

China's Rural-Urban Migration and Children's Opportunities and Outcomes in Compulsory Education*

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Abstract

Guided by education inequality theories and based on a nationally-representative survey, this paper examines the relationship between rural-urban migration and compulsory education equality. The urban sample analysis shows that brought-along children have equal or better opportunities in school facilities than their urban native counterparts. While this is a bright sign of moving toward equality of opportunities, we do not see the same sign in more subtle school qualities. Neither does our rural sample analysis show that left-behind children would enjoy greater learning opportunities than children of non-migrants perhaps due to remittances. When turning to developmental outcomes, we find that both brought-along and left-behind children fare worse than their respective native counterparts. These findings suggest that serious policy and program intervention efforts are needed to achieve greater compulsory education equality. Additional steps include comparisons between brought-along and left-behind children and multivariate analysis of all three comparisons to aid a better understanding.

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Introduction

China has become the world's second largest economy and experienced an unprecedented rural-urban migration. Initial attention has been paid to whether children of rural migrants are given full rights to compulsory education (Wang and Holland 2011, Lan 2014). Focusing on the shifted policy environment of school democratization, this paper examines the discrepancies in learning opportunities and developmental outcomes between children of rural-urban migrants and their "native" counterparts. China's family migration from the rural areas has taken on a peculiar form: an increasing proportion of rural migrants bring their children along while settling in a city (brought-along children) whereas a majority of rural migrants leave their children behind in the home village (left-behind children). We ask: Are opportunities for learning unequal? Are student developmental outcomes stratified? Particularly, we are interested in exploring these questions through three sets of comparisons: 1) brought-along children (separately for intra-and inter-provincial) vs. urban-native students in urban areas; 2) left-behind children vs. rural-native children in rural areas and small cities; and 3) brought-along children vs. left-behind children, separately for inter-provincial and intra-provincial rural-urban migration.

Background

China's continuous rural-urban migration since the mid 1980s has claimed the largest single migration in the world's history. Not only the scale but more importantly the household registration (hukou) system make this phenomenon one of the most important and interesting topic in population studies. While the previous rigidity of hukou policy against geographic mobility has been relaxed, the social stratification of hukou, the most prominent factor in China,

remains unchanged because rural parents and children's citizenship right is tied to their home village but nowhere else in China.

The restrictive citizenship right is one of the reasons why the living arrangement of children by rural-urban migrants has taken on a peculiar form of a mix of brought-along and left-behind children. According to Census 2010, 28.8 million, or one in four (26.2%) children aged 0-18 in urban areas belong to rural-to-urban migrant parents (Duan et al. 2013a). In addition, 61 million are left behind in rural areas, accounting for 21.9% of all children nationally (Duan et al. 2013b). Roughly the total number of children of rural-urban migrants is 89.8 (28.8+61) million and the percentage of brought-along is 32% of all children of rural-urban migrants.

Our previous analysis of relevant policies of the central and local governments in the 2000s shows a significant policy shift to accommodate brought-along children of rural-urban migrants in urban schools stipulated by the central government and implemented by provincial governments, with heterogeneity in earlier vs. later timing and greater vs. smaller degree of openness (Hao and Yu 2014). This policy analysis provides us three insights to help designing this study, which focuses on the responsiveness of school institution to the policy shift in providing differential learning opportunities to students of different migrant status. First, the favorable policy environment for brought-along children of rural-urban migrants became nationwide in 2013. Second, this favorable environment, however, has a large local variation. Third, left-behind children of rural-urban migrants are also left behind in policy consideration.

The fundamental shift of educational policies pertaining to the compulsory education for children from rural-urban migrant families is a *post hoc* measure that does not shake the hukou stratification order. Nonetheless, this policy shift enables brought-along children of rural migrants to study in urban public schools. Whether their access to the whole array of learning

opportunities is equal to children of native urbanites remain a question to be investigated in this paper. With the insights from our previous policy analysis, this study connects rural-urban migration and children's opportunities and outcomes in compulsory education.

Theoretical Framework

We developed a theoretical framework by reformulating western theories on educational inequality and school effects to fit the China case. Raftery and Hout (1993) posit that educational inequality can be maximally maintained (MMI) during educational expansions. When Chinese rural children surge into cities, urban schools resume educational expansion to serve newcomers, which give rise to new forms of inequality. The effectively-maintained-inequality (EMI) thesis (Lucas 2001) suggests that *de facto* tracking effectively maintains educational inequality despite mass education expansion. This paper identifies policies that encourage or eliminate such strategies. Several school factors are central to the debate about whether schools are equalizing institutions (Alexander et al. 2007) or exacerbate inequality (Bowls and Gintis 1976, 2002). Schools with a differentiated curriculum structure, low academic standards, a lack of educators' collective efficacy, and weak teacher-student bonds turn schools to disequalizers (Bryk et al. 1993; Downey et al. 2004; Gamoran 1992; Lee and Smith 1997; Stanton-Salazar and Dornbusch 1995). In China, these symptoms may appear in a Chinese version. For instance, a differentiated curriculum structure means that a basic curriculum for rural migrant children and a basic plus a supplemental curriculum for urban native students. The whole framework could be organized with a "Third Law of Educational Inequality", i.e., for every initiative to reduce inequality, there is an opposing reaction to preserve it (Alba and Holdaway 2013, p. 258). This law can prevent us from overlooking institutional "reactions" to policies aiming to reduce inequality.

Data and Methods

Our analysis draws data from the China Education Panel Survey, Junior-High Cohorts (CEPS:JH), which started with 7th and 9th graders in the 2013-2014 baseline survey. Employing stratified, multistage sampling with PPS, CEPS:JH selected a school-based, nationally representative sample of approximately 20,000 students in 448 classrooms of 112 schools. The CEPS:JH administered five different questionnaires to (1) the sample students, (2) their parents, (3) their homeroom teachers, (4) their main subject teachers, and (5) their principals. A grade-specific, standardized cognitive ability test was implemented to all sample students.

Comparison groups are defined by three criteria: rural vs. urban hukou type, local vs. nonlocal hukou place, and presence vs. absence of parents in order to capture the concepts of migration status and living arrangement. Among local students with both parents present, we further specify a condition of being local since birth, hence “native”, who are further differentiated as urban native (U-nav) and rural native (R-nav). Among nonlocal students with rural hukou in urban areas, we further distinguish between those from other place in the same province (R-intra) and those from another province (R-inter). The left-behind children of rural migrants have local rural hukou with one or both parents absent (R-lfb). The sample size, unweighted and weighted percentages for each group are shown in the top panel of Table 1.

(Table 1 about here)

To highlight brought-along and left-behind children of rural migrant vis a vis their respective native counterparts, we examined the urban and rural subsamples to situate the comparisons in the relevant institution context. For the brought-along, urban schools, the overwhelming majority of which is public, are the heterogeneous institutional contexts responsive to the fundamental educational policy shift in the 2000s. We define the urban sample as all students in cities of all administrative levels, including the lowest-level cities equivalent to

the county administration; we define the rural sample as all students in rural areas as well as the lowest-level cities because left-behind children attending schools in lowest-level cities may be local in terms of hukou place. Thus although the geographic areas of the urban and rural samples overlap in these lowest-level cities, the individual students are mutually exclusive because we examine R-intra and R-inter against U-nav in the urban sample and R-lfb against R-nav in the rural sample. To reiterate, our choice of not using the whole national sample for the above comparisons is for the consideration of the policy responsiveness to the educational policy shift to accommodate rural migrant children by urban schools, which is irrelevant for rural schools. See the comparison group distribution of the urban and rural samples in the lower two panels of Table 1.

We measure learning opportunities in two broad categories – formal education and supplemental education – given the increasing importance of supplemental education in China and some other East Asian countries. Specifically, opportunities in formal education include schools in higher rank, school “hardware” (the number infrastructures in a 7-point scale), school “software” (class size, student-teacher ratio, teacher credential, experience), and organization of school days (number of classes per school day). Supplemental education is measured by the average hours and the number of subjects in supplemental education per week.

Students’ developmental outcomes are conceived in three domains – academic/ cognitive, mental, and behavioral. Academic achievements are measured by standardized scores three main subjects (Math, Chinese, and English) with the mean at 70 and the standard deviation at 15. Cognitive ability is measured by the standardized score from the grade-specific 15-minute test estimated with a standard psychometric method. The educational expectation of students is at the college level given the generally high educational expectation among junior high students. The

mental developmental outcome is measured with depressive mood; behavioral outcomes are measured with academic attachment and school engagement are composites based on student's self-reported multiple items, the reliability indicator (Cronbach's alpha) of which exceeds 0.75.

This paper engages in patterns from carefully designed, proper comparisons of groups defined by migration status and living arrangement. Both bivariate/trivariate description and multivariate modeling will be used to provide total and partial associations to construct a comprehensive picture of China's rural-urban migration and children's opportunities and outcomes in the junior high stage of compulsory education.

Preliminary Results

As a school-based survey the CEPS:JH does not cover children not enrolled. In addition, the 112 sample schools are public in majority. We refer to findings based on the Floating Population Surveillance Survey in 2011. Song et al. (2013) reported 6% non-enrollment rate among rural-migrant children and among the enrolled only 4% attended migrant-children schools. Thus the policy shift in 2000s has led to an enormous progress toward accommodating brought-along children of rural-urban migrants to urban schools, including the majority public schools.

Below are results from the preliminary analysis. We show systematic patterns of learning opportunities and developmental outcomes of brought-along and left-behind children against their respective native counterparts.

Urban Sample Analysis: Brought-along vs. Urban-native

Even though brought-along children, irrespective of their intra- or inter-provincial migration status, have enjoyed relatively the same or even better school "hardware" compared to urban native students, they fall short in "software" aspect of formal education as well as

supplemental education, indicating fewer learning opportunities with respect to urban peers. Specifically, according to Table 2, indicators of school “hardware”, teacher-student ratio and class size are more desirable for brought-along children. Since most of the public schools for brought-along children are recently built or renovated, the number of school infrastructure has reached the same level with urban native students, and is even better for intra-provincial migrant students. Perhaps due to the point system in admission procedures and the high mobility of students, the class size of R-intra (46.3) and R-inter (42.5) is surprisingly smaller than that of U-nav (49.9), which affords an advantage in student-teacher ratio for R-inter students (13.3 students per teacher).

(Table 2 about here)

However, equal/better “hardware” does not necessarily apply to equal “software”, as what MMI theory suggested. This is reflected in that fewer brought-along children attend schools that are in higher rank, and more migrant students attend schools with inadequate teacher quality and inefficient organization of class, compared to urban native peers. Specifically, significantly fewer students of rural migrant students – 14.1% of R-intra and 11.9% of R-inter – attend schools in higher rank, compared to over one-third (34.7%) of U-nav students. In addition, even though teacher’s credentials, indicated by percentage of teachers with a bachelor degree or higher, did not vary by migration status or even higher among R-intra students, the teaching experiences vary. Particularly, significantly more brought-along children are attending schools where teachers have less than 5 years of teaching experience (7.3% of R-intra, 7.9% of R-inter vs. 4.5% of U-nav). Therefore, although the majority of urban students have teachers with adequate quality, migrant students are more likely to have inexperienced teachers compared to urban native peers. Further, compared to native students with an average of 7.44 classes per

school day, R-intra and R-inter students have significantly fewer classes relative to their school days – 7.35 and 7.17, respectively. This may imply that these schools are more likely to function as a childcare site rather than a learning site.

The lower rank and less adequate teacher quality of the schools attended by brought-along children are consistent with the spatial hierarchy of the school location. In China, the quality of school is ranked primarily by its location in very large cities to rural villages. For each administrative level of school (large city, small city and county), schools are ranked by urban-rural boundary from urban-center, urban-periphery, transitional zone, township and village. According to our additional analyses (results not shown), brought-along children are less likely to attend urban-center and urban-periphery schools and more likely to attend schools in transitional zones, townships, and villages within city districts. These gaps are significantly larger for R-inter than R-intra: one in two (52.8%) of R-intra and two fifths (39.6%) of R-inter students attend urban-center schools, compared to almost four in five (76.7%) of U-nav who do so. In contrast, 21.1% of R-intra and 34.4% of R-inter attend transition-zone schools, and the corresponding number for U-nav is only 5.5%. Significant differences between r-inter and U-nav students also occur in small cities: only 17.7% R-inter attend urban schools, whereas 73.7% of U-nav do so. This pattern suggests a primary sorting of brought-along children of rural migrants to low-quality schools despite the fact that they are physically living in cities. In addition to formal education, brought-along students, especially inter-provincial migrant students, are also less likely to engage in shadow education, compared to urban native counterparts.

Did these disadvantageous learning opportunities translate into student developmental outcomes? Unfortunately, according to Table 3, our descriptive analyses showed that children of rural migrants, including both R-intra and R-inter, fare worse in almost all outcomes compared to

U-nav, including academic, cognitive, mental and behavioral outcomes, with minor variations by grade.

(Table 3 about here)

First, both R-intra and R-inter students have lower academic achievement in all three main subjects, irrespectively of grade. Particularly, compared to U-nav, 7th graders of brought-along children achieved almost 6 to 8-point lower in math score, 3 to 6-point lower in Chinese, and 6 to 8-point lower in English (see Table 3). Even though 9th graders have smaller gaps, they still achieved significantly lower compared to native peers. In addition, brought-along children, irrespectively of grade, have significantly lower cognitive ability scores compared to U-nav (for 7th graders, -0.32 of R-intra, -0.15 of R-inter vs. 0.28 of U-nav; for 9th graders, -0.19 of R-intra, -0.42 of R-inter vs. 0.25 of U-nav).

Aside from educational outcomes, brought-along children also have worse mental and behavioral outcomes in comparison to urban counterparts. For example, brought-along children of Grade 7 have higher level of depression. In terms of behavioral outcomes, all brought-along children have lower academic attachment and school engagement, irrespectively of the grade. Further, educational expectation for college also indicates a gap between brought-along children and u-nav. R-intra and R-inter students in both grades showed almost 10 percent lower in the proportion of college expectation compared to that of urban counterparts.

In sum, compared to urban native students, brought-along children have worse educational opportunities and developmental outcomes, irrespectively of grade. This is true for both intra-and inter-provincial migrants' children.

Rural Sample Analysis: Left-behind vs. Rural-native

Current research debates on the relative importance of remittance vs. parental absence on how educational outcomes of left-behind children are affected by parental migration (Edwards and Ureta 2003, Hu 2012, Amuedo-Dorantes et al. 2010; Biblarz and Raftery 1999, Meyerhoefer and Chen 2010, Frisancho and Oropesa 2011). By examining the school structural characteristics and learning opportunities, we are interested in understanding whether remittances increase children's educational investment.

(Table 4 about here)

At a first glance of Table 4, the results from our descriptive statistics are mixed. Left-behind children of rural migrants are slightly more likely to attend schools with better infrastructure (5.4 vs. 5.2). However, all indicators of teacher quality are worse for left-behind children than for non-left-behind children, reflected in terms of percentage of teachers with a credential equivalent to or higher than a bachelor degree (51.2% of R-lfb vs. 56.1% of R-nav), proportions of teachers with five or fewer years of teaching experience (14.9% of R-lfb vs. 12.3% of R-nav). In addition, the organization of classes (average number of classes per school day) is also worse for R-lfb than R-nav (7.8 vs. 8.1). R-lfb students also have larger class size (52.6 vs. 51) and higher student-teacher ratio (17.9 vs. 16.5) compared to R-nav. Further, if we only focus on schools where at least one in five students of the school body is left behind (results not shown), as a way to address orange-apple comparison problem because left-behind children are not in all regions of the country, we find that only teacher credential began to favor left-behind children while other patterns hold.

Aside from formal education, compared to R-nav, left-behind children are only more likely to enroll more subjects of shadow education but not hours of shadow education on the condition that we limit our sample to schools where R-lfb account for 20% or higher of the

school body (results not shown). As a result, our data provide little evidence to support the potential greater investment effects from remittances among rural left-behind children.

(Table 5 about here)

What's worse, our results showed left-behind children of rural migrants suffer in all outcomes compared to rural counterparts with no migrating parents, with minor exceptions (see Table 5). Left-behind children of 7th graders also lagged behind in all three main subjects compared to R-nav, suggesting the younger cohorts are particularly suffering educationally because of parental migration. In terms of cognitive ability, R-lfb children in Grade 7 have lower cognitive scores (-0.25) compared to R-nav (-0.18), but not among 9th graders. What worth noting are the poorer mental and behavioral outcomes of rural left-behind children: compared to R-nav students, R-lfb children have higher levels of depression (0.11 vs. -0.08 for Grade 7, and 0.13 vs. 0.07 for Grade 9), lower academic attachment (-0.23 vs. -0.05 for Grade 7, -0.13 vs. -0.07 for Grade 9), as well as lower school engagement (0.02 vs. 0.12 for Grade 7, and -0.25 vs. -0.18 for Grade 9), irrespective of grade. The disadvantaged development outcomes among left-behind children compared to those of non-movers hold when we only look at schools with higher proportions of left-behind students.

Therefore, these results suggest that left-behind children in junior high stage, especially 7th graders, suffer more in terms of all academic, cognitive, mental and behavioral outcomes compared to non-left-behind children. Our data have little evidence for the remittance investment effect, but tend to support that lack of supervision/care from parental absence is harmful.

Tentative Summaries

Results from analyzing the urban sample show that brought-along children have equal or better opportunities in school facilities than their urban native counterparts. While this is a bright

sign of moving toward equality of opportunities, we do not see the same sign in more subtle school qualities. Neither does our rural sample analysis show that left-behind children would enjoy greater learning opportunities than children of non-migrants perhaps due to remittances. When turning to developmental outcomes, we find that both brought-along and left-behind children fare worse than their respective native counterparts. These findings suggest that serious policy and program intervention efforts are needed to achieve greater compulsory education equality.

What remain to be examined are the educational opportunities and developmental outcomes between brought-along children and left-behind children. We will take on this task in our next steps.

Next Steps

Our first next step will perform a third set of comparisons between brought-along children and left-behind children of rural-urban migrants. We used the sample of all children of rural-urban migrants. In order to achieve proper comparisons, we design two separate analyses, one compares the intra-provincial brought-along with their left-behind counterparts in the likely similar within-province areas, and the other compares the inter-provincial brought-along and their left-behind counterparts in the likely sending areas. Given the unavailability of the confidential geocode of this ongoing panel survey, we take advantage of CEPS:JH's sampling design, where a supplemental sample is designated to 120 top-receiving districts and another supplemental sample is designated to Shanghai, the largest metropolitan area in China. Identities are available for students in one of the three mutually exclusive geographic areas: (1) Shanghai, (2) non-Shanghai top receivers, (3) non-Shanghai, non-top-receivers. We choose brought-along children and left-behind children in Areas 2 for the intra-provincial analysis because it is likely that the left-behind are from the same provinces (a very small rural area in Shanghai and thus

very few left-behind children in Shanghai.) For the inter-provincial analysis, we choose brought-along children in Areas 1 and 2 and left-behind children from Area 3 because major sending provinces do not have top-receivers. See Table 6 for the design and the group sizes.

(Table 6 about here)

The brought-along vs. left-behind comparisons in this design will provide, for the first time in the literature, a direct comparison of these two groups. Evidence from this comparison will add patterns necessary for advancing our understanding of the relationship between rural-urban migration and compulsory education equality, both opportunities and outcomes, in China today.

Finally the three sets of comparisons will be further evaluated in a multivariate framework. By controlling for family SES and individual child characteristics, we will be able to discern the partial associations between migrant status and living arrangement with learning opportunities and developmental outcomes to address the school institutional responsiveness to the 2000s educational policy shift.

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Table 1. Student Samples by Migrant Status

Sample	U-nav	R-intra	R-inter	R-lfb	R-nav	Rest	Total
Total							
n	4,904	770	1,022	2,375	4,689	5,727	19,487
Unweighted %	25.2	4.0	5.2	12.2	24.1	29.3	100.0
Weighted %	19.5	3.2	2.1	17.2	30.7	27.3	100.0
Urban							
n	3,971	682	990	--	--	6,653	12,296
Unweighted %	32.3	5.6	8.1	--	--	54.0	100
Weighted %	28.9	5.9	4.6	--	--	60.6	100
Rural							
n	--	--	--	2,103	3,214	3,907	9,224
Unweighted %	--	--	--	22.8	34.8	42.4	100
Weighted %	--	--	--	22.6	35.9	41.5	100

Data source: China Education Panel Survey: Junior High Cohorts (CEPS:JH), Wave 1 2013-14.

Note: The urban sample is defined as students attending schools in cities, including the cities under a county administration. The rural sample is defined as students attending schools in rural areas plus those attending cities under the county administration. While the one administrative level is included in both urban and rural samples, students of different migrant statuses are mutually exclusive in the urban and rural sample.

U-nav: children of urban “natives” (with local urban hukou; both parents present)

R-intra: children of intra-provincial rural migrants (with non-local rural hukou; both parents present)

R-inter: children of inter-provincial rural migrants (with non-local rural hukou; both parents present)

R-lfb: children of rural migrants left behind in the hukou place (with local rural hukou; one or both parents out-migrated)

R-nav: children of rural “natives” (with local rural hukou; both parents present)

Rest: a residual group (with complicated living arrangements)

Table 2. Learning Opportunities: Urban Sample

Opportunity	U-nav	R-intra	R-inter
Formal Education			
School in higher rank (%)	34.7 ^{bc}	14.1 ^a	11.9 ^a
# infrastructures (1-7)	6.4 ^b	6.6 ^{ac}	6.3 ^b
Class size	49.9 ^{bc}	46.3 ^{ac}	42.5 ^{ab}
Student-teacher ratio	13.9 ^c	14.0 ^c	13.3 ^{ab}
Teacher with BA/+ (%)	73.5 ^b	78.4 ^a	74.9
Teacher with ≤ 5 years of experience (%)	4.5 ^{bc}	7.3 ^a	7.9 ^a
Teacher with no/low ranks (%)	3.0 ^{bc}	5.4 ^a	4.4 ^a
# classes/day	7.4 ^{bc}	7.4 ^{ac}	7.2 ^{ab}
Supplemental Education			
Hours/week	6.9 ^c	6.1 ^c	4.9 ^{ab}
# subjects	1.1 ^{bc}	0.7 ^{ac}	0.4 ^{ab}
# subjects in extracurricular activities	0.5 ^{bc}	0.3 ^a	0.3 ^a
n	3,971	682	990

Data source: China Education Panel Survey: Junior High Cohorts (CEPS:JH), Wave 1 2013-14.

Note: all the descriptive statistics are weighted

U-nav: children of urban “natives” (with local urban hukou; both parents present)

R-intra: children of intra-provincial rural migrants (with non-local rural hukou; both parents present)

R-inter: children of inter-provincial rural migrants (with non-local rural hukou; both parents present)

a: significant from U-nav at the 0.05 level

b: significant from R-intra at the 0.05 level

c: significant from R-inter at the 0.05 level

Table 3. Student Developmental Outcomes: Urban Sample

Outcome	Grade 7			Grade 9		
	U-nav	R-intra	R-inter	U-nav	R-intra	R-inter
Academic						
Math	74.0 ^{bc}	66.1 ^a	68.0 ^a	72.4 ^c	71.2	69.4 ^a
Chinese	71.8 ^{bc}	65.2 ^{ac}	68.5 ^{ab}	70.3 ^{bc}	66.6 ^a	67.6 ^a
English	74.6 ^{bc}	68.0 ^a	66.5 ^a	71.9 ^{bc}	68.8 ^{ac}	65.1 ^{ab}
Cognitive	0.28 ^{bc}	-0.32 ^{ac}	-0.15 ^{ab}	0.25 ^{bc}	-0.19 ^{ac}	-0.42 ^{ab}
Mental						
Depression	-0.23 ^{bc}	-0.09 ^a	-0.10 ^a	-0.05	0.01	-0.06
Behavioral						
Academic attachment	0.19 ^{bc}	-0.12 ^a	-0.03 ^a	0.17 ^{bc}	-0.03 ^a	-0.08 ^a
School engagement	0.22 ^{bc}	0.03 ^a	0.06 ^a	0.02 ^{bc}	-0.13 ^a	-0.23 ^a
College exp. (%)	86.7 ^{bc}	74.1 ^a	77.9 ^a	84.4 ^{bc}	74.4 ^a	74.2 ^a
n	2,010	362	647	1,961	320	343

Data source: China Education Panel Survey: Junior High Cohorts (CEPS:JH), Wave 1 2013-14.

Note: all the descriptive statistics are weighted

U-nav: children of urban “natives” (with local urban hukou; both parents present)

R-intra: children of intra-provincial rural migrants (with non-local rural hukou; both parents present)

R-inter: children of inter-provincial rural migrants (with non-local rural hukou; both parents present)

a: significant from U-nav at the 0.05 level

b: significant from R-intra at the 0.05 level

c: significant from R-inter at the 0.05 level

Table 4. Learning Opportunities: Rural Sample

Opportunity	R-nav	R-lfb
Formal Education		
School in higher rank (%)	11.7	13.2
# infrastructures (1-7)	5.2	5.4 ^a
Class size	51.0	52.6 ^a
Student-teacher ratio	16.5	17.9 ^a
Teacher with BA/+ (%)	56.1	51.2 ^a
Teacher with ≤ 5 years of experience (%)	12.3	14.9 ^a
Teacher with no/low ranks (%)	7.3	12.1 ^a
# classes/day	8.1	7.8 ^a
Supplemental Education		
Hours/week	4.0	4.2
# subjects	0.2	0.2
# subjects in extracurricular activities	0.3	0.2
n	3,214	2,103

Data source: China Education Panel Survey: Junior High Cohorts (CEPS:JH), Wave 1 2013-14.

Note: all the descriptive statistics are weighted.

R-nav: children of rural “natives” (with local rural hukou; both parents present)

R-lfb: children of rural migrants left behind in the hukou place (with local rural hukou; one or both parents out-migrated)

a: significant from R-nav at the 0.05 level

Table 5. Student Developmental Outcomes: Rural Sample

Outcome	Grade 7		Grade 9	
	R-nav	R-lfb	R-nav	R-lfb
Academic				
Math	69.2	67.2 ^a	69.9	69.7
Chinese	69.1	67.5 ^a	67.8	68.8
English	68.8	66.6 ^a	67.4	67.5
Cognitive	-0.18	-0.25 ^a	-0.26	-0.31
Mental				
Depression	-0.08	0.11 ^a	0.07	0.13 ^a
Behavioral				
Academic attachment	-0.05	-0.23 ^a	-0.07	-0.13 ^a
School engagement	0.12	0.02 ^a	-0.18	-0.25 ^a
College exp. (%)	75.1	73.5	73.0	73.3
n	1,459	1,101	1,755	1,002

Data source: China Education Panel Survey: Junior High Cohorts (CEPS:JH), Wave 1 2013-14.

Note: all the descriptive statistics are weighted.

R-nav: children of rural “natives” (with local rural hukou; both parents present)

R-lfb: children of rural migrants left behind in the hukou place (with local rural hukou; one or both parents out-migrated)

a: significant from R-nav at the 0.05 level

Table 6. Proper Comparisons between Brought-along and Left-behind Children of Rural Migrants: r-inter vs. r-lfb (bold), r-intra vs. r-lfb (italic)

Areas	R-inter	R-intra	R-lfb	Total
Non-top-receivers	155	306	2119	2580
Shanghai	237	9	25	271
Top receivers	630	<i>455</i>	<i>231</i>	1,316
Total	1,022	770	2,375	4,167

Data source: China Education Panel Survey: Junior High Cohorts (CEPS:JH), Wave 1 2013-14.

R-intra: children of intra-provincial rural migrants (with non-local rural hukou; both parents present)

R-inter: children of inter-provincial rural migrants (with non-local rural hukou; both parents present)

R-lfb: children of rural migrants left behind in the hukou place (with local rural hukou; one or both parents out-migrated)