032**	0.022	0.064***	0.029**	0.005
	(0.013)	(0.015)	(0.015)	(0.013)	(0.007)
Obs	9916	9916	9916	9916	9916
R-Squared	0.145	0.105	0.052	0.027	0.053
Panel E: Reciprocal Ties					
Reciprocal Ties	0.077***	0.032***	0.146***	0.023**	-0.005
	(0.010)	(0.011)	(0.010)	(0.010)	(0.005)
Obs	10756	10756	10756	10756	10756
R-Squared	0.152	0.105	0.068	0.026	0.051
Panel F: Supported Ties					
Supported Ties	0.092***	0.046***	0.157***	0.053***	-0.009
	(0.009)	(0.010)	(0.009)	(0.009)	(0.006)
Obs	10677	10677	10677	10677	10677
R-Squared	0.153	0.105	0.073	0.028	0.051
Panel G: Social Isolation					
Isolation	-0.137***	-0.123***	-0.276***	-0.036	0.039***
	(0.031)	(0.035)	(0.040)	(0.036)	(0.014)
Obs	10756	10756	10756	10756	10756
R-Squared	0.148	0.105	0.056	0.026	0.051

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. Isolation is a binary variable that takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All variables (except bullying experience and isolation) are standardized. The regressions control for gender, math and verbal scores, Raven score, Eyes Test score, cognitive empathy, locus of control, and growth mindset. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A10: Social Status and Perceived Classroom Climate: Classroom Fixed Effects

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Panel B: In-Degree Centrality					
In-Degree	0.098***	0.051***	0.168***	0.053***	-0.012**
	(0.009)	(0.009)	(0.010)	(0.009)	(0.005)
Obs	10756	10756	10756	10756	10756
R-Squared	0.187	0.194	0.112	0.071	0.115
Panel B: Eigenvector Centrality					
Eigenvector	0.072***	0.058***	0.129***	0.060***	-0.006
	(0.011)	(0.011)	(0.011)	(0.011)	(0.006)
Obs	9916	9916	9916	9916	9916
R-Squared	0.185	0.197	0.103	0.073	0.115
Panel C: Godfather Index					
Godfather Index	0.062***	0.032***	0.102***	0.046***	-0.010*
	(0.009)	(0.010)	(0.010)	(0.009)	(0.005)
Obs	10312	10312	10312	10312	10312
R-Squared	0.180	0.194	0.098	0.072	0.117
Panel D: Closeness Centrality					
Closeness Centrality	0.073***	0.048***	0.150***	0.062***	0.009
	(0.016)	(0.016)	(0.017)	(0.017)	(0.008)
Obs	9916	9916	9916	9916	9916
R-Squared	0.182	0.195	0.098	0.071	0.115
Panel E: Reciprocal Ties					
Reciprocal Ties	0.081***	0.039***	0.147***	0.022**	-0.007
	(0.010)	(0.010)	(0.011)	(0.010)	(0.005)
Obs	10756	10756	10756	10756	10756
R-Squared	0.185	0.193	0.106	0.069	0.114
Panel F: Supported Ties					
Supported Ties	0.098***	0.063***	0.169***	0.059***	-0.013**
	(0.010)	(0.009)	(0.010)	(0.010)	(0.005)
Obs	10677	10677	10677	10677	10677
R-Squared	0.187	0.194	0.112	0.071	0.114
Panel G: Social Isolation					
Isolation	-0.144***	-0.133***	-0.295***	-0.041	0.039**
	(0.031)	(0.032)	(0.036)	(0.032)	(0.016)
Obs	10756	10756	10756	10756	10756
R-Squared	0.181	0.193	0.094	0.068	0.115

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at classroom level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. Isolation is a binary variable that takes the value of 1 if the student receive no friendship nomination, and zero otherwise. All variables (except bullying experience and isolation) are standardized. The regressions control for gender, math and verbal scores, Raven score, Eyes Test score, locus of control, and growth mindset. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and classroom fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A11: What Predicts Social Status in Secondary Schools?: Based on Induced Networks

	Eigenvector	Godfather	Closeness	Reciprocal Ties	Supported Ties
Male Student	0.133**	0.107***	0.153***	-0.073***	-0.017
	(0.061)	(0.018)	(0.040)	(0.023)	(0.025)
Math Score	0.094***	0.084***	0.065***	0.102***	0.107***
	(0.014)	(0.012)	(0.014)	(0.013)	(0.014)
Verbal Score	0.071***	0.092***	0.036**	0.086***	0.088***
	(0.015)	(0.015)	(0.015)	(0.014)	(0.012)
Raven Score	-0.016	-0.003	0.006	0.033***	0.000
	(0.014)	(0.011)	(0.011)	(0.011)	(0.015)
Eyes Test Score	0.034***	0.025**	0.025**	0.073***	0.059***
	(0.010)	(0.011)	(0.010)	(0.010)	(0.011)
Locus of Control	0.042***	0.047***	0.033***	0.035***	0.043***
	(0.012)	(0.013)	(0.011)	(0.012)	(0.012)
Growth Mindset	-0.006	-0.001	0.004	0.020*	0.004
	(0.010)	(0.010)	(0.011)	(0.011)	(0.009)
Number of Participants	-0.031***	0.009**	-0.070***	0.001	-0.001
	(0.006)	(0.004)	(0.011)	(0.004)	(0.006)
Share of Males	0.000	0.129*	0.042	0.053	0.104
	(0.101)	(0.071)	(0.199)	(0.054)	(0.074)
Obs	9850	10243	9850	10756	10649
R-Squared	0.076	0.055	0.248	0.085	0.071

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Number of participants is the number of survey participants in classroom. All variables (except male student, number of participants and share of males) are standardized. The regressions control for a dummy for students with learning difficulties, grade dummy, share of absentees in classroom in survey date and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A12: Social Status and Perceived Classroom Climate: Based on Induced Networks

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Panel A: Eigenvector Centrality					
Eigenvector	0.065***	0.052***	0.109***	0.054***	-0.007
	(0.013)	(0.009)	(0.011)	(0.010)	(0.005)
Obs	9850	9850	9850	9850	9850
R-Squared	0.155	0.149	0.064	0.033	0.072
Panel B: Godfather Index					
Godfather Index	0.059***	0.032***	0.097***	0.043***	-0.009*
	(0.010)	(0.009)	(0.009)	(0.010)	(0.005)
Obs	10243	10243	10243	10243	10243
R-Squared	0.148	0.146	0.063	0.032	0.073
Panel C: Closeness Centrality					
Closeness Centrality	0.039***	0.021**	0.072***	0.030**	0.005
	(0.014)	(0.010)	(0.015)	(0.012)	(0.006)
Obs	9850	9850	9850	9850	9850
R-Squared	0.152	0.147	0.057	0.031	0.072
Panel D: Reciprocal Ties					
Reciprocal Ties	0.078***	0.039***	0.147***	0.025**	-0.007
	(0.010)	(0.011)	(0.010)	(0.010)	(0.005)
Obs	10756	10756	10756	10756	10756
R-Squared	0.155	0.147	0.073	0.029	0.071
Panel E: Supported Ties					
Supported Ties	0.091***	0.058***	0.156***	0.055***	-0.012**
	(0.009)	(0.009)	(0.009)	(0.010)	(0.006)
Obs	10649	10649	10649	10649	10649
R-Squared	0.155	0.147	0.076	0.032	0.071

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. All other variables are standardized. The regressions control for gender, math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, peer and teacher support, behavioral norms and bullying experience). Leave-out means are the classroom average of the respective (standardized) variables, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A13: What Predicts Social Social Status in Secondary Schools?: Share of Absentees Lower Than 95% Percentile

	In-Degree	Eigenvector	Godfather	Closeness	Reciprocal Ties	Supported Ties	Isolation
Male Student	0.007	0.129**	0.111***	0.143***	-0.074***	-0.020	0.017***
	(0.013)	(0.059)	(0.019)	(0.040)	(0.023)	(0.025)	(0.006)
Math Score	0.124***	0.093***	0.084***	0.060***	0.103***	0.113***	-0.027***
	(0.012)	(0.014)	(0.013)	(0.014)	(0.013)	(0.013)	(0.004)
Verbal Score	0.120***	0.062***	0.094***	0.033**	0.088***	0.088***	-0.016***
	(0.014)	(0.014)	(0.014)	(0.015)	(0.014)	(0.012)	(0.004)
Raven Score	0.016	-0.025*	-0.007	0.002	0.034***	-0.001	-0.007*
	(0.013)	(0.013)	(0.012)	(0.011)	(0.011)	(0.015)	(0.004)
Eyes Test Score	0.063***	0.038***	0.028**	0.032***	0.073***	0.060***	-0.019***
	(0.010)	(0.010)	(0.011)	(0.010)	(0.011)	(0.010)	(0.003)
Locus of Control	0.067***	0.041***	0.051***	0.032***	0.040***	0.045***	-0.010**
	(0.012)	(0.014)	(0.013)	(0.011)	(0.012)	(0.012)	(0.004)
Growth Mindset	0.010	0.001	-0.001	0.004	0.018	0.006	-0.010**
	(0.011)	(0.010)	(0.010)	(0.010)	(0.012)	(0.010)	(0.004)
Classroom Size	0.001	-0.027***	0.006	-0.065***	0.001	-0.006	-0.000
	(0.002)	(0.006)	(0.004)	(0.011)	(0.004)	(0.006)	(0.001)
Share of Males	0.117***	-0.048	0.146**	0.061	0.054	0.093	-0.025
	(0.042)	(0.102)	(0.067)	(0.200)	(0.058)	(0.077)	(0.021)
Obs	10354	9547	9936	9547	10354	10283	10354
R-Squared	0.085	0.073	0.054	0.246	0.088	0.073	0.052

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Isolation is a binary variables that takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All dependent variables and covariates (except isolation, male student, classroom size and share of males) are standardized. The regressions control for a dummy for students with learning difficulties, grade dummy, share of absentees in classroom in survey date and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table A14: Social Status and Perceived Classroom Climate: Share of Absentees Lower Than 95% Percentile

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Panel A: In-Degree Centrality					
In-Degree	0.099***	0.050***	0.166***	0.055***	-0.012**
	(0.010)	(0.010)	(0.009)	(0.009)	(0.005)
Obs	10376	10376	10376	10376	10376
R-Squared	0.158	0.143	0.079	0.032	0.069
Panel B: Eigenvector Centrality					
Eigenvector Centrality	0.064***	0.051***	0.113***	0.055***	-0.005
	(0.012)	(0.009)	(0.011)	(0.010)	(0.005)
Obs	9567	9567	9567	9567	9567
R-Squared	0.152	0.144	0.065	0.033	0.069
Panel C: Godfather Index					
Godfather Index	0.063***	0.032***	0.097***	0.046***	-0.010*
	(0.010)	(0.009)	(0.010)	(0.010)	(0.005)
Obs	9955	9955	9955	9955	9955
R-Squared	0.148	0.143	0.062	0.033	0.070
Panel D: Closeness Centrality					
Closeness Centrality	0.035**	0.018*	0.065***	0.028**	0.004
	(0.014)	(0.010)	(0.015)	(0.012)	(0.005)
Obs	9567	9567	9567	9567	9567
R-Squared	0.149	0.142	0.057	0.031	0.069
Panel E: Reciprocal Ties					
Reciprocal Ties	0.080***	0.037***	0.148***	0.025**	-0.007
	(0.010)	(0.011)	(0.010)	(0.010)	(0.005)
Obs	10376	10376	10376	10376	10376
R-Squared	0.154	0.142	0.073	0.030	0.069
Panel F: Supported Ties					
Supported Ties	0.095***	0.056***	0.156***	0.053***	-0.013**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.005)
Obs	10303	10303	10303	10303	10303
R-Squared	0.157	0.143	0.076	0.032	0.069
Panel G: Social Isolation					
Isolation	-0.135***	-0.133***	-0.282***	-0.046	0.044***
	(0.032)	(0.037)	(0.041)	(0.035)	(0.014)
Obs	10376	10376	10376	10376	10376
R-Squared	0.150	0.143	0.060	0.030	0.070

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. The analysis includes the classrooms with share of absentees lower than 95% percentile. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. Isolation is a binary variable that takes the value of 1 if the student receives no friendship nomination, and zero otherwise. All variables (except bullying experience and isolation) are standardized. The regressions control for gender, math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, peer and teacher support, behavioral norms and bullying experience). Leave-out means are the classroom average of the respective variables, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

A.1.4 Social Status and Perceived Classroom Climate: Gender Heterogenity

Table A15: Social Status and Perceived Classroom Climate: Gender Heterogenity

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Panel A: In-Degree Centraliy					
Male	-0.088***	0.051***	-0.095***	-0.060***	0.043***
	(0.021)	(0.017)	(0.022)	(0.017)	(0.012)
In-Degree Centrality	0.100***	0.025**	0.168***	0.063***	0.004
	(0.015)	(0.012)	(0.012)	(0.013)	(0.008)
Male*In-Degree Centrality	-0.004	0.048**	0.001	-0.015	-0.029***
	(0.017)	(0.019)	(0.018)	(0.019)	(0.010)
Obs	10756	10756	10756	10756	10756
R-Squared	0.158	0.148	0.079	0.032	0.072
Panel B: Eigenvector centrality					
Male	-0.096***	0.061***	-0.100***	-0.064***	0.035***
	(0.023)	(0.018)	(0.025)	(0.019)	(0.012)
Eigenvector Centrality	0.059***	0.032**	0.089***	0.047***	0.008
	(0.018)	(0.013)	(0.016)	(0.015)	(0.007)
Male*Eigenvector Centrality	0.011	0.039**	0.049**	0.017	-0.025***
	(0.022)	(0.016)	(0.023)	(0.024)	(0.008)
Obs	9916	9916	9916	9916	9916
R-Squared	0.152	0.149	0.066	0.033	0.072
Panel C: Godfather Index					
Male	-0.096***	-0.096***	-0.096***	-0.060***	0.040***
	(0.022)	(0.022)	(0.022)	(0.017)	(0.012)
Godfather	0.063***	0.063***	0.095***	0.050***	0.000
	(0.014)	(0.014)	(0.015)	(0.014)	(0.009)
Male*Godfather Index	-0.005	-0.005	0.008	-0.008	-0.017
	(0.015)	(0.015)	(0.019)	(0.019)	(0.011)
Obs	10312	10312	10312	10312	10312
R-Squared	0.147	0.147	0.063	0.032	0.073
Panel D: Closeness Centrality					
Male	-0.094***	0.068***	-0.096***	-0.063***	0.034***
	(0.022)	(0.018)	(0.025)	(0.020)	(0.012)
Closeness	0.042**	-0.001	0.068***	0.036**	0.011
	(0.018)	(0.014)	(0.019)	(0.017)	(0.008)
Male*Closeness Centrality	-0.017	0.040**	-0.007	-0.008	-0.009
	(0.022)	(0.018)	(0.021)	(0.022)	(0.010)
Obs	9916	9916	9916	9916	9916
R-Squared	0.149	0.146	0.057	0.031	0.071
Panel E: Reciprocal ties					
Male	-0.082***	0.053***	-0.083***	-0.058***	0.042***
	(0.021)	(0.018)	(0.023)	(0.017)	(0.012)
Reciprocal Ties	0.081***	0.021	0.156***	0.036**	0.003
	(0.014)	(0.013)	(0.014)	(0.014)	(0.006)
Male*Reciprocal Ties	-0.004	0.032	-0.017	-0.022	-0.018**
	(0.018)	(0.020)	(0.019)	(0.020)	(0.009)
Obs	10756	10756	10756	10756	10756
R-Squared	0.155	0.147	0.073	0.029	0.072

Table A15: Social Status and Perceived Classroom Climate: Gender Heterogenity (cont'd)

	Sense of Belonging	Behavioral Norms	Peer Support	Teacher Support	Bullying Experience
Panel F: Supported ties					
Male	-0.085***	0.057***	-0.087***	-0.057***	0.039***
	(0.021)	(0.017)	(0.022)	(0.018)	(0.012)
Closeness	0.094***	0.043***	0.157***	0.055***	0.004
	(0.012)	(0.014)	(0.012)	(0.014)	(0.008)
Male*Supported ties	0.002	0.027	0.006	0.002	-0.029***
	(0.015)	(0.020)	(0.018)	(0.019)	(0.009)
Obs	10677	10677	10677	10677	10677
R-Squared	0.157	0.147	0.078	0.032	0.072
Panel G: Social Isolation					
Male	-0.088***	0.073***	-0.092***	-0.068***	0.033***
	(0.021)	(0.017)	(0.022)	(0.018)	(0.012)
Isolation	-0.155***	-0.028	-0.290***	-0.090*	-0.005
	(0.047)	(0.048)	(0.062)	(0.048)	(0.022)
Male*Isolation	0.029	-0.179***	0.020	0.084	0.079***
	(0.057)	(0.065)	(0.077)	(0.059)	(0.029)
Obs	10756	10756	10756	10756	10756
R-Squared	0.151	0.148	0.061	0.029	0.072

Note: The table presents the estimates from OLS regressions. Standard errors are clustered at school level and reported in parentheses. Bullying Experience is a binary variable that takes the value of 1 if the student reports being bullied by at least one of her classmates, and zero otherwise. Isolation is a binary variable that takes the value of 1 1 if the student receives no friendship nomination, and zero otherwise. All other status variables are standardized. The regressions control for math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, peer and teacher support, behavioral norms and bullying experience). Leave-out means are the classroom average of the respective (standardized) variables, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in survey date, share of males in classroom and school fixed effects. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

A.2 Figures

Figure A1: Cross-sectional Distributions of Social Status Measures (Unconditional)

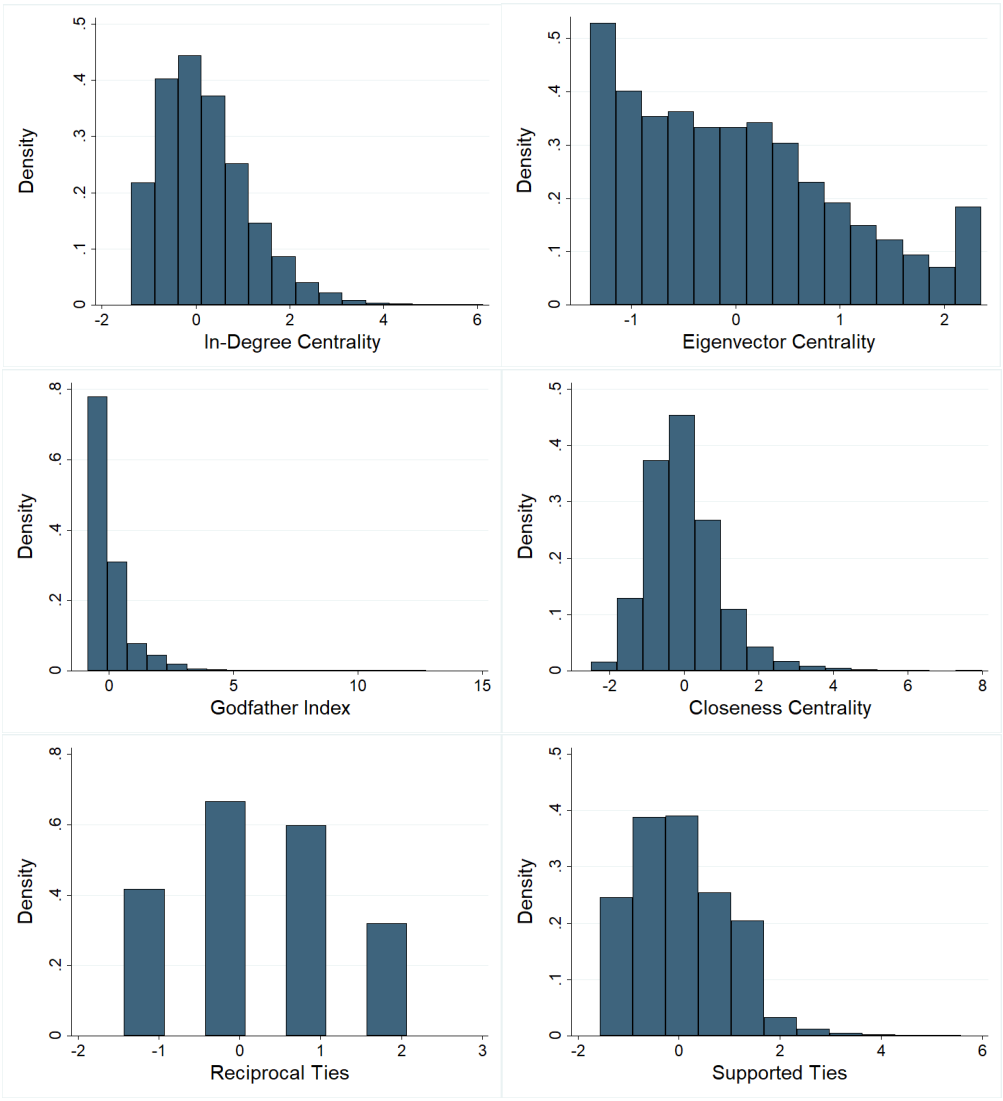
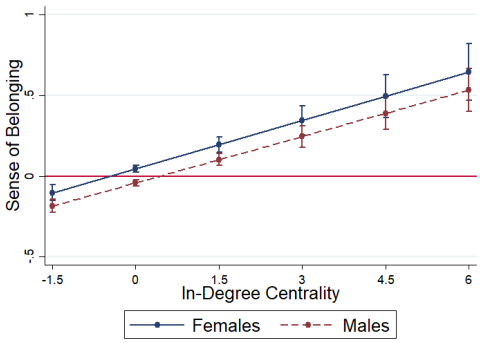
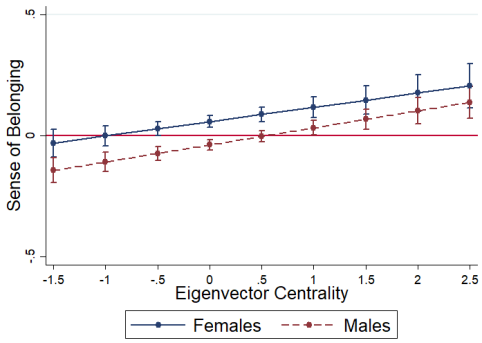


Figure A2: Social Status and Sense of Belonging: Gender Heterogeneity

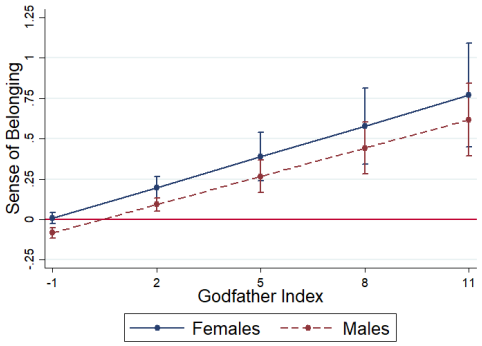
Panel 1: In-Degree Centrality



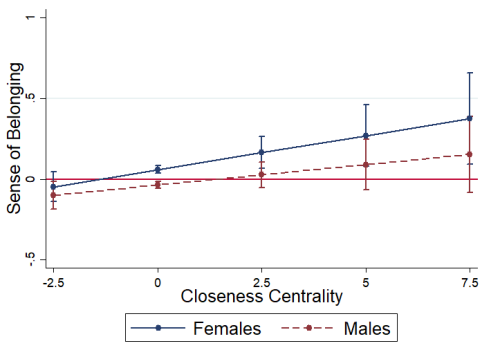
Panel 2: Eigenvector Centrality



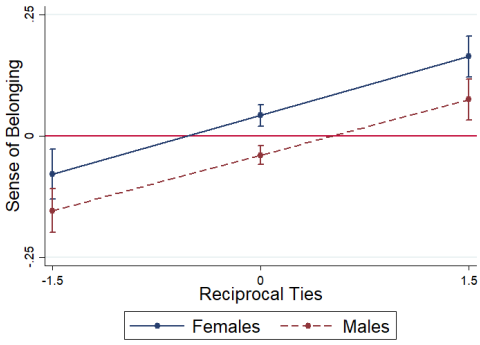
Panel 3: Godfather Index



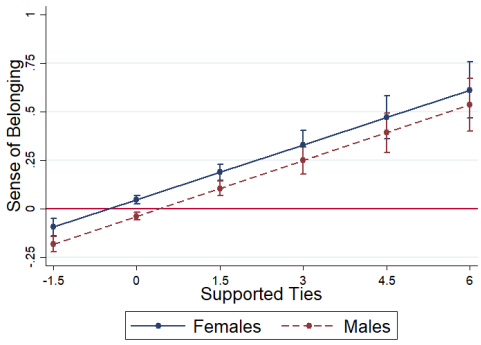
Panel 4: Closeness Centrality



Panel 5: Reciprocal Ties



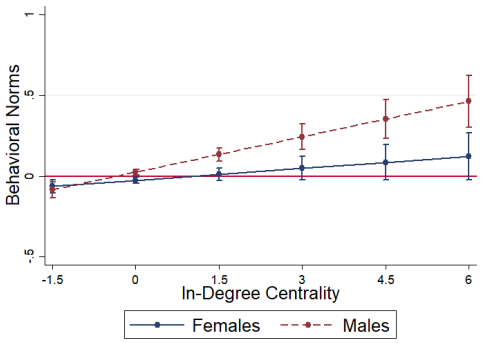
Panel 6: Supported Ties



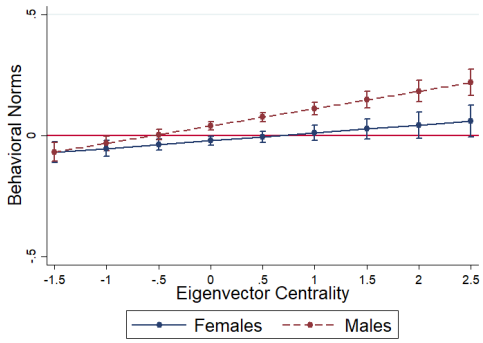
Note: Panels 1-6 show the predicted margins from OLS regressions. 95% confidence intervals are based on standard errors clustered at school level. The dependent variable is sense of belonging. All status measures and the dependent variable are standardized. All regressions control for math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, behavioral norms, peer and teacher support, and bullying experience). Leave-out means are classroom averages of the respective variable, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in the survey date, share of males in classroom and school fixed effects.

Figure A3: Social Status and Behavioral Norms: Gender Heterogeneity

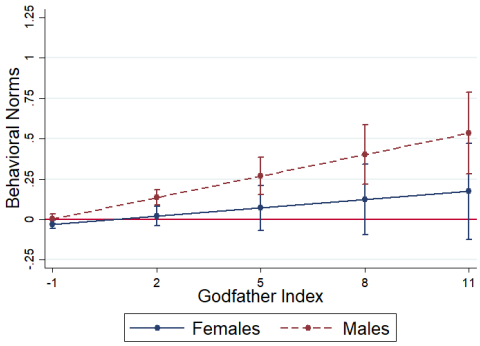
Panel 1: In-Degree Centrality



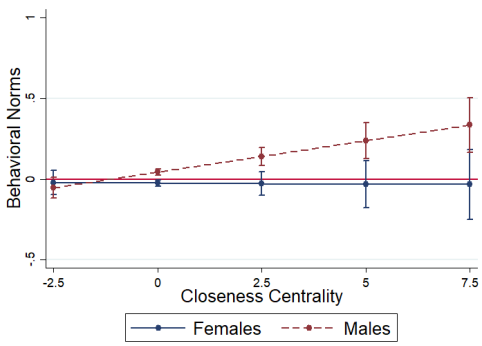
Panel 2: Eigenvector Centrality



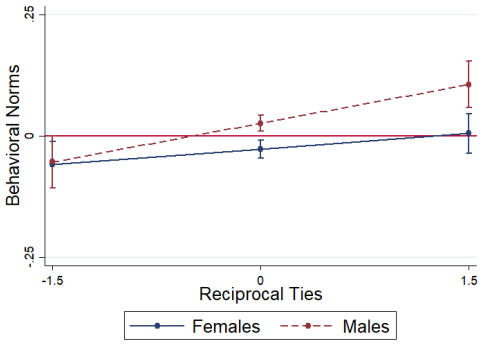
Panel 3: Godfather Index



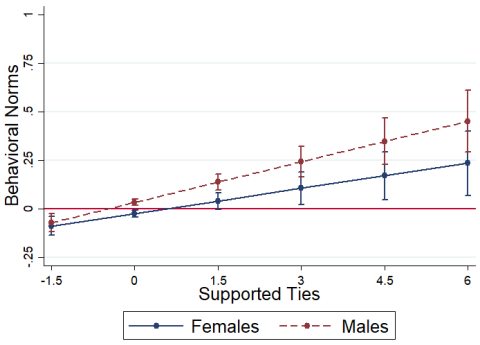
Panel 4: Closeness Centrality



Panel 5: Reciprocal Ties



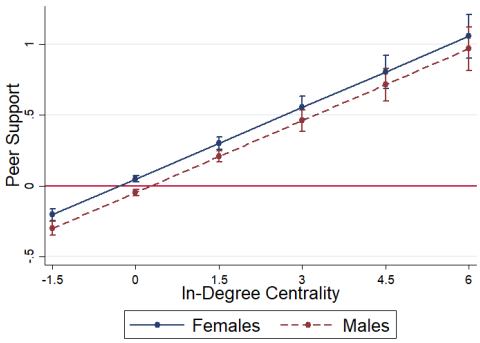
Panel 6: Supported Ties



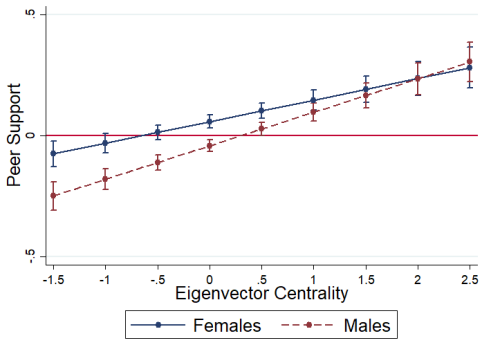
Note: Panels 1-6 show the predicted margins from OLS regressions. 95% confidence intervals are based on standard errors clustered at school level. The dependent variable is behavioral norms. All status measures and the dependent variable are standardized. All regressions control for math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, behavioral norms, peer and teacher support, and bullying experience). Leave-out means are classroom averages of the respective variable, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in the survey date, share of males in classroom and school fixed effects.

Figure A4: Social Status and Peer Support: Gender Heterogeneity

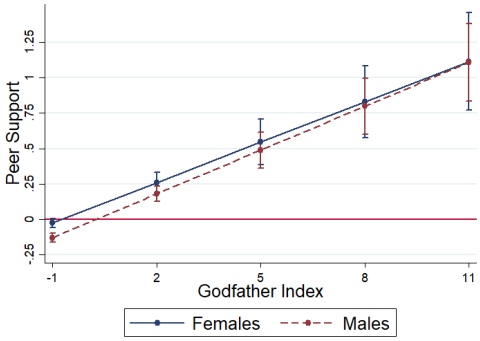
Panel 1: In-Degree Centrality



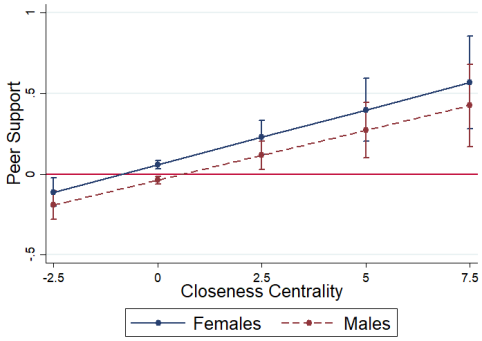
Panel 2: Eigenvector Centrality



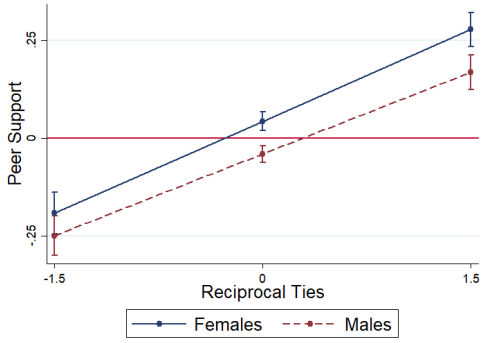
Panel 3: Godfather Index



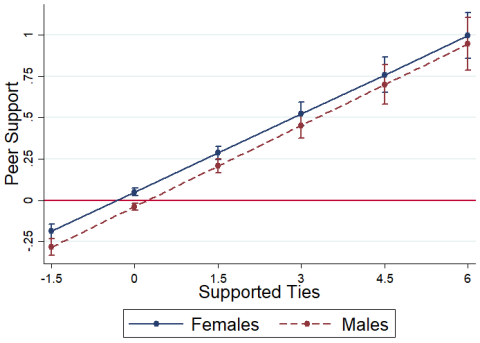
Panel 4: Closeness Centrality



Panel 5: Reciprocal Ties



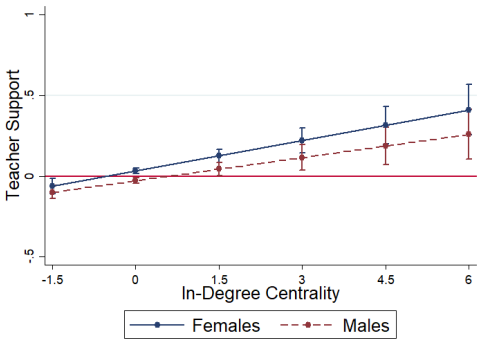
Panel 6: Supported Ties



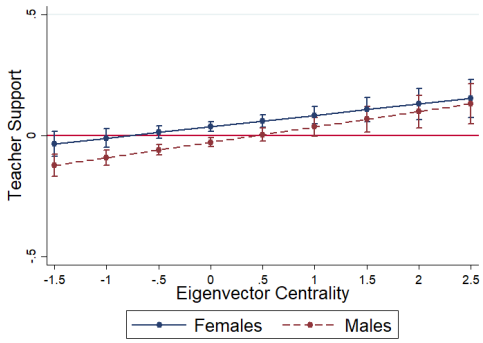
Note: Panels 1-6 show the predicted margins from OLS regressions. 95% confidence intervals are based on standard errors clustered at school level. The dependent variable is peer support. All status measures and the dependent variable are standardized. All regressions control for math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, behavioral norms, peer and teacher support, and bullying experience). Leave-out means are classroom averages of the respective variable, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in the survey date, share of males in classroom and school fixed effects.

Figure A5: Social Status and Teacher Support: Gender Heterogeneity

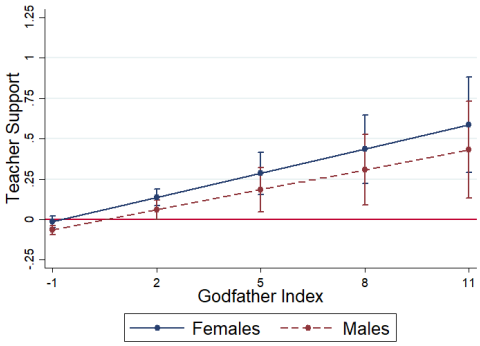
Panel 1: In-Degree Centrality



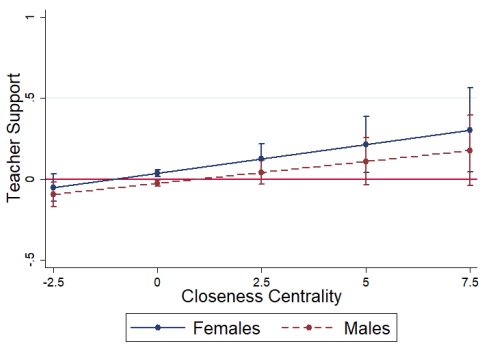
Panel 2: Eigenvector Centrality



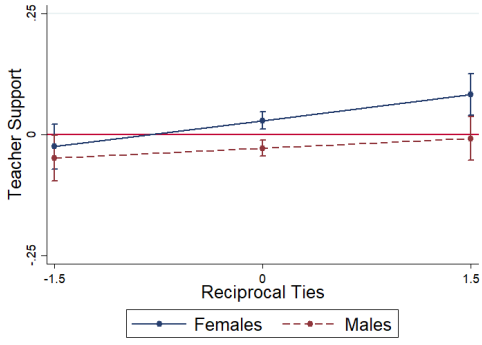
Panel 3: Godfather Index



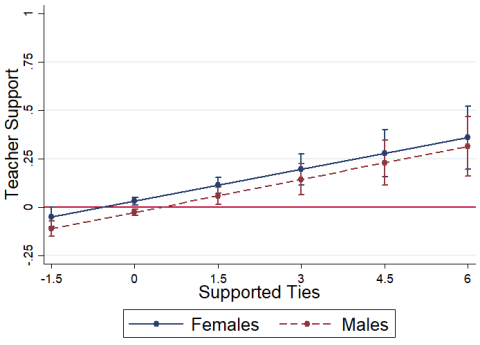
Panel 4: Closeness Centrality



Panel 5: Reciprocal Ties



Panel 6: Supported Ties



Note: Panels 1-6 show the predicted margins from OLS regressions. 95% confidence intervals are based on standard errors clustered at school level. The dependent variable is teacher support. All status measures and the dependent variable are standardized. All regressions control for math and verbal scores, Raven score, Eyes Test score, locus of control, growth mindset, and leave-out means of these variables as well as leave-out means of all climate variables (sense of belonging, behavioral norms, peer and teacher support, and bullying experience). Leave-out means are classroom averages of the respective variable, which is calculated for each student in classroom separately by leaving out the student herself. Additional controls are a dummy for students with learning difficulties, classroom size, grade dummy, share of absentees in classroom in the survey date, share of males in classroom and school fixed effects.

A.3 Construction of Centrality (Social Status) Measures

A network consists of nodes (students) and links (nominations) between these nodes. Suppose that there are n nodes in a network. Some of our centrality measures use the information regarding the direction of the nominations. Therefore, we will define two types of networks: undirected and directed.

Undirected Networks. We define a link between node i and node j if i nominates j (or j nominates i) as a friend, where $i, j \in \{1, ..., n\}$. Let this network be represented by an n x n adjacency matrix A. Specifically, $A_{ij} = 1$ ($A_{ij} = 0$) indicates that there is a (no) link between i and j. Note that A is a symmetric matrix.

Directed Networks. Let this network be represented by an n x n adjacency matrix B. $B_{ij} = 1$ if i nominates j as a friend and zero otherwise, while $B_{ji} = 1$ if j nominates i as a friend and zero otherwise. Note that B can be an asymmetric matrix.

In this study, we have not elicited the intensity of the friendships. Therefore, two networks represented by matrices A and B are unweighted networks, i.e. A and B consist of only zeros and ones.

A.3.1 In-Degree Centrality

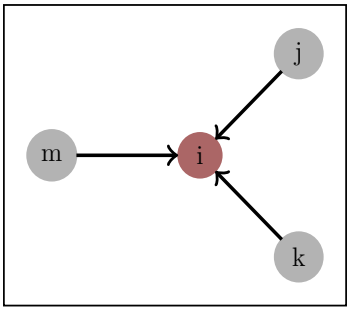
In-degree centrality of an individual i is the total number of other individuals who nominate i as a friend. The simple formula is given by,

$$\textit{In-Degree}_i = \sum_{j \neq i} B_{ji}, \tag{2}$$

for $j \in \{1, .., i-1, i+1, .., n\}$.

Figure A6 provides an example graph for in-degree ties. The in-degree centrality of i is three since j, k, and m nominate i as a friend. Since j, k, and m do not receive a nomination, they have zero in-degree centrality.

Figure A6: A Simple Illustration: In-Degree Centrality



Note: The arrows show the directions of the nominations. For example, the arrow pointed from m to i means that m nominated i as a friend.

A.3.2 Eigenvector Centrality

Let e_i be the eigenvector centrality of an individual i in a network. e_i is proportional to the sum of eigenvector centralities of other individuals to whom i is connected. The formula for eigenvector centrality is as follows,

$$e_i = \frac{1}{\lambda} \sum_j A_{ij} e_j, \tag{3}$$

where λ is a non-negative scalar, e_j is the eigenvector centrality of individual j, and A_{ij} is the corresponding element of adjacency matrix A.

Since each individual's eigenvector centrality depends on the eigenvector centrality of other individuals, obtaining the vector of centrality, e, simultaneously requires solving a set of multiple equations:

$$\lambda e = Ae, \tag{4}$$

which is equivalent to

$$(A - \lambda I)e = 0, \tag{5}$$

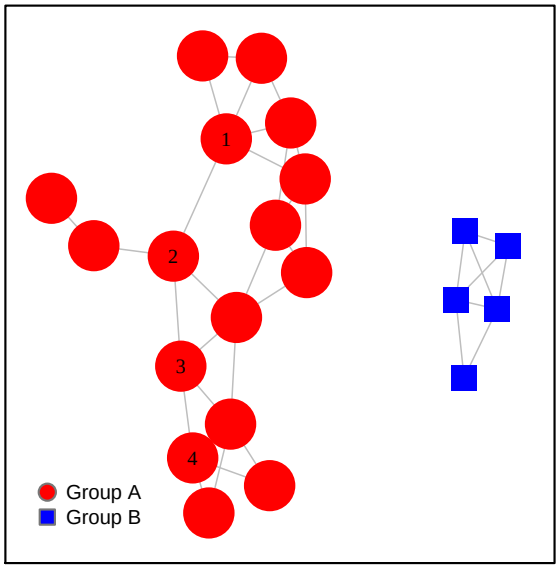
e is the right-hand side eigenvector of adjacency matrix A corresponding to the eigenvalue λ. The convention is to use the eigenvector associated with the largest eigenvalue, all of which are non-negative for our networks.

As mentioned before, some of our networks contain unconnected components. For exam-

ple, Figure A7 illustrates one of the classrooms in our sample. Group A and Group B in this classroom are completely disconnected, i.e. no member of Group A has a tie with a member of Group B. In such cases, eigenvector centrality can be computed only for the members of one component. In this study, we follow the standard practice in the literature and define the eigenvector centrality only for the members of the largest group, which is Group A in Figure A7.

We scale the eigenvector centralities in each network (or the largest component in a network) so that the maximum eigenvector centrality is equal to 1 in each network.

Figure A7: An Example Classroom



A.3.3 Godfather Index

We follow the formal definition proposed by Jackson (2010). Let individual i has a total of $t_i > 1$ links and T_i be the set of individuals i is connected, i.e., $|T_i| = t_i$. Note that $A_{ij} = 1$ and $A_{ik} = 1$ for $j, k \in T_i$. Each pair of individuals $(j, k) \in T$ might either be directly connected to each other ($A_{jk} = 1$) or not directly connected ($A_{jk} = 0$). Godfather index of individual i is the total number of pairs in T_i who are not directly connected, but connected

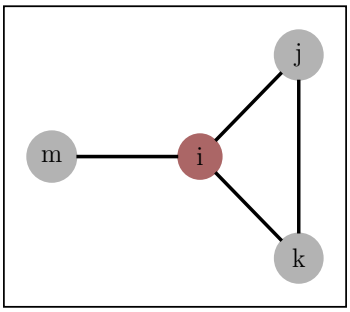
only via individual i. The godfather index is defined as follows:

$$Godfather_i = \sum_{\{j,k\} \in T_i} (1 - A_{jk}), \tag{6}$$

where $j \neq k$, $A_{ij} = 1$ and $A_{ik} = 1$.

Figure A8 illustrates an example. Node i has three ties. That is, $T_i = \{j,\ k,\ m\}$. Of all possible pairs in T_i, only (j, k) is directly connected each other. Specifically, $A_{jk} = 1$, $A_{km} = 0$ and $A_{jm} = 0$. Among the pairs we count the ones which are not directly connected. Thus, godfather index of i is two.

Figure A8: A Simple Illustration: Godfather Index



A.3.4 Closeness Centrality

Closeness centrality of individual i is proportional to the inverse of the average distance between individual i and all other individuals $j \in \{1, ..i-1, i+1, ..n\}$ in a given network. The distance is defined as the number of links in the shortest path between i and j. Note that a path is a sequence of links that connects two individuals. For example, in Figure A7 the distance between node 1 and node 2 is one since there is only one link between these nodes, while the shortest distance between node 1 and node 3 is two since node 1 first needs to walk to node 2 in order to reach node 3. Similarly, 1 needs to walk to 2 and then to 3 in order to achieve 4. Therefore, the shortest distance between 1 and 4 is three.

Let $d_i(j)$ be the shortest path between i and j. The closeness centrality of i is defined as

$$C_i = \frac{n-1}{\sum_{j \neq i} d_i(j)}, \tag{7}$$

where n is the network size. The sum of distances is in the denominator so that higher distance represents lower centrality. It is multiplied by $(n-1)$ to normalize with network size. Note that the maximum value that the closeness centrality can take is 1. The closeness centrality of an individual is 1 if she is directly connected to everyone in the network, i.e, her distance to each individual in the network is one.

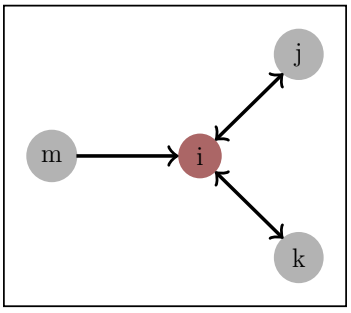
For networks with at least two disconnected components (see Figure A7), we can not define the distance between the members of Group A and Group B. In such cases, we ignore the smallest group (Group B) and calculate the closeness centrality only for the members of the largest group (Group A).

A.3.5 Reciprocal Ties

As the name suggests, reciprocal ties are the total number of individuals in the network whose nominations are reciprocated by the nominees.

For example, in Figure A9, node i is nominated as a friend by nodes j, k and m. On the other hand, i nominates only j and k as a friend but not m. Since only the nominations of j and k to i are reciprocated by i the individual i has two reciprocal ties.

Figure A9: A Simple Illustration: Reciprocal Ties



Note: The arrows show the directions of the nominations. For example, the arrow pointed from m to i means that m nominates i as a friend in our context.

A.3.6 Supported Ties

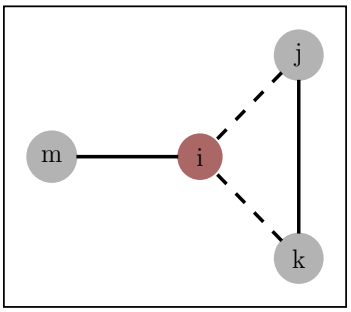
According to the definition in Jackson et al. (2012), a link between nodes i and j is supported if there exists a third node k which is connected to both i and j. The total number of supported ties is the total number of links supported by a third node, which is defined as follows,

$$Support_i = \sum_{\{j|A_{ij}=1\}} \sum_{\{k \neq i,j\}} 1\{A_{ik} = 1 \text{ and } A_{jk} = 1\}, \tag{8}$$

for $j \in \{1, .., i-1, i+1, .., N\}$.

For example, in Figure A10 node i has a total of three ties. Node i's tie with j is supported by k since k is connected to both i and j. Similarly, i's tie to k is supported by j, too. However, the tie between i and m is not supported by any third individual. Thus, the support of i becomes two.

Figure A10: A Simple Illustration: Supported Ties



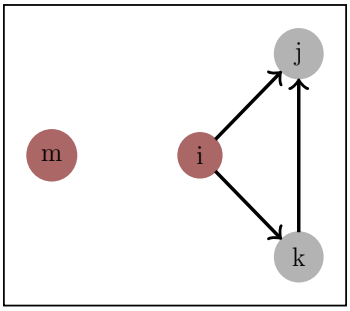
Note: Dashed ties are i's supported ties.

A.3.7 Social Isolation

We define an individual as socially isolated if he does not receive any friendship nominations, i.e. he has zero in-degree centrality. We provide an example in Figure A11.

As can be easily seen, node m is socially isolated. Node i is also considered as socially isolated since he does not receive a friendship nomination, although he nominates j and k.

Figure A11: A Simple Illustration: Social Isolation



Note: The arrows show the directions of the nominations. For example, the arrow pointed from i to j means that i nominates j as a friend in our context.

A.4 Survey Instruments

4-point Likert scale: completely agree, agree, disagree, completely disagree	
Instrument	**Items**
Peer Support	My classmates always support me.
	My classmates are like my family.
Teacher Support	My teachers encourage me to participate in activities such as arts, music and sports.
	My teachers care about me and they are worried when I do not show up to school.
Sense of belonging	I feel like I do not belong in my school and classroom.
	My classmates do not notice when I do not show up to school. They are never worried about me.
	I see myself as an important part of my school and classroom.
	My friends and teachers do not care about me.

5-point Likert scale: never, rarely, sometimes, very often, always	
Instrument	**Items**
Behavioral Norms	My classmates make fun of each other.
	My classmates talk behind each other.
	My classmates hit each other and get into fights.
	My classmates report bad behaviors in classroom to teachers or school administrators.
	My classmates are nice and friendly towards each other.
	My classmates stay away from fighting.
	My classmates protect each other.

None, 1, 2, 3 or more than 3	
Instrument	**Items**
Bullying	How many classmates in your class call you names and scare you on a regular basis?
	How many classmates in your class make fun of you on a regular basis?
	How many classmates in your class physically hurt you (hit you) on a regular basis?