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Exposure to socially influential peer parents: Evidence from cadre parents in China

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ABSTRACT

Parents with a special social status generate spillover effects to other parents and children. Because cadres (government officials) in China have a broad influence on resource allocation, their presence elicits responses from surrounding parents and students. Exploiting random classroom assignments in Chinese middle schools, we find that increased exposure to classmates' cadre parents raises parents' attention to their children's friendships and guidance over schoolwork. We also find evidence suggesting that parental changes raise the child's test scores. The findings highlight parental adjustments as a mediator of the external influence of peer parents on children.

1. Introduction

Individuals who possess social and political capital attain advantages in resource allocation. Their influence on others is present within a household as well as affecting the economic agents in their networks. In an educational setting, the presence of influential parents—socially or politically—in the networks may affect other parents' behaviors, and these parental adjustments influence the surrounding children.

This study probes the external influence of cadre parents on other parents and children in China. Cadres (*ganbu*) are government officials who possess significant political power and authority (Barnett & Vogel, 1967; Lee, 1991). Unlike average citizens, they are able to secure political, economic, and social resources for themselves and others close to them (Jin, Fan, Cheng, & Shi, 2014; Li, Meng, Shi, & Wu, 2012; Tan, Guo, & Zhou, 2017; Yu, Lin, & Jiang, 2019; Zhang, Giles, & Rozelle, 2012). In China, the prestige of cadre parents is distinct from less visible parental attributes such as education and income (Bian, Breiger, Galaskiewicz, & Davis, 2005; Chiu, 1999; McLaughlin, 2017). This presents a unique context for investigating the extent to which surrounding economic agents, such as other parents, adapt to the presence of influential parents in their networks. We posit that when a student is placed with classmates (peers) from a cadre family, this student's parents adjust their parenting practices, which affects the student's schoolwork accordingly.

Non-random sorting is the primary challenge for demonstrating a causal interpretation of the influence of peers' cadre parents on parents and students. At the macro level, parents' heterogeneous preferences affect neighborhood and school choices (Bayer, Ferreira, & McMillan, 2007), while at the micro level, individual traits and tastes determine the formation of social networks (Jackson, 2010). In this study, we exploit the unique context in the Chinese educational system that uses random classroom assignments in some middle

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schools, analyzing a nationally representative sample of such middle school students from the China Educational Panel Survey (CEPS 2013–2014). In addition to the criterion established in similar studies (such as in Gong, Lu, & Song, 2021 and Xu, Zhang, & Zhou, 2020) examining whether a school implements random student assignments, we employ an additional check if schools have not experienced parental interference in class and teacher assignments to ensure that students are randomly assigned to a class. Given the randomization background in the refined school sample, we can effectively isolate the causal impact of classmates' parental background (the cadre status of peer parents) from endogenous peer group formation, which is a major challenge of empirical peer-effect studies (Jackson, 2010).

Using unique randomized social networks, we evaluate whether increased exposure to cadre parents leads to adjustments of other parents and students in the same class. In the empirical specification, conditional on school-by-grade fixed effects, we leverage idiosyncratic within-grade variation in the proportion of classmates from a cadre family to estimate its effects on parental behaviors and student test scores.

We find evidence that parents pay more attention to "relationship building" (*guanxi*) and provide more schoolwork support when their children are exposed to more classmates from cadre families. In China's *guanxi*-oriented context, people make connections with higher social status members (in this case, cadres) to seek favors in the future, either for themselves or their children (Ruan, 2016; Tsui & Farh, 1997; Xie & Postiglione, 2016; Zhao & Gao, 2014). Such instrumental consideration increases parents' involvement in children's friendship networks (Zang, 2006). Meanwhile, as good academic performance is an important indicator of "good" friends, parents must ensure that their child performs well to break into the *guanxi* network with cadre children (An, 2022; Gold, 1985).[1] Empirically, with more cadre parents in a class, we find that parents are more involved in their children's friendship networks, increase their communication with children about what happened in school, and provide more supervision and guidance for children's homework. Our findings echo the growing consensus in economics that parenting responds to the surrounding environment (Agostinelli, 2018; Agostinelli, Doepke, Sorrenti, & Zilibotti, 2020; Chung & Zou, 2020; Doepke & Zilibotti, 2017; Guo & Qu, 2022).

More parental involvement may contribute to children's educational success (Fan & Chen, 2001). Along with parental adjustments, we find that greater exposure to cadre parents leads to better academic performance for students in the same class. The addition of one more cadre parent to a class increases a student's standardized test score by 1.85%.[2] In the full specification, the residual cadre-parent spillover effect on students' test scores remains salient even if we exhaust various peer-effect channels.

The parental adjustments are a plausible explanation that mediates the residual cadre-parent spillover effect on students. With the local influence of cadres and the deep-rooted culture of "networking to seek favor" (*guanxi*), parents react to the increased presence of cadres in their network in a way that benefits children's test scores. Changes in teacher practices may be an alternative theory that explains the external influences of cadre parents on students; however, we do not find strong evidence of pedagogical changes or favoritism toward students in classes with more cadre parents. Nevertheless, our study does not exhaust all possible mechanisms of cadre-parent spillover on students, and there may be alternative mechanisms worth investigating in future research.

This study contributes to the understanding of the economic significance of political ties. The political backgrounds of individuals/organizations affect a wide spectrum of economic activities in developed and developing countries (Braggion & Moore, 2013; Faccio, Masulis, & McConnell, 2006; Fisman, 2001; Goldman, Rocholl, & So, 2009; Li, Meng, Wang, & Zhou, 2008; Liu, 2003; Markussen & Tarp, 2014). Particularly in China, cadre members generate benefits for themselves and those close to them, including labor market and health outcomes (Jia, Lan, & Gerard Padr'o i Miquel., 2021; Li et al., 2012; McLaughlin, 2017; Tan et al., 2017). This study goes beyond the traditional focus of within-household transmission (Jia et al., 2021; Li et al., 2012; Tan et al., 2017), demonstrating that political status can have a far-reaching influence on the surrounding economic agents.

Second, our study enhances the economic literature regarding early-life development. One active strand of economic analysis focuses on within-household transmission, such as the correlation of income or education between parents and their children (Behrman & Rosenzweig, 2002; Black, Devereux, & Salvanes, 2005; Lam & Schoeni, 1993; Plug, 2004; Shea, 2000).[3] Another prominent area of economic literature emphasizes the influence of neighborhoods (Chetty & Hendren, 2018; Chetty, Hendren, & Katz, 2016; Chyn, 2018; Fink, Gunther, & Hill, 2014; Katz, Kling, & Liebman, 2001; Ludwig et al., 2013; Montgomery & Hewett, 2005). Our discussion connects these two important perspectives from the angle of social networks. By generating the "exposure effect," the interaction between parents and the surrounding environment affects the human capital accumulation of their children, adding a novel dimension to our understanding of early-life development.[4] Though receiving minimal attention from economists, the external influence of parents on surrounding parents and children has direct policy implications, such as the significance of better neighborhoods and schools on early-life outcomes (Bisin & Verdier, 2000, 2001; Borjas, 1992, 1995).

[1] Another possible explanation is that due to the inability to endow their children with cadre premium, parents emphasize academic performance so that their children can compete effectively with cadre children. In light of the finding that parents significantly increase their involvement in children's friendship networks, it seems more plausible to interpret parents' focus on academic performance as a way to develop the *guanxi* network with cadre children.

[2] The effect size is smaller compared to the magnitude of peer effects identified by studies analyzing the same data. Gong, Lu and Song (2019) find that adding one female student raises student test scores by 2.5% of a standard deviation (using a class size of 45), while Xu, Zhang, & Zhou, 2020 find that adding one repeater to a class reduces student test scores by 4.2% of a standard deviation.

[3] For a detailed examination regarding the role of parental attributes, interested readers can refer to the review prepared by Black and Devereux (2010). In developing countries, such research has discussed parents' income, asset, family size, and parents' human capital (Binder & Woodruff, 2002; Emran & Shilpi, 2019; Fox, Torche, & Waldfogel, 2016; Gaiha & Deolalikar, 1993; Swantinathan, 1991).

[4] Han and Shi (2019) and Xiong (2022) also examine the response of parenting to socioeconomic conditions.

Finally, this study relates to the spillover generated by peer parental background with two important distinctions. First, regarding methodology, a common strategy for analyzing nationally representative surveys, such as the National Longitudinal Study of Adolescent to Adult Health (Add Health) in the US, exploits cohort variations in grade-mate composition (Bifulco, Fletcher, & Ross, 2011; Bifulco, Fletcher, Oh, & Ross, 2014; Fletcher, Ross, & Zhang, 2020; Olivetti, Patacchini, & Zenou, 2020). Our randomization background controls for selection in classes and allows us to leverage random variation at a finer level. Rather than grade-mates, using classmates to identify social effects also better justifies social interaction (e.g., norm and information spillover) as the underlying force that generates peer parental spillover. Second, in addition to documenting a causal interpretation, we demonstrate that the parental background of peers offers a far richer interpretation than a proxy of peer ability. They are also distinct economic agents who generate social influence (Chen, Chung, & Wang, 2022; Chung, 2020; Chung & Zou, 2020; Eble & Feng, 2019; Fruehwirth & Gagete-Miranda, 2019; Olivetti et al., 2020). When parents adapt to the influence of cadre parents, changes in parenting practices affect the students accordingly.

2. Significance of cadre status

Cadres are people in administrative positions in government and public institutions, a concept in China that evolved from "the leaders of masses" in the revolutionary context in the history to "the political elite and the functionaries staffing and the huge party-state apparatus" today (Lee, 1991, p. 4). Cadres are considered the privileged class in China (Lin & Xie, 1988; Lu, 2002), with their privilege primarily coming from cultural roots in China and their existing power.

Culturally speaking, admiration for cadres permeates the mainstream values and social institutions in China. As the mainstream culture in ancient China, Confucianism encourages civilians to pursue officialdom. According to a Confucius saying, "officialdom is a natural outlet for good scholars, and a student should serve as a government official after completing his learning" (*Xue Er You Ze Shi* in Chinese, Analects, 19:13). Becoming a government official was considered the ultimate success in life. Officials, farmers, artisans, and merchants then formed ordered social classes from top to bottom.[5] Even today, the general public uses the equivalent government official ranks to measure the prestige of jobs in an organization and determine how much attention and respect should be afforded to job holders. This practice is referred to as *Guan Ben Wei* in Chinese.[6] As such, government official ranks are considered as the primary measure of social status, and *Guan Ben Wei* remains an important feature of Chinese culture today (Shi, 2014, p 101). This deeply ingrained consensus lays the foundation for the current cadre privilege.

In addition to the cultural roots, cadres' privilege stems from their persistent power. Before the economic reform of the 1980s, the occupational hierarchy featured a cadre–worker dichotomy in urban areas. Though cadres accounted for a small share of the urban workforce, they enjoyed above-average compensation and were entitled to opportunities to be trained and promoted to leadership positions in the party and government offices (Bian, 2002; Walder, 1995; Zhou, 2001). In contrast, people classified as workers had limited opportunities to be promoted to cadre positions, reinforcing cadre privilege during the pre-reform period (Bian, 2002). In rural areas, cadres also exercised "political and managerial authority over ordinary peasants" (Bian, 2002, p. 94). Over the course of the state-led economic reform, cadres were positioned to have greater opportunities to expropriate key resources (e.g., licenses, business information, and restrictions on economic activities, among others). The growing market forces enabled, reinforced, and even amplified cadre influence on resource allocation in the market economy (Bian & Logan, 1996; Nee, 1991; Nee & Opper, 2010). Recent studies have documented significant economic gains associated with cadre status, which cannot be explained by cadres' human capital (Jin et al., 2014). As such, for decades following the economic reform, cadres have been perceived as people in highly prestigious occupations in China (Bian, 2002; Chiu, 1999; Li, 2005; Lin & Xie, 1988).

The visibility and importance of cadre status are crucial for understanding the external influence of cadre parents. Different from other individual characteristics, such as education level, China Communist Party status, or income, cadre status is more easily observed because of the prevailing Chinese culture of social networking (*guanxi*) (Bian, 2018; Gold, Gold, Guthrie, & Wank, 2002). The *guanxi* culture requires people to understand and leverage their networks to survive or get ahead in society (DiTomaso & Bian, 2018; Farrer, 2002). To leverage social connections for specific purposes, Chinese people look for and spread information regarding members of their network, for example, others' cadre status. People close to cadres also like to reveal their connections to gain the respect of others (Wank, 2002). As such, the spread of knowledge concerning cadre status does not require direct interaction with cadres. Instead, it can be diffused among the population through other channels like community gossip. As most of the students in our sample attend local middle schools, their parents' cadre status can be known to other parents even if they do not directly know one another.

3. Data and balancing test

3.1. Data

This study uses data from the CEPS, a large-scale, nationally representative, school-based survey of middle school students. It applies a stratified, multistage sampling design with probability proportional to size, randomly selecting 438 classrooms in 112 middle schools in 28 county-level units in mainland China. The students in these classes are all enrolled in the survey. This study uses the first

[5] The four classes are *Shi, Nong, Gong,* and *Shang* in Chinese.

[6] *Guan Ben Wei* is borrowed from the concept of "gold standard" (*Jin Ben Wei* in Chinese) in economics. Wang, Zhu, Zheng, & Mayson, 2014 described a case of this phenomenon in Chinese universities.

wave of covering approximately 20,000 Grades 7 and 9 students in the 2013–2014 academic year. In addition to information about individual students, this dataset features rich information about parents, teachers, and school administrators, enabling us to construct a sample comprised of students randomly assigned to classrooms. Based on the randomization background, our identification strategy relies on the idiosyncratic within-school-grade variation in the share of peers' cadre parents. A similar identification strategy has been used in multiple China-based peer-effect studies (Chung & Zou, 2020; Eble & Feng, 2019; Eble & Hu, 2020; Gong et al., 2021; Gong, Lu, & Song, 2018; Hu, 2015, 2018).[7]

3.2. Measurements

Chinese educational tradition establishes the homeroom class as a basic unit within each school grade. Students in the same homeroom class use the same classroom all year long and interact with one another extensively, as they take the same courses and participate in various activities together. Throughout this study, we refer peers to homeroom classmates. The key variable of interest is the leave-me-out share of classmates who have a cadre parent (hereafter, share of peer-cadre parents). We classify a parent as a cadre in the CEPS if the parent is a government official, a staff member in a public institution, or a civil servant. We calculate the number of each student's classmates who have at least one cadre parent, dividing this leave-me-out total by the class size minus 1. Table A.1 in Appendix A indicates that 12.5% of classmates are from cadre families, on average.

In this study, we analyze how parents, students, and teachers react to the presence of cadre parents in a homeroom class. To this end, we construct measurements from parents', students', and teachers' perspectives.

We measure parents' attention to their children's friendship networks based on a set of information from the CEPS survey. Specifically, the parents' survey contains four relevant questions. (1) How strict are parents regarding whom their child is friends with? (2) Do parents know whether their child has any friends at school? (3) Do parents know the friends who often play with their child? (4) How often do parents discuss their children's friends with them? Table A.2 in Appendix A presents the proportion of different answers to these four questions. We use factor analysis to collapse the answers to these questions and construct a measure of parents' attention to children's friendship networks. A higher value indicates a higher level of parental attention to their children's friendships. In the regression analysis, we standardize the measure with a mean of 0 and a standard deviation of 1 for straightforward interpretation.

We also exploit information in the CEPS survey to measure other parenting practices. We measure parents' interests in children's school life using a question asking how often parents discuss things that happened at school with their children, whereby more frequent discussions indicate that parents are more interested in children's school life and learning. We also measure students' perceived parenting efforts using a question asking students how much they think their parents have done for them, whereby the higher the value, the more the students perceive their parents have done for them. We also create a dummy that equals 1 if parents report that they do not provide help for their child's homework as a proxy of parents' support for their children's schoolwork. The summary statistics of these variables are presented in Appendix A Table A.2.

From the students' perspective, we measure academic performance using total midterm test scores from three compulsory courses in China's middle schools: Chinese, math, and English. Since classes within a school grade use the same syllabus and midterm exams, midterm test scores are comparable within the school grade (Xu et al., 2020). In later regressions, we standardize these test scores at the school-grade level to have a mean of 0 and a standard deviation of 1 for easy interpretation.

To examine teachers' responses to the presence of cadre parents, we focus on the behaviors of homeroom teachers. In China, homeroom teachers spend more time with students than other teachers and serve as classroom leaders and authoritative figures with specific responsibility for supervising students in every aspect of school life. Specifically, we examine two types of teachers' behaviors. First, we investigate the frequency with which they contact parents.[8] Second, we investigate homeroom teachers' patience and responsibility toward children as perceived by the parents, whereby a higher value indicates a more positive attitude.[9] The summary statistics of homeroom teachers' responses are presented in Appendix A Table A.3.

3.3. Randomized classroom assignment and balancing tests

Since peers are defined at the classroom level, the primary concern for identification is the non-random classroom assignment, such as tracking or parental intervention. The 2006 Law of Compulsory Education stipulates that schools shall not divide the classes into key and non-key classes (Article 22). As a result, tracking has been discouraged since that time. We exploit this unique setting to analyze the middle schools, which randomly assigning students to classes.

We first follow the sample restrictions of recent CEPS-based studies to ensure our sample is appropriately randomized (Gong et al., 2021; Xu et al., 2020). The criteria include: (1) The school principal reports that a randomization process is used for placing new

[7] This identification strategy may suffer from the selection-into-bias problem if many school grades do not have cadre parents (Miller, Shenhav and Grosz, 2019). Since only one school grade out of 40 in our final sample does not have cadre parents, we rerun our main specifications, dropping the school grade with no students from cadre families to test the severity of this bias. The results are similar to our main findings in terms of magnitude and significance, suggesting that selection-into-bias is not a relevant concern for our study.

[8] The CEPS parent survey asks parents how often the homeroom teacher contacts parents. Parents choose responses on a five-point scale, with a higher value indicating more frequent contacts.

[9] The CEPS parent survey asks parents: (1) How responsible the teacher is for their child? (2) How patient the teacher is with their child? Parents choose responses on a five-point scale, with a higher value indicating a more positive attitude.

students into classrooms. (2) The school principal confirms that students will not be reassigned to a different classroom in Grades 8 and 9. (3) All homeroom teachers of the same grade report that students are not assigned by test scores. (4) We drop the grades that only have one class. In Table A.4 in Appendix A, we test for the random assignment based on the sample constructed using these criteria. This balancing test shows that conditional on the same school and grade, student and family characteristics are significantly correlated with the share of peers who have a cadre parent; a result that may imply the influence of cadre parents on class assignment.

Therefore, we apply an additional restriction to ensure that student assignments are free from parental intervention, given the significant influence of cadre members. One survey question asks school principals whether parents have asked to place their children in specific classes or with specific teachers. Among the 112 CEPS schools, 42 (37.5%) schools reported that no parents had made this request. Therefore, we further restrict our sample to these schools. Our final sample contains 3066 students from 80 classrooms in 28 schools. Table A.5 in Appendix A details our sample selection process.

Table 1 presents the results from a balancing test for the sample used in this study. In the first column, without school-by-grade fixed effects, student and parent characteristics are highly correlated with the share of peers with cadre parents. This result speaks to the systematic regional differences in classroom quality in China. In Column 2, we include fixed effects that confine the variation within the same grade in the same school, the level at which the randomization occurs, and most of the correlations become both economically small and statistically insignificant. For example, the correlation between the share of peer-cadre parents and parental educational background drops by at least 100 times. The indicator of "ethnicity" is the only characteristic significantly related to the share of cadre parents at the 5% level. We argue that this correlation is of little concern, as the magnitude is small and drops by >80% after including fixed effects.

It may also be likely that schools assign better teachers to classes that include more children from cadre families. In Table A.6 in Appendix A, we show that teacher characteristics are not systematically related to the share of cadre peers, both with and without the school-by-grade fixed effects. These balancing tests for teachers' characteristics further support the randomization of classroom assignments.

Table 1
Balancing test.

	Proportion of peers with cadre parents	
	(1)	(2)
Age	0.0111	−0.00103
	(0.00854)	(0.000648)
Female	−0.00237	0.000738
	(0.00314)	(0.000866)
Ethnicity - Han	−0.0290*	−0.00561**
	(0.0148)	(0.00241)
Migrant	−0.0143*	−0.000319
	(0.00826)	(0.00136)
Agricultural Hukou	−0.0643***	−0.00111
	(0.0116)	(0.00115)
Only-child	0.0182**	0.000286
	(0.00744)	(0.00121)
Repeated grade in primary school	−0.0169*	−0.00203
	(0.00864)	(0.00165)
Skipped grade in primary school	−0.0229	0.000421
	(0.0144)	(0.00308)
Standardized persistence score	0.00528	−0.000150
	(0.00344)	(0.000764)
Attended kindergarten	0.0190***	−0.000231
	(0.00658)	(0.00132)
Mother's years of education	0.00598***	−0.0000188
	(0.00109)	(0.000292)
Father's years of education	0.00795***	0.00000192
	(0.00134)	(0.000164)
Low-income family	−0.00751	0.00247
	(0.00679)	(0.00153)
Constant	−0.143	0.0538***
	(0.120)	(0.0127)
Observations	3066	3066
R^2	0.331	0.926
School-grade fixed effects		X

Notes:
a. Each column represents a separate regression that regress the leave-me-out proportion of peers with cadre parents on the predetermined characteristics of students.
b. Standard errors are clustered at the class level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

4. Empirical model

To explore the spillover effects of peers' cadre parents, we adopt the following model:

$$Y_{ijk} = \beta_0 + \beta_1 PeerCadreParent_{-ijk} + \beta_2 CadreParent_{ijk} + \boldsymbol{S}_{ijk}^{'}\boldsymbol{\gamma} + \boldsymbol{F}_{ijk}^{'}\boldsymbol{\tau} + \boldsymbol{T}_{jk}^{'}\boldsymbol{\phi} + \boldsymbol{P}_{-ijk}^{'}\boldsymbol{\lambda} + \delta_k + \epsilon_{ijk} \quad (1)$$

where Y_{ijk} refers to the parent's response, the homeroom teacher's response, and the academic performance of student i in class j in school-grade k. $PeerCadreParent_{-ijk}$ represents the leave-me-out share of peers with cadre parents for student i in class j in school-grade k, the key interest variable in this study. $CadreParent_{ijk}$ is an indicator of student i's own parents' cadre status, which equals 1 if at least one of the student's parents is a cadre. $\boldsymbol{S}_{ijk}$ is a vector of variables controlling for students' individual characteristics. $\boldsymbol{F}_{ijk}$is a vector of variables controlling for students' family backgrounds. The two vectors of variables are used in the balancing test in Table 1, and their summary statistics are presented in Table A.1 in Appendix A. $\boldsymbol{T}_{jk}$ is a vector of variables controlling for homeroom teachers' characteristics, including age, gender, professional title, subject taught, college degree, and an indicator of graduation from a pedagogical university or with a pedagogical major. $\boldsymbol{P}_{-ijk}$ represents variables controlling for peers' abilities and family background, including the leave-me-out within-class share (or mean) of female students, repeaters in primary school, skippers in primary school, persistence score at Grade 6, mothers who attended college, and low-income families. These controls ensure that our key interest variable (*PeerCadreParent*) does not pick up confounding peer characteristics. In later analysis, we will provide more discussions on this point.

Our empirical model also includes the school-grade fixed effect (δ_k), which enables us to examine the spillover effects of peers' cadre parents at the classroom level, where the randomization occurs. Within the same school-grade, we compare parents' responses and students' academic performance across classes with different shares of peer parents who are cadres. This design addresses the bias from potential confounders due to neighborhood or school sorting. We cluster standard errors at the class level to account for correlations in outcomes for students in the same class.

5. Parental responses

5.1. Parents' attention to friendships

Parents react to the surrounding environment, altering the way they parent, which ultimately affects their children (Agostinelli, 2018; Agostinelli et al., 2020; Chung & Zou, 2020; Doepke & Zilibotti, 2017). In our investigation, Chinese parents are likely to change their attitude toward their children's friendship networks when influential classmates' parents are present because they consider their children's friendship networks vital to successful living in a relation-centered society (Ruan, 2016; Tsui & Farh, 1997; Xie & Postiglione, 2016; Zhao & Gao, 2014). According to status differential theory (An, 2022; An & McConnell, 2015), relationships between friends can provide instrumental or affective benefits. Because high-status individuals typically have more social resources, low-status individuals tend to seek ties with high-status individuals (An, 2022; Zang, 2006). As a privileged class, cadres are significant in China's relation-oriented society. From Chinese parents' perspectives, cultivating their children's friendships with children from cadre families is important to prepare their children to enter this relation-driven world. As a result, we expect that if there are more peers from cadre families, parents will be more involved in their children's peer relationships.

5.1.1. Bivariate relationship

The binned scatter plot in Fig. 1 presents the raw relationship between parents' attention to children's friendships and the share of classmates with cadre parents. The x-axis represents the within-school-grade variation of the leave-me-out share of peers with a cadre parent, and the y-axis represents the within-school-grade variation of the standardized measure of parents' attention. The figure provides suggestive evidence of a positive relationship between the two variables.

Because our sample criteria are more restrictive than previous studies, we first compare different samples by assessing the changes in the raw relationship in Table 2. In all the samples, we present the coefficients with and without school-grade fixed effects to track the sensitivity to specifications. The first sample (non-random sample) incorporates all CEPS students with valid information on all variables of interest (Columns 1 and 2). The second sample (standard random sample) includes students who were randomly assigned to classrooms based on the four randomization criteria used in the prior literature (Columns 3 and 4). The third sample (preferred random sample) further restricts the observations to students whose classroom assignments were free from parental intervention, which is the sample used in this study (Columns 5 and 6). The positive relationship between the share of peers' cadre parents in a class and parents' attention to children's friendships is statistically significant across samples and specifications in Table 2, with changes in magnitude.

The changes in the magnitude of cadre-parent spillover reveal that parents may interfere with class assignments to seek benefits for their children. In Column 4, using the standard random sample, we observe a similar magnitude of cadre-parent spillover on parents' attention to children's friendships as in the non-random sample in Column 2. However, when we use the no-parental-intervention sample in Column 6, the magnitude of cadre-parent spillover reduces by 40% from Column 4. We assert that in the preferred random sample, in which schools implement random class assignments both on paper and in practice, the variation in the share of cadre parents in a class is credibly exogenous. When a student is randomly placed in a class with different exposure to influential parents (parents who are cadres, in our context), we explore the extent to which this shock changes parental behaviors and student outcomes.

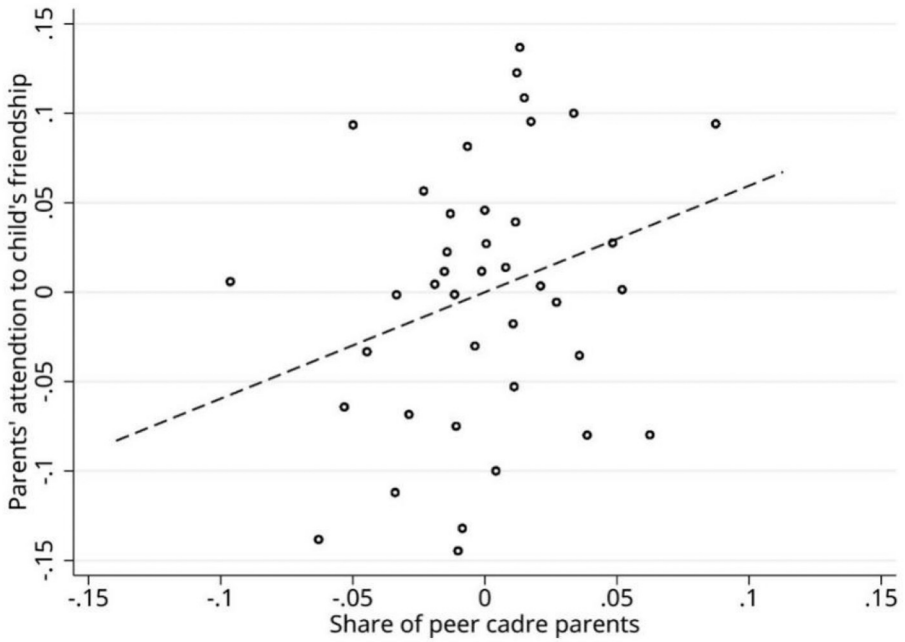

Fig. 1. Raw Relationship between Parents' Attention to Children's Friendships and Share of Peers with a Cadre Parent.
Note: Both variables are demeaned at the school-grade level as our identification relies on the between-class variation within a school grade. Each dot represents about 72 students. The dashed line is the linear fit of the relationship.

Table 2
Comparing cadre and peer-cadre parents in random versus non-random samples.

	Parents' attention to children's friendships					
	Non-Random		Standard		Preferred	
	(1)	(2)	(3)	(4)	(5)	(6)
Share of peer-cadre parents	1.536***	0.989***	0.975***	1.047***	0.520**	0.714**
	(0.157)	(0.198)	(0.172)	(0.212)	(0.204)	(0.279)
Cadre parent	0.166***	0.159***	0.146***	0.154***	0.184***	0.186***
	(0.0312)	(0.0321)	(0.0366)	(0.0381)	(0.0555)	(0.0571)
Observations	16,821	16,821	7567	7567	2878	2878
School grade	No	Yes	No	Yes	No	Yes
Sample Criteria						
Randomization	No	No	Yes	Yes	Yes	Yes
No parent INT.	No	No	No	No	Yes	Yes

Notes:
a. All regressions control for the relationship between the child and the correspondent of the parents' survey, as the dependent variable is based on questions in the parents' survey and different relatives may answer these questions differently.
b. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

5.1.2. Main result

Table 3 presents the effect of exposure to cadre parents on parents' attention to their children's friendships. Column 1 presents the relationship between the share of peers' cadre parents in a class and parents' attention in their children's friendships (hereafter, cadre-parent spillover on parents), conditional on student/family characteristics, and school-by-grade fixed effects. In Column 2, we further add teacher controls to isolate the influence of teachers and class-level characteristics. An important takeaway is that even if we control for student, family, and teacher characteristics, the estimate of cadre-parent spillover on parents remains stable. This further validates the randomization of our research design.

A major concern of cadre-parent spillover on parents we capture in Column 2 is unmeasured peer ability. The share of cadre parents in a class could represent peer quality, and the parental change observed may simply reflect the reaction to peer quality but not the prevalence of cadre parents itself. In the last three columns of Table 3, we check the sensitivity of our estimates by gradually adding peer characteristics. In Column 3, we first add the leave-me-out proportion of female classmates. Previous studies have found that exposure to female peers significantly boost students' cognitive and non-cognitive abilities (Gong et al., 2021).

In addition to the gender peer effect, we check the influence of baseline peer ability. First, we control for the proportion of

Table 3
Effects of peers' cadre parents on parents' attention to children's friendships: Controlling for peer characteristics.

	Parents' attention to children's friendships				
	(1)	(2)	(3)	(4)	(5)
Share of peer-cadre parents	0.618**	0.763**	0.739**	0.837***	0.741**
	(0.267)	(0.300)	(0.303)	(0.313)	(0.320)
Cadre parent	0.113*	0.116**	0.115**	0.116**	0.116*
	(0.0589)	(0.0580)	(0.0577)	(0.0579)	(0.0583)
Observations	2878	2878	2878	2878	2878
R^2	0.122	0.125	0.125	0.125	0.125
School grade	X	X	X	X	X
Student/Family controls	X	X	X	X	X
Teacher characteristics		X	X	X	X
Female peers			X	X	X
Peer ability measures				X	X
Peer parental backgrounds					X
Normalized magnitude of share of peer-cadre parents	0.0140	0.0173	0.0168	0.0190	0.0168

Notes:
a. Share of peer-cadre parents refers to the leave-one-out proportion of peers with a cadre parent, ranging from 0 to 1.
b. To obtain the effect of one additional peer-cadre parent, we normalize the coefficient of the share of peer-cadre parents by the average class size of 45 minus 1, increasing the share of peer-cadre parents by 0.0227. These normalized effects are presented in the last row.
c. All regressions control for the relationship between the respondent of the parent survey and the child. Student/family controls refer to the variables shown in Table A.1 in Appendix A. Teachers' characteristics include a homeroom teacher's age, gender, professional title, subject taught, education, and an indicator of graduation from a pedagogical university or with a pedagogical major.
d. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

classmates who have repeated grades, which has been found to have a profound ability spillover on students (Xu et al., 2020). We also control for the proportion of classmates who have skipped grades to capture more unmeasured peer quality. Prior studies have shown that the proportions of repeaters and skippers demonstrate peer abilities (Gong et al., 2021). In addition, we include the average persistence score to further isolate peers' non-cognitive abilities (i.e., personality) (Zou, 2019). As shown in Column 4, the cadre spillover remains significant at the 1% level.

Finally, we further control for peer ability by incorporating the average peer mothers' college attainment and peer parents' income in Column 5. There is a small decrease in the coefficient, while the R-squared from Column 4 to Column 5 barely changes. The stability of R-squared values over the columns in Table 3 suggests that the unmeasured peer characteristics not included in our regressions are unlikely to add significant explanatory power to the regression model. Referencing Altonji, Elder, and Taber (2005) and Oster (2019), this small change in explanatory power indicates that unobserved peer characteristics, if any, would only have a marginal impact on the estimate of cadre-parent influence on parents' attention to their children's friendships.

Overall, after accounting for a set of peer and peer parents' characteristics, the cadre-parent influence on parents remains statistically significant at the 5% level. According to the saturated model in Column 5 of Table 3, the normalized effect size (by the average class size) in our sample indicates that adding one more cadre parent to a class of 45 increases parents' attention to children's friendships by approximately 1.68% of a standard deviation.[10]

To assess the sensitivity of the main results, we use the standard random sample and present the main results in the first two columns in Table A.7 in Appendix A. The cadre-parent effects on other parents become insignificant when we control for peer characteristics. This further highlights the importance of the preferred sample because cadre parents may interfere with class composition, as demonstrated by the balancing test using the standard random sample (Table A.4 in Appendix A).[11]

Although we imposed an extra criterion in the sample selection process and performed a balancing test on the characteristics of students, families, and teachers to ensure the random assignment of students to classrooms, there may still be concerns that our check fails to detect non-random assignments based on hidden criteria. Following Gong et al. (2021) approach, we perform an additional empirical exercise to test whether unmeasured non-randomness drives the residual cadre spillover. Specifically, we randomly drop two school grades from the sample and conduct 780 regressions (C_{40}^2) using the saturated model in Column 5 of Table 3. If our baseline estimates are driven by school grades with non-random classroom assignments, the estimates would significantly deviate from the observed cadre-parent spillover. We plot the distribution of these 780 estimates in Fig. A.1 in Appendix A. The estimates in this exercise are all positive and the distribution centers on the estimate in Column 5 of Table 3, suggesting that cadre-parent spillovers are unlikely to be driven by the inclusion of school grades with non-random classroom assignments.

Taken together, the above analysis reveals that greater exposure to peers' cadre parents leads to increased parental attention toward

[10] The raw coefficient (0.741) can be interpreted as the effect size if the share of peer cadre parents rises from 0 (0%) to 1 (100%). We normalize the coefficient by average class size to interpret the magnitude more clearly. When we consider the eligible sample for the normalization, the average class size also includes observations that have missing information on some variables. See details in Table A.5 in Appendix A.
[11] The last two columns in Table A.7 also present the result of student test scores using the standard random sample, which will be examined in a later section.

children's friendship networks, coinciding with our expectation that Chinese parents consider it important to cultivate their children's friendships with children from cadre families. As a result, the higher the share of cadre parents in a class, the more the parents will pay attention to their children's friendships.

5.2. Other parental outcomes

To establish cross-status friendships with children from cadre families, academic performance is crucial. Students with better grades have a higher social status in Chinese middle schools and more friendship choices, which is helpful for them for breaking into the *guanxi* network (An, 2022; Gold, 1985; Zang, 2006; Zhu, 2020). As a result, with more cadre parents around, parents spend more efforts providing support and supervision to their children, creating a good family environment that is conducive to students' academic success. In this section, we explore changes in parenting styles to further examine the significance of parents' attention to their children's friendships. Parents are aware of the need to build a good image for their child to break into the cadre network, which generates other parental behavior changes.

The CEPS asks parents how often they discuss things that happened at school with their children. Using this as a dependent variable, Column 1 in Table 4 reveals that parents discuss "things at school" with children more frequently when the class has more cadre parents. The survey also asks students how much they think their parents have done for them. The regression result in Column 2 shows that the share of peer-cadre parents positively affects this measure of parental investment. In Column 3, we also find that parents are less likely to withdraw homework help if there are more cadre parents, suggesting increased parental support for schoolwork. These findings on behavioral changes indicate that other parents in the same class make efforts to interact with and support their children with increased exposure to cadre parents. According to the literature, this increased parental support helps students succeed academically (Xie & Postiglione, 2016).

6. Students' academic outcomes

The above analysis of parental behaviors reveals that parents get more involved in their children's friendship networks when there are more cadre parents. This finding validates our hypothesis that exposure to more cadre parents motivates parents to help their children connect with individuals with a higher social status (cadres) to obtain future favors for themselves and their children. This motivation then increases parental involvement in their children's friendship networks. Meanwhile, we also find that parents increase their effort to support children's schoolwork when their children are exposed to more classmates from cadre families. This pattern is consistent with our hypothesis that parents will exert effort to ensure that their children perform well academically and signal themselves as "good" friends to break into the *guanxi* network with cadre children. With these parental changes documented, we shall expect changes in students' academic performance.

In this section, we utilize mid-term test scores to test this hypothesis. A notable feature in China's middle schools is that test scores usually reflect students' true performance so that students can get better prepared for the highly competitive Senior High School Entrance Exam. As a result, curving is not a common practice. This contextual background enables us to use the within-grade variation to analyze whether students in classes with more cadre parents have better academic performance than their counterparts in classes with fewer cadre parents by comparing their mid-term test scores.

6.1. Main patterns

Table 5 presents the results with various specifications. Column 1 reveals a positive and significant bivariate relationship between the share of cadre parents in a class and students' test scores (hereafter, cadre-parent spillover on test scores), conditional on school-by-

Table 4
Effects of peers' cadre parents on other parental responses.

	Parents disc.	How much	Parents not
	things at school	parents have done for child	providing help with homework
	(1)	(2)	(3)
Share of peer-cadre parents	1.759***	1.827***	−2.658***
	(0.625)	(0.648)	(0.984)
Cadre parent	0.0629	0.0467	−0.0996
	(0.164)	(0.130)	(0.176)
Observations	3018	3064	3056
Method	Ordered logit	Ordered logit	Logit

Notes:
a.The summary statistics of the three outcome variables are presented in Table A.2 in Appendix A.
b. NAll regressions control for student/family, teacher, and peer characteristics, and school-grade fixed effect as in the last column of Table 3. Column 1 and Column 3 also control for the relationship between the correspondent of the parents' survey and the child, as dependent variables are from the parents' survey and different relatives may answer questions differently.
c. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

Table 5
Effects of peers' cadre parents on students' midterm test scores.

	Total midterm test scores				
	(1)	(2)	(3)	(4)	(5)
Share of peer-cadre parents	1.624***	1.710***	1.470***	0.828**	0.812**
	(0.444)	(0.492)	(0.459)	(0.373)	(0.400)
Cadre parent	0.0543	−0.0592	−0.0665	−0.0769	−0.0758
	(0.0623)	(0.0545)	(0.0543)	(0.0544)	(0.0544)
Observations	2989	2989	2989	2989	2989
R^2	0.00990	0.106	0.108	0.119	0.120
School grade	X	X	X	X	X
Student/Family controls		X	X	X	X
Teacher characteristics		X	X	X	X
Female peers			X	X	X
Peer ability measures				X	X
Peer parental backgrounds					X
Normalized magnitude of share of peer-cadre parents	0.0369	0.0389	0.0334	0.0188	0.0185

Notes:
a. Share of peer-cadre parents refers to the leave-one-out proportion of peers with cadre parents, ranging from 0 to 1.
b. To obtain the effect of one additional peer-cadre parent, we normalize the coefficient of peers' cadre parents by the average class size of 45 minus 1, increasing the share of peer-cadre parents by 0.0227. These normalized effects are presented in the last row.
c. All regressions control for student/family, teacher, and peer characteristics, and school-grade fixed effect as in the last column of Table 3.
d. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

grade fixed effects. In Column 2, we add control variables to track changes in the estimate of cadre-parent spillover on test scores. Notably, even when we control for the student, family, and teacher characteristics, the estimate of cadre-parent spillover on test scores remains significant at the 5% level, and the effect size is also similar to that in Column 1.

The cadre-parent spillover on test scores we capture in Column 2 of Table 5 may be driven by peer quality. From Column 3 to Column 5, we then check the robustness of cadre-parent spillover on test scores by further controlling for influential characteristics of peers and peer parents. After incorporating these peer characteristics, the estimates of cadre-parent spillover on test scores remain positive and statistically significant at the 5% level. The magnitude drops by about a half.

According to the saturated model in Column 5 of Table 5, increasing the proportion of peers from cadre families by 1% increases a student's test score by 0.81% of a standard deviation. Another way to interpret the result is to normalize the effect size by the average class size of 45 in our sample, as shown in the last row of Table 5. Our full specification result in Column 5 indicates that adding one more classmate who has a cadre parent to a class of 45 increases a student's test score by approximately 1.8% of a standard deviation.[12]

6.2. *Robustness*

To address the concern that the peer-cadre parents' effect on test scores might be driven by unmeasured non-randomness, we repeat the same exercise in the main analysis (Fig. A.1 in Appendix A), randomly dropping two school grades from the sample and conducting 780 regressions using the saturated model in the last column of Table 5. The distribution of these 780 estimates is presented in Fig. A.2. The estimates are all positive similar to the last column of Table 5, suggesting that the observed peer-cadre parents' spillover on test scores is unlikely to be driven by the unobserved non-randomness.

We contend that peer quality does not represent the whole story behind the cadre-parent spillover on students' test scores. When we control for possible peer-effect channels, the residual cadre-parent spillover remains salient. Additionally, in a random classroom assignment free of parental intervention, the association between parents' cadre status and children's test scores is economically small and statistically insignificant. Previous economic studies on cadre status have also found that human capital does not explain the labor-market outcomes of cadres' children (Jin et al., 2014; Yu et al., 2019). Therefore, the residual influence is unlikely to be entirely driven by unmeasured human capital spillover among peers. We also find that accounting for the socioeconomic backgrounds of peer parents (Column 4 and 5 in Table 5) does not substantially change the estimate of cadre spillover.

In Appendix B, we provide additional evidence suggesting that the improvement of a student's academic performance is attributed to the social influence of cadre parents. Specifically, we find that cadre-parent spillover on test scores is much stronger in areas where people hold more favorable views toward cadres and schools with higher local government intervention. These findings provide additional support to our argument that cadre-parent spillover on test scores is primarily driven by cadres' social influence. As aforementioned, due to the social influence of cadre members, the increased presence of cadre parents in the network changes the parenting of other parents, which leads to the cadre-parent spillover on other children's academic performance.

[12] The average class size includes observations that have missing information. See details in Table A.5 in Appendix A.

6.3. Alternative interpretation: Teacher's responses

In addition to parental adjustments, changes in teachers' behaviors are another potential explanation for the cadre-parent spillover on test scores. Teachers have an important influence in shaping students' academic performance, and at the same time, teachers react to the surrounding environments as parents do. Exposure to cadre parents may change how teachers interact with parents and their attitudes toward students. For instance, in classes with more cadre parents, to cultivate *guanxi* with them, teachers may contact parents more frequently, pay more attention to students' academic work, be more patient, and have a greater sense of responsibility toward students. If these assumptions hold, the peer-cadre parents' spillover on students' test scores may also be partially explained by teachers' behavioral changes.

In this section, we leverage the rich survey details to examine teachers' reactions to cadre parents on these aspects and see whether they serve as possible channels through which peer-cadre parents influence students' academic performance. We focus on homeroom teachers, as they spend more time with students than other teachers.

We first examine whether exposure to cadre parents influences teacher–parent interactions, presenting the results in Column 1 of Table 6. Coinciding with our expectation that teachers will approach cadre parents in their networks, the results show that homeroom teachers contact cadre parents more frequently; however, we do not observe more frequent teacher–parent contact in classes with more cadre parents. In Appendix A Table A.8, we also examine the cadre-parent spillover on test scores only for students in non-cadre families, finding positive cadre-parent spillover too. Taken together, the preference to connect with cadre parents found here is unlikely to explain the cadre spillover on test scores entirely for the whole class.

We next explore whether exposure to cadre parents changes homeroom teachers' attitudes toward students. In particular, we examine whether parents in classes with more peer-cadre parents will perceive homeroom teachers to be more patient and have a greater sense of responsibility. Columns 2 and 3 of Table 6 show that in classes with more cadre parents, teachers are not perceived to be more patient or to have a greater sense of responsibility toward students.

One remaining concern about the positive cadre-parent spillover on students' test scores is that it could be attributable to differential grading by teachers. For instance, if teachers grade more leniently in classes with more cadre parents, we may also observe higher average test scores associated with more cadre parents. We next conduct test-score analysis by subject, providing evidence to address this concern. Among math, Chinese, and English, math is a subject with more objective questions and grading rubrics. If teachers' grading bias exists, such bias may lead to greater positive cadre-parent spillover in Chinese and English. Table 7 reports the effects on midterm test scores by subject. The positive cadre-parent spillover is strongest in math; therefore, in comparison to parental adjustments, differential grading by teachers is less likely to explain the cadre-parent influence on students.

7. Falsification tests: The spillover of peers' manager parents

Whereas we have controlled for the average income and education of peer parents, one remaining concern is that other unmeasured peer parental characteristics may drive the cadre-parent spillover identified in this study. In other words, cadre status could be correlated with unmeasured abilities or socioeconomic characteristics of peer parents, and replacing peer-cadre parents with an alternative occupational status of peer parents could generate a similar spillover on parents and students.

In this section, we replicate our analysis of the parental responses and students' test scores using the occupation of manager. Although managers are among the highly educated, high-ability, and high-income parents, they possess less social prestige than cadres. If the observed cadre parent spillover is attributable to cadres' unobserved ability or income-related characteristics rather than cadres' social prestige, we should observe similar spillover effects and mechanisms associated with peers' manager parents.

Column 1 of Table 8 replicates the main regression in Table 3, estimating the effects of peers' manager parents on parents' attention to children's friendships. The results indicate that exposure to a larger share of peers' manager parents is not associated with more

Table 6
Effects of peers' cadre parents on teachers' response.

	Frequency of	Parent-perceived teachers'	
	teacher contacting parents	attitudes toward children Patient	Responsible
	(1)	(2)	(3)
Share of peer-cadre parents	−0.316	−0.258	0.513
	(0.959)	(1.042)	(1.109)
Cadre parent	0.197**	−0.0472	−0.00787
	(0.0850)	(0.145)	(0.128)
Observation	3022	2970	2967
Pseudo R^2	0.052	0.062	0.055

Notes:
a. Share of peer-cadre parents refers to the leave-one-out proportion of peers with a cadre parent, ranging from 0 to 1.
b. The summary statistics of dependent variables are in Table A.3 of Appendix A.
c. All regressions control for student/family, teacher, and peer characteristics and a school-grade fixed effect as in the last column of Table 3. The regressions also control for the relationship between the correspondent of the parents' survey and the child, as their dependent variables are from the parents' survey and different relatives may answer the questions differently.
d. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

Table 7
Spillover of peers' cadre parents on student midterm test scores by subject.

	Math	Chinese	English
	(1)	(2)	(3)
Share of peer-cadre parents	1.111***	0.659	0.518
	(0.411)	(0.428)	(0.500)
Cadre parent	−0.0745	−0.0300	−0.0797
	(0.0533)	(0.0526)	(0.0588)
Observations	2992	2991	2993
R^2	0.077	0.124	0.132

Notes:
a. Share of peer-cadre parents refers to the leave-one-out proportion of peers with a cadre parent, ranging from 0 to 1.
b. All regressions control for student/family, teacher, and peer characteristics and a school-grade fixed effect as in the last column of Table 3.
c. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

Table 8
Falsification tests: Peers' manager parents.

	Parents' attention to children's friendships	Other parental response			Total midterm test scores
		Parents disc. things at school	How much parents have done for child	Parents not providing help with homework	
	(1)	(2)	(3)	(4)	(5)
Share of peer manager parents	−0.550	−0.0920	−2.713***	−1.570***	−0.787
	(0.408)	(0.271)	(0.591)	(0.513)	(1.176)
Manager parent	−0.0478	0.0871*	0.123	−0.162*	−0.230
	(0.0552)	(0.0515)	(0.128)	(0.0892)	(0.164)
Observations	2984	2874	3013	3050	3051
(Pseudo) R^2	0.120	0.125	0.106	0.057	0.094

Notes:
a. Share of peer manager parents refers to the leave-one-out proportion of classmates with a manager parent, ranging from 0 to 1. Managers in the survey are middle or senior management personnel of enterprises/corporations.
b. Column 1 replicates the regression in the last column of Table 3. Columns 2–4 replicate the regressions of other parental responses in Table 4. Column 5 replicates the regression in the last column of Table 5.
c. All regressions control for student/family, teacher, and peer characteristics and a school-grade fixed effect as in the last column of Table 3.
d. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

parental attention to children's friendship networks. Columns 2–4 replicate the analysis of other parental responses. Most of the peer-manager-parent coefficients are either insignificant or have opposite signs. Although exposure to more peers' manager parents also significantly reduces the likelihood that parents withdraw their help for children's schoolwork, the estimated effect is much smaller than the peer-cadre spillover in Table 4. Moreover, such parental change does not lead to significant changes in students' academic performance. As shown in Column 5 of Table 8, the exposure to more peers' manager parents has no significant effect on students' test scores. Overall, the findings in Table 8 suggest that the previously observed peer-cadre-parent spillovers on parenting behaviors and students' performance are not likely to be driven by parents' unobserved characteristics or income but are attributable to cadres' social influence.

8. Conclusion

The ingrained *guanxi* culture and the historical path of economic reform have provided cadre members with unique social influence in Chinese society. We borrow insights from the social network literature and take a novel approach to probe the broader influences of cadres, examining the external influence on parents and other children in cadres' networks. We use classroom randomization in Chinese middle schools to address the non-random sorting concern so that parents and other children have exogenous connections in our data.

Our results indicate that greater exposure to peers' cadre parents increases parents' attention to children's friendship networks and significantly improves parental involvement in children's lives and learning. These findings imply that parents consider surrounding characteristics to determine the best investments in their children. Our results also indicate that students' average test scores are higher in classes with more peer-cadre parents, which can be partially explained by parental adjustment. These findings offer important insights regarding the influence of political ties and their inter-generational consequences.

We also examine teachers' responses to the presence of influential parents in the network. Although teachers are more likely to contact cadre parents, in classes with more cadre parents, teachers do not increase their contact frequency with the other parents, nor

do they have differential attitudes toward students in different classes. These findings suggest that the positive cadre-parent spillover on the entire class is less likely to be driven by changes in teachers' attitudes and behaviors. The by-subject score analysis also provides evidence suggesting that improvement in students' test scores is unlikely to be a result of biased grading.

While we identify parental adjustment as a viable channel of cadre-parent spillover on students' test scores, we do not entirely rule out alternative explanations. For example, the presence of influential parents in a network could improve school inputs, which provides a better public good for other children and parents. The mechanism discussion leaves fruitful areas for future research to investigate how influential individuals may affect surrounding agents in educational settings.

Although the current focus is cadre parents, our findings have broad implications. We are among the first to identify the external influences of political status, demonstrating that politically influential individuals can affect distinct others through non-market interactions. This finding broadens our understanding of the economic significance of political status and ties, particularly in developing countries. Our results also apply to the economic literature on early-life development. Whereas economists agree on the importance of better neighborhoods on early-life development, we demonstrate that the influence of surrounding non-parental adults is an understudied source of the exposure effect. Although we focus on a specific political status, the implications of our results generally apply to the external influence of parents with high social status.

Data availability

Data will be made available on request.

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Appendix A. Additional tables and figures

Table A.1
Summary statistics of students' and parents' characteristics.

	Mean/Proportion	S.D.	Min	Max
Variable of interest				
Share of peer-cadre parents	0.125	0.128	0	0.467
Students' characteristics				
Age	13.34	1.198	11	17
Female	0.526	–	–	–
Ethnicity - Han	0.947	–	–	–
Only-child	0.574	–	–	–
Migrant	0.195	–	–	–
Agricultural Hukou	0.387	–	–	–
Standardized persistence score	0.0790	0.969	−3.426	1.030
Repeated grade in primary sch.	0.076	–	–	–
Skipped grade in primary sch.	0.011	–	–	–
Attended kindergarten	0.856	–	–	–
Family Characteristics				
Cadre parent	0.129	–	–	–
Low-income family	0.114	–	–	–
Mother's years of education	10.68	3.339	0	18
Father's years of education	11.12	3.236	0	18
Observations	3066			

Notes:
a. Persistence scores were measured at Grade 6.
b. Proportions, instead of means, are reported for indicators.

Table A.2
Summary statistics of parents' responses.

	Frequency	Percentage
How strict are parents about whom their child makes friends with?		

(*continued on next page*)

Table A.2 (*continued*)

	Frequency	Percentage
Don't care	261	8.63
Care but not strict	1599	52.86
Strict	1165	38.51
Do parents know whether their child has any friends at school?		
Don't know	527	17.56
Know	2474	82.44
Do parents know the friends who often play with their child?		
None	314	10.57
Some	2398	80.71
All	259	8.72
How often do parents discuss their children's friends with them?		
Never	240	7.96
Sometimes	1519	50.36
Often	1257	41.68
Frequency of parents discussing things at school with their child		
Never	170	5.62
Sometimes	1510	49.9
Often	1346	44.48
How much a child thinks his/her parents have done for him/her		
Very little	28	0.91
Not very much	66	2.15
Not too much nor too little	236	7.7
A fair amount	793	25.88
A great deal	1941	63.35
Whether parents provide needed help for homework		
Provide if needed	2335	76.16
Do not provide	731	23.84

Table A.3
Summary statistics of teachers' responses.

	Frequency	Percentage
Frequency of homeroom teacher contacting parents		
Never	1095	36.13
Once	756	24.94
Two to four times	943	31.11
Five times or more	237	7.82
How responsible is the teacher for the child?		
Not responsible at all	5	0.16
Not so responsible	25	0.82
Moderate	285	9.33
Somewhat responsible	1102	36.06
Very responsible	1639	53.63
How patient is the teacher with the child?		
Not patient at all	6	0.20
Not so patient	31	1.02
Moderate	377	12.35
Somewhat patient	1212	39.70
Very patient	1427	46.74

Table A.4
Balancing test using comparable sample from earlier studies.

	Proportion of peers with cadre parents	
	(1)	(2)
Age	0.00726	−0.00160***
	(0.00485)	(0.000461)
Female	0.00176	0.000737
	(0.00212)	(0.000502)

(*continued on next page*)

Table A.4 (*continued*)

	Proportion of peers with cadre parents	
	(1)	(2)
Ethnicity - Han	−0.00262	−0.00274*
	(0.00669)	(0.00159)
Migrant	−0.00965**	−0.000278
	(0.00458)	(0.000968)
Agricultural Hukou	−0.0447***	−0.00389***
	(0.00614)	(0.00125)
Only-child	0.0135***	0.000351
	(0.00415)	(0.000818)
Repeated grade in primary school	−0.008	−0.00255**
	(0.00536)	(0.00109)
Skipped grade in primary school	−0.0165**	−0.00469
	(0.00713)	(0.00348)
Standardized persistence score	0.00254	0.000309
	(0.00176)	(0.000397)
Attended kindergarten	0.0118***	0.000089
	(0.00358)	(0.0011)
Mother's years of education	0.00525***	0.000322*
	(0.000782)	(0.000165)
Father's years of education	0.00636***	0.000339
	(0.000952)	(0.000206)
Low-income family	−0.00322	0.000315
	(0.00392)	(0.00121)
Constant	−0.115	0.0905***
	(0.0718)	(0.0131)
Observations	7336	7336
R^2	0.278	0.896
School-grade fixed effects		X

Notes:

a. Sample selection follows the criterion in Xu et al. (2020) and Chung and Zou (2020). Each column represents a separate regression that regress the leave-me-out proportion of peers with cadre parents on the predetermined characteristics of students.

b. Standard errors are clustered at the class level and reported in the brackets. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

Table A.5

Sample construction process.

Criteria	Remaining number of			
	Schools	Grades	Classes	Students
Initial	112	222	438	19,487
Randomized class assignment				
Principal reports a randomized classroom assignment	93	184	362	15,900
Principal confirms no reassignment btw. Grade 8 and Grade 9	78	154	302	13,046
Homeroom teacher reports no students are assigned by test scores	67	108	210	9029
Dropping grades with only one classroom	64	102	204	8760
Principal confirms no parents ask for favor during the assignment	28	43	86	3804
Dropping observations with missing values				
No missing parents' cadre status	28	43	86	3692
No missing students' characteristics	28	43	86	3445
No missing family background	28	43	86	3261
No missing headroom teachers' characteristics	28	43	83	3177
Dropping grades with only one classroom	28	40	80	3066

Table A.6

Balancing test for the homeroom teacher assignment.

Proportion of students with cadre parents		
	(1)	(2)
Female	0.0251	0.0129
	(0.0291)	(0.02)
Age	0.00335	0.00275
	(0.00287)	(0.00207)
College	0.0193	0.00587
	(0.0277)	(0.0196)
Grad. from pedagogical university or major	0.0223	−0.0227
	(0.0467)	(0.0292)

(*continued on next page*)

Table A.6 (*continued*)

Proportion of students with cadre parents		
	(1)	(2)
Professional title: below level-A teacher	−0.0414	−0.0224
	(0.0334)	(0.0231)
Professional title: above level-A teacher	−0.00723	−0.0266
	(0.046)	(0.0333)
Subject taught: math	0.00707	0.00996
	(0.0358)	(0.022)
Subject taught: English	−0.0147	0.0202
	(0.0348)	(0.0248)
Subject taught: other	−0.015	0.00606
	(0.0485)	(0.0302)
Constant	−0.0485	−0.0529
	(0.126)	(0.087)
Observations	80	80
R^2	0.114	0.926
School-grade fixed effects		X

Notes:
a. In this balancing test, we use our preferred random sample.
b. Each column represents a separate regression that regress the proportion of students with cadre parents in a homeroom class on the predetermined characteristics of the homeroom teacher.
c. We group teachers' professional titles into three categories: below level-A, level-A, and above level-A. Level-A teachers are the base group in the regression. In addition, homeroom teachers may teach Chinese, math, English, or other subjects, and we use Chinese homeroom teachers as the base group.
d. Standard errors are reported in parentheses. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

Table A.7
Effects of share of peer-cadre parents using comparable sample from earlier studies.

	Parents' attention to children's friendships		Total midterm test scores	
	(1)	(2)	(3)	(4)
Share of peer-cadre parents	0.500*	0.244	1.359***	0.244
	(0.259)	(0.323)	(0.438)	(0.465)
Cadre parent	0.0633	0.0597	−0.0127	−0.0281
	(0.0396)	(0.0398)	(0.0379)	(0.0381)
Observation	6630	6630	6945	6945
R^2	0.154	0.156	0.128	0.134
Peer control		X		X

Notes:
a. All regressions control for student/family and teacher characteristics, and a school-grade fixed effect. Regressions in Columns (1) and (2) also control for the relationship between the correspondent of the parents' survey and the child because the dependent variable is based on questions in the parents' survey, and different relatives may answer these questions differently.
b. Peer control includes the leave-me-out proportion of female peers, ability measures, and peers' parental background.
c. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

Table A.8
Effects of peers' cadre parents on non-cadre students' midterm test scores.

	Total midterm test scores
	(2)
Share of peer-cadre parents	0.977**
	(0.469)
Observations	2600
R^2	0.133
Sample	Parents are not cadres

Notes:
a. Share of peer-cadre parents refers to the leave-one-out proportion of peers with a cadre parent, ranging from 0 to 1.
b. The regression controls for student/family, teacher, and peer characteristics and a school-grade fixed effect as in the last column of Table 3.
c. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

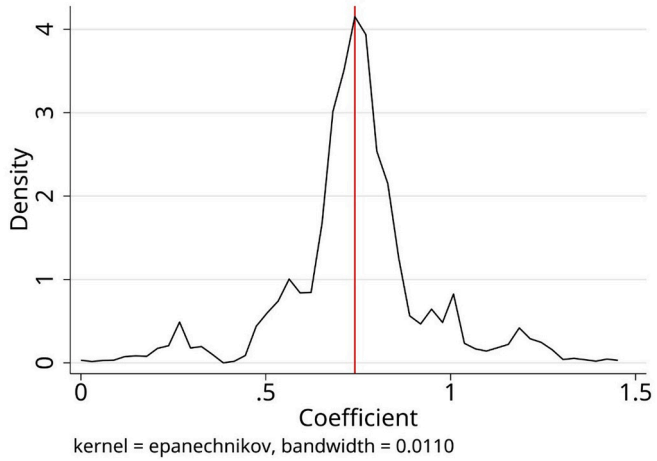

Fig. A.1. Distribution of coefficients for parents' attention to children's friendships after randomly dropping two school grades.
Notes: The figure plots the distributions of the coefficients of share of peer-cadre parents from 780 regressions that randomly drop two school grades from the sample each time. The vertical line indicates our estimate in the last column of Table 3.

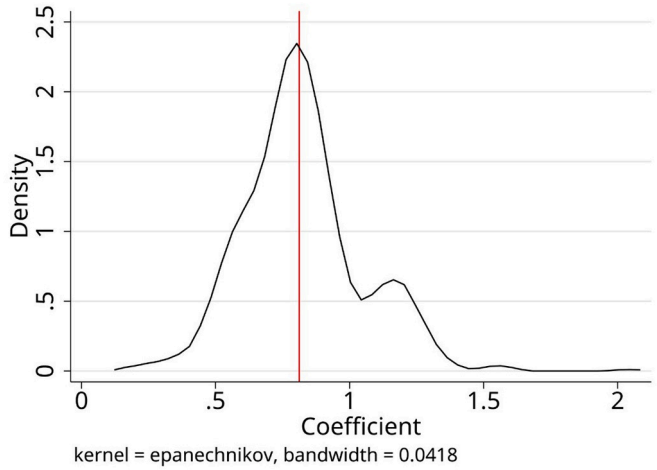

Fig. A.2. Distribution of coefficients for students' midterm test scores after randomly dropping two school grades.
Notes: The figure plots the distributions of the coefficients of share of peer-cadre parents (%) from 780 regressions that randomly drop two school grades from the sample each time. The vertical line indicates our estimate in the last column of Table 5.

Appendix B. Heterogeneous cadre-parent spillovers on children's academic performance

In this section, we present further evidence regarding the social influences of cadre parents. We exploit the variation in the public attitude toward cadres and the extent of local government intervention. The heterogeneous patterns along these dimensions are associated with the strength of social influence of cadres.

The first dimension uses the regional differences in public sentiment toward cadres to provide evidence suggesting that social influence drives the peer-cadre spillover on test scores. Our thought experiment is that if cadre status is prestigious and exerts social influence on others, we should observe a stronger cadre spillover on other children in regions where people hold a more favorable opinion of cadres.

In China, although cadres enjoy high prestige overall, how they are perceived by the general public differs between rural and urban areas. Such difference could be linked to the imbalance in market development across these areas. Literature suggests that market functioning requires a distribution of resources based on the relative contribution of production factors (McClosky & Zaller, 1984). Current China-based research suggests that the public tends to perceive a fair market in areas with a higher level of market development if resources are distributed to reflect the scarcity and importance of goods and skills (Tian, 2020). This rule of distribution is in conflict with the *guanxi* culture, which operates via the exchange of favor and relationship-specific resource allocation (Bian, 2018; Yang, 1994). As such, people in areas with a higher level of market development are more likely to view *guanxi* as unfair (Tian, 2020), which could subsequently impact their attitudes toward cadres.

In Figs. B.1 and B.2, we show the statistics from two nationally representative surveys of Chinese households to contrast the public

sentiment toward cadres in rural versus urban areas. In the Chinese General Social Survey (CGSS 2013), one question asks respondents to rate their satisfaction with cadres on a 5-point scale (1 = very unsatisfied, 5 = very satisfied).[13] Fig. B.1 illustrates the share of respondents rating their satisfaction with cadres higher than 3. The categories on the horizontal axis are ordered by their proximity to urban cities. Approximately 10% of the respondents in the center of a city/town, on the outskirts of a city/town, and towns outside of a city/town report being satisfied with cadres, which is lower than the 20% share in rural areas.

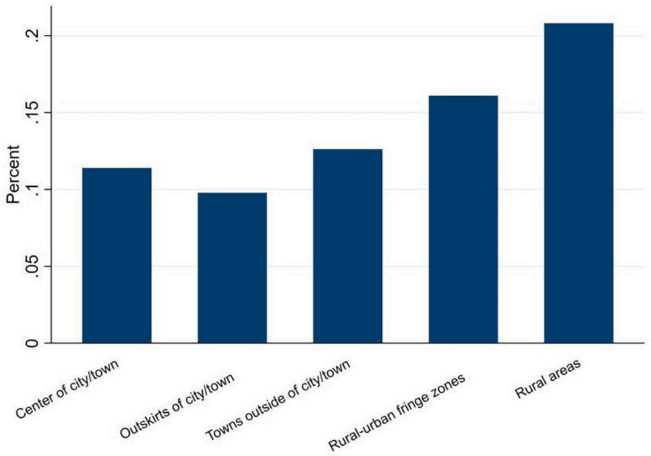

Fig. B.1. Public satisfaction toward cadre members in rural and urban China.
(Source: Authors' tabulation using the Chinese General Social Survey (2013))

We cross-check the regional heterogeneity of public sentiment toward cadres using another national survey, the China Family Panel Studies (CFPS 2014). A question on this survey asks respondents to rate their trust in cadres on a 10-point scale (0 = no trust, 10 = full trust).[14] In Fig. B.2, the bars compare the percentage of respondents for each point scale for rural areas with the urban areas.[15] Similar to the result for the CGSS, a higher percentage of urban respondents gave a rating between 0 and 4, indicating low trust, whereas a higher percentage of rural respondents gave a rating between 5 and 10, indicating high trust.

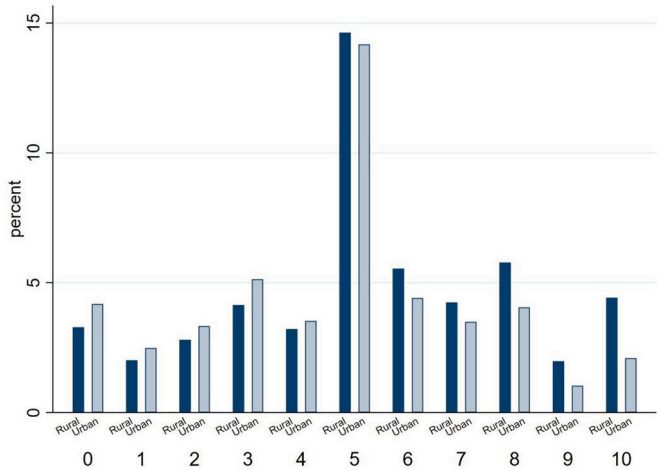

Fig. B.2. Levels of trust in cadre members in rural and urban China.
(Source: Authors' tabulation using the China Family Panel Studies (2014))

[13] The Chinese General Social Survey (CGSS) is the first continuous national social survey project in China, which can be considered the Chinese counterpart of the General Social Survey (GSS) in the US. It was jointly initiated in 2003 by Renmin University of China (RUC) and Hong Kong University of Science and Technology. We use the 2013 wave of this survey, which asks the respondents "How satisfied are you with the morality of cadres?"

[14] China Family Panel Studies (CFPS) is a nationally representative annual longitudinal survey of Chinese communities, families, and individuals. It was launched by the Institute of Social Science Survey (ISSS) at Peking University. Interviews were conducted annually from 2010 to 2012, and biennially since. Here we use a question in the 2014-wave of the survey, which asks "How much do you trust cadre (*ganbu*)?"

[15] The geographical regions in the CGSS were divided into five areas, as seen in Figure B.1. In contrast to the CGSS, regions in the CFPS were classified using a simple rural–urban dichotomy.

Figs. B.1 and B.2 evoke the same conclusion that people in rural areas hold a more positive view of cadres than those in urban areas. We leverage this rural–urban difference to examine the existence of the external spillover of cadre parents. In particular, we group the center of the city, the outskirts of the city, and towns outside of the city into low-cadre-satisfaction areas (urban areas), where cadre parents are expected to have a weaker influence on classmates' academic performance, given a less positive public sentiment. Panel A in Table B.1 illustrates the peer-cadre spillover for rural and urban areas. The peer-cadre spillover on test scores is significant in rural areas, and its magnitude is much higher than that in urban areas. These findings suggest that the peer-cadre spillover on test scores is more prominent in areas where people hold a more positive view toward cadres.

The second dimension of heterogeneity uses the recent findings of Jia et al. (2021) that cadre influence is stronger with higher government intervention in the local economy. If the peer-cadre spillover on test scores is driven by the social influence of cadre members, we should observe stronger spillover in areas where the public sector has a larger role. We measure government intervention using government school funding (RMB per student) obtained from the school administration survey. Since the scale of this variable is continuous, rather than separating cadre spillover by category, we estimate both the base and interaction term. Panel B in Table B.1 demonstrates that students in a school with more government funding experience higher cadre spillover.

Table B.1
Heterogeneous effects of peers' cadre parents on academic performance.

Panel A Schools in rural areas	Coefficient	S.E.
Peers' cadre parents x rural areas	3.247**	(1.261)
Peers' cadre parents x urban areas	0.423	(0.430)
F stat. of diff. [*p*-value]	4.209	[0.0435]
Panel B Government funding (1000 RMB per student)	Coefficient	S.E.
Peers' cadre parents x government funding	1.645***	(0.576)

Notes:
a. The dependent variables are midterm test scores standardized at the school-grade level with a mean of 0 and a standard deviation of 1.
b. In Panel A, rural areas also include the rural–urban fringe zone of the city/town.
c. All regressions control for student/family, teacher, and peer characteristics and a school-grade fixed effect as in the last column of Table 5.
d. Standard errors in parentheses are clustered at the class level. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

Since we exploit the differences between regions or schools, one concern may be that the rural–urban comparison and the difference in school funding may only capture cross-sectional differences in education resources, such as school quality. However, as our regression is a fixed effect model that has already controlled for school differences, the rural–urban and school-based indicators are absorbed by the fixed effects; therefore, unobserved regional/school differences do not drive the heterogeneity in cadre spillover.

In summary, the above analysis indicates that the peer-cadre spillover on test scores is much stronger in areas where people hold more favorable views toward cadres and in schools with higher local government intervention. These findings support our argument that the cadre spillover on test scores is primarily driven by cadres' social influence.

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