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## **Contrasting migrants' sense of belonging to the city in selected peri-urban neighbourhoods in Beijing**

### **Abstract**

The existing literature on migrants' place attachment tends to focus on neighbourhoods. Migrants' sense of belonging to the host city may vary in different residential neighbourhoods. Utilising a survey of selected peri-urban neighbourhoods in Beijing, this paper reveals that migrants with similar socio-economic attributes are grouped in their neighbourhoods. In urban villages, generally migrants with lower socioeconomic status, fewer institutional achievements, and a limited social network have a lower sense of belonging to the city. In contrast, migrant residents in workers' dormitories, privatised work-unit compounds or new commodity housing estates with relatively high socioeconomic status, a formal labour contract, and a social network outside the neighbourhood tend to have a better sense of belonging to their host city. Through the lens of neighbourhood, we demonstrate a spatial dimension of migrants' sense of belonging to the host city. Such variation is created not only by the concentration of migrants in urban villages and their lack of contacts with local residents, but also because these neighbourhoods are distinctive residential environments for different pathways of social integration. This research contributes to the theoretical debate on the (im)migrant enclave and mixed neighbourhood. Qualitative analysis shows that a low sense of belonging is not necessarily a result of homogenous tenure and residential population, but of living with uncertainty, exclusion from the formal urban economy, and poor neighbourhood environment. The findings also support the positive role of the social-ethnic mix and tenure heterogeneity in terms of reduced stigmatisation and a sense of privilege and privacy in mixed neighbourhoods.

**Keywords:** sense of belonging; social integration; migrant; neighbourhood; urban China

## 1. Introduction

The common perception is that migrants feel excluded from local society and are thus less committed to their host city. They are torn by conflicting economic and institutional demands while facing the challenge of entry into an unfamiliar and often seemingly hostile city (Li and Wu, 2013; Wang and Fan 2012; Wu, 2012; Wu et al., 2013). Currently, the obstacles that Chinese migrants confront include not only fierce competition in the labour market but also institutional barriers such as *hukou* (Wang and Fan 2012; Yue et al., 2013). Migrants are often known as the ‘floating population’ as they are mobile, which suggests a low level of place attachment. In 2016, the central government of China officially announced more measures to convert rural migrants into citizens (*shiminhua*) as a significant political goal, to help migrants access public services and settle in cities (NPC and CPPCC, 2016).

Meanwhile, major cities have been witnessing unprecedented expansion towards outer suburban areas in a different form of mixed-use clustered development. The peripheries of Chinese cities remain various residential communities such as urban villages, workers’ dormitories, privatised work-unit compounds, and new commercial estates, where local residents and migrants<sup>1</sup> from different backgrounds coexist in the transition period. Migrants currently have more housing choices than before as the housing market changes and a rental market develops. They are allowed to reside in privatised work-unit compounds and new commercial estates if they can afford to. However, it is unclear whether migrants’ sense of belonging varies in different types of neighbourhoods.

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<sup>1</sup> In this research, local residents are defined as those who were born in Beijing and hold Beijing *hukou*. In comparison, the others are defined as migrants. Four types of migrants were found in this research. Specifically, they consisted of former migrants who had obtained local Beijing *hukou*, migrants with Beijing collective *hukou*, urban-to-urban migrants, and rural-to-urban migrants. We categorised former migrants who had obtained local Beijing *hukou* into the migrant group because we want to understand if these new citizens have themselves a stronger sense of belonging and the mechanism behind it.

It is necessary to study migrants in different types of neighbourhoods to understand if there is neighbourhood variation in the sense of belonging because purchasing or renting housing in specific neighbourhoods points to an important aspect of consumption and links to their socioeconomic status. Such consumption of residential communities is a creation or alteration of their social status. In turn, neighbourhoods may provide different pathways for social integration. As a result, migrants' position in the urban economy and preference for certain places may influence their sense of belonging to the city.

In this vein, this study attempts to explore migrants' sense of belonging to the city in different types of neighbourhoods and to interrogate its underlying mechanisms. The paper is structured as follows: the next section describes research gaps based on the existing literature; the third discusses the research design; the fourth and the fifth discuss the findings of this study; and finally, the last section offers conclusions including theoretical implication.

## **2. Literature review**

### *2.1. Migrants' sense of belonging and its determinants*

Sense of belonging in this study is understood as people's identification with a particular place. It is considered a fundamental human motivation and crucial to feeling positive, to trusting, and being trusted (Baumeister and Leary, 1995). This concept is known by many names such as place attachment, identity, dependence, and bonding with place (Scannell and Gifford, 2010; Lewicka, 2011; Qian, Zhu and Liu, 2011). Sense of belonging is also considered a dimension of social integration (Du et al., 2018; Hou et al., 2018). Previous studies believed that sense of belonging was a multidimensional construct and the process did not happen naturally (Chiessi et al., 2010; Smith, 2011).

Individual socioeconomic attributes such as age, occupation, income (Hernandez et al., 2007; Raymond et al., 2010), length of residency (Bailey et al., 2012), and homeownership (Brown et al., 2003; Lewicka, 2010; Manturuk et al., 2010; Woldoff, 2002) affect one's sense of belonging. The length of residency and homeownership are also

considered positive predictors of the sense of belonging (Lewicka, 2010). Without properties in the host city, it is unlikely that migrants will serve on neighbourhood committee boards or participate in the decision-making process regarding local affairs (Palmer et al., 2011). These factors undermine migrants' sense of belonging to their residential communities.

In China, internal rural migrants with lower-socioeconomic status are facing an uncertainty of belongingness in host cities. Many of them have lived and worked in cities for years but still bear a rather vague local identity (Du et al., 2018; Liu et al., 2018; Qian and Zhu, 2014). The sense of belonging is related to migrants' demographic characteristics and socioeconomic status, including educational attainment and occupation (Li and Wu, 2014; Tan et al., 2017; Yang et al., 2020). In China, a *hukou* is a record in the system of household registration which officially identifies a person as a resident of an area and includes other identifying information. Lack of local *hukou* status restricts migrants' access to several social welfare programs (Huang et al., 2020; Wang and Fan, 2012) and political rights (Palmer et al., 2011), which weakens bonding between the host city and migrants (Qian and Zhu, 2014; Qian et al., 2011).

## *2.2. Neighbourhoods and migrants' sense of belonging*

### *Social interaction and network*

Social interaction is believed to enhance the sense of belonging (Dekker and Bolt, 2005; Forrest and Kearns, 2001; Kearns and Forrest, 2000; Hidalgo and Hernandez, 2001; Portes, 2014). The sense of belonging to a place is crucially influenced by and sustained through interactions with others. These social ties are able to provide support and are as such usually experienced positively, as they help individuals maintain bonds and produce higher levels of trust. Social relationships between migrants and local residents are particularly important in building a strong sense of belonging, as the sentiment is socially defined (Dayaratne and Kellett, 2008; Lewicka, 2011; Ralph and Staehell, 2011). If migrants recognise that they belong to a social group in a place, they will perceive a sense of belonging to that place (Mee and Wright, 2009; Ralph and Staehell, 2011). Migrants' sense of belonging to a place can be enhanced by social contact with local residents.

In China, an extensive body of literature has found that the neighbourhood is an important source of social support for migrants (Liu et al., 2015; Wang et al., 2016; 2107; 2020; Wu and Logan, 2016). Social ties are not only essential channels for migrants to acquire job information, rental information, and loans in the host city (Liu et al., 2012; Liu et al., 2015), but also to some extent alleviate migrants' homesickness, forestall the occurrence of stressful events, and reduce the adverse effects of stress and anxiety (Jin et al., 2012; Liu et al., 2012; Liu et al. 2019). Consequently, social ties help strengthen migrants' sentiment towards the neighbourhoods in which they live (Wu and Logan, 2016). However, affective relationships may be dependent on the neighbourhood housing type (Wang et al., 2016; 2017; 2020). Liu et al. (2012) found that new generation migrants<sup>2</sup> preferred to construct collegial and friendship ties that transcend the boundaries of migrant enclaves, which seems to imply that neighbourliness is less critical for a sense of belonging to the city.

#### *Debates over (im)migrant enclave vs. mixed neighbourhood*

While studies so far have paid great attention to migrants' sense of belonging and its determining factors, little attention has been paid to the sense of belonging in different types of neighbourhoods in China, or to explaining a possible variation.

Existing studies in Western countries have investigated effects of the (im)migrant enclave and mixed neighbourhood on social integration and sense of belonging. But so far there is no consensus about the role of neighbourhoods. In terms of ethno-cultural enclaves, they are recognised as a problem causing social exclusion and jeopardising deprived groups' integration into society and social cohesion due to exclusion from mainstream society (Berube, 2005; Wilson, 2012). However, some empirical studies (Agrawal, 2010; Ehrkamp, 2005; Li 1998; Zhou et al., 2008) have found that ethno-cultural enclaves actually aid the adaptation to a new environment and present more benefits to (im)migrants' integration. For instance, an ethnoburb, or suburban residential and business area with a notable cluster of a particular ethnic minority population,

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<sup>2</sup> New generation migrants are those who were born after 1980, come from villages and townships elsewhere, and are registered as temporary residents in host cities (Liu et al., 2012).

supports immigrants' integration into mainstream society. Because of the high degree of ethnic similarities, communities tend to meet the specific cultural and social needs of those who live there (Agrawal, 2010; Li, 1998; 2009; Zhou, 2009).

Mixed communities have been adopted by many European countries to foster social mixing among classes as an essential policy because governments believe that mixed communities promote interclass social interaction in those neighbourhoods (Kleinhans, 2004). Social interaction relates to social-ethnic mix (Toruńczyk-Ruiz & Lewicka, 2016; Wickes et al., 2019) and tenure heterogeneity within neighbourhoods (Smets & Sneep, 2017). Social mix and tenure heterogeneity provide more opportunities for intergroup interaction, further enhancing neighbourhood attachment (Wang and Ramsden, 2018). It is recognised as a solution to the social integration problem. New immigrants are an increasingly diverse population who enter into a very different social, economic, and cultural context. But the contemporary settlement patterns of those immigrant households are characterised by distinctive regional geographies, clustering together with people from similar backgrounds and residing in less popular inner-city areas (Robinson and Reeve, 2006). Some advantages of social mix have indeed been observed from empirical studies. For instance, Allen et al. (2005) indicate that mixed tenure would eventually enhance social capital over time. Demireva and Heath (2014) find that people from ethnic minorities are more likely to feel British if they live in mixed communities rather than being surrounded by neighbours of their own background. Social mix fosters the bridging of social capital to increase social integration.

However, Laurence and Bentley (2016) suggest that the effect of neighbourhood diversity is likely to be incidental. In the US, studies of immigrant assimilation find many immigrants move directly into affluent suburban communities, living side by side with middle or upper-middle class people without much integration (Alba et al., 1999; Frey, 2001; Zhou, 1998). Arbaci and Rae's (2013) study in mixed-tenure neighbourhoods in ethnically mixed areas in Greater London finds that social housing tenants have different socioeconomic opportunities and access to resources, but that these are not dependent on, or improved by, the level of tenured mix within the neighbourhoods.

In China, urban villages as migrant enclaves provide cheaper housing and mutual support to migrants (Li & Wu, 2014; Liu et al., 2015; Wang & Ning, 2016). As a consequence, migrants enhance their sense of belonging to the city. More skilled migrants who are able to afford better housing move into commodity housing communities (Cui et al., 2016; Wissink et al., 2014). New commodity housing estates usually provide a sense of privilege and anonymity as a better and safer physical environment and a mainstream living condition (Lin et al., 2021; Wu, 2005; Wu & Webber, 2004). Other studies (Li et al., 2019; Li & Wu, 2013; Shen & Liu, 2016; Tao et al., 2014; Wang & Wang, 2016; Xiao et al., 2016) show that the quality of dwellings, cleanliness, safety, amenities, neighbourhood leisure facilities, and community services influence migrant residents' life satisfaction and reduce feelings of loneliness.

### *2.3. Research gap*

Studies on (im)migrant enclaves and mixed neighbourhoods show that the relationship between sense of belonging and neighbourhood characteristics is highly complicated. On one hand, the (im)migrant enclave prevents its residents from integrating into mainstream society, while providing alternative means to live in the city; on the other, it cannot facilitate assimilation and integration. It may merely be a settlement without access to mainstream society. However, the aforementioned studies show that the neighbourhood is a venue where social integration and exclusion happen. Neighbourhoods play either a positive or negative role in Chinese migrants' sense of belonging, which is considered an important dimension of social integration (Du et al., 2018; Hou et al., 2018).

A number of questions need to be addressed. Are neighbourhoods in urban China able to group migrants with similar social-economic attributes which in turn generate a different sense of belonging? What factors influence migrants' sense of belonging in transitional urban China? Do different types of neighbourhoods produce in migrants' a different sense of belonging? Informed by experiences from existing literature, this paper aims to understand migrants' sense of belonging through contrasting different types of neighbourhoods, contributing to the ongoing debate in the literature on the role of the neighbourhood in (im)migrants' integration.

### 3. Research design

#### 3.1. *The scale: City-level sense of belonging*

Current studies of migrants' sense of belonging focus on the neighbourhood level and pay attention to neighbourliness (Casakin et al., 2015; Hidalgo and Hernandez, 2001; Kohlbacher et al., 2015; Lewicka, 2010; 2011). However, according to Lewicka (2010), migrants' sense of belonging involves a variety of places on multiple geographical scales. It is also developed through individuals' actions with a variety of places on levels including home, neighbourhood, district, city, and even the larger region. Neighbouring interaction is not equivalent to integration in the host city (Wu and Logan, 2016); a migrant could have a low sense of belonging to the host city but a strong neighbouring interaction. They may also have a strong sense of belonging to the city but little to their neighbourhood. One reason is that Chinese migrants have higher intra-city residential mobility compared to local residents (Li & Zhu, 2014). Due to frequent job changes, they often move between different neighbourhoods. Another reason is that for some migrants, a neighbourhood only presents a living space, a transitional place, or a social ladder to gain upward mobility before permanently settling down in the host city (Lin et al., 2020, 2021). The sense of belonging to the city might be more related to socioeconomic circumstances, attainment of *hukou*, and social networks outside neighbourhoods. Therefore, we believe that understanding migrants' sense of belonging to the host city is important to reveal the extent of their social integration. As such, more detailed studies of the sense of belonging on the city scale are required.

Recently, emerging literature has considered the sense of belonging at this city level. Huang et al. (2020: 406) found that 'migrant contact with residents who were not related to them was positively linked to the development of a sense of belonging in the host cities, whereas contact only with non-residents had the opposite effect.' Through a nationwide survey, Lin et al. (2020; 2021) found that the type of neighbourhood was an important factor associated with migrants' sense of belonging to the host city. This paper selects some neighbourhoods in peri-urban Beijing to examine migrants' sense of belonging to the host city. We were able to investigate these neighbourhoods in detail.



### 3.2. Case study choice

The primary data set used in this study was collected from June to October 2016 through questionnaires, interviews with residents, and site visits in four neighbourhoods in the Shijingshan district of Beijing (Figure 1). These are Mayu (urban village), Shougang (workers' dormitory), Laoshan (privatised work-unit compounds), and Yuanyang Qinshanshui (new commodity housing estate).

[PLACE FIGURE 1 ABOUT HERE]

We selected these neighbourhoods as case studies for several reasons. First, Beijing serves as an ideal case for studying migrant integration because it is a major destination city for China's internal migrants. Second, we chose the urban periphery — containing various types of neighbourhoods (Li and Wu, 2013) — because migrants tend to live in peri-urban locations due to a shortage of private rental space within urban areas (Wang et al., 2010). Third, we excluded other peripheral districts in Beijing owing to the limitation of the migrant samples from those areas. To be specific, migrants who live in the north of Beijing are mainly university students and new graduates as the area is the centre for educational institutions and information technology companies. Similarly, migrants who live in the east of Beijing are mainly white-collar professionals because the area has been developed into a business centre with many financial institutions and investment corporations. Therefore, it is hard to find low-income migrants because property prices nearby are higher. In contrast, the south of Beijing's urban periphery accommodates mainly low-skilled migrants as it is still under development. Housing prices remain relatively low and are affordable for rural migrants. We therefore chose Shijingshan district, located in the west of the city, as the case study area. Shijingshan has diverse types of neighbourhoods and migrant groups. Statistics (BMSB, 2014) show good variation in terms of migrant composition with 42.4% of urban-to-urban migrants among the migrant population. We intended to select case neighbourhoods to investigate in detail the internal dynamics affecting migrants. Using these cases in Shijingshan provided grounds on which to observe the differentiated level of migrants' sense of belonging. Rather than concluding an overall

situation, this study aims to provide new empirical knowledge in urban China.

### *3.3. Quantitative data collection*

We drew one neighbourhood from each of the four types of residential neighbourhoods where migrants reside. This enabled us to interrogate influences on the sense of belonging more precisely. This selection of several neighbourhoods has been used extensively in urban China studies (He and Wu, 2007; Li and Wu, 2013; Shen and Wu, 2013). It is a balance achieved between two desirable but incompatible features, as cross-city sampling can present an overall picture of the city. However, we wish to have an in-depth study of these selected neighbourhoods. With the absence of neighbourhood attributes, we distributed 350 questionnaires to each of the selected neighbourhoods. As a result, the size of our sample in each neighbourhood is sufficiently large to show the composition of each residential community.

We aimed to generate 1,400 copies of the questionnaire in the four neighbourhoods, among both local and migrant residents. The survey included local residents because, as natives who usually have a strong sense of belonging to the city, they were seen as the reference group in the regression models when studying migrants' sense of belonging to the host city. There were no population statistics at the neighbourhood level. We decided that each neighbourhood would have the same sample size. Authorities in the new commodity housing estate joined the survey to distribute questionnaires. In order to keep the distribution random and to keep selection bias to a minimum, samples of residents above 18 years old were randomly drawn from residential areas starting from the entrances of the neighbourhoods, with the sample distributed across main roads and minor roads. With these addresses, we selected the sample addresses through random numbers. This address-based sampling has been widely used in Chinese migrant surveys because of the lack of population framework. As a result, 943 valid questionnaires created after the survey yielded a total of 1,400 responses. The overall rate of successful questionnaires was approximately 67.4%. Therefore, the size of our sample in each neighbourhood is sufficiently large in this study to show the detailed circumstances of each residential community.

### *3.4. Measures of sense of belonging to the city and predictors*

The questionnaire focuses on two aspects. The first question considers residents' sense of belonging to the city of Beijing. The term 'sense of belonging' here is defined as one's perception of his or her place membership in Beijing. We measure it by asking 'Do you consider yourself a member of Beijing?' Respondents were asked to indicate the extent to which they recognised themselves as members of the city. The answers include a strong sense, some sense and little/no sense. Instead of formal institutional recognition such as *hukou*, this question relates more to membership, indicating whether migrants identify themselves as a resident of the city. Migrants' sense of belonging is a significant dimension of their social integration as it is considered as a fundamental human motivation (Baumeister and Leary, 1995). The question we asked, though rudimentary, is effective and is in fact an overall assessment or self-evaluation of their urban identity (with the specific city where they live). The use of a single question for measurement is common. For example, Du et al. (2018) used 'Do you agree that you are attached to the city?' to measure place attachment, and Wu and Logan (2016) also used the single measure of neighbourhood sentiment (*qinqiegan*) to assess this.

In addition to the single proxy for the sense of belonging, the questionnaire also collects information from different perspectives, e.g. demographic attributes, socioeconomic status, institutional achievements, and social networks. As discussed in the literature review, these predictors could affect migrants' sense of belonging. In particular, this study also tests a further two groups of predictors to discover whether they are significant for the sense of belonging. A formal job contract was assumed to have a positive impact on migrants' sense of belonging because of the attached social insurance and welfare such as healthcare, unemployment insurance, and pension. We also take the type and location of the social network into consideration. Knitting social network ties with non-local residents inside the neighbourhood might decrease the sense of belonging to the city because migrants might have less time for interacting with local residents outside the neighbourhood. Besides, it is meaningful to know if there are significant differences in migrants' sense of belonging in different types of neighbourhoods. Therefore, we collected information about the type of residential community in which each respondent lives.

We also considered sampling bias and some limits on usability, and hence added caveats in the paper. First, our study does not represent all neighbourhoods in city and we limit our findings to the peri-urban area. However, the findings are revealing because they represent the migrant residents in the respective types of neighbourhood. Second, neighbourhood type is not treated as a predictor in a causal sense in the model, and the argument does not concern neighbourhood effect. But as can be seen later, the neighbourhood effect does exist, due to living with uncertainty, exclusion from the formal economy, and poor living quality. Through the lens of neighbourhood, we are able to ascertain whether there are significant differences in the four types of neighbourhood among levels of sense of belonging. The merits of this particular design are related to the rationale for selecting it as the most appropriate plan for addressing the research problems. As we aimed to investigate the characteristics of the migrant population in different types of neighbourhoods, this sampling method is apt. Results, however, would be limited to describing the phenomenon rather than predicting future behaviour.

### *3.5. Qualitative data collection*

Meanwhile, we utilised non-participant observation as the other method to collect qualitative data in order to understand mechanisms that might not be found in the models. These data came mainly from observing everyday lives in the four selected residential communities, supplemented by interviews with migrants, their colleagues, and local officials between July 2016 and February 2017. We approached the key informants through cadres in their neighbourhoods and the supplementary interviewees through a snowball technique during participant observation. In doing so, we could explain differences in the sense of belonging together with performing a more in-depth grounded investigation of these neighbourhoods. This is the reason we do not entirely randomly select neighbourhoods across the whole of Beijing, as we need to understand the contexts of different neighbourhoods.

## **4. Results**

### *4.1. The case-study neighbourhoods and the residents*

With the help of the four residential committees, the attributes of each neighbourhood were mainly derived from the site visits and the archives of the district government and local police stations. The characteristics of the neighbourhoods are shown in Table 1.

[PLACE TABLE 1 ABOUT HERE]

Among 943 valid questionnaires, respondents consisted of 233 local residents who were born in the city of Beijing and 710 migrant residents. We define the former sample group as local residents and the latter as migrant residents. Table 2 shows a clear pattern of the 710 migrant samples in the four neighbourhoods. We found that the socioeconomic characteristics of migrants and their sense of belonging in the different residential neighbourhoods vary quite dramatically.

[PLACE TABLE 2 ABOUT HERE]

With regard to socioeconomic status, migrant residents in the commodity housing estate show a much higher level of educational attainment. There were a remarkable 24.8% of migrant residents with a master's degree or above. The migrants in the privatised work-unit compounds and the workers' dormitory were also well educated regardless of there being a lower percentage holding a master's degree compared to the new commodity housing estate. However, in the urban village, more than 67% of migrant residents had only attended secondary school or below. A high percentage of higher educational attainment indicates the saturation of the labour market in Beijing. Compared with the other two neighbourhoods, migrants in the commodity housing estate and privatised work-unit compounds earned more than the other two neighbourhoods, with 34.4% and 33.5% of migrant dwellers earning more than 15,000 yuan per month respectively. However, migrants in the dormitory and the urban village did not earn meagre salaries. Approximately half of the migrant residents in both those neighbourhoods earned 5,000–15,000 yuan monthly. But in terms of social welfare, labour contract possession rates were quite different between the four neighbourhoods. Only about 14.1% of migrant dwellers in the urban village had signed a formal labour contract allowing them to enjoy social insurance. In contrast, much higher percentages were found in the new commodity housing and privatised work-unit neighbourhoods,

with 82.8% and 83.0% of residents respectively holding a labour contract. In the workers' dormitory, all migrant residents possessed a formal labour contract and had guaranteed social insurance. This is because the dormitory was owned and managed by a state-owned enterprise, the Shougang Company, which offers accommodation only to their employees. Migrant dwellers in the dormitory worked in the formal sector. Homeownership rates were also different between these neighbourhoods. In the commodity housing estate, approximately 69.4% of migrant residents had purchased flats in Beijing. The rate was 24.3% lower in the privatised work-unit compounds. In contrast, only about 9.4% and 2.6% of migrant respondents in the dormitory and urban village respectively owned property in Beijing.

Regarding the *hukou* category of the samples, four types of migrants were found in this research. Specifically, they consisted of former migrants (23.8%) who had obtained local Beijing *hukou* after migration, migrants with Beijing collective *hukou*<sup>3</sup> (8.0%), urban-to-urban migrants (36.3%), and rural-to-urban migrants (31.8%). If we look at the presence of the four types of *hukou* in the four neighbourhoods, the differences are clear. The majority of former migrants who have acquired Beijing *hukou* were found in the commodity housing estate (50.9%) and privatised work-unit compounds (36.7%). Migrants who were offered Beijing collective *hukou* mainly resided in the workers' dormitory (68.4%). This dormitory is not a unique case. In China, state-owned companies usually offer rental accommodation to their employees who do not own any property in the host city, mostly new graduates and single migrants from other provinces. This is the reason for a high proportion of local collective *hukou* being found in the workers' dormitory. Urban-to-urban migrants were distributed evenly in the four neighbourhoods, representing approximately a quarter of the migrant residents in each neighbourhood. The majority of migrants with rural *hukou* were housed in the urban village (35.0%) and the dormitory (35.0%) despite also

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<sup>3</sup> The migrants who possessed collective local *hukou* comprise students in universities and workers in certain state-owned corporations or government institutions in Beijing without property in the city. Migrants with collective *hukou* are eligible to enjoy partial social welfare in Beijing, but they are restricted in or denied the most important rights for locals, such as homeownership and public schooling for their children. For example, undergraduates with collective *hukou* are not allowed to purchase housing in Beijing. The collective local *hukou* are usually terminated when migrant students graduate from university or when their employment contract has expired. This *hukou* type is mainly for the government to manage migrants more easily when they do not own any property in the city. Thus, possessing collective local *hukou* still results in many uncertainties for migrants.

being found in the privatised work-unit compound (24.3%) and commodity housing estate (5.8%).

Concerning social networks, the majority (81%) of migrants in the commodity and privatised work-unit neighbourhoods developed their social network ties with local residents and outside their neighbourhoods. In the workers' dormitory, slightly less than half of the migrants had made friends with local residents, the other half mostly socialising with other migrants. Only a third of the migrants formed friendship within the neighbourhood. However, the percentage with local friends drops significantly in the urban village. The lowest percentage (28.4%) of migrant residents in this neighbourhood had made friends with residents possessing Beijing *hukou*, while the social network of nearly 76.1% of migrant villagers was maintained within their village, which might indicate a self-sufficient enclave economy embedded in the urban village with few interactions with the urban society. Migrants in other neighbourhoods found it hard to become involved in neighbourhood activities, probably owing to a lack of time due to long working hours and commutes.

In terms of the dependent variable, migrant respondents in the four neighbourhoods showed different situations regarding their sense of belonging to Beijing. In general, migrants in the commodity housing estate had the best sense of belonging, 79% expressing a strong sense and 15.3% expressing some sense. Migrants who lived in the privatised work-unit neighbourhood and the workers' dormitory also had a relatively high percentage with a strong sense or some sense of belonging to the city. By comparison, urban villagers showed the lowest sense of belonging to Beijing. 71.6% of migrants stated no/little sense of belonging to Beijing. Only 2.6% of migrant villagers self-identified with a strong sense of belonging to the city.

#### *4.2. Determinants of sense of belonging*

To identify influential factors, the analysis was conducted as a multinomial regression to measure multiple categories of sense of belonging to the city. The response variable in the model is to what extent a migrant thinks he or she is a member of Beijing. The answers contain three categories: 'strong', 'some' and 'no/little'. The answer 'no/little' is used as the reference group. Thus, the model contrasts migrants who

clearly stated having a strong sense with those who had no sense. According to extensive studies of migrant integration, all of the models include gender, age, marital status, years of residence, education, income, homeownership in the city, and *hukou* status. In the first model, the eight variables above were selected to examine the effects on migrants' sense of belonging to the city. In the following two models, we measured formal labour contract and neighbourliness on the assumption that these were potential influences.

### *Socioeconomic attributes*

In the first model (Table 3), neither gender nor marital status is significantly related to migrants' sense of belonging to Beijing. Age is a demographic factor in predicting the sense of belonging to the city. Compared to the elderly, middle-aged residents are more likely to have a strong or some sense of belonging to the city, but those under 30 do not necessarily feel themselves to be members of Beijing. This might be because young people are still not independent. Migrants who have stayed in the city for less than one year are less likely to be attached to the city. Interestingly enough, the variable longer years of residence in Beijing is not statistically related to a stronger sense of belonging to the city. The reason might be that many migrants frequently move from one neighbourhood to another due to change of work or being forced to leave their previous settlement. Their accumulated duration of residence in the city may reflect their change of workplace and accommodation and the instability of life in the city rather than a strong sense of belonging to the city. For example, in one interview, a migrant mentioned that he frequently needed to find new accommodation because the urban villages where he lived were all torn down by the municipal government.

[PLACE TABLE 3 ABOUT HERE]

Very noticeably, education as a human capital variable is significant in predicting both strong and some attachment to the city. Acquisition of a master's degree or above and a bachelor's degree significantly increases the likelihood of having a strong sense of belonging to Beijing by an odds ratio of 129.2 and 20.7 respectively. Educational attainment reflects the vital human capital of migrants. During the fieldwork, a migrant resident emphasised the importance of education: 'I have to study much



harder than local residents to get a formal job and a home so that I can become a local citizen' (May 2016). This shows that having higher education leads to better economic achievement and homeownership and, consequently, a strong sense of belonging to the receiving city. Getting higher education is a channel for settling down in the city which eventually leads to a stronger sense of belonging.

In terms of economic achievement, residents' income is significantly associated with their sense of belonging. Compared to the 2016 Beijing municipal average annual income per capita of 104,604 yuan or 8,717 yuan/month, a monthly income of more than 15,000 yuan significantly influences migrants' sense of belonging by increasing 10.7 times odds ratio. Above average income also increases 3.7 times the likelihood of some sense of belonging. Also, average monthly income (5,000–15,000 yuan) also successfully predicts migrants' strong and some sense of belonging to the city by an odds ratio of 5.3 and 2.4. Higher incomes indicate better integration with the city and hence a stronger sense of belonging to the city. Financial sufficiency makes migrants feel that their lives are well secured in the city because they are not entitled to social welfare as local residents. For example, in June 2016, a migrant interviewee pointed out that he felt that he was not welcomed in Beijing because, unlike local residents, he had limited access to social welfare and institutional assistance from the labour bureau and trades unions. The expense of healthcare was mainly paid by his income.

Homeownership in the city undoubtedly predicts a strong sense of belonging. Owning a property in the city means one is 10.7 times more likely to feel a strong sense of belonging. However, most migrants have a low expectation of owning a property in Beijing when they face sky-high housing prices, and this results in a low sense of belonging to the city. In an interview, a migrant dweller in the urban village stated 'Beijing is not my home because I cannot afford even a one-bedroom flat' (July 2016).

In terms of institutional factors, having local *hukou* is still recognised as one of the significant determinants of a better sense of belonging. Irrespective of acquiring local *hukou* or local collective *hukou* or possessing urban *hukou* of other cities, migrants cannot increase their sense of belonging to the level of Beijing natives. Surprisingly, compared to locally born residents with Beijing *hukou* (24.7% in the sample), even being a former migrant who had recently acquired local *hukou* significantly reduced

the likelihood of having both a strong and some sense of belonging to the city. In an interview, a former migrant who had achieved a local Beijing *hukou* and bought a property in the city expressed her sense of belonging as follows: ‘I do not feel I am the same as a local resident because I was not born here. I feel that local residents treat me like a migrant because of my accent and dress’ (June 2016). This finding means, first, that acquiring local *hukou* may help migrants achieve the same rights rather than increasing their sense of belonging to the same level as indigenous residents; and, second, that language assimilation, acculturation, and local residents’ perceptions affect migrants’ sense of belonging.

We also include welfare entitlement in socioeconomic attributes. Model 2 examines the relationship between migrants’ sense of belonging and their social welfare in the city (Table 4). A labour contract guarantees social insurance participation via employment regardless of the *hukou* status of the employee. Therefore, we use the labour contract as a proxy to understand migrants’ access to social welfare in the city. After controlling the variables in Model 1, the result shows that migrants who have signed work contracts in Beijing are more likely to have a strong sense of belonging than those without a formal labour contract. Residents who are guaranteed social insurance via employment have their odds of a strong sense of belonging increased by 20.1 times and some sense of belonging by 12.3. Thus, working in the formal sector is key for migrants to access basic social welfare and it fosters a better sense of belonging to the city. A migrant who worked in an informal business saw the negative side of his life in Beijing because the employer did not guarantee him any social welfare: ‘Beijing is not home for us (him and his wife). We cannot afford to live here. My boss does not pay hospital charges when I am ill’ (May 2016).

Noticeably, although homeownership still shows significance in predicting migrants who have a strong sense of belonging to the city, the likelihood reduces remarkably from 10.7 to 3.5 times when we add the predictor of the work contract to this model. It is evidence of the importance of having a formal job in compensating for a sense of belonging jeopardised by lack of homeownership in the host city. Or, in other words, the former model does not fully control for formal job status, as homeowners are more likely to work in the formal sector.

[PLACE TABLE 4 ABOUT HERE]

#### *Social interaction and networks*

Social networks are an essential factor and this has been extensively discussed. After introducing the type and location of social network as another two variables in Model 3 (Table 5), we found that migrants who had local friends were more likely to identify themselves as having a strong sense of belonging to Beijing. Compared with making friends with non-local residents, residents' odds of a strong sense of belonging to the city are 5.3 times greater than for the group without a sense of belonging. This effect exists after controlling for income, educational attainment, and other factors in the first model. In other words, residents tend to feel less of a sense of belonging to Beijing if they establish social ties only with migrants, not just because they are less educated or have lower income or non-local *hukou* status. Some migrants are advantaged as local social network ties give them exposure to the society of Beijing, which helps strengthen their sense of belonging in the direction of the local urban residents.

[PLACE TABLE 5 ABOUT HERE]

Surprisingly, the regression model meanwhile confirms that the strong sense of belonging to the city will decrease because residents are more likely to engage in social life within their neighbourhood. Table 5 shows that establishing social networks within neighbourhoods significantly decreases the chance of having both a strong and some sense of belonging. The negative coefficient indicates that the more time spent engaged in the neighbourhood, the less likely migrant residents are to have a strong sense of belonging to the city. Those who made friends in their neighbourhood are respectively 21.8% and 23.4% less likely to have a strong or some sense of belonging to the city. This study reveals the limitation of neighbourliness because social participation and networking inside the residential neighbourhood is not sufficient, even when migrants reported extensive neighbouring in migrant enclaves (Wu & Logan, 2016). Making friends in the neighbourhood does not help migrants develop the capacity to adapt to mainstream urban society.

#### *4.3. Contrasting rural and urban migrants*

This subsection provides an overall examination of the sense of belonging to the city regardless of neighbourhood type. The descriptive data show that migrants have four types of *hukou* in the city, namely non-local rural, non-local urban, local collective, and previous migrants who acquired Beijing *hukou*. We tested another model to see if different *hukou* types affect migrants' sense of belonging to the city.

[PLACE TABLE 6 ABOUT HERE]

Table 6 provides the results of a multinomial regression of sense of belonging, socio-economic attributes, and social network for five types of *hukou* (including local Beijing *hukou*). The model aims to identify specific groups of migrants and how the differences influence their sense of belonging to the city. Regression results show that migrants' sense of belonging is significantly different for urban migrants, rural migrants, and migrants who acquired Beijing *hukou* after controlling for demographic characteristics. Compared to urban migrants, those of rural origins are 2.06 times less likely to feel a strong sense of belonging to the city. In contrast, the acquisition of Beijing *hukou* increases the likelihood of migrants having a strong and some sense of belonging by 2.12 times and an odds ratio of 57.3% respectively.

The model also suggests that different *hukou* types are characterised by some socio-economic mixes. By looking at education variables, urban migrants had a higher level of educational attainment than rural migrants and even local Beijing residents. Urban migrants also show the highest level of monthly income compared to rural migrants and local residents. Surprisingly, the model suggests that different types of migrants' *hukou* could not be predicted by employment in the formal or informal labour market. It might suggest that *hukou*-based labour market discrimination has become less obvious in Beijing. However, migrants are still unlikely to own property in the city compared to local residents and previous migrants who acquired Beijing *hukou*. This probably due to the fact in Beijing, and China's many megacities, migrants are restricted in local housing markets unless they have contributed to the social security fund or tax payments for five consecutive years.

In terms of social networks, migrants with local collective *hukou* are 83.5% more likely to make friends in their neighbourhood. This might be because the sampled migrants with local collective *hukou* live with their colleagues in accommodation provided by their employer.

Table 6 shows that *hukou* types successfully predict one's sense of belonging to the city. The finding verified the result of the previous models that migrants' sense of belonging is significantly influenced by their *hukou* type. However, through the lens of *hukou*, we could not see much difference in migrants' socio-economic characteristics. *Hukou* type does not seem to group migrants with similar socio-economic attributes any longer. It might be because discrimination against those of rural origins is decreasing in China's urban labour market. It appears that, along with the transition from a centrally-planned economy to a market-driven economy, institutional achievement relies more on individuals' socio-economic capital.

## **5. Discussion: Neighbourhood variation in the sense of belonging**

The descriptive statistics of migrant residents and the three regression models illustrate different levels of sense of belonging and the underlying dynamics in the four types of neighbourhoods. In order to address the issue of endogeneity and compositional effects caused by neighbourhood self-selection, we utilised non-participant observation and interview as the qualitative methods to understand mechanisms and other influential factors that could not be found in the models.

Migrants living in the urban village are more likely to have a lower sense of belonging to the city compared to those in the other types of neighbourhoods. This finding is different from research on the ethnoburb and enclaves in the US (e.g. Agrawal, 2010; Li, 2009; Zhou, 2009) and migrant enclaves in China (Liu et al., 2015; Wu and Logan, 2016). The literature suggests that enclaves serve as the basis for integration from which migrants can achieve social mobility and adapt themselves to the urban environment. However, the development of belonging is linked to contextual variables (Lewicka, 2011) and contingency (Laurence and Bentley, 2016). The difference between our finding and this literature is due to three reasons found in the field observation. First, living in an urban village in Beijing means living in a temporary shelter

under the threat of eviction. Demolition of urban villages has been happening more frequently in recent years. Migrant tenants often need to move from one urban village to another. One migrant resident said ‘I heard from other villagers that the government would demolish this village shortly. I am worried because I do not know where to move’ (August 2016). Second, the enclave economy in the village in this study makes migrant residents separate from urban society. The demographic structure of the urban village consisted of 67.7% of total residents who did not attend university or college, while 85.9% had not signed any formal labour contract, among which 75.5% worked in the neighbourhood or nearby. This indicates that the embedding of informal business marginalises these migrants and fails to facilitate their integration with urban society. Migrant entrepreneurs are unable to maintain their businesses in the neighbourhoods because the government does not grant the legal status of the enclave economy. Under the threat of eviction, an informal settlement and its embedded economy lacks the legal support to protect such migrants. Therefore, migrants in urban villages find it hard to achieve social mobility towards urban society. In this sense, living in enclaves with their embedded economies leads to a lower sense of belonging to the city. Third, the discrepancy between migrants’ expectations and real living conditions results in their low sense of belonging. The physical environment of the urban village lacks cleanliness, amenities, and essential facilities such as an internal kitchen and toilet. As a migrant villager said, referring to living conditions, ‘Except for higher income, I cannot see any difference between Beijing and my hometown’ (July 2016).

In contrast, in the other three types of neighbourhood, migrant residents had a better sense of belonging to the city. To be specific, the workers’ dormitory gathers a mass of homogenous migrant residents. But the situation is different from the urban village. The workers’ dormitory is managed by the Shougang Group, a state-owned enterprise. Living in the workers’ dormitory increases residents’ sense of belonging to the city in three dimensions. There is an economic dimension: to facilitate efficient production, reduce the time and costs of commuting, and reduce workers’ distractions from working by providing services including low-rent housing (400 yuan/month), primary healthcare, and neighbourhood and housing management, together with other services designed to meet workers’ needs such as cheap catering and free hot water. In terms of the social dimension, the workers’ dormitory originated from an egalitarian ideology. No matter the occupational position of the migrants, room conditions,

facilities, and service are almost the same. Regarding the cultural dimension, although the concept of the dormitory was initially imported from the former Soviet Union, it is also influenced by the traditional culture of Beijing expressed through its enclosed nature and courtyard structure. Compared to the urban village, workers' dormitories are more similar to nearby privatised work-unit compounds because they were built in a similar era. As a result, residents in workers' dormitories are less likely to feel differences between themselves and residents in the surrounding areas. Our observation in this dormitory neighbourhood is opposite to Yang's (2013) study on migrants working in Foxconn. Foxconn in Shenzhen employed as many as 300,000 employees, mostly living in dormitories. Yang found that migrants' access to the city could be restricted by living in factory dormitories, a common practice for migrant workers, because the neighbourhood for them was likely to be the factory. We think the difference is because in our case a dormitory is a residential area of a state workplace and residents in the dormitory are more included in employer fringe benefits. Shougang provides their migrant workers with urban social welfare, insurance programs, public services, and other assistance in the dormitory, which in turn improves their migrant workers' sense of belonging to the city. However, this practice is not universal across China (Huang et al. 2020; Liu et al., 2017).

For the privatised work-unit compound, a better sense of belonging to the city could be attributable to the heterogeneity of tenure and population in the neighbourhood. Before housing reform, work-unit compounds were characterised by homogenous tenure and a homogenous population. After housing reform, the housing in work-unit compounds was privatised. They were converted into mixed residential communities with different tenure types and a heterogeneous population. From the information provided by the local police station, the tenure types in the privatised work-unit compound included 31.4% public purchase, 23.6% market purchase, 8.3% economic purchase, 25.6% market rental, 4.0% public rental, and 7.1% other. There were 42.9% local residents and 54.5% migrants. A few migrant residents expressed sentiments along these lines: 'I do not feel I am different because I can see many working-class migrants like me in my neighbourhood. Here it is like a small society. I can find local residents, migrants, the retired, the working-class, and the rich' (August 2016). Some local residents also expressed this: 'I have many migrant neighbours. They are polite. We have no bias towards them' (August 2016). Therefore, heterogeneous tenure gives

migrants different social ladders for access into their neighbourhoods. Meanwhile, mixed population groups reduce the stigma of migrants and hostility from local residents in their everyday lives. The observation in this Chinese privatised work-unit compound echoes previous studies on social-ethnic mix and tenure heterogeneity within neighbourhoods.

We also noticed that living in the commodity housing neighbourhood provided its migrant residents with a sense of privilege and privacy (Wu, 2005), which in turn contributes to a better sense of belonging to the city. Based on our observation, neighbourhood amenities, security, and private services make migrants feel successful in the city. As one migrant homeowner in the estate told us, 'I feel I am settled in Beijing because here the living environment and service are much better than other neighbourhoods' (July 2016). Commodity housing provides a chance for successful and affluent migrants to escape or bypass disadvantaged communities. They move into gated communities through the formal housing market. The entrance to the formal residential area is an indication that they are settled in the city.

## **6. Conclusion**

Besides place attachment to neighbourhoods, migrants' sense of belonging to the host city represents an important aspect of their social integration. Utilising a survey in peri-urban Beijing, this paper finds that neighbourhoods are able to group migrants with a certain level of sense of belonging and similar socio-economic attributes. With lower socioeconomic status, fewer institutional achievements, and limited social networks, migrants living in urban villages are more likely to have a lower sense of belonging to the city compared to those in other types of neighbourhoods. Those residing in formal neighbourhoods (namely workers' dormitories, privatised work-unit compounds, and commodity housing estates) with higher socioeconomic status, formal labour contracts, and wider social networks tend to have a stronger sense of belonging to the host city. This research outcome echoes the findings from a national migrant survey that migrants living in more mainstream and formal housing with locals become better integrated into their cities (Lin et al., 2021).



We further develop our research with detailed observation in small residential areas, or selected neighbourhoods. The qualitative analysis reveals that neighbourhoods have a formative impact on emerging distinct migrant groups. Purchasing or renting housing in specific neighbourhoods points to an important aspect of consumption and links to their socioeconomic status. Such consumption of residential communities is also a creation of their socio-economic status. As a result, migrants' position in the urban economy and their preference for certain places influence their sense of belonging to the city. Through the lens of neighbourhood, we reveal how residing in different types of neighbourhood affects migrants' life, and further creates a spatial dimension for their sense of belonging to the city.

There has been a persistent debate regarding the (im)migrant enclave and mixed neighbourhood, but so far there is no consensus on the effect of neighbourhood type. This research shows that living in an (im)migrant enclave does not necessarily mean having low sense of belonging to the host cities. Comparing migrants in a workers' dormitory to those in an urban village, a low sense of belonging is not necessarily a result of homogenous tenure and population of a neighbourhood, but of living with uncertainty, exclusion from the formal urban economy, and poor residential environment. Neighbourliness (Wu and Logan, 2016) does not lead to a stronger sense of belonging to the host city. This might be because social interaction within urban villages does not transcend the boundaries of migrant enclaves, compared with collegial and friendship ties across residential neighbourhoods (Liu et al., 2012). In the workers' dormitory, however, the employer and social mixing with the rest of the workplace provides economic, social, and cultural support, which improves migrants' sense of belonging to the city.

Our findings in the privatised work-unit compound and the commodity housing estates support research on the positive role of the social-ethnic mix (Toruńczyk-Ruiz and Lewicka, 2016; Wickes et al., 2019) and tenure heterogeneity (Smets and Snee, 2017), not only because heterogeneity increases the opportunity for contacts, but also because there is less stigmatisation and a sense of privilege and privacy in these two mixed neighbourhoods. As result, mixed neighbourhoods foster a stronger sense of belonging to the host cities. Mixed communities enhance the social capital of ethnic groups, which implies a better status of integration. Our study thus finds that migrant

residents in mixed neighbourhoods have a higher socioeconomic status and a stronger sense of belonging to the city.

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Table 1 Characteristics of the four neighbourhoods

	<i>Yuanyang qinshanshui</i>	<i>Laoshan</i>	<i>Shougang</i> Dormitory	<i>Mayu</i> Village
Location	Central district	Central district	Central district	Urban fringe; encircled by motorways and rivers
Architectural style	Higher density; multi-levels	Mixed; six/eighteen storeys	Old but well-managed; six storeys	Dilapidated, one/two-storeys
Neighbourhood type	New commercial estate	Privatised work-unit neighbourhood	Dormitory	Urban village
Land use area (m <sup>2</sup> )	41,000	587,756	22,915	491,209
Built-up area (m <sup>2</sup> )	177,000	1,087,349	-	-
Time of formation/development	2010-2011	1982-2000	1950s	Before 1171
Rent of ( <i>Yuan</i> /month/m <sup>2</sup> ) October/2016	89.34	64.90	400 ( <i>Yuan</i> /month/room)	31.99

Housing price ( <i>Yuan</i> /m <sup>2</sup> ) October/2016	74,653	51,138	Not for sale	29,661
Plot ratio	3.43	1.3	--	--
Ratio of green space (%)	30	32.5	--	--

Table 2 Descriptive statistics of migrant residents

		Commodity housing estate		Privatized work-unit compound		Workers' dormitory		Urban village		Total	
			%		%		%		%		%
Gender	Female	76	48.40%	109	52.90%	97	50.50%	99	63.90%	371	52.30%
	Male	81	51.60%	97	47.10%	95	49.50%	56	36.10%	339	47.70%
Age	<=29	18	11.50%	57	27.70%	108	56.30%	42	27.10%	225	31.70%
	30-39	24	15.30%	69	33.50%	54	28.10%	42	27.10%	189	26.60%
	40-49	39	24.80%	41	19.90%	25	13.00%	25	16.10%	130	18.30%
	50-59	62	39.50%	21	10.20%	3	1.60%	30	19.40%	116	16.30%
	>=60	14	8.90%	18	8.70%	2	1.00%	16	10.30%	50	7.00%
Marital status	Single	54	34.40%	87	42.20%	126	65.60%	46	29.70%	313	44.10%
	Married	103	65.60%	119	57.80%	66	34.40%	109	70.30%	397	55.90%
Years of residence	<3 year	19	12.10%	24	11.70%	104	54.20%	68	43.90%	215	30.30%
	3-6 years	61	38.90%	67	32.50%	53	27.60%	32	20.60%	213	30.00%

	6-9 years	31	19.70%	64	31.10%	22	11.50%	51	32.90%	168	23.70%
	>9 years	46	29.30%	51	24.80%	13	6.80%	4	2.60%	114	16.10%
Education	Master's degree or above	39	24.80%	32	15.50%	26	13.50%	2	1.30%	129	18.20%
	Bachelor's degree/college education	76	48.40%	138	67.00%	106	55.20%	48	31.00%	368	51.80%
	Secondary education or below	42	26.8%	36	17.50%	60	31.30%	105	67.70%	213	30.00%
Monthly income	>15,000 <i>yuan</i>	54	34.40%	69	33.50%	50	26.00%	14	9.00%	187	26.30%
	5,000-15,000 <i>yuan</i>	79	50.30%	99	48.10%	97	50.50%	75	48.40%	350	49.30%
	<5,000 <i>yuan</i>	24	15.30%	38	18.40%	45	23.40%	66	42.60%	173	24.40%
Formal labor contract and Social insurance	Yes	130	82.80%	171	83.00%	192	100%	22	14.10%	468	65.90%
	No	27	17.20%	35	17.00%	0	0%	133	85.90%	242	34.10%
Home ownership in Beijing	Yes	109	69.40%	93	45.10%	18	9.40%	4	2.60%	284	40.00%
	No	48	30.60%	113	54.90%	174	90.60%	151	97.40%	426	60.00%

<i>Hukou</i>	Former migrants who acquired local <i>hukou</i>	86	54.80%	62	30.10%	10	5.20%	11	7.10%	169	23.80%
	Collective local <i>hukou</i>	3	1.90%	10	4.90%	39	20.30%	5	3.20%	57	8.00%
	Non-local urban	55	35.00%	79	38.30%	64	33.30%	60	38.70%	258	36.30%
	Non-local rural	13	8.30%	55	26.70%	79	41.10%	79	51.00%	226	31.80%
Social network with locals or migrants	Local residents	127	80.90%	155	75.20%	88	45.80%	44	28.40%	414	58.30%
	Migrants	30	19.10%	51	24.80%	104	54.20%	111	71.60%	296	41.70%
Social network inside/outside neighbourhoods	Inside neighbourhood	33	21.00%	29	14.10%	61	31.80%	118	76.10%	201	28.30%
	Outside neighbourhood	124	79.00%	177	85.90%	131	68.20%	37	23.90%	509	71.70%
Sense of belonging to Beijing	Strong	124	79.00%	88	42.70%	23	12.00%	4	2.60%	239	33.70%
	Some	24	15.30%	105	51.00%	115	59.90%	40	25.80%	284	40.00%
	No	9	5.70%	13	6.30%	54	28.10%	111	71.60%	187	26.30%

Table 3 Socio-economic factors on sense of belonging to the city (the reference group is those who said that they have no/little sense of belonging to the city)

	Strong		Some	
	B	Exp(B) (odd ratio)	B	Exp(B)
<b>Control variables</b>				
Female (reference = male)	-.324	.724	-.096	.909
Age (reference = >60)				
<30	.269	1.308	.549	1.732
30-39	1.261	3.528**	.645	1.907
40-49	1.550	4.711**	1.169	3.218**
50-59	1.299	3.665**	-.114	.892
Married (reference = unmarried)	.454	1.574	.087	1.091
Years of residence (reference = > 9 years)				
<3 year	-1.700	.183***	-.640	.527
3-6 years	-.647	.524	-.171	.843
6-9 years	-.554	.574	-.211	.810

<b>Socio-economic status</b>				
Education attainments (reference = senior secondary and below)				
Master's degree and above	4.861	129.177***	3.435	31.031***
Bachelor's degree	3.029	20.668***	1.914	6.783***
Monthly income (reference group = <5,000 yuan)				
>15,000 yuan	2.368	10.681***	1.311	3.710***
5,000-15,000 yuan	1.676	5.343***	.875	2.398***
Homeownership in the city (reference = no)	2.368	10.681***	.040	1.041
<i>Hukou</i> (reference = local Beijing residents)				
Previous migrants who acquired Beijing <i>hukou</i>	-18.083	1.401E-8***	-18.405	1.016E-8***
Local collective	-19.093	5.104E-9***	-18.457	9.641E-9***
Non-local urban	-20.227	1.642E-9***	-18.486	9.366E-9***
Non-local rural	-22.077	2.584E-10***	-18.867	6.399E-9



Constant	15.806		17.181	
-2 log likelihood	1858.208			
Sample size (valid cases	943			
$\rho^2$ (Nagelkerke)	.685			

Note: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Table 4 Sense of belonging to the city after introducing formal work contract (the reference group is those who said that they have no/little sense of belonging to the city)

	Strong		Some	
	B	Exp(B) (odd ratio)	B	Exp(B)
<b>Control variables</b>				
Female (reference = male)	-.190	.827	.052	1.053
Age (reference = >60)				
<30	.405	1.499	.645	1.906
30-39	1.574	4.826**	.954	2.597
40-49	1.882	6.568***	1.422	4.143**
50-59	1.554	4.730**	.091	1.095
Married (reference = unmarried)	.475	1.608	.149	1.161
Years of residence (reference = > 9 years)				
<3 year	-1.443	.236**	-.406	.666
3-6 years	-.338	.713	.168	1.183
6-9 years	-.216	.806	.054	1.055

<b>Socio-economic status</b>				
Education attainments (reference = senior secondary and below)				
Master's degree and above	3.885	48.658***	2.521	12.447**
Bachelor's degree	2.704	14.939***	1.605	4.977***
Monthly income (reference group = <5,000 yuan)				
>15,000 yuan	2.214	9.156***	1.178	3.247***
5,000-15,000 yuan	1.518	4.564***	.729	2.073**
Homeownership in the city (reference = no)	1.263	3.535**	-.058	.944
<i>Hukou</i> (reference = Local Beijing residents)				
Previous migrants who acquired Beijing <i>hukou</i>	-18.391	1.030E-8***	-18.618	8.213E-9***
Local collective	-19.896	2.288E-9***	-19.170	4.727E-9***
Non-local urban	-20.507	1.241E-9***	-18.666	7.821E-9***
Non-local rural	-22.476	1.732E-10***	-19.219	4.502E-9***

Formal Labor contract and social insurance	3.000	20.082***	2.507	12.266***
Constant	14.374		16.069	
-2 log likelihood	736.982586			
Sample size (valid cases)	943			
$\rho^2$ (Nagelkerke)	0.742587			

Note: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Table 5 Sense of belonging to the city after introducing social network (the reference group is those who said that they have no/little sense of belonging to the city)

	Strong		Some	
	B	Exp(B) (odd ratio)	B	Exp(B)
<b>Control variables</b>				
Female (reference = male)	-.318	.727	-.079	.924
Age (reference = >60)				
<30	.287	1.332	.568	1.765
30-39	1.355	3.876**	.669	1.951
40-49	1.597	4.940**	1.172	3.230**
50-59	1.329	3.777**	-.158	.854
Married (reference = unmarried)	.557	1.746	.082	1.085
Years of residence (reference = > 9 years)				
<3 year	-1.418	.242**	-.528	.590
3-6 years	-.457	.633	-.071	.931
6-9 years	-.509	.601	-.116	.891

<b>Socio-economic status</b>				
Education attainments (reference = senior secondary and below)				
Master's degree and above	4.564	95.995***	3.029	20.667***
Bachelor's degree	3.130	22.880***	1.819	6.168***
Monthly income (reference group = <5,000 yuan)				
>15,000 yuan	1.955	7.065***	1.122	3.072**
5,000-15,000 yuan	1.487	4.422***	.799	2.224**
Homeownership in the city (reference = no)	1.482	4.404***	.189	1.208
<i>Hukou</i> (reference = Local Beijing residents)				
Previous migrants who acquired Beijing <i>hukou</i>	-18.944	5.923E-9***	-18.972	5.761E-9***
Local collective	-19.741	2.669E-9***	-18.808	6.786E-9***
Non-local urban	-20.906	8.327E-10***	-18.828	6.656E-9***
Non-local rural	-22.917	1.115E-10***	-18.972	5.761E-9***

<b>Social networks</b>				
Mostly are local residents (reference = mostly are migrants)	1.667	5.297***	.341	1.407
Mostly are inside neighbourhood (reference = outside neighbourhood)	-1.523	.218***	-1.451	.234***
Constant	15.838		17.980	
-2 log likelihood	795.540969			
Sample size (valid cases)	943			
$\rho^2$ (Nagelkerke)	0.721084			

Note: \*p<0.1, \*\*p<0.05, \*\*\*p<0.01

Table 6 sense of belonging, socio-economic attributes and social network measured in different *hukou* types. (the reference group is those migrants with non-local urban *hukou*)

	Local Beijing residents (B)	Previous migrants who acquired Beijing hukou (B)	Local collective (B)	Non-local rural (B)
Sense of belonging to the city (reference = no/little )				
Strong	24.997	2.120***	0.890	-2.06***
Some	22.669	-0.085	-0.020	-0.573*
<b>Control variables</b>				
Female (reference = male)	0.786**	-0.388	-0.269	-0.766***
Age (reference = >60)				
<30	0.553	0.667	21.190***	-0.226
30-39	0.267	0.671	20.441***	-0.167
40-49	-0.210	0.345	19.355***	-0.324
50-59	-0.680	0.239	18.319***	-0.970**
Married (reference = unmarried)	-0.796*	0.083	0.446	0.265



Years of residence (reference = > 9 years)				
<3 year	-23.823	-0.365	-0.422	0.708*
3-6 years	-23.475	-0.439	-1.386***	0.254
6-9 years	-24.180	-0.468	-1.106**	0.807*
<b>Socio-economic status</b>				
Education attainments (reference = senior secondary and below)				
Master's degree and above	-3.494***	0.835	0.711	-0.988**
Bachelor's degree	-3.051***	0.411	0.198	-0.300
Monthly income (reference group = <5,000 yuan)				
>15,000 yuan	-1.283**	-0.113	-0.289	-0.739**
5,000-15,000 yuan	-1.594***	-0.326	-0.596	-0.158
Formal Labor contract and social insurance (reference = no)	-1.566***	-0.201	0.798	0.183
Homeownership in the city (reference = no)	1.295***	1.107***	-0.549	-0.342

<b>Social networks</b>				
Mostly are local residents (reference = mostly are migrants)	-1.713***	-0.162	0.339	-0.075
Mostly are inside neighbourhood (ref- erence = outside neighbourhood)	1.302***	-0.433	0.835**	-0.322
Constant	0.770			
-2 log likelihood	2773.577			
Sample size (valid cases	943			
$\rho^2$ (Nagelkerke)	0.777			

Note: \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$