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# Housing differentiation from the spatial opportunity structure perspective: an empirical study on new-generation migrants in China

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## Abstract

Using data from the 2017 China Migrants Dynamics Survey, this study employs generalized structural equation modeling to examine the effects of migrants' places of origin and socioeconomic status on their destination choice and access to homeownership in the destination city. The analyses reveal significant disparities in access to homeownership among migrants from different places of origin. Furthermore, the position of the destination city in the urban hierarchy not only has a direct impact on migrants' access to homeownership but also plays an important mediating role. This study highlights the spatial foundations of housing inequality and builds an analytical framework that links spatial mobility with social mobility. Our findings have significant implications for housing policies and practices aimed at improving the housing conditions of new-generation migrants.

**Keywords:** Homeownership, Place of origin, Destination city, New-generation migrants

## Introduction

Migrants are the primary driving force behind China's urbanization. With the expansion of their scale and the changing age structure, new-generation migrants, born in the 1980s and 1990s, have emerged as the core group benefiting cities in terms of the demographic dividend and human capital accumulation (Li and Liang 2019; Long et al. 2019; Wang and Zou 2013). Compared to older-generation migrants, new-generation migrants exhibit significant differences in terms of their educational level, occupation sectors, professional status, migration duration and distance, adaptability to urban life, and social security needs. Moreover, they have a strong desire to settle down in cities (Li and Liu 2011). However, new-generation migrants, particularly those with rural hukou, face the double disadvantage of being nonlocal and rural (Wu 2004; Yang 2015). First, they encounter greater challenges in accessing the benefits and rights enjoyed by urban residents, hindering their urbanization and social integration. Second, they often find themselves in an awkward situation of being unable to fully integrate into cities or return to their hometowns due to a weakened connection with their hometowns.

Housing plays a fundamental role in the lives of new-generation migrants, not only shaping their living conditions but also influencing their wealth accumulation and social status attainment (Saunders 1990; Yang 2018; Zang and Lv 2014; Zhao and Meng 2012). The marketization and financialization of housing have emphasized its role as a form of wealth and financial investment. Additionally, regional development imbalances have resulted in geographical disparities in land value and housing prices (Fang 2020). The location of purchased housing directly impacts the accumulation of residents' economic capital. Moreover, due to the urban hukou system, housing is closely tied to urban welfare and social security, determining access to urban social public services, especially children's school enrollment. In large cities, homeownership often serves as a symbol of citizenship (Zhang et al. 2020), influencing the social interactions, social integration, and settlement decisions of migrants in their destinations. Whether migrants can purchase a home in the destination and which city tier the destination belongs to indicate migrants' current social class. This is relevant to the quality and progress of China's new urbanization strategy. Therefore, revealing the mobility patterns of new-generation rural migrants and investigating their housing differentiation will shed light on how to improve housing policies for these migrants and formulate targeted policy recommendations.

The significant variations in socioeconomic development levels, housing markets, and policy systems across cities and regions in China emphasize the importance of considering both the place of origin and destination cities when analyzing the housing differentiation among migrants. However, this aspect has received limited attention in existing research. Concerning the place of origin, the spatial opportunity structure and the "birthplace effect" indicate that socioeconomic development, labor markets, and infrastructure in the place of origin determine the available resources for education, work, and other aspects for individuals. These factors have a substantial impact on their cognitive abilities and their accumulation of social and economic capital (Galster and Sharkey 2017). Regarding destination places, the housing market and policies in these cities are also critical factors influencing the acquisition of housing property by new-generation rural migrants (Tang et al. 2017). Migrants who flow into large cities may encounter exclusion from the housing security system due to hukou system restrictions and face greater economic pressures when purchasing housing (Fang and Zhang 2016; Jia et al. 2018; Liu 2016). Furthermore, migrants' destination is not a random choice; rather, it is the outcome of individuals calculating costs and benefits to maximize their utility. The disparity in socioeconomic development levels between the place of origin and the destination serves as the primary driver of population movements. Migrants from different regions and with distinct socioeconomic characteristics choose different migration destinations (Duan and Ma 2011; Hao and Tang 2018; Liu et al. 2020), leading to variations in housing outcomes in the destination.

This study examines the structural impact of resource allocation imbalances and socioeconomic development disparities among regions on individuals' development, thereby leading to housing differentiation and social stratification. Using the 2017 China Migrants Dynamics Survey, with a specific focus on new-generation migrants, we demonstrate their migration patterns and investigate the housing differentiation among migrants from different places of origin in different destination cities. By employing a structural equation model, the research analyzes how migrants' socioeconomic

characteristics and places of origin influence their choice of destination cities and subsequently impact their access to homeownership in those destination cities. By unraveling the mechanisms underlying the housing differentiation among migrants, this study aims to identify the key challenges faced by this social group in their pursuit of homeownership. Ultimately, it seeks to provide policy recommendations that can improve housing policies across regions, alleviate the housing difficulties of new-generation rural migrants, and promote the progress of the new urbanization process.

### **Literature review and research hypotheses**

In addition to people's occupation, housing serves as a symbol of life opportunities and is a crucial perspective for examining the wealth gap and class stratification in contemporary China (Mu et al. 2022; Wei and Gao 2020; Zhang et al. 2020). Previous studies on housing stratification have primarily focused on market and institutional factors to explore housing differentiation between local residents and migrants. Some scholars argue that housing outcomes are largely determined by a person's position in the labor market, suggesting that the housing predicament faced by migrants in cities can be attributed to their lower social status (Cui et al. 2016; Fan 2002; Liu and Weng 2007). Other scholars have found that institutional factors such as the hukou system, the "danwei" system, and the labor system established during the planned economy period are still fundamental causes of housing differentiation. These factors, to some extent, impede certain groups of migrants from accessing housing resources (Chen 2016; Fang 2020). Particularly in large cities, the hukou system is closely linked to urban public services and qualifications for purchasing housing, placing migrants at a disadvantage in accessing social housing and becoming homeowners. Migrants in large cities often find themselves confined to the formal and informal rental market (Fang and Zhang 2016; Huang 2012; Logan et al. 2009).

In recent years, urban China has undergone an industrial transformation and witnessed an expansion in higher education. As a result, the group of rural migrants has become increasingly diverse, encompassing variations in educational level, professional status, place of origin, and destination (Duan et al. 2019). The opportunity structure offered to migrants differs significantly based on their place of origin and destination, which are of varying levels of socioeconomic development. Understanding the spatial disparities in the opportunity structure is crucial for exploring the housing differentiation among migrants; however, such disparities are often overlooked in existing studies.

### **The geographical foundation of social inequality**

Differences in geographical location, environmental conditions, and regional development can give rise to widening income gaps among individuals who were initially in similar socioeconomic statuses and then impact their social class status, social interactions, and social mobility (Liu and Chen 2020). The "life chances" and "spatial opportunity structure" concepts provide the theoretical underpinning for understanding the unequal effects of geographical space on social inequality at the individual level. Weber (1978) introduced the concept of "life chances," emphasizing that different geographical spaces offer distinct life chances and resources that enable individuals to utilize their skills, knowledge, and wealth to generate capital. The possession of different spaces becomes

a foundation for the formation of class structures. Building on Weber's view, Rex and Moore (1967) argued that the allocation of scarce and desirable housing resources creates a new pattern of unequal life chances, where different types of housing, along with living spaces, intersect to form specific housing classes. Pahl (1975) further highlighted the significance of the urban resource distribution, suggesting that the unequal spatial distribution of resources implies varying life chances. Both Rex and Pahl recognized the construction of social inequality through space, which influences life chances. Individuals' housing and living spaces are regarded as "chances" that impact their access to essential public services, education, employment, and other resources, ultimately affecting social mobility (Babb et al. 2004; Curtis 2004; Hamnett et al. 2007). Additionally, Galster and Sharkey (2017) introduced the concept of the "spatial opportunity structure" based on the "neighborhood effect," emphasizing the differences in job opportunities, educational resources, and policy systems among different neighborhoods, cities, metropolitan areas, and regions. These varying opportunity structures or "spatial context effects" influence individuals' access to education, employment, and other resources. The ownership of space not only reflects people's social status but also operates as a significant mechanism for status "reproduction".

Inequalities in opportunities emphasize that various social environments and uncontrollable environmental factors can result in disparities in social outcomes among different groups. In their analysis of unequal opportunities in Chinese society, Jin and Xie (2020), argued that the social environments formed at specific times and places are significant factors contributing to the differences in social outcomes among groups. More specifically, the opportunities provided by the geographical space where individuals are born and raised have a profound impact, either facilitating or constraining their development. Individuals in developed regions are more likely to have access to high-quality medical, educational, and employment resources than those living in underdeveloped regions. This discrepancy largely determines their levels of educational attainment and income. Differences in policies, employment opportunities, and population structures in different residential areas can influence the stratification of social groups. Therefore, the structural inequalities in market opportunities, policies, and socioeconomic development among different regions or countries warrant attention.

Both the concept of "life chances" under 'New Weberianism' emphasized by Weber, Rex, Moore and Pahl, and the spatial opportunity structure proposed by scholars in sociology, highlight the influence of geographical space on individuals' socioeconomic status, emphasizing the geospatial foundations of social inequality. Moreover, in contemporary society, geographical mobility has played a role in altering people's geographical spaces and the opportunities and constraints that they encounter, thereby impacting individuals' social mobility. In this study, geographical mobility refers to the movement of populations between different regions, resulting in a change in their geographical location. It differs from social mobility, which focuses on individuals' movement across different social strata. Geographical mobility and social mobility are often closely intertwined. Changes in people's geographical location, such as migration from rural to urban areas or from small cities to large cities, often affect their employment opportunities, income levels, and social status, consequently influencing housing outcomes. This study specifically examines the housing differentiation among migrants in destination

cities. Specifically, in the subsequent sections, we will explore the relationship between geographical space and homeownership from the perspectives of the place of origin and destination.

### **Place of origin and access to homeownership**

The life chances and spatial opportunity structure concepts draw attention to the impact of the social, economic, and institutional disparities in the geographical environment on individuals' capital accumulation and social achievement. Additionally, the 'birthplace effect' highlights two mechanisms through which an individual's place of birth influences his or her socioeconomic development. First, the socioeconomic level of the birthplace directly affects an individual's access to resources and his or her accumulation of human capital. Second, the birthplace also affects the socioeconomic characteristics of parents and then indirectly shapes their children's access to resources and individuals' socioeconomic characteristics through intergenerational transmission. The spatial opportunity structure and birthplace effect emphasize the significant role of the birthplace in the process of human capital accumulation and upward social mobility. This perspective provides a new angle to examine the housing differentiation among migrants from diverse places of origin.

In China, regional disparities can explain much of the variations in social class status at the individual level. The imbalance of development among regions has led to the phenomenon of a 'social spatial hierarchy' (Lu 2008), highlighting the significance of people's birthplace in their resource acquisition and their accumulation of social and economic capital (Cui et al. 2022). First, the regional disparities in China, characterized by the rural–urban divide and variations among cities, contribute to social differentiation and affect individuals' accumulation of social and economic capital. The rural–urban divide creates hierarchical differences in infrastructure, resident income, resource allocation, and welfare benefits, leading to lower socioeconomic status and greater challenges for rural migrants in obtaining homeownership in destination cities (Huang and Tao 2015). Furthermore, regional differences extend beyond the rural–urban division and encompass variations in education, health care, and infrastructure between cities. The siphoning effect of large cities and the contraction of small and medium-sized cities exacerbate gaps in social and economic development, public services, and social welfare provision. There are significant administrative and hierarchical differences in resource allocation and institutional arrangements in China, resulting in a significant gap in socioeconomic development among cities or regions at different administrative levels (Huang and Zhang 2018). Cities or regions with higher administrative levels have more political capital and more tax incentives and infrastructure construction investment (Shen 2011). Based on the understanding of the spatial opportunity structure, these differences in social and economic development among cities influence the accumulation of residents' original capital, which to some extent translates into social differentiation among individuals. In this regard, this article proposes the first research hypothesis:

Hypothesis 1: Individuals originating from cities with a higher tier are more likely to have greater endowments, leading to a higher probability of acquiring homeownership in their destination cities. In contrast, migrants from rural counties are expected to

face greater challenges in becoming homeowners compared to those originating from municipal districts and county-level cities.

### **Destination cities and access to homeownership**

The housing markets and policies in cities at various levels construct divergent opportunity structures shaping migrants' access to homeownership in destination cities (Huang and Tao 2015; Li and Zhang 2011; Zheng et al. 2009). While previous studies have explored the housing differentiation among migrants in different destination cities (Tang et al. 2017; Wang et al. 2012; Wu and Webber 2004), there is no consensus on the relationship between the city tier of the destination and the acquisition of housing property by migrants. Some studies suggest that large cities, with their higher housing price-to-income ratios and reduced affordability, pose challenges for migrants, potentially reducing their likelihood of purchasing housing (Dong and Zhou 2014; Yang and Yang 2018). The strict hukou system and real estate regulations in megacities further restrict migrants' access to housing security systems, pushing them toward the informal rental market (Dong and Zhou 2014; Liu 2016). Compared to first-tier cities such as Beijing and Shanghai, migrants in new first-tier cities have a higher likelihood of accessing homeownership or renting public housing (Yang 2018). However, it is worth noting that the relationship between the level of the destination city and migrants' acquisition of housing property is not necessarily linear. Some studies indicate that the probability of migrants acquiring homeownership is lower in medium-sized cities than in large cities and small cities. The reason may be that medium-sized cities have neither the attractiveness of large cities nor the house price advantage of small cities (Feng et al. 2017). Based on the arguments above, we propose the following hypothesis:

Hypothesis 2: The tier of the destination city significantly influences new-generation migrants' access to homeownership, and the relationship between the city tier of the destination and migrants' housing outcomes is not simply linear.

However, it is important to note that migrants' choice of destination city is a rational calculation based on their own human capital, abilities, and aspirations. Migrants consider both the "push" and "pull" forces of their place of origin and the destination city, making a comprehensive assessment before making their decision. The choice of destination city varies significantly among migrants from different places of origin. Scholars have identified several factors that hinder mobility, such as the geographical distance between the place of origin and destination cities, as well as institutional and cultural differences (Hao and Tang 2018; Liu et al. 2020). The city tier of the place of origin also plays a role in the selection of the destination. For instance, migrants from metropolitan areas are more likely to move to another large city, while migrants from small and medium-sized cities may face difficulties in finding employment opportunities in larger cities (Chen 2017; Kirschenbaum 1972). In addition to the place of origin, the probability of migrating to large cities is influenced by individuals' socioeconomic characteristics. Studies have shown that young, unmarried, highly educated, and skilled individuals are more likely to migrate to cities or regions with higher levels of socioeconomic development (Duan and Ma 2011; Hao and Tang 2018). The labor market and hukou system in destination cities also confine migrants' choice of destination. Local governments, in the context of economic upgrading driven by innovation, have formulated targeted policies

related to employment, household registration, and housing security to attract "high-quality" labor. Such policies further lead to differentiation among migrants with different characteristics in their choice of destination.

Geographical mobility serves as a crucial means for individuals to overcome the limitations imposed by unequal resource allocation across different locations and to achieve social mobility. The spatial opportunity structure concept suggests that individuals can select environments with better opportunities, thereby increasing their chances of translating their resources into social status (Galster and Sharkey 2017). Fielding (1993) introduced the theory of the "escalator region" to establish a link between geographical mobility and social mobility. Subsequent research has provided substantial evidence supporting the existence of the "escalator effect" in economically developed large cities. This effect reveals that migrants who move from areas with limited career prospects, lower wages, and a lower quality of life to "escalator areas" characterized by better career opportunities, enhanced quality of life, and prosperous economies are more likely to gain higher incomes and economic returns, leading to upward social mobility (Champion et al. 2014; Findlay et al. 2009; Flippen 2013; Gordon 2015; Wang 2014). However, the theory of "relative deprivation" suggests that individuals who move to more advantageous locations may experience a heightened sense of relative deprivation as the economic and institutional disparities between their place of origin and the destination city widen (Dong et al. 2019).

Based on the discussion above, we propose the third hypothesis:

Hypothesis 3: The choice of destination city plays a mediating role. Migrants' socioeconomic characteristics and the city tier of their place of origin indirectly influence their access to homeownership by affecting the selection of destination cities. Migrants who move to higher-tier cities are less likely to obtain housing property in their destination cities.

## Research design and data sources

### Research design

To explore the housing differentiation among migrants with different socioeconomic characteristics and moving from various places of origin to different destination cities, this article employs a structural equation model to investigate the indirect impact of migrants' socioeconomic characteristics and their place of origin on home purchases through the influence on the choice of destination cities. The generalized structural equation model extends the traditional structural equation model to handle binary and multicategorical dependent and mediator variables. Given that the dependent variable in this study, "own housing property or not," is a binary categorical variable and the mediating variable, "the city tier of the destination city," is a multicategorical variable, a generalized structural equation model is constructed to analyze access to homeownership among new-generation rural migrants in destination cities.

$$\ln(P_i/(1 - P_i)) = a_0 + a_1GO_i + a_2GD_i + a_3C_i + a_4M_i + \varepsilon_1 \quad (1)$$

$$GD_i = \beta_0 + \beta_1GO_i + \beta_2C_i + \varepsilon_2 \quad (2)$$

In Eq. (1),  $P_i$  represents the probability that new-generation rural migrant  $i$  becomes a homeowner in the destination city;  $GO_i$  represents the attributes of the place of origin, including the city tier and county-level administrative district type of the place of origin;  $GD_i$  is the mediating variable, representing the choice of destination city, which is indicated by the city tier of the destination city;  $C_i$  represents the socioeconomic characteristics of the migrant, such as his or her gender, age, marital status, educational level, and occupational type; and  $M_i$  represents the migration characteristics, including the total migration duration, migration frequency, and migration form. Among them, the choice of destination city can also be influenced by migrants' socioeconomic characteristics and place of origin, as shown in Eq. (2).

### Data sources and variables

The data used in this study were drawn from the 2017 China Migrants Dynamics Survey of Migration Population released by the National Health and Family Planning Commission. The survey used the data from the 2016 annual report of the National Health and Family Planning Commission on the total migration population as the sampling framework and adopted a stratified, multistage, and proportional probability sampling method. The survey targets the migration population aged 15 years and above who were residing in destination cities for at least one month and were not hukou holders in the respective district (county, city). Information was collected on various aspects, including individuals' socioeconomic characteristics, place of origin and destination city, migration characteristics, and the types of housing in the destination. The survey encompassed 31 provinces (regions, cities), as well as the Xinjiang Production and Construction Corps.

This article specifically focuses on the housing outcomes of new-generation rural migrants in cities at the prefecture level and above. Thus, the study includes migrants who were born between 1980 and 1999 and hold rural hukou. The sample excludes migrants who originated from first-tier cities and currently reside in village committees or self-built housing. After excluding samples with missing or omitted data, the final sample size used for analysis is 48,806 individuals. These individuals come from 288 cities at the prefecture level and above, which will be referred to as "cities" throughout the article.

The dependent variable in this study is the housing tenure of new-generation rural migrants in destination cities. The article defines 'self-owned housing' as a category that includes self-purchased commercial housing, self-purchased small property rights housing, and self-purchased affordable housing. All other types of housing are classified as 'rental housing'. The main focus of this research is to examine the relationship between the attributes of the place of origin and destination cities and migrants' access to homeownership in destination cities. To capture the social, economic, institutional, and other attributes of different places of origin, the study utilizes the city tier (ranging from new first-tier cities to fifth-tier cities) and the county-level administrative region types (municipal districts, county-level cities, and counties) as indicators that reflect the level of socioeconomic development, housing market, and policies in migrants' places of origin. Considering the influence of destination cities on migrants' homeownership access, which is closely associated with urban housing prices and housing policies (Huang and



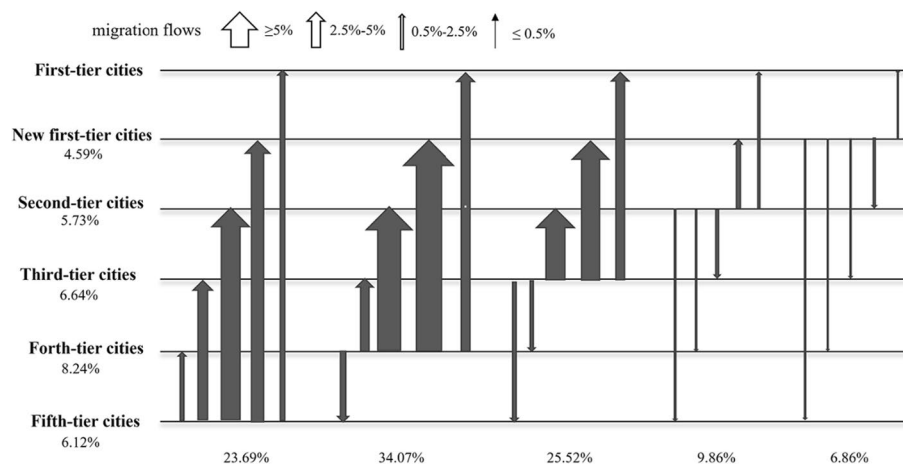
Tao 2015; Fang and Liu 2020; Yang and Yang 2018), this study incorporates a comprehensive city tier index (including first-tier cities, new first-tier cities, second-tier cities, third-tier cities, fourth-tier cities, and fifth-tier cities) to account for variations in housing prices and policies across different destination cities. The control variables in this study include various socioeconomic characteristics of migrants, such as their gender, age, marital status, educational level, and occupational type and nature, as well as factors related to land ownership (homestead and farmland), family income, and the number of households living together. Migration characteristics, such as migration duration, frequency, and form, are also included as control variables, drawing on the existing literature on migrants' access to homeownership (Chen 2016; Fan 2002; Fang 2020).

## Empirical analysis and results

### Geographical mobility of new-generation rural Migrants

In terms of migration patterns among cities, new-generation rural migrants predominantly engage in short-distance migration within urban agglomerations, with a particular concentration in the eastern region of China. However, long-distance migration from the west to the east is also prevalent. The four major urban agglomerations, i.e., the Beijing-Tianjin-Hebei, Yangtze River Delta, Pearl River Delta, and Chengdu-Chongqing urban agglomerations, are all prominent in the population mobility network but exhibit distinct features. Within the Pearl River Delta, population flows demonstrate a multicore spatial pattern with a clustered distribution. Most of the mobility in this region comprises short-distance movements within the delta. Population mobility in the Beijing-Tianjin-Hebei and Yangtze River Delta regions is more dispersed. In addition to intramobility within urban agglomerations, the Beijing-Tianjin-Hebei region has developed a network pattern of multiregional linkages, connecting with cities in Northeast China, Shandong Province, Henan Province, and the Yangtze River Delta. The Yangtze River Delta demonstrates a highly diverse pattern, characterized by a multicore inter-city flow with Shanghai as the center and several new first-tier cities, such as Nanjing, Suzhou, and Hangzhou, acting as subcenters. Moreover, the Yangtze River Delta attracts migrants from various regions, including Northeast, Northwest, and Southwest China, forming close population mobility connections with these areas. In the Chengdu-Chongqing urban agglomeration, the population flows revolve around two new first-tier cities, Chongqing and Chengdu. A significant portion of the outflow population from this region moves toward the southeast coastal areas. At the city level, the four major first-tier cities—Beijing, Shanghai, Guangzhou, and Shenzhen—emerge as primary destinations for new-generation rural migrants, attracting populations from surrounding areas.

Figure 1 displays the flow pattern of new-generation rural migrants across different city tiers. The size of the arrows represents the proportion of the new-generation group that migrates between different city tiers relative to the total sample size of new-generation rural migrants. Overall, the flow pattern of new-generation rural migrants exhibits diversity and evident stepwise features, particularly in terms of upward mobility across the urban hierarchy. Regarding the place of origin, the majority of migrants originate from lower-level cities. Among them, the highest proportion (34.07%) comes from fourth-tier cities, followed by migrants from third-tier cities (25.52%) and fifth-tier



**Fig. 1** Migration pattern within the urban hierarchy among rural migrants

cities (23.69%). The proportion of migrants from new first-tier cities in the sample is the lowest (6.86%). In terms of destination cities, new first-tier and second-tier cities attract a relatively high number of new-generation rural migrants, especially those originating from third-, fourth-, and fifth-tier cities. Regarding geographical mobility, the number of new-generation rural migrants demonstrates a trend of first increasing and then decreasing as geographical mobility spans more tiers. Notably, upward mobility across one or two tiers is more prevalent, such as from fourth-tier cities to second-tier cities, from fourth-tier cities to third-tier cities, and from fifth-tier cities to second-tier cities. Additionally, alongside population mobility across the urban hierarchy, there is a certain proportion of mobility within the same city tier. In this regard, the highest proportion (8.24%) is observed between fourth-tier cities.

Table 1 presents the variations in the place of origin and socioeconomic characteristics of migrants in destinations of different city tiers. In terms of the place of origin, in addition to city tier, there are significant differences in the proportion of migrants originating from different types of county-level administrative regions in destinations with different city tiers. The proportion of migrants from municipal districts and county-level cities decreases as the city tier of the destination decreases. Conversely, the proportion of migrants from counties shows an opposite trend, accounting for a significantly larger proportion in lower-level cities. Regarding the socioeconomic characteristics of the population, the proportion of males in first-tier cities is relatively low (44.04%), while there are no significant gender differences observed in other tiers. The proportion of married individuals is relatively high in lower-level cities, such as third-, fourth-, and fifth-tier cities. The proportion of individuals with higher levels of education decreases as the city tier decreases, indicating a spatial agglomeration of talent.

**The geographical mobility of new-generation rural migrants and access to homeownership**

Table 2 illustrates significant variations in the acquisition of housing among groups from different places of origin and to different destinations. Overall, the homeownership rate is relatively high for migrants who move within the same tier, move up one tier, or move down one tier. Among these groups, the proportion of migrants

**Table 1** The place of origin and socioeconomic characteristics of migrants in destinations of different city tiers (N=48,806)

	First-tier cities	New first-tier cities	Second-tier cities	Third-tier cities	Fourth-tier cities	Fifth-tier cities
County-level administrative types of places of origin (%)						
Municipal districts	21.85	23.01	15.69	15.23	17.03	19.37
County-level cities	19.45	18.42	16.98	15.22	11.46	11.01
Counties	58.70	58.57	67.33	69.55	71.51	69.61
Gender (%)						
Male	44.04	46.55	47.70	46.06	47.17	46.70
Female	55.96	53.45	52.30	53.94	52.83	53.30
Age	30.07 (4.61)	29.67 (4.83)	29.99 (4.81)	30.26 (4.70)	30.34 (4.75)	30.23 (4.78)
Marital status (%)						
Married	73.26	70.62	74.38	77.25	75.26	74.16
Unmarried	26.74	29.38	25.62	22.75	24.74	25.84
Educational level (%)						
Below elementary school	2.21	3.22	4.85	7.58	13.07	5.57
Junior high school	33.87	38.44	44.70	45.05	50.12	42.58
High school	30.87	32.33	27.88	28.22	23.68	29.13
Junior college and above	33.05	26.01	22.57	19.14	13.13	22.71

For continuous variables, the standard deviation is given in parentheses

**Table 2** The acquisition of homeownership among groups from different places of origin and to different destinations (N=48,806)

	City tiers of destinations					
	First-tier cities	New first-tier cities	Second-tier cities	Third-tier cities	Fourth-tier cities	Fifth-tier cities
City tiers of places of origin (%)						
New first-tier cities	24.46	36.32	14.80	21.17	27.74	12.26
Second-tier cities	30.31	30.79	33.97	36.90	35.85	22.78
Third-tier cities	18.96	28.79	21.25	35.04	32.48	23.07
Fourth-tier cities	13.94	23.36	21.89	27.21	35.12	18.88
Fifth-tier cities	10.86	22.47	20.28	35.44	29.03	29.51

from new first-tier cities who acquire housing is the highest when they move to other new first-tier cities, followed by those who move to fourth-tier cities and first-tier cities. The homeownership rate of new-generation rural migrants from second-, third-, fourth-, and fifth-tier cities exhibits a pattern of first increasing and then decreasing

as the city tier of the destination increases, and the proportion of such migrants acquiring housing in third- and fourth-tier cities is relatively high. Further analysis reveals that even among migrant groups moving across the same city tier, their homeownership rates vary depending on the tier of the city from which they move. For example, the proportion of migrants from a new first-tier city who acquire housing in another new first-tier city is the highest (36.32%), while the homeownership rate of migrants from a fifth-tier city who move to another fifth-tier city is the lowest (29.51%). Among groups that move up one tier, the proportion of migrants from second-tier cities who acquire housing in new first-tier cities is the highest, followed by migrants from fifth-tier cities who move to fourth-tier cities and migrants from fourth-tier cities who move to third-tier cities. Among groups that move down one tier, the group that moves from second-tier cities to third-tier cities has the highest homeownership rate (36.9%). In summary, the homeownership rate of migrants in the destination city varies not only due to their geographical mobility across the urban hierarchy but also due to the absolute position of their place of origin within the urban hierarchy, even if they move across the same tier.

#### **The influencing factors of housing for new-generation rural migrants**

This article employs a generalized structural equation model to analyze the selection of destination cities and housing purchases among new-generation rural migrants. The model results are presented as odds ratios in Table 3. The rightmost column in Table 3 presents the direct impact of the city-tier and county-level administrative district type of migrants' place of origin, the city tier of the destination, migrants' socioeconomic characteristics, and migration characteristics on homeownership access. The five columns on the left show the impacts of the city tier and county-level administrative district type of the place of origin, along with migrants' socioeconomic characteristics, on the selection of destination cities.

The city-tier and county-level administrative district type of the migrants' place of origin, as well as the city tier of the destination, play a significant role in determining homeownership among new-generation rural migrants. Specifically, higher city tiers of the place of origin are associated with a greater likelihood of migrants becoming homeowners in the destination. Migrants from new first-tier cities have a 1.179 and 1.224 times higher probability of homeownership in the destination compared to migrants from third- and fourth-tier cities, respectively. Notably, migrants from second-tier cities have a higher probability of purchasing homes in the destination compared to migrants from new first-tier cities. This result suggests that migrants from new first-tier cities may have a lower willingness to purchase housing in lower-tier cities, potentially reducing their likelihood of homeownership in the destination. Additionally, there are significant differences in homeownership access among migrants from different county-level administrative regions. Migrants who move out of municipal jurisdictions are more likely to become homeowners, with a 1.115 times higher probability of homeownership in the destination compared to migrants from a county. However, there is no significant difference in home purchases between migrants from county-level cities and those from municipal districts in destination cities. The city level of the destination also has a significant impact on housing outcomes for new-generation rural migrants. Overall, there is

**Table 3** Results of the generalized structural equation modeling (N = 48,806)

	City tiers of destinations (ref.: first-tier cities)					Homeownership
	New first-tier cities	Second-tier cities	Third-tier cities	Fourth-tier cities	Fifth-tier cities	
City tiers of places of origin (ref.: new first-tier cities)						
Second-tier cities	0.158*** (0.016)	3.922*** (0.429)	0.969 (0.120)	0.660*** (0.093)	0.578*** (0.076)	1.255*** (0.074)
Third-tier cities	0.158*** (0.013)	1.015 (0.100)	1.425*** (0.151)	0.367*** (0.045)	0.309*** (0.035)	0.848*** (0.043)
Fourth-tier cities	0.183*** (0.015)	1.002 (0.098)	0.520*** (0.056)	2.170*** (0.248)	0.360*** (0.040)	0.817*** (0.041)
Fifth-tier cities	0.196*** (0.017)	1.807*** (0.183)	1.296** (0.143)	0.768** (0.094)	2.379*** (0.263)	0.925 (0.049)
County-level administrative types of places of origin (ref.: municipal districts)						
County-level cities	1.132** (0.063)	1.134** (0.064)	1.116* (0.072)	0.828*** (0.058)	0.915 (0.067)	1.017 (0.040)
Counties	1.225*** (0.054)	1.557*** (0.070)	1.692*** (0.086)	1.395*** (0.074)	1.404*** (0.076)	0.897*** (0.028)
Gender (ref.: female)	1.149*** (0.041)	1.190*** (0.042)	1.157*** (0.045)	1.108** (0.046)	1.201*** (0.052)	0.951** (0.024)
Age	0.979*** (0.004)	0.978*** (0.004)	0.982*** (0.005)	0.993 (0.005)	0.987** (0.005)	1.006* (0.003)
Married status (ref.: unmarried)	0.991 (0.047)	1.131*** (0.053)	1.274*** (0.068)	1.158*** (0.066)	1.115* (0.065)	2.713*** (0.111)
Educational level (ref.: below elementary school)						
Junior high school	0.751** (0.086)	0.603*** (0.067)	0.448*** (0.051)	0.380*** (0.044)	0.319*** (0.036)	1.683*** (0.098)
High school	0.646*** (0.075)	0.408*** (0.046)	0.331*** (0.038)	0.263*** (0.031)	0.174*** (0.020)	2.657*** (0.160)
Junior college and above	0.490*** (0.057)	0.310*** (0.035)	0.207*** (0.024)	0.181*** (0.022)	0.093*** (0.011)	4.526*** (0.284)
Occupation type (ref.: professional and clerical)						
Business and service sector jobs						0.779*** (0.032)
Manufacture workers						0.878*** (0.042)
Others						1.554*** (0.071)
Employer type (ref.: non-public sector)						1.454*** (0.074)
Homestead						0.506*** (0.014)
Farmland (ref.: do not have)						
Having farmland but not transferring it						1.348*** (0.037)

**Table 3** (continued)

	City tiers of destinations (ref.: first-tier cities)					Homeownership
	New first-tier cities	Second-tier cities	Third-tier cities	Fourth-tier cities	Fifth-tier cities	
Having farmland and transferring it						1.809*** (0.086)
Unclear						0.947 (0.042)
Family monthly income (log)						2.114*** (0.051)
Number of co-migrated family member						1.171*** (0.014)
Migratory duration						1.095*** (0.003)
Number of cities migrated						0.912*** (0.009)
Migration type (ref.: intraprovincial migration)						0.544*** (0.014)
<i>Mediator variable</i>						
City tiers of destinations (ref.: first-tier cities)						
						3.037*** (0.158)
						2.256*** (0.119)
						4.119*** (0.231)
						4.601*** (0.275)
						3.303*** (0.206)
Log Likelihood	- 100,173.670					
AIC	200,539.300					
BIC	201,385.100					

\* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

an inverted U-shaped relationship between the city tier of the destination and the probability of migrants obtaining homeownership. Compared to migrants in first-tier cities, the probability of new-generation rural migrants buying housing in third- and fourth-tier cities is the highest, being 4.119 times and 4.601 times that of migrants in first-tier cities, respectively. This result may be due to the higher economic pressure and living costs faced by migrants moving to higher-tier cities, leading to a stronger sense of 'relative deprivation' and a reduced likelihood of purchasing homes in higher-tier cities such as first-tier and new first-tier cities.

Socioeconomic characteristics play a significant role in the homeownership access of new-generation rural migrants. Gender, age, marital status, educational level, and family income all influence the likelihood of homeownership. The female subgroup has an advantage in obtaining owner-occupied housing in destination cities, possibly due to 'upward matching' in the marriage market, which facilitates homeownership through marriage. Age is positively correlated with homeownership access, with a 1.006 times increase in the probability of homeownership for each year of age. New-generation rural migrants who are married, with a higher level of education and family income, are more likely to accumulate capital and thus have more advantages in home purchases in destination cities. Institutional factors also play a crucial role in affecting housing outcomes for new-generation rural migrants. Professional and clerical government officials and workers within the public sector have a higher probability of purchasing homes in destination cities. Farmland is viewed as a form of capital that can increase migrants' income and facilitate homeownership (Wang et al. 2020; Wu and Zhang 2018). On the other hand, homesteads have the opposite effect, restraining the housing acquisition of migrants in destination cities (Tang et al. 2017). Migration characteristics also affect the probability of homeownership. The presence of more family members in destination cities and a longer period of migration duration since leaving the place of origin increase the probability of homeownership. Migrants who migrate to more cities often face instability and are more likely to rent houses in their destination. Migrants who move across provinces face greater institutional and structural exclusion than those who migrate within the same province, reducing their likelihood of becoming homeowners.

The characteristics of the place of origin and socioeconomic characteristics significantly influence the destination choices of new-generation rural migrants. Migrants tend to move within cities of the same tier, indicating a preference for same-level mobility. For instance, migrants from new first-tier cities are more likely to move to other new first-tier cities, and similar patterns are observed for migrants from second-, third-, fourth-, and fifth-tier cities. Additionally, there is a notable trend of upward mobility. Migrants from second-tier and third-tier cities have a higher probability of moving to first-tier cities compared to migrants from other levels, while migrants from fifth-tier cities tend to move to second- and third-tier cities. However, the probability of upward mobility across the urban hierarchy is relatively low for migrants from lower-level cities such as fourth- and fifth-tier cities. Regarding the type of county-level administrative region of the place of origin, migrants from county-level cities and counties have a lower probability of moving to first-tier cities compared to migrants from municipal districts. This result can be attributed to the limited opportunities and capital available in counties, which may hinder migrants' ability to relocate to larger cities. Socioeconomic characteristics also play a significant role in destination choices among new-generation rural migrants. There is considerable heterogeneity in the choices made by migrants based on gender, age, marital status, and educational levels. Male migrants have a lower likelihood of moving to first-tier cities compared to their female counterparts, which is consistent with the descriptive analysis. Older and more educated migrants possess advantages in terms of human capital and economic capital accumulation, making them more likely

**Table 4** The indirect impact of the place of origin and socioeconomic characteristics on migrants' homeownership ( $N=48,806$ )

	Flow to new first-tier cities → homeownership	Flow to second-tier cities → homeownership	Flow to third-tier cities → homeownership	Flow to fourth-tier cities → homeownership	Flow to fifth-tier cities → homeownership
City tiers of places of origin (ref.: new first-tier cities)					
Second-tier cities	0.129***	3.037***	0.957	0.530***	0.519***
Third-tier cities	0.129***	1.012	1.652***	0.217***	0.246***
Fourth-tier cities	0.151***	1.001	0.397***	3.261***	0.295***
Fifth-tier cities	0.164***	1.618***	1.443**	0.668**	2.815***
County-level administrative types of places of origin (ref.: municipal districts)					
County-level cities	1.148**	1.107**	1.168***	0.750***	0.899
Counties	1.252***	1.433***	2.106***	1.662***	1.499***
Gender (ref.: female)	1.166***	1.151***	1.229***	1.170**	1.244***
Age	0.976***	0.982***	0.974***	0.989	0.984**
Married status (ref.: unmarried)	0.990	1.105***	1.409***	1.251***	1.140**
Educational level (ref.: below elementary school)					
Junior high school	0.728**	0.662***	0.321***	0.228***	0.256***
High school	0.615***	0.482***	0.209***	0.130***	0.124***
Junior college and above	0.457***	0.386***	0.108***	0.074***	0.059***

\* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

to move to first-tier cities. Married migrants tend to be more conservative in their choice of destination and are more likely to move to second- and third-tier cities than to move to first-tier cities.

Based on the model results, we calculated the indirect impact of the place of origin and migrants' socioeconomic characteristics on homeownership, as shown in Table 4. The city tier of the place of origin has a significant indirect impact on access to homeownership through its influence on the choice of destination cities. Regardless of the city tier of the place of origin, migration across the same city tier positively and indirectly affects the likelihood of transitioning into homeownership. Notably, coming from fourth-tier cities has the greatest positive indirect impact on housing outcomes. For migrants from low-level cities, a certain extent of upward mobility within the urban hierarchy can increase their likelihood of purchasing a home. In the case of migrants from fifth-tier cities, moving to second- and third-tier cities has a more positive indirect impact on home purchases than moving to first-tier cities. On the other hand, for migrants from higher-level cities, the probability of becoming homeowners is relatively high when they move down multiple city tiers. For example, migrants from new first-tier cities have a higher likelihood of obtaining housing property when they move to fourth- and fifth-tier cities than when they move to first-tier cities. However, moving to second-tier cities from new first-tier cities has a negative indirect impact on homeownership access.

Concerning the type of county-level administrative region of the place of origin, coming from counties has a positive indirect impact on homeownership access compared to coming from municipal jurisdictions. Choosing to move from counties to cities of lower levels increases migrants' probability of becoming homeowners, which helps offset the disadvantage of the geographical background of counties in accessing housing. Men



and married migrants are more likely to choose to move to lower-level cities, thereby increasing their likelihood of obtaining housing in the destination. On the other hand, individuals with higher educational levels are less likely to choose to move to lower-level cities, resulting in a negative indirect impact of migrants' educational level on housing acquisition through the choice of destination. The reason is that migrants with higher educational levels tend to prefer first-tier cities as their destination, which increases the difficulty of purchasing housing. However, it is important to note that although migrants with higher educational levels are more likely to flow into higher-level cities, which has a significant negative impact on their acquisition of housing property, the negative indirect impact on homeownership through migration to new first- and second-tier cities is smaller than the positive direct impact on homeownership. In the overall effect, an improvement in educational level promotes homeownership access.

### **Conclusion and discussion**

This research examines the geographical foundation of housing differentiation among migrants in Chinese cities to deepen our understanding of social inequality. Utilizing data from the 2017 China Migrants Dynamics Survey, a structural equation model is employed to reveal the housing differentiation among new-generation rural migrants moving from different places of origin to different destination cities. Specifically, this study also examines how the place of origin and socioeconomic characteristics of migrants influence the choice of destination city and the acquisition of housing in destination cities. The analysis reveals significant differentiation in the acquisition of housing among new-generation rural migrants from different places of origin. It is found that migrants from higher-tier cities have a greater probability of becoming homeowners in the destination city. Similarly, migrants from urban areas have a significantly higher likelihood of obtaining housing property than migrants from counties. These findings support the first hypothesis proposed in this study, highlighting the importance of geographical background in housing outcomes for migrants. Furthermore, this study confirms the significant impact of the city tier of the destination on the acquisition of housing property. In contrast to previous studies focusing on specific cities and finding a linear relationship between the city tier and housing acquisition (Tang et al. 2017; Wang et al. 2014), this study considers cities of various tiers across China as explanatory variables. The results indicate that as the city tier of the destination increases, the probability of migrants obtaining housing property initially rises and then declines. Notably, the highest probability of new-generation rural migrants obtaining housing property is observed in fourth- and third-tier cities, followed by fifth-tier cities, new first-tier cities, and second-tier cities. The lowest probability is found for migrants seeking housing in first-tier cities. These findings support the second hypothesis proposed in this study.

Furthermore, the research findings support the third hypothesis that the city tier of the place of origin indirectly affects the acquisition of housing property through its influence on the choice of destination city. Irrespective of the exact city tier, when mobility occurs within the same tier, it has a positive indirect impact on housing acquisition. For migrants from lower-tier cities, upward mobility across reasonable levels increases their likelihood of purchasing housing. On the other hand, migrants from higher-level cities often choose to move down the city hierarchy, which increases their probability

of purchasing housing. Moreover, compared to migrants from municipal jurisdictions, migrants from counties are more likely to select lower-level cities as their destination, thereby increasing their probability of becoming homeowners. This finding mitigates the negative impact of the geographical background of being from a county and overall positively contributes to homeownership access. Regarding educational levels, migrants with higher education are more inclined to move to larger cities, despite the associated higher living costs and purchasing pressures, which have a negative indirect impact on their likelihood of purchasing housing. However, the direct impact of educational level on homeownership access is greater, resulting in an overall positive effect. On the one hand, individuals with higher educational levels are more likely to overcome the economic and institutional barriers in large cities by utilizing their human capital, thus increasing their chances of buying a home. On the other hand, the "escalator effect" of large cities enables this group to fully leverage its capital endowment, enhancing the opportunities for human capital accumulation and career development and consequently improving the likelihood of purchasing housing in higher-level cities.

By exploring the housing situation of new-generation rural migrants in cities, we note that several important aspects warrant further consideration from both academic and policy perspectives.

First, understanding whether migrants can obtain housing in their destination cities and at what level of the city they can secure housing provides valuable insights into the current wealth inequality and class stratification. In China, inequality has traditionally been observed in areas such as income, living conditions, politics, and social identity. However, in the past few decades, the marketization and financialization of housing have highlighted the wealth effects and investment attributes of housing, transforming it into the most important household asset of Chinese people. The disparity in housing between families can explain a significant portion of household wealth inequality (Li 2019; Zhang et al. 2020). In addition, housing prices and housing policies vary from city to city, emphasizing the importance of "where" one obtains homeownership. Although this study has limitations in comprehensively considering the housing assets of migrants in places of origin and other cities due to data constraints, future research should include these aspects to reveal the wealth inequality and class stratification among migrants.

Second, the uneven distribution of socioeconomic resources and development opportunities among regions and cities emphasizes the role of geographical space in shaping individuals' life chances and capital accumulation. Drawing on concepts and theories such as life chances, the spatial opportunity structure, and the 'escalator region', this study explores the impact of migrants' place of origin and destination on their acquisition of housing property. It highlights the differences in opportunity and capital that are structured by migrants' places of origin, introduces the concept of 'geographical origin', and discusses its role in housing differentiation. Similar to 'social origin', the ascribed status rooted in family background proposed by sociologists (Bourdieu and Passeron 2002; Fang and Feng 2018), 'geographical origin' can also be seen as another ascribed status resulting from uneven regional development, deeply embedded in individuals' socioeconomic characteristics, and influencing housing outcomes for migrants. Additionally, the spatial opportunity structure and escalator region concepts emphasize that individuals can increase the likelihood of translating their endowments into social status

by choosing geographical spaces that offer better opportunities. Unlike geographical origin, geographical mobility can be considered an 'achieved status' that allows individuals to overcome the spatial constraints arising from unequal resource allocation. By entering more advantageous geographical environments for resource allocation, individuals can leverage their human capital, accumulate individual capital, and enhance their social status.

Third, geographical mobility has emerged as the primary driver of differentiation among rural migrant groups (Li 2019; Xu 2011). This study holds great significance for further understanding the relationship between geographical mobility and social mobility by revealing the differentiation of geographical mobility and housing among new-generation rural migrants. Those who migrate to an 'escalator region' and enter geographies with more favorable resource allocation often gain access to better career development opportunities, higher wages, and a higher quality of life. Consequently, they experience relatively upward social mobility. However, migrants' choice of destination is rational, based on their own capital endowment, abilities, and aspirations, considering both the 'pull and push' forces exerted by destination cities. Migrants from developed regions with higher educational levels and incomes are more likely to move to large cities and improve their social status through the 'escalator effect' (Fielding 1993; Gordon 2015; Velthuis et al. 2019). Notably, this study found that only migrants from higher-level cities or with higher educational levels are more likely to move to large cities with this 'escalator effect.' Migrant groups with high human capital and from municipal districts can better navigate the tension between social and economic returns and the acquisition of housing property. They not only obtain higher professional status and income but also are more likely to overcome the economic and institutional barriers in large cities, acquire housing in the destination, and achieve upward social mobility.

Overall, this article contributes to the field by incorporating the place of origin and destination into the framework of research on housing differentiation. It explores the structural impact of unequal resource allocation in different geographical spaces on individual development, resulting in housing differentiation and social stratification. Building upon relevant theories from the Chicago School of Urban Ecology's emphasis on the neighborhood effect of communities, as well as the 'New Weberianism' represented by Weber, Rex, Moore, and Pahl that focuses on the spatial division within cities, this study deepens our understanding of the geographical foundation of social inequality. The findings provide guidance for improving housing policies for migrants. The socioeconomic development level, housing market, and policies in both the origin and destination are closely related to migrants' housing choices. Therefore, it is essential to promote national systems and policies in both origin and destination regions to reduce the housing inequality stemming from the differences in spatial opportunity structures and unequal opportunities. In addition to strengthening support for affordable housing and equalizing public services in the destination, it is important to consider the effect of migrants' place of origin. Doing so can be achieved by investing in basic education and facilities in underdeveloped areas and addressing regional disparities.

Despite the theoretical and empirical contributions of this research, there are a few limitations that warrant consideration in future studies. First, this study focuses on rural migrants who have not transferred their hukou to their destination cities while excluding

the analysis of new citizens who have obtained local hukou. Future research could explore the housing differentiation between migrants and new citizen groups as well as the factors influencing this differentiation. Second, while this study primarily focuses on housing outcomes in destination cities, the decision-making process regarding housing purchases is complex. Conducting interviews and qualitative analysis could shed light on the intricate interaction between geographical mobility and purchasing decisions. Additionally, although the differentiation of housing in destination cities provides an important perspective for understanding the current housing wealth inequality and class stratification, it is important to acknowledge that migrants may also acquire housing in their place of origin or other cities (Huang et al. 2020). Further research should consider the housing situations of migrants not only in destination cities but also in their places of origin and other cities.

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#### Author contributions

XM conducted the statistical analyses and wrote the initial draft. CC conceived of the design of the study and revised the paper. JC revised the paper.

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#### Availability of data and materials

The data that support the findings of this study are available from Migrant Population Service Center of National Health Commission China. Restrictions apply to the availability of these data, which were used under license for this study. Data are available online (<https://chinaldrk.org.cn/wjw>) with the permission of the Migrant Population Service Center.

#### Declarations

##### Competing interests

The authors declare they have no competing interests.

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