

# Parental Support in Education and Social Integration of Migrant Children in Urban Public Schools in China

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## **Abstract**

This study investigates the impacts of rural-urban migrant parents' support in education on their children's social integration in urban public schools in China. The data come from a nationally representative sample of 1,615 rural-urban migrant children collected in 2014. We identified great variations in migrant children's social integration in schools. Migrant children with a good study environment and strict parental supervision at home have a stronger sense of belonging to the school and heightened socialisation with urban peers. The impacts remain highly significant after confounding factors and class and school-level unobserved heterogeneity are all controlled for in the analysis. However, there is no evidence to suggest that communication with teachers leads to better integration. Social integration of migrant children also varies by gender, academic competence, and school composition. These findings inform the design of policy interventions to break down rural-urban segregation and improve inter-group relationships in Chinese cities.

**Keywords:** Parental support in education, social integration in schools, rural to urban migrant children, China

## 1. Introduction

It has been widely reported that internal migrants and international immigrants living in metropolitan areas face great inequalities of homeownership and welfare distribution, spatial and political segregation (Liu et al., 2017; Mekdjian, 2018; Shen, 2017). In developing countries and emerging markets, continued economic development goes in tandem with rapid urbanisation and the large-scale rural-to-urban migration. As a result, the social integration of migrant families poses a formidable challenge to the government (Yue et al., 2013). This is particularly the case in China where integrating migrant families into the public services system such as schools has become a prominent urban policy concern (Hu & Wang, 2019; Ouyang et al., 2017; Yang et al., 2020). As more migrant families plan to settle down permanently in urban areas, the number of migrant children living with their parents in the cities has risen drastically. However, in comparison to an increasing number of studies on the social integration of adult migrant workers, there is a paucity of evidence on the social integration of migrant children in urban public schools (Tian & Wu, 2010).

Segregation of migrant and urban children in the urban education system is a highly sensitive issue on social media and in public policy discussions (Hu & Wang, 2019). Local governments have been asked to ensure the incorporation of migrant children into the urban public education system and to promote educational equality (State Council, 2003, 2014). In practice, a series of barriers may prevent migrant children from receiving the same kind of education and support as urban children. First, migrant families are concentrated in areas of a city where the quality of education services is relatively low. As housing costs are positively associated with the quality of education services, housing affordability is a major barrier for migrant children to access high-quality education resources (Wen et al., 2017). Neighbourhood segregation co-exists with school segregation. Second, migrant parents need to submit designated documents to urban public schools, such as long-term employment contracts and housing certificates, if they want to secure a school place for their children. These documents are not required for urban families (Chen & Feng, 2013). This means that migrant and urban families are often treated as two distinct groups in the course of school application. Finally, discrimination and prejudice against migrant families exist in the cities because they are regarded by urban residents as an inferior group with lower socioeconomic status (Yue et al., 2013) and lower population 'quality' (Murphy, 2004). In the presence of these barriers, social integration of migrant children remains a serious problem even though policies have been in place for years to solve this issue.

Meanwhile, it should be recognised that while some children may have difficulties with school integration, others can adapt to the new environment well. So far, most of the existing studies have focused on the academic performance and mental wellbeing of migrant children in China, but little is known about the key driving forces of their social integration in schools. In ethnically diversified countries such as the US and European countries, social integration in schools is mainly related to immigrant or ethnic minority students. The existing studies have pointed to the crucial role of parental support in the social integration of children in schools. Johnson et al (2001) examined students of different ethnicities in the US and found that parental support is positively associated with children's social integration in schools. Similar evidence has been found among students from ethnic minority backgrounds in Flemish schools in Belgium (Van Houtte & Stevens, 2009) and immigrant students in Greece (Frosso et al., 2012), respectively.

As far as migrant children in China are concerned, the key question is: are the findings relating to parental support reported in the US and European countries applicable to the case of migrant children in China, where social integration in schools takes place in the context of the rapid urbanisation of a developing country but has nothing to do with ethnicity? With this question in mind, this study uses data from a nationally representative sample to investigate the impacts of

parental support on the social integration of migrant children in urban public schools in China. The research findings will shed light on the overall level of social integration among migrant children and the potential of using policy interventions to optimise parental support and improve the social functioning of migrant children.

## **2. Social Integration in School and Parental Support**

Social integration in schools is the process of mutual assimilation between groups of children from different social, cultural and economic backgrounds, which results in convergence on their educational experience in the school. It is closely related to, but differs from social integration in the wider society (Berry, 1997; Gordon, 1964), as those aspects such as marriage and political power do not apply to school-based integration. The existing studies usually take a student-centred perspective to operationalise the concept of social integration in schools. Van Houtte and Stevens (2009) examined the social integration of immigrant students inside schools from two dimensions: a sense of belonging to the school and socialisation with peers. Frosso et al. (2012) proposed that social integration in schools has four components including academic performance, conduct, socialisation with peers, and psychological well-being.

Parents provide support to their children's education by committing resources to the children's learning process (Pomerantz & Moorman, 2007). These include both tangible resources such as money and intangible resources such as time and human capital (i.e. parents' skills and knowledge). Parental support involves a wide range of activities that vary considerably in different contexts (Hill & Tyson, 2009; Wang & Sheikh-Khalil, 2014). The conceptual framework of family-school partnerships developed by Epstein (1995) and Epstein et al. (2011) has been proved to be a useful tool to understand the activities involved in parental support (Povey et al., 2016). According to this framework, parental support can be divided into five types of activities: establishing a good study environment (parenting); helping students at home with homework and school activities (supervision), communicating with teachers about children's academic progress (communication), participating in school governance (decision-making), and working as a volunteer at school (volunteering). In the Chinese urban education system, parenting, supervision, and communication are the most important domains of parental support, whereas decision-making and volunteering are rare among Chinese parents. Therefore, our discussion of parental support for migrant children will focus on the former three types of activities.

Different domains of parental support require different types of family resources. A good study environment refers to the availability of a space at home that is disruption-free and enables children to concentrate on their learning. In most cases, it only requires the investment of tangible resources to make the study facility available. Parents supervise their children's academic performance and school behaviour to help them make progress in education. This type of parental support requires a combination of various resources. Apart from financial resources, parents also need to devote time to supervising their children. In China, some parents are keen to check the quality of their children's homework, which entails the mobilisation of parents' own knowledge (Kim & Fong, 2014). Moreover, if parents find a problem in their children's education, they have to understand the problem and find a solution through effective communication with their children (Fosco et al., 2012).

Communication with teachers takes two forms in the Chinese urban education system. One is parent-teacher meetings where the parents of children in a class gather together and listen to teachers' reports on their children's progress in education. The other takes the format of separate meetings held between a teacher and a parent (Liu & Jacob, 2013). To communicate effectively with teachers, parents should have a good knowledge of their children's academic ability, educational inspiration, and school behaviour. Furthermore, parents not only need to spend time

communicating with teachers but also need to possess good socialisation skills and be aware of the importance of doing so.

There are multiple ways in which parental support could affect social integration of migrant children in schools. First, when children first start education or make the transition from primary to secondary education, they may feel stressed due to exposure to the new environment (Lohaus et al., 2004). Compared to urban children, many rural-urban migrant children do not start their education in urban schools but come to the schools when they are older (Hu & West, 2015). Arguably these children are more vulnerable than urban children due to the drastic changes in school rules and people's expectations. Providing a stable study environment at home help to preserves continuity and reduces uncertainty in education (Chen et al., 2009). Effectively communicating with children and teachers allow parents to quickly identify the problems migrant children encounter in the transition period and respond to these problems timely before their children are adversely impacted by the substantial changes in the environment.

Second, parental support facilitates skill development. Effective supervision at home helps children practise socialisation skills that can be used at school to form friendly inter-personal relationships with peers (Seibert & Kerns, 2015). Also, those children who are under their parents' supervision know how to regulate their behaviours in school and know what they are supposed to do when participating in academic and social activities (Pomerantz & Moorman, 2007). This latter point is especially important in the case of migrant children. Some migrant children are regarded by their teachers and urban students as less disciplined (Goodburn, 2009). One of the reasons for this is that rules in urban schools are different from those in rural schools. Acceptable behaviour in rural schools may become unacceptable in urban schools. For example, some rural schools have spacious playgrounds, and rural students are used to running around fast in the playground. However, urban schools with a large number of students and crowded playgrounds prohibit this. Students may bump into each other, which sometimes causes injuries. Parental supervision makes sure that migrant children's behaviours and participation in academic activities are in alignment with the rules, norms, and expectation in urban schools (Hu, 2018). This will help migrant children gain respect from urban peers and teachers, which is a necessary condition for social integration in school.

Finally, parental support motivates migrant children. Francis and Archer (2005) found that Chinese immigrant parents in the UK value education greatly. They closely monitor their children's progress in education even though these parents themselves are not well educated. Over time such a value is passed down from parents to children. Children may either identify with their parents' values or develop a sense of appreciation towards their parents' devotion to their education. In both cases, children form a positive attitude towards education which facilitates adjustment to the new environment (Grolnick & Slowiaczek, 1994).

Based on the foregoing discussion, we formulate the central hypothesis to be tested in this study: parental support is positively associated with social integration of migrant children in urban public schools. We expect to see that a good study environment at home, home-based supervision and communications with teachers have a favourable impact on social integration.

### **3. Research Methods**

#### **3.1 Sources of data**

The data used in this study come from the baseline interviews of the China Education Panel Survey (CEPS) conducted in 2014, which collected education-related information on Grade 7 and Grade 9

students studying in junior secondary schools in China. Following a multi-stage cluster-sampling design, the survey provided a nationally representative sample (CEPS Research Team, 2015). The survey first randomly selected 28 out of 2,870 districts or counties across the country. In each district or county, 4 junior secondary schools were selected. The selection of schools followed the probability proportional to size (PPS) rule. The locations of the selected schools were anonymised as part of the privacy protection agreement between the CEPS research team and the schools. In each school, two Grade 7 and two Grade 9 classes were selected. All of the students in each class were interviewed. In total, 19,487 students from 448 classes in 112 schools were interviewed. Parents, class teachers and school principals were also interviewed. A follow-up survey was conducted in 2015. Since the data for the second wave was not publicly accessible until recently and we had already finished our analysis by the time those data were released, we did not include them in our study.

The survey divided the 19,487 students into four categories: migrant students with a non-agricultural hukou (6.5%, n=1,273), migrant students with an agricultural hukou (11.4%, n=2,227), local students with a non-agricultural hukou (38.6%, n=7,527) and local students with an agricultural hukou (43.4%, n=8,460). Migrant students in the CEPS questionnaire refer to those who attend a school located in a district or county outside their place of hukou registration. We did not include migrant children with non-agricultural hukou in this study, because these are often the cases where students move from one to another urban district in the context of the stratification of the urban education system and their 'migration' has little to do with the process of urbanisation. For the 2,227 migrant students with an agricultural hukou, we excluded those studying in private migrant schools and rural public schools. This leaves us with 1,615 rural-urban migrant students with an agricultural hukou studying in 80 urban public schools in 24 districts or counties. Urban public schools refer to those fully funded by the government and located in the centre, peri-urban areas, or urban fringe of a city. These 1,615 students are the focus of our analysis in this paper.

### **3.2 Dependent variables**

Following the discussion in the previous section, we investigated the social integration of migrant children in urban public schools from two dimensions: a sense of belonging to the school and socialisation with urban peers. The CEPS questionnaire contains a shortened version of the Goodenow's (1993) Psychological Sense of School Membership scale. The shortened scale contains six items. Each item makes a statement about a student's feeling about the school environment. The six items are: (1) Most of my classmates are friendly to me; (2) I think I can get along well with other people in the school; (3) I often participate in the activities organised by the class or the school; (4) I feel attached to the people in this school; (5) I don't feel bored in this school; (6) I want to stay in this school. For each item, students choose from four possible answers: completely disagree (scored 0), generally disagree (scored 1), generally agree (scored 2) and completely agree (scored 3). Adding these answers up, the indicator has a total score ranging from 0 (no sense of belonging) to 18 (complete sense of belonging). The Cronbach's alpha coefficient is 0.734, which indicates that the shortened scale has good reliability. Socialisation with urban peers is measured by the composition of friends reported by migrant children. The survey asked migrant students to name five best friends in the school and point out how many of them are urban children. More urban best friends indicate better socialisation with urban peers in the school.

### **3.3 Parental support**

Parental support is the key variable of interest in our analysis. We investigated all of the three dimensions of parental support discussed in the previous section. Two variables relating to the students' study environment at home were identified in the questionnaire: the availability of a desk

for study at home and the number of school transfers. A unique feature of migrant families is their high mobility. Many migrant parents do not have a stable or permanent job in the city but move frequently to different parts of the country to find suitable employment opportunities (Hu et al., 2011). Student recruitment in the Chinese compulsory education system is based on the catchment area principle. As a result, migrant children have to move around with their parents, be transferred to different schools and study in a different home environment all the time. Following this logic, we used the number of school transfers as a proxy of the stability of the migrant children's study environment at home. More school transfers indicate a higher level of instability.

Four binary variables were included in our analysis to measure home-based supervision. Two of them, academic supervision and behaviour supervision, were based on the analysis of the student questionnaire. Students were asked whether their parents were strict with them when they were supervising their study and school behaviour. The other two variables, help with homework and signing the homework, were derived from the information in the parent questionnaire. Parents were asked whether they helped their children if their children could not solve the problems in their homework. In Chinese urban schools, it is common practice for teachers to ask parents to check and sign their children's homework (Cheung & Pomerantz, 2011). The signature shows that the parents are monitoring their children's academic progress.

Two variables were identified in the questionnaire which relate to parents' efforts to communicate with teachers: attending teacher-parent meetings and getting in touch with teachers. The variables are derived from the information in the parent questionnaire, and both are binary variables (1=yes, and 0=never).

### **3.4 Control variables**

The impacts of parental support should be investigated while the confounding factors are controlled for. This is to investigate, all other things being equal, whether parental support has an independent effect on social integration in school. Our selection of the control variables was based on Gong et al.'s (2015) analytical framework which structured the determinants of migrant children's educational output into three categories including individual, family and school characteristics. We included six individual characteristics including age, gender, grade, parents' only child, duration of stay in the city, and students' self-assessment of academic performance. Since geographical information of schools was anonymised, we were not able to investigate whether a child migrates from the local province or from another province. For family characteristics, we controlled for the financial status of the family, parents' highest educational qualifications, and the frequency of inter-parental quarrels. For school characteristics, we controlled for three factors: the percentage of local urban children in the school, the frequency with which parent-teacher meetings are held, and the general academic performance of the school. In total, there are 12 control variables in our analyses.

### **3.5 Multilevel regression analysis**

We build multilevel regression models to further control for class and school-level unobserved heterogeneity. Some schools formulate specific measures to help migrant children with school integration whereas others pay little attention to this issue. In a similar vein, some classes may have a more inclusive environment than others. These factors may lead to variations in social integration, but the relevant information is not collected by the survey. School and class-level unobserved heterogeneity should be accounted for in the analyses (Rabe-Hesketh & Skrondal, 2012). For the sense of belonging variable, we build three-level linear regression models that can be expressed as follows:

$$y_{ijk} = \beta_0 + \beta_1 x_{1ijk} + \dots + \beta_8 x_{8ijk} + \gamma_1 z_{1ijk} + \dots + \gamma_{12} z_{12ijk} + \zeta_{jk}^{(2)} + \zeta_k^{(3)} + \varepsilon_{ijk} \quad (1)$$

Where  $y_{ijk}$  is the score of sense of belonging reported by a migrant student  $i$  studying in class  $j$  in school  $k$ ,  $x_1 - x_8$  are the parental involvement variables,  $z_1 - z_{12}$  are the individual, family and school characteristics included control variables.  $\beta$  and  $\gamma$  are the coefficients for the parental involvement variables and control variables, respectively.  $\zeta_{jk}^{(2)}$  and  $\zeta_k^{(3)}$  denote the class and school-level unobserved heterogeneity, respectively. An analysis which does not duly consider these two factors may result in biased estimates which in turn leads to incorrect conclusions about the importance of the parental support variables.

Socialisation with peers is a count variable, so we build a three-level Poisson regression model that takes the following form:

$$\ln[E(y_{ijk})] = \beta_0 + \beta_1 x_{1ijk} + \dots + \beta_8 x_{8ijk} + \gamma_1 z_{1ijk} + \dots + \gamma_{12} z_{12ijk} + \zeta_{jk}^{(2)} + \zeta_k^{(3)} \quad (2)$$

Where  $y_{ijk}$  is the number of urban friends reported by a migrant student. The denotations of  $x$ ,  $z$ ,  $\beta$ ,  $\gamma$ , and  $\zeta$  are the same as those for equation (1).

For each dimension of school integration, we test three models: a simple model without a multilevel structure and excluding control variables, a three-level model without control variables, and a three-level model with control variables. By comparing the results which account for unobserved heterogeneity with those that do not, we can evaluate the usefulness of a multilevel model. The analyses were conducted using Stata version 15.

## 4. Results

### 4.1 Sample characteristics

Table 1 shows the characteristics of the sample. We report the weighted proportions or means to account for the unequal probability of student selection in a PPS sampling framework. The mean score of the sense of belonging for rural-urban migrant children is 12.4. To put this result into context, we also calculate the score for urban children. We find that the score for migrant children is significantly lower than that for urban children (mean score=13.2; t-statistic=5.3; p-value<0.001). We further break down the sense of belonging score into three categories: a low sense of belonging (0-6), a medium sense of belonging (7-12), and a heightened sense of belonging (13-18). As shown in figure 1, migrant children are more concentrated in the first two categories, whereas urban children are more concentrated in the third category.

[Figure 1 approximately here]

On average, migrant children have two urban best friends in the school. Socialisation with urban peers can go to extremes. 503 migrant children in the sample reported that they had no urban best friends, whereas 168 migrant children reported that all of their best friends are urban children.

[Table 1 approximately here]

23% of migrant children (n=258) do not have a desk at home. Many migrant children do not have a stable home. The average number of school transfers is 0.8. 44% of migrant children (n=745) had at least one school transfer. 43 migrant children reported that they had studied in more than four different schools in the past, and two students had studied in eight different schools. 46% of migrant



children reported that their parents are strict with their study, and 36% reported that their parents are strict with their school behaviour. 35% of migrant parents do not help with their children's homework even though the children need help. 42% of migrant parents rarely sign the homework when the school asks them to do so. 13% of migrant parents have never attended the parent-teacher meetings, and 36% have never contacted the teachers before.

55% of the migrant children are boys, and only 22% are the only child in the family. For the 80 urban public schools in the sample, the average percentage of local children with an urban hukou is 78%. However, the figure for each school varies considerably, ranging from only 8% in one school to 99% in another. All of the schools hold teacher-parent meetings each term. 10% of them (n=8) hold the meetings more than five times a term.

## 4.2 Results of regression analysis

Table 2 shows the regression results relating to migrant children's sense of belonging. The most important parental involvement variables are the availability of a study desk at home, supervision of study and school behaviour, and signing the homework. These variables have a significant impact across three models. Migrant children have a higher sense of belonging to the school if they have a study desk at home, their study and behaviour are under strict supervision, and their parents sign their homework.

[Table 2 approximately here]

Help with homework is a significant variable in models 1 and 2, but does not show statistical significance after we include control variables in the final model (model 3). Attending parent-teacher meetings is a significant variable in the simple OLS model (model 1), but no longer has a significant impact in a multilevel model where unobserved heterogeneity at the class and school levels is accounted for (models 2 and 3). An unstable home (i.e. more school transfers) reduces migrant children's sense of belonging. For those parents who keep in contact with the teachers, their children's sense of belonging is higher. However, these variables are not statistically significant.

Three control variables are significantly associated with migrant children's sense of belonging. Those with a fair or good self-assessed academic performance tend to have a higher sense of belonging at school. Good inter-parental relationships facilitate a sense of belonging. Migrant children's sense of belonging is higher in those schools that hold parent-teacher meetings more than once each term. The likelihood-ratio (LR) test shows that the random effects are statistically significant, which confirms that a multilevel model should be used to account for class and school-level unobserved heterogeneity.

Table 3 shows the regression results in relation to migrant children's socialisation with urban peers in the same school. Those children with frequent school transfers (i.e. a highly disruptive home-learning environment) tend to have fewer best friends who are urban children in the school. Strict supervision of school behaviour helps migrant children make friends with urban peers. The availability of a study desk at home and signing the homework are significant variables in a single-level Poisson regression model (model 1), but do not show statistical significance in a three-level model (models 2 and 3). Migrant children have more urban best friends in those schools with a higher percentage of local urban children. The likelihood-ratio test suggests that class-level and school-level unobserved heterogeneity is important and should be accounted for in the model.

[Table 3 approximately here]

The three-level random effects models assume that the random effects and covariates are uncorrelated. There is scope to cast doubt upon this assumption. For example, certain class-level

unobserved characteristics may encourage or discourage parental involvement. If this is the case, parental support variables will be endogenous and the estimated coefficients will be biased. To test the robustness of this assumption, we built two-level fixed-effects models that controlled for class-level characteristics and clustered the standard errors of the coefficients at the school level. We conducted the Hausman test to compare the results of random-effects and fixed-effects models. As shown in table 4, the regression results in the fixed effects models are highly consistent with those in the multi-level random effects models. Moreover, the p-value of the Hausman test is larger than 0.05 in both models, which provides further confirmation that there is no systematic difference between the random-effects and the fixed-effects estimators and that the regression results reported in tables 2 and the 3 are robust under alternative specifications.

[Table 4 approximately here]

## 5. Discussion and Conclusion

Rapid urbanisation and the large-scale rural to urban migration have profound consequences on the well-being of migrant families. The educational outcomes of migrant children are a vitally important issue and have attracted intensive academic attention in recent years. While most of the existing studies focus on migrant children's academic performance (Chen & Feng, 2013; Gong et al., 2015; Lai et al., 2014; Lu & Zhou, 2013), mental health and wellbeing (Guo et al., 2012; Hu et al., 2014; Mao & Zhao, 2012), this study uses a nationally representative sample to investigate the extent to which migrant children adapt to the new environment in urban public schools. Indeed, it is the first study that examines the role of parental support in migrant children's social integration in the Chinese context. The extent to which migrant children can adapt to the new environment is an important indicator of social integration of migrant families. It is impossible for a migrant family to feel a sense of belonging to the city if their children struggle to fit in. Moreover, children represent the future of a society. The social integration of migrant children is bound to have a long-lasting effect on the intergroup relationships between migrant and urban families and social cohesion in Chinese cities.

In our study, school integration of migrant children takes place in the context of rapid urbanisation and the important role of parental support remains significant. The findings clarify that migrant children *per se* are a heterogeneous group, and great variations exist within this group of children. All migrant children face the challenge of social integration in urban public schools, but some are in an even more disadvantageous position than others. Guided by the modified framework of school-family partnerships (Epstein, 1995), we investigated three types of parental support: a good study environment at home, strict home-based supervision, and communication with teachers. We found that the first two types of parental support were most important and facilitated social integration of migrant children in urban schools. The relationships remained highly significant after student, family and school characteristics and class and school-level unobserved heterogeneity were all accounted for in the model. However, there was no evidence to suggest that communication with teachers could significantly improve migrant children's school integration. These findings were highly robust to alternative modelling specifications and assumptions.

Our analysis shows that even the most basic study facilities at home, such as a study desk, play an important role in the improvement of children's sense of belonging to the school. Meanwhile, migrant children without a stable home have fewer urban best friends. A plausible explanation is that it takes time for migrant and urban children to become good friends, and frequent home-moving and school transfers severely undermines migrant children's socialisation with their urban peers. In addition, by strictly supervising their children's study, migrant parents help to improve their children's sense of belonging to the school. This finding confirms the existing theories that parental support promotes the social functioning of children at school through behaviour regulation and skill development (Pomerantz & Moorman, 2007; Seibert & Kerns, 2015).

While we have found strong evidence regarding the essential role of parental support, this by no means suggests that parents are the only stakeholders responsible for children's social integration in school. Indeed, we have found that those schools that hold parent-teacher meetings more often can significantly improve their students' sense of belonging, which implies that schools should actively reach out to migrant parents, instead of the other way around, in order to help migrant children to adjust to the new environment.

There is a large body of literature which reported that the socioeconomic status of parents is positively associated with children's academic and non-academic outcomes in education (Altschul, 2012; Benner et al., 2016; Conger et al., 2010; Flouri & Buchanan, 2004). Such an association underpins the long-standing debate on the reproduction of social and cultural capital and intergenerational mobility (Kraaykamp & Eijck, 2010). Our analysis suggests that parents' income is significantly associated with migrant children's social integration if parental support variables were not considered. When parental support variables were added to the models, however, the strong association between them disappear (full results available upon request). The theoretical implications of these analyses are twofold. First, Migrant children of lower socioeconomic status can still be well integrated into urban public schools as long as their parents take concrete actions to support their children. Second, parental support seems to be the most immediate driving force of social integration. Indeed, we found that the strong association between social integration and other control variables (e.g., inter-parental relationships) also disappears once parental support variables were included in the model, which confirms the vitally important role of parental support and highlights the value of our study.

This study has profound policy implications on the social integration of migrant families in urban China. Hu and Wang (2019) found that there is widespread socioeconomic segregation among middle school students in urban China. School segregation and neighbourhood segregation reinforce each other. Similarly, Qian and Walker (2015) reported that migrant children are often concentrated in a few schools at the bottom of the school hierarchy in a city because many of them live in the city fringe with a high concentration of migrant population. Even though migrant children have access to urban public schools, segregation between urban and migrant children has not been truly eliminated and is still limiting the chances of social interactions between the two groups of children. In terms of the design of social integration policies, our results suggest that breaking down the segregation between migrant and urban children is crucial because it not only is conducive to the reduction of social inequality in urban China but also helps them adapt to the new environment and improve their social functioning.

More importantly, it is important to move the focus of simply improving education opportunities of migrant children towards exploring variations in the practices of parental support. While it takes time and continued efforts for the urban government to gradually reduce the neighbourhood, socioeconomic and school segregation in Chinese cities, bespoke measures which aim to directly empower migrant parents and help them support their children in education can be quickly put in place. Certainly, policy interventions should be well-targeted to make sure that public resources are directed to those who need them most. For example, measures should be taken to help those migrant parents who struggle to provide the most basic support to their children or who are not able to effectively supervise their children. In the former case, the Chinese government may want to consider providing in cash or in-kind benefits to those poor migrant families. The lack of a study desk or study space at home might be one of the eligibility criteria for government support. When holding parent-teacher meetings, urban schools may want to place a greater emphasis on the importance of preserving a disruption-free environment for children at home. For those children who frequently move houses and transfer to different schools, the problem is closely intertwined with the wider context such as the legislation on migrant workers' rights and employment relations, the structure of the labour market, and the economic cycle of the entire country.

Two limitations of this study should be given due attention. First, we focus on the school integration of migrant children studying in urban public schools, as this is the policy objective explicitly expressed by the Chinese central government. Social integration of migrant children in migrant schools and parental support for urban children are undoubtedly very important issues, but they are not the focus of discussion in this paper. It would be useful for future research to compare whether parental support differs significantly between these groups of children and whether parental support has different consequences on their children's social functioning at school.

Second, since our analysis is based on a cross-sectional dataset, we are not able to account for inter-temporal changes in key confounding factors such as socioeconomic status of parents. Although we have used a range of techniques to reduce the possibility of endogeneity in the model and tease out the causal relationships among the key variables as much as possible, our ability to interpret the findings as causality is inevitably limited by the data structure. Future research based on longitudinal information will be useful to test the robustness of our findings.

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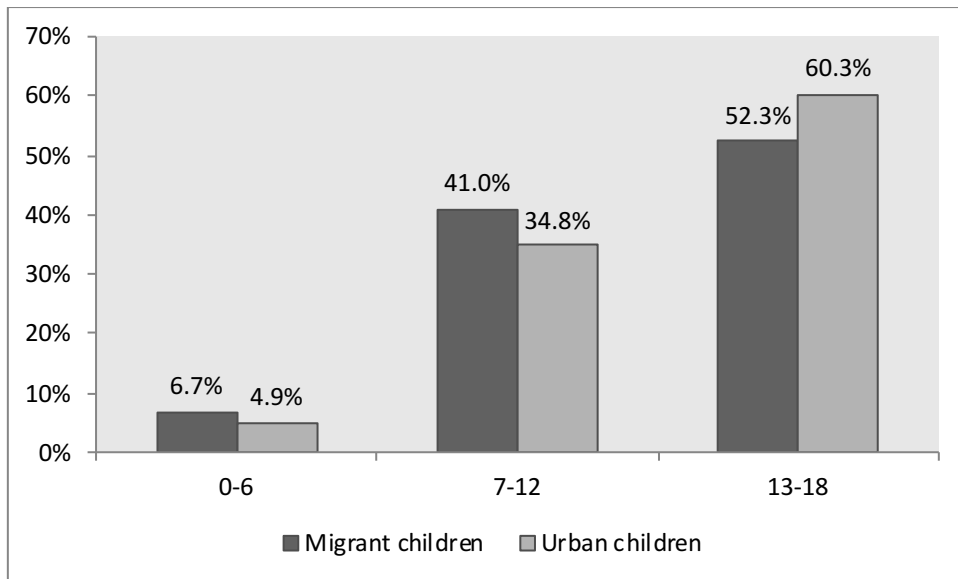


Figure 1 Sense of belonging score of migrant children and urban children



Table 1 Sample characteristics

|  | Weighted proportion/weighted mean (standard error) |
|--|--|
| <b>School integration</b>  |  |
| Sense of belonging score   | 12.4 (0.14)  |
| Number of urban best friends                                       | 2.1 (0.07)   |
| <b>Parental support - Study environment</b>                        |  |
| Availability of a desk for study at home                           |  |
| No   | 22.6%  |
| Yes  | 77.4%  |
| Instability of home study environment (number of school transfers) | 0.8 (0.04)   |
| <b>Parental support – Supervision</b>                              |  |
| Supervision on study   |  |
| Not strict   | 54.5%  |
| Strict   | 45.5%  |
| Supervision on school behaviour                                    |  |
| Not strict   | 64.3%  |
| Strict   | 35.7%  |
| Help with homework   |  |
| No help provided despite need of help                              | 35.3%  |
| Help provided or help not needed                                   | 64.7%  |
| Signing the homework   |  |
| Rarely   | 42.3%  |
| Very often   | 57.7%  |
| <b>Parental support – Communication with teachers</b>              |  |
| Attending parent-teacher meetings                                  |  |
| No   | 13.2%  |
| Yes  | 86.8%  |
| Contacting teachers  |  |
| No   | 36.4%  |
| Yes  | 63.6%  |
| <b>Student characteristics</b>                                     |  |
| Age  | 13.6 (0.05)  |
| Gender   |  |
| Female   | 44.9%  |
| Male   | 55.1%  |
| Grade  |  |
| Grade 7  | 51.9%  |
| Grade 9  | 48.1%  |
| The only child in the family                                       |  |
| Yes  | 22.1%  |
| No   | 77.9%  |
| Length of stay in cities (years)                                   | 7.8  |
| Self-assessment of academic performance                            |  |
| Bad  | 34.7%  |
| Fair   | 30.0%  |
| Good   | 35.3%  |
| <b>Family characteristics</b>                                      |  |
| Frequent parental quarrels   |  |
| Yes (bad inter-parental relationship)                              | 11.3%  |
| No (good inter-parental relationship)                              | 88.7%  |
| Self-assessed financial status of the family                       |  |
| Poor   | 21.6%  |
| Fair   | 74.0%  |
| Rich   | 4.4%   |
| Parents' highest educational qualifications                        |  |

|                                    |              |
|------------------------------------|--------------|
| Primary education or below         | 13.9%        |
| Junior secondary education         | 62.5%        |
| Senior secondary education         | 23.6%        |
| Sample size – migrant children     | 1,615        |
| <b>School characteristics</b>      |              |
| Percentage of local urban children | 77.5% (0.02) |
| Holding parent-teacher meetings    |              |
| Once a term                        | 28.2% (0.05) |
| Two to four times a terms          | 61.5% (0.06) |
| More than five times a term        | 10.3% (0.03) |
| Academic performance of school     |              |
| Average level or below             | 17.5% (0.04) |
| Above the average level            | 61.3% (0.05) |
| In the top                         | 21.2% (0.05) |
| Sample size – urban public schools | 80           |

Sources: China Education Panel Survey (CEPS).

Table 2 Results of regression models: Sense of belonging

|   | Model 1                                  | Model 2   | Model 3  |
|---|--|---|--|
|   | OLS regression without control variables | Multilevel linear model without control variables | Multilevel linear model with control variables |
|   | Coefficient (std. err.)                  | Coefficient (std. err.)                           | Coefficient (std. err.)                        |
| <b>Study environment at home</b>                    |  |   |  |
| Study desk  | 1.53*** (0.25)                           | 1.31*** (0.25)                                    | 1.02*** (0.27)                                 |
| Home instability                                    | -0.04 (0.08)                             | -0.06 (0.08)                                      | -0.01 (0.09)                                   |
| <b>Home Supervision</b>                             |  |   |  |
| Study supervision                                   | 0.78*** (0.20)                           | 0.74*** (0.19)                                    | 0.53** (0.20)                                  |
| Behaviour supervision                               | 0.64*** (0.20)                           | 0.61** (0.2)                                      | 0.77*** (0.21)                                 |
| Help with homework                                  | 0.48* (0.19)                             | 0.46* (0.18)                                      | 0.29 (0.19)                                    |
| Signing the homework                                | 0.75*** (0.19)                           | 0.65*** (0.19)                                    | 0.53** (0.21)                                  |
| <b>Communication with teachers</b>                  |  |   |  |
| Attending meetings                                  | 0.70* (0.31)                             | 0.47 (0.31)                                       | 0.19 (0.33)                                    |
| Contacting teachers                                 | 0.24 (0.19)                              | 0.14 (0.19)                                       | 0.12 (0.20)                                    |
| <b>Student characteristics</b>                      |  |   |  |
| Age   |  |   | -0.18 (0.13)                                   |
| Male  |  |   | -0.26 (0.18)                                   |
| Only child  |  |   | -0.25 (0.21)                                   |
| Grade 9   |  |   | 0.33 (0.32)                                    |
| Length of stay                                      |  |   | 0.02 (0.02)                                    |
| Fair academic performance (ref. poor)               |  |   | 0.81*** (0.24)                                 |
| Good academic performance (ref. poor)               |  |   | 1.44*** (0.22)                                 |
| <b>Family characteristics</b>                       |  |   |  |
| Good inter-parental relationship                    |  |   | 1.75*** (0.31)                                 |
| High family income (ref. low family income)         |  |   | 0.05 (0.24)                                    |
| Average family income (ref. low family income)      |  |   | 0.35 (0.42)                                    |
| Junior secondary education (ref. primary education) |  |   | 0.01 (0.30)                                    |
| Senior secondary education (ref. primary education) |  |   | -0.12 (0.33)                                   |
| <b>School characteristics</b>                       |  |   |  |
| Holding parent-school meetings more than once       |  |   | 0.75** (0.29)                                  |
| Proportion of urban children                        |  |   | -0.15 (0.65)                                   |
| Average performance (ref. below average)            |  |   | 0.09 (0.30)                                    |
| Good performance (ref. below average)               |  |   | 0.70 (0.41)                                    |
| Joint significance test                             | F(8, 1407) =22.4***                      | $\chi^2(8)=126.2***$                              | $\chi^2(24)=225.9***$                          |
| LR test of random effects                           | N.A.                                     | $\chi^2(2)=37.7***$                               | $\chi^2(2)=7.9**$                              |
| Sample size   |  | 1,615   |  |

Sources: China Education Panel Survey (CEPS).

Table 3 Results of regression models: Socialisation with urban peers

|   | Model 1                                      | Model 2  | Model 3   |
|---|--|--|---|
|   | Poisson regression without control variables | Multilevel Poisson model without control variables | Multilevel Poisson model with control variables |
|   | Coefficient (std. err.)                      | Coefficient (std. err.)                            | Coefficient (std. err.)                         |
| <b>Study environment</b>                            |  |  |   |
| Study desk  | 0.28*** (0.06)                               | 0.09 (0.07)  | 0.05 (0.07)                                     |
| Home instability                                    | -0.12*** (0.02)                              | -0.09*** (0.02)                                    | -0.06* (0.02)                                   |
| <b>Home Supervision</b>                             |  |  |   |
| Study supervision                                   | 0.01 (0.04)                                  | 0.02 (0.05)  | -0.03 (0.05)                                    |
| Behaviour supervision                               | 0.12** (0.04)                                | 0.12** (0.05)                                      | 0.14** (0.05)                                   |
| Help with homework                                  | -0.01 (0.04)                                 | -0.01 (0.04)                                       | 0.01 (0.05)                                     |
| Signing the homework                                | 0.09* (0.04)                                 | 0.02 (0.05)  | 0.03 (0.05)                                     |
| <b>Communication with teachers</b>                  |  |  |   |
| Attending meetings                                  | 0.01 (0.07)                                  | -0.03 (0.08)                                       | -0.11 (0.08)                                    |
| Contacting teachers                                 | -0.01 (0.04)                                 | -0.03 (0.05)                                       | -0.01 (0.05)                                    |
| <b>Student characteristics</b>                      |  |  |   |
| Age   |  |  | -0.04 (0.03)                                    |
| Male  |  |  | -0.07 (0.04)                                    |
| Only child  |  |  | -0.02 (0.05)                                    |
| Grade 9   |  |  | 0.13 (0.08)                                     |
| Length of stay                                      |  |  | 0.01 (0.01)                                     |
| Fair academic performance (ref. poor)               |  |  | 0.81*** (0.24)                                  |
| Good academic performance (ref. poor)               |  |  | 1.44*** (0.22)                                  |
| <b>Family characteristics</b>                       |  |  |   |
| Good inter-parental relationship                    |  |  | 0.12 (0.08)                                     |
| High family income (ref. low family income)         |  |  | 0.05 (0.06)                                     |
| Middle family income (ref. low family income)       |  |  | 0.12 (0.10)                                     |
| Junior secondary education (ref. primary education) |  |  | 0.06 (0.08)                                     |
| Senior secondary education (ref. primary education) |  |  | 0.07 (0.08)                                     |
| <b>School characteristics</b>                       |  |  |   |
| Holding parent-school meetings more than once       |  |  | 0.13 (0.08)                                     |
| Proportion of urban children                        |  |  | 2.27*** (0.19)                                  |
| Average performance (ref. below average)            |  |  | -0.03 (0.08)                                    |
| Good performance (ref. below average)               |  |  | -0.11 (0.11)                                    |
| Joint significance test                             | $\chi^2(8)=98.9***$                          | $\chi^2(8)=30.5***$                                | $\chi^2(24)=211.2***$                           |
| LR test of random effects                           | N.A.   | $\chi^2(2)=353.5***$                               | $\chi^2(2)=40.5***$                             |
| Sample size   |  | 1,615  |   |

Sources: China Education Panel Survey (CEPS), author's calculations.

Table 4 Robustness checks: Fixed effects models

|                          | Sense of belonging<br>Coefficient (std. err.) | Socialisation<br>Coefficient (std. err.) |
|--------------------------|---|--|
| Study desk               | 1.00*** (0.29)                                | 0.09 (0.08)                              |
| School transfers         | 0.02 (0.13)                                   | -0.07* (0.03)                            |
| Supervision on study     | 0.49* (0.21)                                  | 0.003 (0.05)                             |
| Supervision on behaviour | 0.86*** (0.27)                                | 0.15** (0.06)                            |
| Help with homework       | 0.29 (0.2)                                    | -0.01 (0.05)                             |
| Signature for homework   | 0.35 (0.24)                                   | 0.06 (0.06)                              |
| Parent-teacher meetings  | 0.11 (0.32)                                   | -0.10 (0.10)                             |
| Contacting teachers      | 0.15 (0.2)                                    | -0.05 (0.06)                             |
| Control variables        | Yes   | Yes                                      |
| P-value of Hausman test  | 0.60  | 0.06                                     |
| Sample size              | 1,615   |  |

Sources: China Education Panel Survey (CEPS), author's calculations.

Note: Standard errors are clustered by schools. A large p-value (>0.05) for the Hausman test indicates no systematic difference in coefficients between a fixed-effects model and a random-effects model.